Articles

- From the Editor's Desk.
- Teachers' Perceptions of the Socioemotional Development of Intellectually Gifted Primary Aged Students and their Attitudes towards Ability Grouping and Acceleration.
- How Does Moral Judgment Change with Age and Giftedness?
- Learning to be a Teacher of the Gifted: The Importance of Examining Opinions and Challenging Misconceptions.
- Gifted Education in German-Speaking Countries.
- Competitions for Showcasing Innovative and Creative Talents.
- The Importance of Teachers' Attitude in Nurturing and Educating Gifted Children.
- Gifted Students’ Profiles and their Attitudes towards a Gifted Program: The Case of Vietnam.
- Humor Styles and their Relationship to Well-being among the Gifted.
- The Importance of Multi-Group Validity Evidence in Gifted and Talented Identification and Research.
- Gifted Immigrants and Refugees in Israel.
- Views of Gifted Elementary Students about Self-Directed Learning.
- Student Voice: What do Students who are Intellectually Gifted Say they Experience and Need in the Inclusive Classroom?
- Greek Talented Students’ Motivation: A Qualitative Analysis.
- Impact of Professional Development Programs for Teachers of the Gifted.

Book Reviews

- Classroom of the Future: Orchestrating Collaborative Spaces.
- Creativity 101.
- Misdiagnosis and Dual Diagnoses of Gifted Children and Adults: ADHD, Bipolar, OCD, Asperger's, Depression, and Other Disorders.
Executive Committee and Officers (2011-2013)

President
Taisir Subhi Yamin;
General Director, The International Centre for Innovation in Education (ICIE);
Université Paris Descartes, France.

Vice President
Ken McCluskey;
Faculty of Education, 
University of Winnipeg, Canada.

Secretary
Klaus K. Urban;
Leibniz University, Hannover, Faculty of Humanities;
Stadthagen, Germany.

Treasurer
Julia Link Roberts;
Mahurin Professor of Gifted Studies;
Executive Director, The Center for Gifted Studies and the Carol;
Martin Gatton Academy of Mathematics and Science in Kentucky;
Western Kentucky University; Bowling Green, Kentucky, USA.

Members
Leonie Kronborg;
Krongold Centre, Faculty of Education, Monash University;
Clayton, Victoria, Australia.

Leslie S. Graves;
Educational consultant, Dublin, Ireland.

Ümit Davasligil;
Head of Special Education Department, Maltepe University;
istanbul - Türkiye.

Executive Administrator
Tracy C. Harkins;
WKU, 1906 College Heights Blvd. #11030; Gary A. Ransdell Hall, Room 2007;
Bowling Green, KY 42101-1030, USA.
Phone (270) 745-4123, Fax (270) 745-4124; e-Mail: tracy.harkins@wku.edu
Editor-in-Chief:
Taisir Subhi Yamin
International Centre for Innovation in Education (ICIE), Institut de Psychologie, Université Paris Descartes, France.

Associate Editors:
Todd Lubart
Laboratoire Adaptations Travail-Individu (LATI), Institut de Psychologie, Universite Paris Descartes, France, e-Mail: todd.lubart@parisdescartes.fr

Ken McCluskey
Faculty of Education, University of Winnipeg, Canada. e-Mail: k.mccluskey@uwinnipeg.ca

Peter Merrotsy
School of Education, University of New England, Australia. e-Mail: pmerrots@une.edu.au

Trevor J. Tebbs
Psychology Department, Castleton State College, Castleton, Vermont, U.S.A. e-Mail: aquate11@hotmail.com

Dorothy A. Sisk
Director, The Gifted Child Center, Lamar University, P.O. Box: 10034, Beaumont, Texas 77710, U.S.A. e-Mail: dorothy.sisk@lamar.edu

World Council for Gifted and Talented Children (WCGTC)
WCGTC Headquarters;
Gary A. Ransdell Hall, Room 2007;
Western Kentucky University;
1906 College Heights Blvd. #11030;
Bowling Green, KY 42101-1030, USA.
Phone: (+1) 270.745.4123 Fax: (+1) 270.745.4124
e-Mail: headquarters@world-gifted.org
www.world-gifted.org

International Editorial Review Board
(2009-2013)
Eunice Alencar, Brazil
Alessandro Antonietti, Italy
Jim Campbell, England
Joan Freeman, England
Miraca Gross, Australia
Katherine Hoekman, Australia
Lannie Kanevsky, Canada
Katerina M. Kassotaki, Greece
Roza Leikin, Israel
Bron Narkevičien, Lithuania
Roland S. Persson, Sweden
Joseph S. Renzulli, USA
Larisa Shavinina, Canada
Rena Subotnik, USA
Sylvie Tordjman, France
Donald J. Treffinger, USA
Dmitry Ushakov, Russia
Don Ambrose, USA
Jean-Jacques Bertschi, Switzerland
Hanna David, Israel
Marcia Gentry, USA
Mary-Anne Heng, Singapore
Astrid Kaiser, Germany
Sandra N. Kaplan, USA
Leonie Kronborg, Australia
Lee Martin, England
Lynn D. Newton, England
Louesa Polyzois, Canada
Karen Rogers, USA
Bruce M. Shore, Canada
Kornelia Tischler, Austria
Javier Tourón, España
Klaus K. Urban, Germany
Wilma Vialle, Australia

Copyright 2011 – World Council for Gifted and Talented Children, all rights reserved.
The Gifted and Talented International (GTI) is a refereed journal published twice a year by the World Council for Gifted and Talented Children (WCGTC).
Membership includes this journal. Additional copies may be purchased by contacting the WCGTC:
tracy.harkins@wku.edu
Submit all manuscripts in quadruplicate, double spaced, accompanied by a short abstract (approximately 100 to 150 words), and with citations and references, following the guidelines set forth in the Publication Manual of the American Psychological Association, 6th Edition.
Include author’s full mailing address, phone and fax numbers, as well as an e-Mail address.
Send manuscripts to:
Taisir Subhi Yamin, Editor-in-Chief, Gifted and Talented International,
Heilmeyersteige 93, D-89075, Ulm, Germany, mobile telephone: (0049) 172-929-7632.
# Table of Contents

## From the Editor’s Desk

*Gifted Education: Attitudes, Latest Developments and Practices.*
Taisir Subhi Yamin

## Articles

*Teachers’ Perceptions of the Socioemotional Development of Intellectually Gifted Primary Aged Students and their Attitudes towards Ability Grouping and Acceleration.*
Selena Gallagher; Susen R. Smith; and Peter Merrotsy

*How Does Moral Judgment Change with Age and Giftedness?*
Mousa Alnabhan

*Learning to be a Teacher of the Gifted: The Importance of Examining Opinions and Challenging Misconceptions.*
Margaret Plunkett; and Leonie Kronborg

*Gifted Education in German-Speaking Countries.*
Anna Herrmann; and Baruch Nevo

*Competitions for Showcasing Innovative and Creative Talents.*
Tracy L. Riley

*The Importance of Teachers’ Attitude in Nurturing and Educating Gifted Children.*
Hanna David

*Gifted Students’ Profiles and their Attitudes towards a Gifted Program: The Case of Vietnam.*
Phu Vu

*Humor Styles and their Relationship to Well-Being among the Gifted.*
Pieternel Dijkstra; Dick Barelds; Sieuwke Ronner; and Arnolda Nauta

*The Importance of Multi-Group Validity Evidence in Gifted and Talented Identification and Research.*
Scott J. Peters

*Gifted Immigrants and Refugees in Israel.*
Shoshana Rosemarin

*Views of Gifted Elementary Students about Self-Directed Learning.*
Penny Van Deur

*Student Voice: What do Students who are Intellectually Gifted Say they Experience and Need in the Inclusive Classroom?*
Susan Prior

*Greek Talented Students’ Motivation: A Qualitative Analysis.*
Dimitrios Zbainos; and Anastasia Kyritsi

*Impact of Professional Development Programs for Teachers of the Gifted.*
Hava E. Vidergor; and Billie Eilam
Book Reviews

(1) Classroom of the Future: Orchestrating Collaborative Spaces.
Mäkitalo-Siegler, K.; Zottmann, J.; Kaplan, F.; and Fischer, F. ........................................ 165

(2) Creativity 101.
James Kaufman ........................................................................................................ 169

(3) Misdiagnosis and Dual Diagnoses of Gifted Children and Adults: ADHD, Bipolar, OCD, Asperger’s, Depression, and Other Disorders.
James T. Webb; Edward R. Amend; Nadia E. Webb; Jean Goerse; Paul Beljan;
F. Richard Olenchak .................................................................................................. 173

Submission Guidelines
Welcome to this volume [26(1) August, 2011; 26(2) December, 2011] of Gifted and Talented International. This volume appears after the 19th Biennial World Conference: Making a World of Difference for Gifted Children which was held in Prague - Czech Republic (August 8-12, 2011). This conference was an excellent time for teachers, researchers, parents, and students from around the world to share the most up-to-date information and the latest developments in gifted education. It also provided the participants with the wonderful opportunity for interactions with lead speakers, delegates, and participants from different parts of the world.

In this year’s volume of Gifted and Talented International (GTI) we welcome our newly elected members of the WCGTC’s Executive Committee, including: Ken McCluskey (Winnipeg University/ Canada), Vice President; and Ümit Davasligil (Maltepe University/ Istanbul – Türkiye), Member.

Upon the completion of their term in the Executive Committee, I have the honour and pleasure to thank my friends and colleagues who served the WCGTC for several years. My warmest thanks go to Edna McMillan for her contributions as a member of the Executive Committee and the Vice President of the Council. Many thanks also go to Ngarmmars Kasemset, Member (Director, The Gifted and Talented Foundation (TGT)/ Bangkok, Thailand) for her contribution. Your support over the past four years has been remarkable.

In the first qualitative article, “Teachers’ Perceptions of the Socioemotional Development of Intellectually Gifted Primary Aged Students and their Attitudes towards Ability Grouping and Acceleration”, Selena Gallagher, Susen R. Smith and Peter Merrotsy (2011) reports the outcomes of their qualitative multi-site case study which sought to examine the current educational provisions in place for intellectually gifted primary school students in Queensland and to consider how the beliefs and attitudes of primary school stakeholders were reflected in the production of their school gifted education policies. According to Gallagher et al. (2011), “there is recognition that schools also have a responsibility to foster students’ social and emotional development, in order that they may be effective and well-functioning contributors to society.” (p. 11). In addition, “there is a positive correlation between children who are gifted and children who are advanced socially and emotionally” (p. 12). The current study found no evidence of a relationship between teachers’ knowledge and awareness of the socioemotional development of gifted students and their attitudes towards ability grouping and acceleration, and attitudes towards ability grouping and acceleration were positive overall, with part-time strategies being favoured over full-time models of provision (Gallagher et al., 2011).

In the second article, “How Does Moral Judgment Change with Age and Giftedness?”, Mousa Alnabhan (2011) asserts that moral education is becoming an increasingly dominant topic in the fields of psychology and education, and he attempted to answer two questions: Does moral judgment differ due to the differences in giftedness and grade levels? Is it possible to efficiently predict the moral judgment for gifted and average female students through non verbal intelligence, creativity, and achievement? According to Alnabhan, preschool teachers in Kuwait “should be educated and heavily trained to promote children’s moral development by dealing with issues of fairness, justice, human rights, and caring.” (Alnabhan, 2011, p. 28)

In the next article, “Learning to be a Teacher of the Gifted: The Importance of
Examining Opinions and Challenging Misconceptions, Margaret Plunkett and Leonie Kronborg (2011) report the outcomes of their study that aimed to explore preservice teacher attitudes towards giftedness and gifted education to determine whether a single semester unit had an impact on preservice teacher opinions about gifted students and their education. The need for teacher education relating to giftedness has been formally acknowledged in Australia. The results of their study (Plunkett & Kronborg, 2011) illustrate the significant impact that involvement in a single semester unit has on the opinions of preservice teacher education students towards the gifted and their education.

In the fourth article, "Gifted Education in German-Speaking Countries", Anna Herrmann and Baruch Nevo (2011) addressed four research questions, including: How is ‘giftedness’ defined in German-speaking countries? How are gifted children identified? What gifted education programs are there? What are the empirical findings on these programs? Several gifted education programs in German-speaking countries have been scientifically evaluated, including grade skipping, part-time early attendance at university, summer academies, enrichment courses, special curricula or classes for gifted students only, and student competitions. The purpose of the article is to provide the reader with a comprehensive yet detailed account of the current status of gifted education in Austria, Germany, and (the German-speaking part of) Switzerland.

In the fifth article, “Competitions for Showcasing Innovative and Creative Talents”, Tracy L. Riley (2011) explores the issues of excellence and equity in competing for creativity and innovation, but addresses these through practical guidelines for the facilitation of competitions in schools for individuals or for teams of students. This article argues that competitions can serve a dual purpose: identification of creative and innovative abilities and talents, as well as provision for their development. This study raised one very important question: Can creativity and innovation be taught? This question has long been pondered by educators throughout the world, and it has led to great debate over what constitutes creativity, how it can be identified, and whether or to what extent students can be taught to be creative and innovative. “It is not surprising that competitions have been a cornerstone of gifted education, putting talents to the test by enabling gifted students to showcase their abilities and receive acknowledgement and recognition for their talents. However, competitions have been noted as “a training ground for excellence, but also as breeding grounds for problems with equity” (Riley, 2011, p. 64). The article (Riley, 2011) concludes that excellence with equity can be achieved for gifted, creative and talented competitors through thoughtful, well-planned facilitation by schools and teachers, and provides step-by-step guidance for practitioners wanting to implement competitions in their gifted programmes. The article also highlights and details many of the international competitions that challenge and celebrate creativity and innovation, providing a description of each competition, contact details, entry criteria, costs, and prizes.

In the next article, “The Importance of Teachers’ Attitude in Nurturing and Educating Gifted Children”, Hanna David (2011) reports the outcomes of her recent study conducted with education students in two teachers colleges. This study (David, 2011) reveals a different picture. “The most important characteristic of the "ideal teacher" is her or his personal traits, while the least important is her or his general education and broad mindedness” (p. 71). In other words, the author asserts that the most important characteristic of the good teacher of the gifted is her or his attitude towards the gifted.

In the 7th article, “Gifted Students’ Profiles and their Attitudes towards a Gifted Program: The Case of Vietnam”, Phu Vu (2011) describes a gifted program and examines issues related to gifted students’ profiles and their attitudes towards an English specialized program in Vietnam. This study (Vu, 2011) reveals that the majority of students in the Vietnamese gifted program “shared similar profiles since they came from families of well-educated parents holding white-collar jobs such as doctors, teachers, and business or economics related fields” (p. 85).

In the next article, “Humor Styles and their Relationship to Well-being among the Gifted”, Pieteren Dijkstra, Dick Barelds, Siewuke Ronner and Arnolda Nauta (2011) examined the extent to which a sample of gifted individuals (members of Mensa) engaged in four humor styles and the extent to which these humour styles were related to their well-being.
This study (Dijkstra et al., 2011) indicates that gifted individuals most often used positive humour styles. There were no within sex differences in the use of humour styles between the gifted sample and the comparative population sample. Men (in both samples), however, used aggressive humour more than women. Self-enhancing humour (+) and self-defeating humour (-) were related most consistently to well-being across sub-samples. According to Dijkstra et al. (2011), when it comes to humour as a tool for promoting well-being, the results suggest interventions aimed at promoting the well-being of the gifted, and should take into account the differences between gifted men and women in the humour styles that are associated with well-being.

In the next article, “The Importance of Multi-Group Validity Evidence in Gifted and Talented Identification and Research”, Scott J. Peters (2011) introduces the very interesting topic, and addresses the rationale and the need for information pertinent to the validity evidence of any instrument before using it for student assessment or in the practice of diagnosing or identifying children with exceptionalities. According to Peters (2011), few test manuals present data on instrument measurement equivalence and invariance or differential item functioning. “This information is critical as it allows the user to determine if the instrument yields equally valid information for a diverse group of children” (p. 99). Peters (2011) concluded that “test authors should evaluate measurement invariance before an instrument is ever put into widespread use and the results from such analyses should be presented in the instrument’s technical manual. If such information is not available, school practitioners and researchers should be wary of using an instrument with diverse groups, as they cannot be sure the instrument measures the same thing for people in various groups.” (p. 103)

In the 10th article, “Gifted Immigrants and Refugees in Israel”, Shoshana Rosemarin (2011) reports the outcomes of her study concerned with gifted immigrants from Ethiopia and Russia. Rosemarin (2011) asserts the importance of preservice and inservice capacity building programmes to enable teachers to deal with cultural diversity, resources, and competencies to avoid underachievement due to cultural isolation and feelings of difference.

In the next article, “Views of Gifted Elementary Students about Self-Directed Learning”, Penny Van Deur (2011) pointed out that the development of skills that increase independent learning has been recognised as an essential element in the education of the gifted. Treffinger (1993) asserted the importance of Self-Directed Learning. Treffinger developed his SDL model in the year 1975, and it “has been available as a guide to teachers to build on the strengths and interests of gifted elementary students while developing skills sequentially to enable them to assume more control over their own learning” (p. 111). The results of the study (Van Deur, 2011) suggest that development of knowledge and skills of Self-Directed Learning, together with choice of school-based independent learning inquiries, could provide gifted students with the motivation and challenge they need to plan and implement investigations while evaluating their own progress.

In her article, “Student Voice: What do Students who are Intellectually Gifted Say they Experience and Need in the Inclusive Classroom?”, Susan Prior (2011) examines the research to find the voice of mainstream students who are intellectually gifted. In addition, she discusses the possibility of transforming our thinking about education for students who are gifted within the current context of inclusive schooling, and offers suggestions for future research.

In the next article, “Greek Talented Students’ Motivation: A Qualitative Analysis”, Dimitrios Zbainos and Anastasia Kyritsi (2011) attempt to investigate aspects of the motivation of Greek gifted students. This study (Zbainos & Kyritsi, 2011) points out that “gifted students need a more flexible schooling system, not only one that incorporates them, but also that motivates them to get better.” (p. 138)

In the last article, “Impact of Professional Development Programs for Teachers of the Gifted”, Hava E. Vidergor, and Billie Eilam (2011) assess the impact of the Israeli certification program for teachers of gifted children. According to Vidergor (2011), “the significance of this study is three fold. First, it can serve as a resource for professionals in the examination of the direct and indirect impact of teachers’ professional development programs for teaching gifted students. Second, the study opens a new line of research relating to cultural differences among teachers. And finally, it establishes the international relevance of the American standards for teaching gifted students.” (p. 158)
Finally, many thanks go to Kevin Lamoureux for his contribution to the editing of this volume. Many thanks also go to the co-editors for their contributions to the development of this volume. I hope you will find the contents of Gifted and Talented International (26(1&2), 2011) interesting, fascinating, useful and informative. As always, should you have any comments or suggestions, please feel free to forward them to me. Additional intriguing works are already on the horizon, so stay tuned to Gifted and Talented International.

References


Teachers’ Perceptions of the Socioemotional Development of Intellectually Gifted Primary Aged Students and their Attitudes towards Ability Grouping and Acceleration

Selena Gallagher; Susen R. Smith; and Peter Merrotsy

Abstract

This qualitative multi-site case study sought to examine the current educational provisions in place for intellectually gifted primary school students in Queensland and to consider how the beliefs and attitudes of primary school stakeholders were reflected in the production of their school gifted education policies. Attitudes and perceptions of principals and teachers at four Queensland primary schools are reported in this article. The major findings indicated that while reported attitudes towards acceleration and ability grouping were fairly positive overall, educators are still concerned about the possible adverse effects of grade-skipping on students’ social and emotional development, and the connotations of elitism associated with full-time models of ability grouping. However, teachers’ knowledge and awareness of the affective characteristics of gifted students did not appear to influence their attitudes or beliefs regarding acceleration and ability grouping.

Keywords: Gifted students; teacher attitudes; acceleration; ability grouping.

Introduction

Years of research have established that gifted students require differentiated educational provision in order for their unique academic and social needs to be met, and that two of the most effective strategies for educating gifted students are ability grouping and acceleration (Colangelo, Assouline, & Gross, 2004; Gross, 2006a, 2006b). However, despite an apparent preponderance of evidence supporting the use of acceleration and ability grouping with gifted students, it appears that some educators are reluctant to use these strategies because of entrenched beliefs about their potentially damaging consequences (Bain, Bliss, Choate, & Brown, 2007; Colangelo, Assouline, & Gross, 2004). While most states’ departments of education current policies on the education of gifted and talented students are research-based and support the use of ability grouping and acceleration with gifted students (for example, NSW Department of Education and Training, 2004; Department of Education, Training and the Arts, 2004), stereotypical myths surrounding the social and emotional development of gifted students and the use of these strategies persist (Clark, 2008; Fiedler, Lange, & Winebrenner, 2002). The beliefs associated with these myths may hinder acceleration and grouping provisions in practice.

Socioemotional development of gifted students

Schools have long been concerned with more than just the cognitive development of children. While academic goals have always been a primary concern, there is recognition that schools also have a responsibility to foster students’ social and emotional development, in order that they may be effective and well-functioning contributors to society (Battistich, Watson, Solomon,
Lewis, & Schapps, 1999). In fact, according to Geake and Gross (2008), some teachers rate social ability higher than academic ability when describing the attributes of an ideal student.

Evidence generally supports the view that there is a positive correlation between children who are gifted and children who are advanced socially and emotionally (Howley, Howley, & Pendarvis, 1995), but there are some dissenting views (Freeman, 2006). Studies report that most gifted students are at least as well adjusted and mature as typical students, and in some cases may have superior social and emotional development (Clark, 2008; Douthitt, 1992; Neihart, 1999). However, while gifted children are a diverse group, they tend to share some common affective characteristics that have the potential to bring them into conflict with their social environment (Kitano, 1990; Webb, 2001). Additionally, some characteristics of giftedness such as intensity and overexcitability or superstimulatability can sometimes be misinterpreted as ADHD or other similar disorders (Webb, 2001). Similarly, gifted children can appear to lack appropriate social skills when they struggle to get along with their age-peers while any apparent difficulties may disappear when they have the opportunity to interact with intellectual peers (Davis & Rimm, 2004; Valpied, 2005).

Teachers are often concerned about possible social and emotional problems of gifted children and may make educational decisions that are detrimental academically in order to attempt to favour social development (Halsted, 2002; Yoo & Moon, 2006). Many educators believe that the social and emotional needs of the student should take precedence over their academic needs, not recognising that the two are inextricably linked, and also not considering that failing to provide for gifted students’ intellectual needs only compounds any socioemotional issues (Halsted, 2002; Valpied, 2005; Vialle et al. 2001). A recent survey study by Bain, Choate and Bliss (2006) examining the perceptions of teacher education undergraduates of the social and emotional development of gifted children found that the majority believed that the gifted were at greater risk for emotional stress and relationship problems than other children. It is also commonly assumed that the more highly gifted a student is, the greater the potential for social and emotional problems, but this is not supported by the research (Gross, 2006b; Neihart, 1999). Beliefs such as these may contribute to educational decisions that are not in the best interests of the gifted child (Bain, Choate, & Bliss, 2006), particularly when making decisions regarding ability grouping and acceleration (Valpied, 2005).

Ability grouping

Ability grouping has strong support in the research literature (Adams-Byers, Whitsell, & Moon, 2004; Chessor & Whitten, 2008; Fuchs, Fuchs, Hamlet, & Karns, 1998; Goldring, 1990; Gross, 1997; Kulik, 1992; Rogers, 1998) and has been found to have academic benefits for students at all levels of ability, but especially so with gifted students (Rogers, 1998). When gifted students are grouped by ability and given a differentiated curriculum in response to their ability, they perform significantly better than equally gifted students in a mixed ability setting (Gross, 2006a; Kulik, 1992; Rogers, 2002). Grouping gifted students together has not been found to cause any detrimental effects to the social and emotional well-being of either the gifted students, or their typical peers (Gross, 2006b).

Despite this, many teachers express a reluctance to use ability grouping strategies with gifted students (Bain, Bliss, Choate, & Brown, 2007; Lewis & Milton, 2005; Plunkett, 2000), citing common concerns, including that ability grouping is elitist, that it will not have any effect on achievement, that it will cause gifted students to have an inflated opinion of themselves, and that gifted students should be kept in the regular class as role models and to learn to relate to a wide range of people (Gross, 1997).

Acceleration

Research consistently reports achievement benefits for all forms of acceleration (Kulik, 2004; Rogers, 2004), while finding no evidence of social or psychological harm (Colangelo, Assouline, & Gross, 2004). In a meta-analysis of studies on acceleration, Kulik (2004) concluded that acceleration has clear achievement benefits for gifted students and that no other educational intervention works as well for gifted students. In response to concerns about the possible social or emotional impact of acceleration, many studies have been conducted to assess any psychosocial implications, although many of these focus retrospectively on older students and much of the research is American. The situation is also complicated by the diversity of gifted students and the medley of accelerative options available to them, as well as the imprecise nature of finding comparison groups and selecting a measure of social or emotional adjustment (Robinson, 2004). However, in a
comprehensive review of the research literature, Robinson (2004) concluded that there is no research evidence to support the concern that gifted children who are younger than their classmates will experience social or psychological problems. Most forms of acceleration have been shown to have little or no effect on measures of socialisation (Rogers, 2002). Despite the apparently overwhelmingly positive research evidence in support of acceleration for gifted students, it is still not a popular option among teachers and educators (Bain, Bliss, Choate, & Brown, 2007; Plunkett, 2000; Southern, Jones, & Fiscus, 1989).

Method and context

The data reported in this article form part of a larger case study involving four Queensland primary schools (Gallagher, 2010). The focus of this article is on the knowledge and attitudes of the teachers and principals, while the perspectives of students and parents are reported elsewhere (Gallagher, Smith & Merrotsy, under review). The findings in relation to early entry to school have also been previously reported (Gallagher, Smith & Merrotsy, 2010). One of the aims of this study was to examine teachers’ knowledge and understanding of the socioemotional development of gifted students and any possible relationship with the attitudes and beliefs of those teachers towards the use of ability grouping and acceleration for gifted students. For this purpose, a qualitative multi-site case study approach was chosen. Case study research has been an established part of the gifted education research landscape for many years (Gross, 1993, 2004; Hollingworth, 1942), but has rarely been applied to the investigation of attitudes towards acceleration and other gifted education provisions.

This case study was set within a single educational region of Queensland with a mixture of coastal and hinterland towns. Of the four schools that participated in this study, three were public primary schools serving grades Prep to Year Seven (Heron Haven, Black Swan and Pelican Point) and one was an Independent school that serves students from Prep to Year 12. (Kingfisher). Thirty teachers participated in the current study. Six of these participants were principals or deputy principals, four were designated gifted education teachers and the remainder were classroom teachers from grades Prep to Year Seven. Twelve of the participants were male, and eighteen were female. Semi-structured interviews were conducted, digitally recorded and transcribed verbatim. Examples of interview questions included:

- How are gifted children catered for in your school/classroom?
- What can you tell me about the social or emotional characteristics of giftedness?
- How do you feel about acceleration of gifted students?
- How do you feel about ability grouping of gifted students?

The data collection for the present study took place during the latter half of 2008 and the beginning of 2009, during a period of renewed interest in gifted education in Queensland. Data analysis involved a two-step process: a descriptive level to convey an understanding of the holistic case in context; and a thematic level of analysis that looked at the data in their entirety, in order to highlight implicit connections therein (Merriam, 1998). Pseudonyms are used throughout for individual participants and schools.

Results and Discussion

Socioemotional development

Across the four schools, the level of knowledge and understanding of the social and emotional development of gifted students was generally fairly low. Those teachers who had encountered giftedness within their own families were generally able to offer much deeper insights than those without the benefit of such personal experience. Insightful comments from some of the respondents highlighted some of the well-known affective characteristics of gifted students, such as a mature sense of humour, a highly developed sense of justice, perfectionism and a desire to question authority. Teachers with more limited knowledge tended to present a narrower view of social or emotional development and focused mainly on potential classroom management concerns. Comments suggesting that boredom may lead to gifted students becoming the class clown or having behaviour problems were typical.

However, despite the relatively low levels of knowledge and understanding, most of the teachers in this study were not taken in by the myth that gifted students were more at risk for social and emotional problems. Many rejected the myth out of hand, while some expressed mixed feelings,
suggesting that it could apply to some gifted children but not others. Only five teachers accepted the myth without question.

While the majority of the teachers in the current study did not subscribe to the myth, in some cases, it was those with the personal experience of giftedness and the greatest insight into the socioemotional characteristics of gifted students who were more likely to agree with it. Conversely, there were many teachers with low levels of knowledge about social and emotional characteristics of gifted students who nevertheless rejected the myth entirely.

While Bain, Choate and Bliss (2006) found considerable support for the myth among education undergraduates, the participants in the current study were practising teachers, many of whom were drawing on years of experience as an educator. However, both studies might suggest that knowledge and understanding do not necessarily go hand in hand. Where the undergraduates were able to display accurate perceptions regarding some aspects of gifted students’ socioemotional development, they still held on to the misconception that gifted students were more at risk socially and emotionally. Similarly, in this current study, there was a minority of teachers who had considerable insight into the social and emotional characteristics of gifted students but who still subscribed to the myth. Although the literature (Cross, 1997; Neihart, 1999; Robinson et al. 2002) tells us that it is the quality of the educational ‘fit’ that has more impact on social and emotional development of gifted students than the affective characteristics themselves, it seems that in the minds of some of these participants it is hard to separate the two.

However, other participants referred to the myth as a stereotype, and recognised that the educational fit was important in determining the gifted students’ well-being. In particular, Ursula from Kingfisher Independent School seemed to share the recognition that, while gifted children often possess personality characteristics that have the potential to bring them into conflict with their environment, it is the responses to those characteristics and how well the environment matches their needs that may cause problems (Clark, 2008; Cross, 1997; Neihart, 1998).

*I think it’s not the giftedness that would cause that. I think it’s the way the giftedness may be perceived by others or may be perceived by their own families.* (Ursula)

Several teachers suggested that such a misconception could arise because teachers tended to remember negative experiences more than positive ones. Amanda and Byron, in particular, suggested that teachers tended to spend more time discussing students who had problems rather than those who were coping well. This phenomenon has previously been reported in the literature (Gagné & Gagnier, 2004; Hoogeveen, van Hell, & Verhoeven, 2005) and seems to be one reasonable explanation for how the myth has arisen. A teacher in the Dutch study admitted that he only noticed the accelerated students with problems, not the successful accelerants who were functioning well (Hoogeveen, van Hell, & Verhoeven, 2005), while Gagné and Gagnier (2004) suggested that opponents of early entry watched very carefully for the effects of acceleration, ready to highlight any maladjustment as proof that such strategies were dangerous.

Several teachers expressed the opinion that parents had more of a role to play in fostering healthy social and emotional development among students than teachers did, pointing out that children were only at school for five hours a day and there did not need to be a school solution for every concern. This view also has support in the literature, with Chessor and Whitton (2008, p. 15) suggesting that ‘parenting is more important than teaching in dealing with social and emotional problems.’ Similarly, Nancy, at Black Swan State School, also recognised the importance of a supportive home environment in minimising any possible socioemotional issues, identifying a parallel with special education.

*I don’t know if they’re more at risk than anyone else, but I think that lack of identification can lead to a greater risk, because if there’s no understanding at home, if there’s no understanding at school, then that’s – they can be ... but that’s no more than a child who hasn’t been identified with a disability.* (Nancy)

Another perspective shared by some of the teachers was that a child’s giftedness would actually have the effect of limiting their possibility for social and emotional problems. It was suggested that a gifted student’s greater maturity coupled with high intelligence gave them an advantage in social situations as *they know how to play the game to fit in* (Charlotte). Although both Charlotte and Frances gave similar examples in describing how gifted children are able to fit in socially and therefore not likely to suffer from social or emotional problems, Neihart (1998) would suggest that this demonstrates how gifted children learn to give up some of their true self in exchange for social acceptance. This practice may promote social well-being but could also lead to
emotional consequences if the child is not in an environment where giftedness is valued (Neihart, 1998).

**Attitudes towards acceleration**

Teachers’ views of acceleration strategies are displayed in Figure 1. As the data were gathered via qualitative interviews, not all teachers gave opinions about all forms of provision. Where teachers held a positive opinion of the particular strategy, it is represented in the table with a solidly shaded grey cell, whereas a negative opinion is indicated with trellis-style shading. Many teachers were undecided on some models of provision, and these ambivalent opinions are indicated with cross-hatch shading.

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade-skipping</th>
<th>Subject Acceleration</th>
<th>In-class Acceleration</th>
<th>Early Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelican Point State School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gail*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amanda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbara</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charlotte</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henry†</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Swan State School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingrid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Julie*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kevin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mike†</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heron Haven State School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estelle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yvette</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xavier</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anna</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byron†</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zachary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherry*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kingfisher Independent School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rachel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veronica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ursula†</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>William</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scott</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timothy†</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oliver*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philip†</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Principal or Deputy Principal  
* GEM or person responsible for implementing gifted education programs in the school.

**Figure 1:** Teacher views of acceleration.
When considering accelerative strategies, part-time models were regarded more positively than full-time ones. Opinions regarding subject acceleration were almost entirely positive, with only one teacher expressing a negative attitude and another undecided. The single objection to subject acceleration came from a Year 7 teacher who felt that it would single a child out unnecessarily if they were to go to a local high school for a particular subject. Another teacher recognised the potential benefits of subject acceleration but was concerned about what would happen when a child reached the end of a particular stage of schooling and the possible social consequences of interacting with students in the next stage. Generally, however, teachers were very positive towards the strategy of accelerating a student in a particular subject area, although they did raise some common concerns surrounding timetabling or administrative issues.

The next most favoured accelerative strategy was working on accelerated content within the students’ own class. Teachers who spoke favourably about this strategy thought that it would be an effective way of providing for a gifted student’s needs without highlighting their differences from their peers, but recognised that it would create extra work for the teacher. However, four teachers specifically objected to this strategy, although for different reasons. Two objectors thought that such a strategy would not be fair on the gifted child, as they would often be left to work alone without the benefit of quality teacher time or peers to work with, while other objections were based on a preference for ‘horizontal’ enrichment, rather than vertical acceleration.

- I think that a teacher’s got 25 to 30 kids, and you’re going to create problems if you’re continually sneaking in on next year’s work. Just because they’ve covered what the Queensland government decides as curriculum issues, doesn’t mean that there’s not sideways ways that they can go. So just because they know how to add doesn’t mean that they can’t use that skill in a horizontal way to challenge them. They don’t necessarily have to go up to look at what the Year 3s would do in terms of addition. There are lots of other skills that would consolidate and use the skills they learn in Year 2, in ways that would not encroach on the curriculum of the following year. (Veronica)

The results suggested that grade-skipping was a divisive topic, with many teachers unable to decide how they felt about the issue. Overall, the balance of opinions was positive, with a fairly even spread across the four schools. Amongst teachers who expressed a positive attitude, maturity and socialisation skills were frequently mentioned as being an important barometer of readiness for acceleration. Likewise, social concerns were also of paramount importance for those teachers who rejected the strategy. These teachers tended to have more rigid views, believing that any departure from a child’s age cohort was a bad thing. It is unclear where this idea that children’s social well-being depends on their constant exposure to same age children has come from. However, this orientation also tended to be accompanied by some sort of personal experience, usually of the ‘friend of a friend’ variety.

- And I have a friend whose daughter was accelerated but then it’s been a big disaster for her. (Amanda)

- One of my best friends at school was accelerated, she was 18 months younger than the rest of us at school. It didn’t really show up until we got to the higher grades, then the social emotional side of it – because we were all much older. She couldn’t drive, she couldn’t go out – and it was just that age gap. (Nancy)

- Somewhere along the line that child is going to be disadvantaged. Whether it be when they’re in grade 12 and they’re leaving at 16, and they’re not allowed to go to uni, which is the case that’s happening here at the moment. (Ursula)

While many teachers expressed positive attitudes towards grade-skipping, they still tended to accompany that with a caveat about the potential social or emotional hazards of such a strategy if it were not used judiciously. This phenomenon was also reported amongst American teachers by Southern, Jones and Fiscus (1989) as well as among teachers and teacher trainees in New Zealand (Townsend & Patrick, 1993). Comments about potential academic concerns associated with skipping a grade were extremely rare. Only two teachers mentioned a concern that students considered for a grade-skip should be equally advanced in both literacy and numeracy. The majority of comments regarding acceleration focused on social ramifications, and those teachers who expressed a negative attitude towards acceleration invariably cited social concerns. There were no mentions of other concerns highlighted in the research (Swiatek & Benbow, 1991) such as accelerated students being at risk of academic burnout or gaps in knowledge. In fact, many teachers who expressed a
positive attitude towards acceleration highlighted the risks associated with not accelerating, such as disengaging from school, boredom and frustration.

Given the preoccupation with keeping children with their same-age peers, it can be seen why part-time acceleration strategies were regarded more favourably by the participants in the current study. However, despite the positive attitudes demonstrated towards single subject acceleration, many teachers also recognised that this may be a more difficult strategy to implement as it relied on whole-school cooperation and coordination in order to be effective. A common timetable and effective communication between teachers were two of the factors that were highlighted as being important in successful subject acceleration.

While being generally positive overall, teachers were prepared to accept grade-skipping if a child showed appropriate levels of maturity, and would consider early entry if a child demonstrated readiness. ‘Maturity’ and ‘readiness’ are nebulous concepts that are not easily defined, and it is not clear whether these teachers would recognise a ‘mature’ or ‘ready’ gifted child, given their relative lack of knowledge of social and emotional characteristics of gifted children. However, a positive attitude is a prerequisite for implementing any of these strategies (Rogers, 2002), and those were clearly in evidence.

Attitudes towards ability grouping

In a similar pattern to that observed with acceleration, teachers generally favoured part-time models of ability grouping over full-time ones. Refer to Figure 2.

Within-class ability grouping was universally popular across all schools, with most teachers suggesting that they already grouped by ability within their own classrooms, most commonly for reading and sometimes for mathematics, although this was a general instructional practice, and not one targeted at gifted students. However, a couple of teachers were questioning the efficacy of such grouping practices for the slower learners in their classes, whilst also wrestling with their own conviction that mixed ability grouping would not benefit high ability learners.

So, this year we’re trialling – it actually is working at the moment. We’ve got mixed ability and those bottom kids are actually being pulled up a bit by the better kids but in saying that, I don’t know if we’re actually extending the better kids with what we’re doing. (Frances)

From the comments surrounding withdrawal programs it appears that many teachers were anxious to develop a sense of shared responsibility regarding gifted students, so that they did not feel they had to carry the burden alone. Other teachers spoke of the positive benefits such a program could have for the students. Being able to focus on an area of specific strength or interest, and interacting with others of a similar ability were frequently mentioned as being particularly attractive features of a withdrawal program. The one lone voice who rated withdrawal programs negatively was a classroom teacher who felt that the school day already suffered from an excess of interruptions, which had a deleterious effect on the focus of the classroom.

While some commentators (Sapon-Shevin, 1994; Scott, 2008) have suggested that any move to educate gifted children separately, including withdrawal programs, is elitist, there was no suggestion of that from these teachers. In fact, most teachers seized on the suggestion of withdrawal programs as being an effective way to meet the academic and social needs of gifted students without the accompanying danger of elitism that some of them associated with full-time strategies. It has been suggested that one danger of withdrawal programs can be the tendency to absolve classroom teachers of the responsibility to provide appropriate differentiation strategies for the gifted students in their classes because the students’ needs are being met by the withdrawal program (Rogers, 2002). There may be an element of that amongst some of these teachers, but it seems to be borne out of trepidation rather than reluctance.

Part-time across class ability grouping was also rated positively by all but one of the participants: the Primary school principal from Kingfisher Independent School was opposed to this model, although a form of it was currently in use at the school. His concerns were that such a model would not be good for the lower ability children. However, other teachers who had experienced similar models of grouping had found it to be successful, and one or two teachers even suggested that they would like to see a similar model implemented for the benefit of children who required learning support.
<table>
<thead>
<tr>
<th>Name</th>
<th>Full-time Gifted Class</th>
<th>Within-Class Grouping</th>
<th>Part-time Grouping</th>
<th>Withdrawal Programs</th>
<th>Cluster Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelican Point State School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gail*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amanda</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbara</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charlotte</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henry†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Swan State School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linda</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingrid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Julie*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kevin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mike†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heron Haven State School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estelle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yvette</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xavier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anna</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byron†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zachary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherry*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kingfisher Independent School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rachel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veronica</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ursula†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>William</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scott</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timothy†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oliver*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philip†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Principal or Deputy Principal  
* GEM or person responsible for implementing gifted education programs.

Key: Positive= Positive= Positive= Negative= Undecided=

Figure 2: Teacher views of ability grouping.
It was in the discussion of full-time grouping strategies that divisions began to appear between the teachers. A notable dichotomy emerged in the views of teachers towards cluster grouping. It was principals or executive staff who tended to be apprehensive about this model, based on their concern for teachers’ well-being. They believed that such a strategy would not be popular with teachers because a balanced class, where each teacher received an equal share of gifted students, would be fairer. However, the vast majority of teachers were positive about cluster grouping. Again, they cited the academic and social benefits that would result when students were able to work with their intellectual peers, and they also recognised that cluster grouping would streamline provision, but would require an appropriately trained teacher for the cluster class, a point that has been identified in the literature (Gentry & Owen, 1999; Teno, 2000). Despite these favourable attitudes, many teachers expressed concern about how cluster grouping would be perceived by the parent community.

I’d hesitate to do that. Only because of the way I like to devise class groups. I like to have three evenly balanced class groups...And maybe that’s the wrong way of looking at it but I do it for the teachers’ well-being. (Philip)

It would be an ideal teaching situation, to have those kids grouped together and be able to extend and expand them and really be able to focus on lifting the bar with those kids. (Estelle)

I think it would be a good idea, but I don’t think it would be very popular. (Charlotte)

It has been reported (Bain, Bliss, Choate, & Brown, 2007; Gross, 1997) that a common objection to cluster grouping is the desire to share gifted students evenly among classes so that they may serve as role models for other children. In the current study, the role model argument was put forward by only four participants, but was also specifically recognised as a fallacy by another three. A greater degree of communication between teachers and executive staff may lead to some of these unfounded assumptions being exposed.

The idea of full-time gifted classes was the ability grouping model that generated the most varied opinions. Across the four schools, opinions were fairly evenly divided, with just over half of the teachers expressing positive opinions of having a full-time gifted class. Again, teachers recognised that achievement and socialisation benefits were likely to occur when gifted children were grouped together, but stressed the importance of having the right teacher and defensible identification measures to support the placement of children within such a class.

It’s great because they can feed off each other. (Ursula)

I can see kids really benefiting from that because they’re on the same wavelength intellectually...I’ve got a gifted and talented boy in my class and he’s sort of on his own. He doesn’t have anyone else to bounce off when it comes to discussions, except me! And he doesn’t want to do it just with me because then he feels like a fool in front of his friends. See, it would be great for him to be in something like that. (Rachel)

Detractors of the strategy were mostly concerned that such a class might foster elitism and would not represent a real-world situation. There was also concern that there would be community backlash against such a proposal and that it would damage the self-esteem of students who were not in the gifted class.

I would wonder how the other children would feel, would view that. Whether they would feel less important. (Ingrid)

Because we’re living in a community here and we don’t want to get people’s noses out of joint, so we have to be careful. So we probably wouldn’t do that, I think. We probably wouldn’t do that. (Cherry)

Objections were predominantly focused around ‘equity’ issues, with not a single teacher questioning the efficacy of such a grouping strategy for gifted students’ achievement or well-being.

In expressing their approval of ability grouping strategies, most teachers cited the academic and social benefits to students from associating with like-minds. This finding seems to support the underlying philosophy behind ability grouping, in that it is a social arrangement that supports learning by grouping students of similar readiness levels together (Vygotsky, 1978). One particularly strong justification for ability grouping of gifted students came from Yvette, who recognised that continued exposure to mixed ability settings may lead to a false sense of superiority. This has been described in the research literature (Adams-Byers, Whitsell, & Moon, 2004; Fiedler, Lange, & Winebrenner, 2002) and acknowledged by Yvette’s own experiences.
I had a little boy a few years ago that particularly didn’t want to go to [an exclusive private school] and I said ‘why?’ And he said, ‘because here I’m special because I’m better than everyone else. There I’ll have people that are equal to me.’ And I think that’s something that we have to watch that they don’t get the idea that they’re the best and won’t go that little bit further. (Yvette)

Where there was opposition to ability grouping, it tended to be accompanied by concerns about the elitist nature of such provision, or at least, the appearance of elitism. While recognising that there may be academic benefits of provisions such as cluster grouping or a self-contained gifted class, some teachers were opposed to such strategies because of the fear of how they might be perceived by the community. Likewise, teachers who held a positive opinion about full-time grouping strategies also recognised that education would need to take place among the community so that misconceptions did not arise regarding those practices. Other teachers were concerned about the impact some ability grouping strategies might have on children who were not gifted. This belief is strongly contradicted in the research which reports achievement benefits for all students when they are grouped by ability, not just gifted students (Rogers, 1998).

When considering their sources of information regarding socioemotional development, acceleration and ability grouping of gifted students, most teachers relied on their university training, even those who were dissatisfied with the level of coverage given to gifted education in their course. Previous professional development was not considered particularly useful for developing knowledge and understanding about these issues. When Southern, Jones and Fiscus (1989) surveyed teachers about their attitudes towards acceleration, observations of fellow teachers were not ranked highly, but were regarded as an important source of information by the teachers in the current study. In fact, many teachers, both those who regarded other teachers as a source of information and those who did not, called for more collaboration and sharing of ideas between teachers, which aligns with findings in Smith’s (2006) study. Modelling and disseminating best practice would also allow teachers to develop that sense of shared responsibility, which emerged strongly as a concern of teachers when discussing their ideas for future provision.

Conclusions

Despite the diversity of the four settings, definite patterns emerged in the attitudes of the teachers involved in this study. Similar findings were discovered across the four schools, which might suggest that comparable findings could be found in other similar schools. Attitudes towards ability grouping and acceleration were positive overall, with part-time strategies being favoured over full-time models of provision. Concerns raised in relation to accelerative strategies were almost exclusively social in nature, while any concerns regarding ability grouping were based on egalitarianism.

Knowledge regarding the social and emotional development of gifted students was mixed, but tended to be fairly low in general, and the majority of teachers rejected the myth that gifted children were more at risk of social or emotional problems.

The current study found no evidence of a relationship between teachers’ knowledge and awareness of the socioemotional development of gifted students and their attitudes towards ability grouping and acceleration.

Given that there was found to be no apparent connection between teachers’ knowledge or understanding of the social and emotional characteristics of intellectually gifted students and their attitudes towards acceleration and ability grouping, it may be considered that teachers’ professional development does not need to emphasise socioemotional concerns. After all, when gifted students’ cognitive needs are being addressed through the use of appropriate ability grouping, there are associated social and emotional benefits (Smith & Laura, 2009).

An appropriately challenging curriculum, coupled with the opportunity to learn with like-minded peers, will likely alleviate any social or emotional concerns that may have been in evidence (Gross, 2004). However, as Valpied (2005) reported, teachers may misinterpret the behaviour of intellectually gifted students as immaturity and deny them the very educational provisions that would ameliorate their behavioural concerns. This is clearly a concern, as in the current study, even when teachers pronounced a positive attitude towards accelerative strategies, they tended to include a caveat that such strategies should only be used with students who demonstrated appropriate maturity and social skills.

Therefore, it is important that any professional development addresses the recognition of behaviours in gifted students,
such as those associated with overexcitabilities (Piechowski, 2006) that may be mistaken for immaturity or ADHD or similar disorders (Webb, 2001), and the understanding that such behaviour can often be addressed by focusing on the child’s cognitive needs.

In regards to acceleration, it appears that there has been something of a cognitive shift since previous research (Southern, Jones, & Fiscus, 1989; Townsend & Patrick, 1993) documented the negative attitudes common among educators at that time. While grade-skipping is still something of a contentious issue, more teachers in the present study supported the strategy than opposed it. Similar findings emerged in relation to early entry, and single subject acceleration was welcomed as a useful strategy for gifted students by the vast majority of the participants.

These results are similar to those reported by Hoogeveen, van Hell and Verhoeven (2005) who found more positive attitudes towards acceleration among teachers in the Netherlands, although there were still commonly reported concerns about the social and emotional adjustment of accelerated students.

In a similar pattern, part-time models of ability grouping were also favoured over full-time strategies by the teachers in this study. Previous research has exposed mixed results concerning the attitudes of teachers towards ability grouping and it appears that the particular strategy being considered is important.

The almost universally positive attitudes expressed towards withdrawal grouping in the current study may be as much a reflection of the concern and trepidation of teachers about appropriately differentiating the curriculum in the classroom for their gifted students as it is about recognising the value of such a strategy for those students. Predictably, the idea of a full-time self-contained gifted class attracted reservations regarding the fears of elitism, although the other full-time strategy of cluster grouping was viewed more positively. While there was some disparity between the views of classroom teachers and the views of executive staff regarding the practice of cluster grouping, the majority of participants were optimistic about the possibilities afforded by such a strategy and the potential for both social and academic growth for students in a gifted cluster.

Where negative attitudes were expressed, it is important to examine the reasons for these. Concerns about acceleration were inclined along the socialisation dimension, with teachers expressing fears that the social and emotional development of accelerated students would suffer adverse effects. These concerns may be alleviated by research evidence or by personal experience where acceleration has been a success. Part-time models of acceleration such as subject acceleration, or less disruptive forms of acceleration, such as early entry, are also seen as a useful compromise where the academic needs of students can be met without as many associated fears of social dysfunction.

However, concerns about ability grouping are based on fears of elitism, or the appearance of elitism. Even where teachers themselves recognise the benefits of ability grouping strategies, they were still concerned about the appearance of elitism by other members of the school community. Such concerns are apparently much more deeply entrenched in the Australian psyche (Gross, 2006a) and consequently may be much harder to overcome.

References


Gallagher, S., Smith, S. & Merrotsy, P. (in press). You turn up the first day and they expect you to come back! Gifted students’ perspectives on school and being smart. *Gifted and Talented International*.


Gross, M. U. M. (2006a). To group or not to group: is that the question? In C. Smith (Ed.), *Including the gifted and talented: Making inclusion work for more gifted and able learners* (pp. 119-137). Abingdon: Routledge.


NSW Department of Education and Training. (2004). *Policy for the education of gifted and talented students*. Sydney: NSW DET.


About the Authors

Selena Gallagher has recently completed her Ph.D. through the University of New England, Armidale, Australia. She has experience of teaching primary school through to tertiary education in Australia, the United Kingdom and China, and is currently leading a gifted education program at the New International School of Thailand. Specific research interests include ability grouping and acceleration as a response to giftedness, and gifted students in international schools, particularly within the International Baccalaureate.

Susen Smith, Ph.D., is a Senior Lecturer in Gifted & Special Education at the University of New South Wales, Australia. Previously, she was a Lecturer in Learning, Teaching & Gifted Education at the University of New England, Australia, and has also been an Associate Professor for a SpLD & Gifted Education project at the Hong Kong Institute of Education. She completed her Ph.D. on differentiating literacy instruction for student academic engagement at the University of Newcastle and has extensive experience as an educator, consultant and leader from early childhood to tertiary education. Her specific research interests include differentiating early childhood and primary curriculum and pedagogy for student diversity in inclusive contexts, learning difficulties in literacy, gifted education, socio-emotional needs of students, authentic community based initiatives with project-based learning, collaborative enrichment programs, and education for sustainability.

Peter Merrotsy, Ph.D., is Senior Lecturer in Gifted and Talented Education at the University of New England, Australia. Peter has worked in NSW rural schools as a teacher and head teacher of Mathematics, and has worked in tertiary education in Australia since 2004. His research focuses on the education of gifted students from backgrounds of disadvantage (low socio-economic status, cultural minority status, rural and isolated contexts, immigrant and refugee children, and youth caught up in the juvenile justice system). His current research projects involve curriculum development for gifted Aboriginal students in Australia and identification of at-risk children and youth with high learning ability.

Addresses

Dr. Selena Gallagher,
e-Mail: sgallagher@nist.ac.th

Dr. Susen Smith,
e-Mail: susen.smith@unsw.edu.au

Dr. Peter Merrotsy,
School of Education,
University of New England,
Ardmial, NSW 2351, Australia.
e-Mail: pmerrots@une.edu.au
How Does Moral Judgment Change with Age and Giftedness?

Mousa Alnabhan

Abstract

The current study aimed at identifying the differences in moral judgment levels among female students according to their giftedness and grade levels. In specific, the study attempted to answer the following questions: (1) Does moral judgment differ due to the differences in giftedness and grade levels? (2) Is it possible to efficiently predict the moral judgment levels for female students through non-verbal intelligence, creativity, and achievement?

A sample of (232) female students has been randomly selected as of (115) from 11th grade and (117) from 8th grade. This was selected from ten schools of the capital district of Kuwait. The moral judgment test, Raven’s progressive Matrices, Torrance Tests for Creative Thinking (verbal form), and the student’s general average were utilized to answer the research questions.

The results revealed that there are statistical significance differences in moral judgment according to the main effects of giftedness and grade level. And it is possible to predict the moral judgment through creativity only.

Keywords: Moral judgment levels; giftedness; prediction; Kohlberg; Raven; Kuwait.

Introduction

Moral education is becoming an increasingly dominant topic in the fields of psychology and education. Media reports of increased violent juvenile crime, teen pregnancy, and suicide have caused many to declare a moral crisis around the world. While not all of these social concerns are moral in nature, and most have complex origins, there is a growing trend towards linking the solutions to these and related social problems to the teaching of moral and social values in our public schools. However, considerations of the role schools can and should play in the moral development of youth are themselves the subject of controversy.

Fortunately, systematic research on moral development has been going on for most of the 20th century, and educators wishing to attend to issues of moral development and education may make use of what has been learned through that work.

One of the major contributors to the domain of moral judgment has been Lawrence Kohlberg. Kohlberg developed a theory of moral development comprised of three stages: Pre-conventional, conventional, and post-conventional. In his first stage, it is argued that moral reasoning is internally non-existent; the actions of the subject, typically a child in this stage, are thought to be controlled solely through punishments and rewards. Later, in the conventional stage, Kohlberg believes that the subject, typically an adolescent, begins to develop moral standards on which he uses to judge his acts, but those standards are not his own; subjects in this stage take the standards of others who are around them, and, perhaps, those whom they admire. In the third stage, post-conventionalism, Kohlberg argues that the subject has fully adapted a set of abstract principles for himself, concepts of justice, equality, and fairness, by which he can judge what, is and is not morally good. Another researcher, Turiel (1983), came up with seven different stages of moral maturation which he believed people progressed through from the ages of 6 to 25. Turiel’s seven-stage theory resulted from research that was much more defined than Kohlberg’s. Turiel studied, longitudinally, a group of 60 students of various ages as they progressed through 1-3 years of schooling. He found that a significant amount (52%) progressed through the stages he defined as they aged.

Both Kohlberg’s and Turiel’s stage theories apply very well to a large number of people; the problem is that all of those people are of the same culture.

Many moral education programs in schools are based on Kohlberg’s theory, consisting of group discussion of moral dilemmas. These debates or discussions create cognitive conflict when a
participant is faced with someone’s responses, which may be in a higher stage than his/her own (Tirri and Pehkonen, 2002). This usually increases level of moral judgment. Kohlberg started involving whole schools, including any teachers, students, or faculty that wanted to participate, in discussing real-life moral dilemmas of the participants’ school situation, a technique referred to as just community, which has been proven very valuable (Power, Higgins, and Kohlberg, 1989; Kohlberg and Turriel, 1971).

Kohlberg claims that there is a core of moral values that are universal, in other words, the sequence of stages is invariant, and the same for every person of each culture. As a result, certain moral values, such as the respect for human life, and not causing harm to others, are upheld in all cultures.

Lawrence Kohlberg (1958) based his theories on Piaget’s ideas. Unlike Piaget, however, Kohlberg presents a more precise conceptualization and discrimination of the stages, and the dimension of heteronomy-autonomy that underlie the stages. His method allows for quantified scores of judgment of moral judgment. The six stages proposed by Kohlberg are subsumed in three levels: pre conventional (stages one and two), conventional (stages three and four), and post conventional (stages five and six).

The pre conventional level is characteristic of younger children, some adolescents, and many criminals. There is not yet any sense of real morality, or any internalization of values. The conventional level is typical of the majority of adolescents and adults in U.S. society, and probably all Western societies and even non-Western societies as well (Snarey, 1985). At the post conventional level individuals have come to question the morality of the status quo and are able to change laws and cultural rules. Approximately 5 percent of adults reach the post conventional level, usually after age twenty or twenty-five. At stage one, the orientation is toward punishment and obedience; at stage two, morality is geared toward pleasure and satisfaction of one’s own needs; at stage three, morality centers on pleasing others and fulfilling conventional roles; at stage four, the emphasis is on law and order; at stage five, the person tries to change unfair laws through democratic channels; and at stage six individual conscience prevails.

John Snarey’s (1985) review of the literature supports this notion. He analyzed more than forty studies conducted in twenty-seven different cultures, which support Kohlberg’s claim for universality, although the higher stages (five and six) did not appear in all cultures. However, Richard Shweder and Haidat (1991) argue for the role of culture, based on their research in India (Shweder, Mahapatra, and Miller, 1990): They did not find distinctions between conventional and moral transgressions.

Contrary to this relativistic view of morality, some neo-Kohlbergians, such as Larry Nucci (1981), distinguish between moral and conventional domains, and present evidence that even preschool children distinguish between the severities of transgressions of each domain.

The main purpose of the current study is to identify the differences in moral judgment levels among female students according to their giftedness and grade levels. In specific, the study attempted to answer the following questions: Does moral judgment differ due to the differences in giftedness and grade levels? And is it possible to efficiently predict the moral judgment for gifted and average female students through non verbal intelligence, creativity, and achievement?

**Method**

**Study tools**

Three research instruments were utilized in the study: (1) Raven’s progressive matrices test is a nonverbal intelligence test consists of 48 matrices. Each one consists of 6 or 8 figures. The test has developed and standardized by Abdelraouf (1999) to be used in the Kuwaiti society for people of 6-18 years. Raven’s test could be administered as an individual or a group test. (2) Torrance creative verbal test (form B) consists of six activities, the students of age up to 20 years will be asked to guess the corresponding answers. It is required from each student to provide reasons for a given behavior, and give alternative or uncommon uses of things. In addition, the test time limit is 30 minutes. The psychometric properties of the test has been positively assessed (Torrance, 1980). And (3) The moral maturity test prepared by Kohlberg through his dissertation on 1958 and then translated and validated by Qashqoosh in Egypt and some middle east societies. The test studied moral judgment by presenting subjects with moral dilemmas. Then categorize and classify the judgment used in the responses, into one of six distinct stages, grouped into three levels: pre-
conventional, conventional and post-conventional. Each level contains two stages (Qashgoosh, 1984).

**Study sample**

The study sample consisted of 232 female students (117 and 115) from 8th and 11th grades respectively. They were randomly selected from all public schools in the educational directorate of the Kuwait capital city. For the specific purpose of the current study, the students were classified into: (1) gifted (who scores 90% and above on Raven Matrices test and within the third quartile on Torrance creativity test) and (2) average (who scores 70% and below on Raven and below the second quartile on Torrance test). This ended with 73 gifted and 159 averages as shown in Table 1:

Table 1: Distribution of sample subjects by giftedness and grade level

<table>
<thead>
<tr>
<th>Grade</th>
<th>Gifted</th>
<th>Average</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th</td>
<td>26</td>
<td>91</td>
<td>117</td>
</tr>
<tr>
<td>11th</td>
<td>47</td>
<td>68</td>
<td>115</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>159</td>
<td>232</td>
</tr>
</tbody>
</table>

It is clear to say that twenty two and forty one percent of the 8th and 11th graders respectively were considered gifted. In addition, a chi-square statistics of \( \chi^2 = 25.56 \) has been calculated between the grade and giftedness which is statistically significant.

**Results and Discussion**

To know the level of moral judgment of each individual of the study sample, a cross tabulation of grade level, degree of giftedness, and level of moral judgment (pre conventional, conventional, post conventional) has been created as shown in Table 2.

Table 2: The distribution of sample subjects by grade level, giftedness, and level of moral judgment.

<table>
<thead>
<tr>
<th></th>
<th>Level of Moral Judgment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Conventional</td>
<td>Conventional</td>
</tr>
<tr>
<td>8th grade</td>
<td>Gifted</td>
<td>10 (38%)</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>51 (56%)</td>
</tr>
<tr>
<td>11th grade</td>
<td>Gifted</td>
<td>02 (4%)</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>27 (40%)</td>
</tr>
<tr>
<td>Total</td>
<td>90 (39%)</td>
<td>120 (54%)</td>
</tr>
</tbody>
</table>

This data tells us that the big percentage of the gifted students is located in the conventional level of moral judgment from both 8th grade (50 %), and 11th grade (74 %). In addition, twelve percent of the 8th grade and forty percent of the gifted from 11th grade were classified in the post-conventional level. In addition, a chi-square statistics of \( \chi^2 = 17.79 \) has been calculated between the level of moral judgment and giftedness which is statistically significant at (0.01).

As Schweder (1961) points out, in Western society, people tend to become more conventional and pluralistic in their judgments with age. To investigate whether moral judgment changes by giftedness and grade, means of the study sample students on moral judgment from both grades and the level of giftedness were calculated and presented as shown in Table 3.

Table 3: Mean scores of moral judgment in terms of grade and giftedness.

<table>
<thead>
<tr>
<th></th>
<th>Giftedness</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Gifted</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th</td>
<td>2.32</td>
<td>2.93</td>
</tr>
<tr>
<td>11th</td>
<td>2.76</td>
<td>3.96</td>
</tr>
<tr>
<td>Total</td>
<td>2.51</td>
<td>3.59</td>
</tr>
</tbody>
</table>

Then, a (2x2) Two-Way-Analysis of Variance was run and its results have been displayed as shown in Table 4.
Table 4: The results of the (2x2) two way analysis of variance.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>83.965a</td>
<td>3</td>
<td>27.988</td>
<td>12.977</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>1675.408</td>
<td>1</td>
<td>1675.408</td>
<td>776.796</td>
<td>.000</td>
</tr>
<tr>
<td>Grade</td>
<td>25.652</td>
<td>1</td>
<td>25.652</td>
<td>11.894</td>
<td>.001</td>
</tr>
<tr>
<td>Giftedness</td>
<td>37.804</td>
<td>1</td>
<td>37.804</td>
<td>17.528</td>
<td>.000</td>
</tr>
<tr>
<td>grade * giftedness</td>
<td>4.052</td>
<td>1</td>
<td>4.052</td>
<td>1.879</td>
<td>.172</td>
</tr>
<tr>
<td>Error</td>
<td>491.755</td>
<td>228</td>
<td>2.157</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2459.000</td>
<td>232</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>575.720</td>
<td>231</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .146 (Adjusted R Squared = .135)

Based on the data in tables 3 and 4, it could be said that moral judgment differs by grade level (which is age) in favor of the older students regardless their level of giftedness. Also it was found that the moral judgment is changing by grade level of giftedness in favor of the gifted students.

To answer the second research question, a multiple linear regression has been utilized. Moral judgment was the criterion. Where, the achievement, non-verbal IQ (Raven’s), and the creativity level (the total score on Torrance test) were the predictors. The results have been displayed as in Table 5.

Table 5: The Results of Multiple Linear Regression Analysis.

<table>
<thead>
<tr>
<th>Moral judgment</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>β : Standardized Regression Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Non-verbal IQ</td>
</tr>
<tr>
<td>0.333</td>
<td>0.111</td>
<td>0.099</td>
<td>9.481**</td>
<td>0.020</td>
</tr>
</tbody>
</table>

*: Significant at 0.05, **: Significant at 0.01, R²: The Coefficient of Determination, F: Fisher F-test.

This result seems logically accepted since the answers and comments on the moral judgment exercises require creative thinking. Moral judgment is one of many aspects of social maturity. Cognitive development research in morality has focused primarily on this aspect of moral development.

Conclusions

The current study considered so crucial because it is one of very limited amount of research that done on moral judgment regarding Kuwait population. That is based on a comprehensive investigation the researcher has made. In addition, Kuwaiti society is so much similar to the whole Arabian Gulf countries. This may shit more light on the study results to be utilized and generalized within a wider population.

Because young children are emerging moral thinkers constrained by their cognitive characteristics, the early childhood curriculum should provide opportunities for children to deal with moral issues and think about right and wrong in developmentally appropriate ways (Tirri, Tallent-Runnels, & Nokelainen, 2005). In Kuwait, Preschool teachers should be educated and heavily trained to promote children’s moral development by dealing with issues of fairness, justice, human rights, and caring. That is because the teacher who understands normal moral development will be aware of the reasons young children sometimes appear to be selfish and will recognize opportunities to promote the development of moral thinking in ways that match the child’s cognitive level of functioning.

On the other hand, the study recommends doing a research on males as well to investigate the differences between males and females’ morality judgment. Since women emphasize the justice...
of care, whereas males stress justice, which is the central concept in Kohlberg’s theory. That is supported by Carol Gilligan (1982) arguments.

References


About the Author

Mousa Alnabhan is a professor of educational research methodology, psychometrics, and assessment at Arabian Gulf University, Bahrain. He is currently interested in assessment of the giftedness and emotional intelligence.

Address

Prof. Dr. Mousa Alnabhan,
Vice Dean, Faculty of Graduate Studies,
Gifted Education Program,
Arabian Gulf University,
P.O. Box: 26671,
Manama, Bahrain.
e-Mail: mousa_nabhan1@yahoo.com; mousamn@agu.edu.bh
Learning to be a Teacher of the Gifted: 
The Importance of Examining Opinions 
and Challenging Misconceptions

Margaret Plunkett; and Leonie Kronborg

Abstract

In Australia, most teachers enter the profession without having completed any dedicated studies pertaining to 
gifted education, yet many go on to teach gifted students. There is a substantive body of research supporting 
the value of professional learning in enhancing attitudes and practices that are conducive to appropriate 
provisioning for gifted students. In 2008, Monash University began offering a new elective in gifted education 
which by the end of 2010 had been completed by almost 500 pre-service teachers. This article reports on 
research conducted with 332 of those participants, using Gagné and Nadeau’s (1985) Opinionnaire and a 
reflective journal. Findings illustrate a strong positive growth in opinions relating to gifted education, particularly 
in regard to social justice. Respondents’ reflections suggest that access to research and literature on giftedness 
had been instrumental in assisting pre-service teachers to challenge their previous opinions, many of which they 
now regarded as uninformed misconceptions.

Keywords: 
Teacher education; teacher attitudes; misconceptions; gifted education; acceleration; ability grouping.

Introduction

In 2008, Monash University, which is 
one of the leading Australian universities as well as the largest, began offering a new elective 
EDF4512 'Gifted Education' through both on- 
campus classes and Distance Education (DE). 
By the end of 2010, almost 500 pre-service (and 
upgrading) teachers had completed the unit 
across 3 campuses (Gippsland, Clayton & 
Peninsula) and from a range of Education 
courses. The unit introduces theory and practice 
to underpin what might be considered to be an 
appropriate educational response to teaching 
high ability or gifted students. The purpose of 
the unit is therefore to provide a framework for 
pre-service teachers to understand giftedness 
and the practices associated with gifted 
education from both a theoretical and a 
practical perspective. The main topics covered are: Attitudes toward & changing conception of 
giftedness; Characteristics and identification of 
giftedness; Underachieving gifted; 
Organizational provisions for gifted; Grouping & 
acceleration; Curricula provisions for gifted; 
Differentiation; Special gifted groups; and 
Social/emotional aspects of giftedness. The 
assessment tasks provide the opportunity for 
both critically reflective appraisal and practical 
application of new understandings.

More specifically, the unit provides an 
overview of current conceptualizations relating 
to giftedness and gifted behavior and outlines a 
range of pedagogical and curricula responses 
which have been found to be effective in 
meeting the specific educational and social 
needs of highly able students. A focus of the 
unit is the development of differentiated 
curricula to engage all ability levels and gifted 
students in particular. The learning outcomes 
require students to be able to:

1. Examine their beliefs about giftedness and 
gifted behavior and critique these in relation 
to research findings;
2. Identify issues and practices associated 
with identification of and provision for gifted 
students;
3. Reflect on and evaluate the theory and 
practice relating to pedagogical and 
organizational strategies associated with the 
field of gifted education;
4. Interpret and utilise models used in a range 
of national and international settings to cater 
for gifted student; and
5. Explore and develop differentiated 
instructional strategies and curricula which 
challenge a range of abilities and are 
suitable for mainstream mixed-ability 
classrooms.

Official student evaluations conducted 
by the University each year indicate a very high 
level of satisfaction by the pre-service teachers.
undertaking the unit, with many comments demonstrating that the supportive environment and fostering of opportunities for self-reflection, contributed positively to the critical examination of preconceived opinions and beliefs, allowing for misconceptions to be overcome.

**Literature Review**

Research has illustrated that gifted or highly able students are generally cognitively and affectively more advanced than their age peers (Knopfelmacher & Kronborg, 2003; Maker & Schiever, 2010; Reis, 2001; VanTassel-Baska, 1998) with a concomitant difference in educational needs. In particular these students have been found to require substantially differentiated learning environments with curriculum and teaching that provides appropriate pace, depth and breadth, as well as opportunities for collaboration with like-minded peers (Adams & Pierce, 2004; Csikszentmihalyi, 1993; Knopfelmacher & Kronborg, 2003; Kronborg & Plunkett, 2006; Maker & Schiever, 2010; VanTassel-Baska, 1998; Reis, 2001). Within Australia a range of school programs and provisions have been developed in an attempt to meet the needs of gifted students (Plunkett & Kronborg, 2007). Research illustrates the benefits of ability grouping, particularly when combined with a differentiated curriculum delivered at an appropriate level and pace with the conceptual complexity and abstraction that matches students’ abilities (Burney, 2008; Feldhusen & Moon, 1992; Kronborg & Plunkett, 2006; Kronborg, Plunkett, Kelly & Urquart, 2008; Kulik, 2003; Neihart, 2007; Rogers 2007; Tomlinson 2004; VanTassel-Baska & Johnsen, 2007; Wigfield, Eccles & Rodriguez, 2009).

Such provisions are not necessary or suitable for all learners (Gold, 1965), so an awareness of the learning needs of gifted students on the part of the teacher would appear to be crucial (Baldwin, 1993; Knopfelmacher & Kronborg, 2003; Plunkett, 2000; Sisk, 1975; Vialle & Quigley, 2002). In particular, teachers have been found to significantly influence gifted students reaching their potential (Feldhusen, 1997; Mills, 2003; Smith & Chan, 1996); are critical for providing student support (VanTassel-Baska & Baska, 1993); are needed to facilitate significant learning (Sisk, 1975) and have a strong and lasting influence over gifted students (Smith & Chan, 1996).

Yet the quality of teacher involvement is somewhat dependent on the opinions that teachers hold and the concomitant attitudes they have developed in relation to gifted students. Davis and Rimm (2004) argue that teacher attitudes are of such importance that examining them should be the first step before any involvement in program development. Although the relationship between attitudes and behaviours is not straightforward (Bohner & Wanke, 2002), there is some evidence that teacher attitudes inform the development of an individual philosophy of education, which then impacts on the way in which teachers structure curriculum and instruction (Adams & Pierce, 2004; Goodson, 1992; Hativa, Barak & Simi, 2001; Kane, Sandretto & Heath, 2002).

There appears to be a substantive body of research supporting the difference that can be made to teacher attitudes through dedicated study of giftedness (Plunkett, 2002). Some studies do not differentiate between professional development and university study and in fact the two are often treated singularly but the message is clear that professional learning about giftedness does make a difference. Professional learning experiences have been found to improve teachers’ attitudes toward the gifted and their ability to meet these students’ needs (Bangel, Moon & Capobianco, 2010; Cashion & Sullenger, 2000; Dixon, 2006; Geake & Gross, 2008; Goodnough, 2001; Gubbins, 2008; Hansen & Feldhusen, 1994; Lassig, 2009; Plunkett, 2002). Interestingly, Guskey (2000) argues that notable improvements in teacher attitudes and practices “almost never take place in the absence of professional development” (p. 4). This supports other studies that have found that professional learning has a positive impact on a teacher’s ability to provide effective education for gifted students (Croft, 2003; Kent, 2004; Robinson & Kolloff, 2006; VanTassel-Baska & Johnsen, 2007).

The need for teacher education relating to giftedness has been formally acknowledged in Australia since the second Australian Senate Inquiry into the Education of Gifted Children (2001) which concluded “…that better teacher training and better curriculum support are essential to dispel myths about giftedness, and to ensure that teachers have the skills to differentiate the curriculum for gifted children” (Senate References Committee, 2001, p.7). In the USA, a similar message has been conveyed in a paper on Teacher Education Standards for the field of Gifted Education, where VanTassel-Baska and Johnsen (2007) proposed that educators of the gifted should improve their
practice through research supported professional development and reflection (Callahan, Cooper, & Glascock, 2003; Gubbins, Westberg, Reis, Dinnocenti, Tieso, & Muller, 2002) in order to correct any misconceptions about gifted students and programs (Gross, 2001) and to become more effective teachers (Guskey, 2000).

Thus far, most studies regarding teacher attitudes towards giftedness and gifted education appear to have been carried out with teachers who are already teaching in classrooms (Copenhaver & McIntyre, 1992; Feldhusen, Haeger & Pelligrino, 1989; Geake & Gross, 2008; Gross, 1997; Korynta, 1982; Kronborg & Meyland, 2003; McCoach & Siegle, 2007). Gross, (1997) found that teachers who are involved in special training or in-service training in gifted education are likely to be exposed to evidenced-based findings on the cognitive and affective characteristics of academically gifted students that may contradict their previous suppositions. But, this is not always evident. Geake and Gross (2008) found in their study of teachers who had completed what they described as a continuing professional development program in gifted education in Australia, England and Scotland, that teachers were significantly more positive toward gifted students than their colleagues who were beginning or only partway through a continuing professional development program. In a study of teachers’ attitudes towards the gifted, McCoach and Siegle (2007) used a range of training and experiences which teachers were asked to report on, including: taking a gifted education class, attending a gifted education class, working as a teacher of the gifted and/or being certified in gifted education. However, based on the authors’ experiences and observations in the field of gifted education, the quality of these experiences and training can differ enormously in what is offered to teachers.

Yet little is known about the impact that professional learning has on pre-service teachers as there are so few university courses in Gifted Education offered within Australian universities (Taylor & Milton, 2006). In 2001, the Australian Senate Report made a recommendation that State and Territory education authorities should require, as a condition of employment, that newly graduated teachers have at least a semester unit on the special needs of gifted children, in their degrees” (Senate Report, 2001, par 4.67). Ten years later this requirement is still not in place and even at the largest university in Australia, gifted education remains an elective not part of the core Education degree.

Aims

The aim of this study was to explore preservice teacher attitudes towards giftedness and gifted education to determine whether a single semester unit had an impact on pre-service teacher opinions about gifted students and their education. Respondents were completing teacher education courses where they were engaged in pedagogy and professional learning. Through asking students to complete pre and post survey responses and to then reflect on how their opinions had altered over the semester, it was hoped that the voice of the pre-service teachers would be more prominent in the analytic process. Specifically investigated was whether a single unit in gifted education could have a significant impact on reported attitudes towards giftedness and gifted education.

Methodology

A mixed methodological approach (Tashakorri & Teddlie, 2010) was utilized over a period of 3 years from 2008 to 2010 to collect data relating to teacher opinions on giftedness and gifted education among a group of pre-service teachers undertaking a new elective unit on Gifted Education at Monash University in Australia.

Method

As an introductory activity each semester, pre-service teachers taking EDF4512 were asked to complete a survey (online or in class) on their opinions about their attitudes towards giftedness and gifted education. The instrument used was Gagné and Nadeau’s (1985) Opinionnaire. On completion of the course, 13 weeks later, students were again asked to complete the same survey to help them determine whether there had been either a shift or consolidation in their opinions. They were then invited to provide their pre and post survey results as part of a final reflection on their journey of understanding in this unit. This was not part of the assessment and was totally voluntary. Ethics approval was obtained for the conduct of the research for a five year period (2008 – 2012).
This article reports on data collected during the period between 2008 and 2010, where 332 (69%) of the 481 students completing the unit provided their responses to the pre and post surveys, with many providing written reflections on how and why they felt their opinions towards giftedness and gifted education had changed. Pseudonyms have been used throughout for all reflective commentary.

Survey instrument

The survey instrument utilized was an Opinionnaire developed by Gagné and Nadeau (1985) entitled “Opinions about the Gifted and their Education”. A Likert scale was utilised to categorise responses to each statement, with 1 indicating total disagreement and 5 indicating total agreement. The Opinionnaire included 34 items (half of which are negatively oriented) and aims to gain insight into opinions concerning the gifted and their education in six areas:

1. **Needs and support** - needs of gifted children and support for special services (8 items);
2. **Resistance to objections** - objections based on ideology and priorities (10 items, all negatively framed);
3. **Social value** - social usefulness of gifted persons in society (4 items, 1 of which was negatively framed);
4. **Rejection** - isolation of gifted persons by others in the immediate environment (3 items);
5. **Ability grouping** - attitudes toward special homogeneous groups, classes, schools (4 items, 3 of which were negatively framed); and
6. **School acceleration** - Attitudes toward accelerative enrichment (5 items, 3 of which were negatively framed).

Analysis

Results were analyzed using a combination of software packages, SPSS for the survey data and NVivo for the qualitative reflections. Descriptive and nonparametric statistics formed the basis of the quantitative data analysis, while qualitative data in the form of written student reflections was analysed for themes and commentary specific to the 6 categories identified by Gagné and Nadeau (1985).

Initial statistical analysis on the six subscales originally identified by Gagné and Nadeau (1985) indicated insufficient internal reliability to utilise these subscales statistically (Nunnaly, 1978) but they were felt to be useful for categorizing the sets of items which were individually analysed. As responses to single Likert items are normally treated as ordinal data, it was felt that the most appropriate test to use was the nonparametric version of the repeated measures t-test, the Wilcoxin signed rank test. Nanna and Sawilowsky (1998) also support the use of nonparametric tests such as the Wilcoxin with typical Likert scale data, suggesting a considerable power advantage over the equivalent parametric t test, with the advantage increasing with sample size.

For the purposes of displaying the Likert scale mean responses in the form of figures, actual rather than inverted scores were used, however for the statistical analysis, the scores were inverted. The underlying assumption utilised for the purposes of the display of actual rather than inverted mean scores was to present a visual representation of the level of agreement or disagreement, with a score of 4 and above representative of a strong level of agreement, scores around 3 representing indecision and scores of 2 and below representing disagreement. For each of the 34 items, a Wilcoxin signed rank test was conducted to determine the significance of the difference between the responses at the beginning and end of the semester. In addition to measures of statistical significance, effect sizes, which measure the strength of the relationship between two variables, were determined using a calculation of \( r \) as recommended by Clark-Carter (2004) whereby \( z \) is converted into \( r \) with:

\[
r = \frac{z}{N}
\]

Where \( z \) is available from the SPSS statistics table output and \( N \) equals the total sample size for both sets of responses corrected for ties (responses that are the same pre and post). Cohen (1988) suggested that \( r = .1 \) could be considered small, \( r = .3 \) could be considered medium and \( r = .5 \) could be considered large in terms of effect sizes. According to Ellis (2010), the reporting of effect
sizes facilitates the interpretation of the substantive, as opposed to the statistical, significance of a research result. In this instance, the effect size illustrates the strength of the relationship between being involved in studying the unit EDF4512 and the change in responses to the survey.

The written reflective journal entries were analysed within Nvivo9, where general tree nodes were established and then more specific child nodes emerged as responses were further analysed and reclassified. This process was developed with the initial data set from the 2008 cohort and then refined for the larger data set including the 2009 and 2010 cohorts. Emergent themes from the written reflections arose as a result of constant comparison and inductive analysis (Lincoln & Guba, 1985; Denzin & Lincoln, 2005).

The constant comparison method (Patton, 1990) was used as the main tool in examining the data, whereby representative quotes were identified and extracted after a number of readings of the data. This formed the first-order analysis, which showed thematic descriptions of the 6 identified categories. In the first instance, descriptive codes were used to identify potentially interesting comments, and this was followed by more inferential coding where conceptual linkages were made between the categories. Throughout the process, peer debriefing with colleagues and reflexive, self-critical appraisal was also considered to be an important part of the data analysis and triangulation process as outlined by Lincoln and Guba (1985).

Results and Discussion

Results are presented utilising charts and tables, interspersed with participant reflections, offering the richness of this data set juxtaposed with the numerical data analysis and reflecting the mixed methods utilised in gathering the data.

Background data

There was an unequal gender representation among respondents, with the majority being female – 267 females (80%) and 65 males (20%). However, this is not too far removed from the overall gender representation within the teaching profession, where 71% are female and 29% male (ABS, 2009). Sixty-two per cent (206) of the respondents were on-campus students, while 38% (126) were DE students, which is also representative of the cohort composition at the time, although this appears to be changing with a trend towards growth in the number of DE students due to course changes at Monash with the elective being offered more widely.

Item categories

The following 6 charts outline the mean score differences in the pre and post survey responses for each set of statements. Each chart is followed by a table which includes all the nonparametric statistical data related to each item in the category, including the effect size. Following from the statistical analysis, a range of reflective comments have also been included to illustrate and highlight the range of responses within each category and in some instances portray conceptualisations of broader changes of opinion that occurred over the semester.

1. Needs and support

There were 8 items that Gagné categorized as relating to needs and support for gifted students. All 8 statements were positively framed so that a higher post score represented a positive development of opinion – i.e. an indication that opinions had become more positive towards the needs and support for gifted students at the second time of the survey administration – i.e. at the conclusion of the 13 week course. Figure 1 illustrates the pre and post mean scores while Table 1 outlines the Wilcoxin signed rank test scores and the effect sizes for the individual items within this category.

As Figure 1 illustrates, opinions were reasonably positive to begin with for most of these statements, with half rating above 4 in the first set of responses and only one item rating below 3, indicating a level of disagreement.
While participants agreed that gifted students were often bored in school, there were some indecision and lower levels of agreement about how this was occurring as the regular program was not generally seen as being a waste of time or too intellectually stifling for gifted students. Interestingly, participants were in agreement that gifted students’ needs often get ignored and that they require support at a school level, but were less certain about the impact at a societal level, with some indecision around whether developing talents is necessary to the progression of society.

Despite the reasonably positive opinions held in relation to needs and support, in each instance, responses became more positively oriented at the second survey administration, with all except 1 item attracting responses above 4. In terms of statistical significance, all response changes were significant at p<.001, with all effect sizes being in the moderate range as illustrated in Table 1.

Interestingly the only item remaining below 4 related to wasting time in regular classrooms (Item 11). The effect size of .43, which is between moderate and large, indicates that participation in the unit EDF4512 had a reasonable impact on the change in responses, as illustrated in the following reflective commentary:

“While I did change my response from totally disagree to undecided for this one. I can see that there might be some time wasting involved and I know we looked at how much repetition there is and that but pre tests showed they already knew lots of the work at the start of the year but I still think that it couldn’t be like that all the time (Amy, 2008).

“I changed from totally disagree to partially agree but it is a bit offensive in some ways and I know I was very defensive when I first answered this question as I sort of thought – who has the right to say that just because a child is gifted regular classes are a waste of time. I have a much clearer understanding now but I am possibly still a bit defensive about it, as I wasn’t prepared to totally agree” (John, 2009).

“As a teacher with quite a lot of experience behind me I partially disagreed the first time as I know that some students do tread water but now I can see that it is much more of a problem than I was aware of and so I changed to partially agree but I still think there is some value in regular classrooms – I have to as that is all I have got to work with! It does of course depend on who is taking the class as I know now that I will be very different in my class now” (Pauline, 2010).
Table 1: Wilcoxin signed rank/ effect size results for needs & support items.

<table>
<thead>
<tr>
<th>Item</th>
<th>z</th>
<th>p</th>
<th>Total N</th>
<th>Ties</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-9.663</td>
<td>.000</td>
<td>664</td>
<td>186</td>
<td>.44</td>
</tr>
<tr>
<td>9</td>
<td>-7.318</td>
<td>.000</td>
<td>656</td>
<td>157</td>
<td>.33</td>
</tr>
<tr>
<td>11</td>
<td>-10.385</td>
<td>.000</td>
<td>662</td>
<td>90</td>
<td>.43</td>
</tr>
<tr>
<td>14</td>
<td>-10.738</td>
<td>.000</td>
<td>662</td>
<td>148</td>
<td>.47</td>
</tr>
<tr>
<td>15</td>
<td>-10.405</td>
<td>.000</td>
<td>662</td>
<td>133</td>
<td>.45</td>
</tr>
<tr>
<td>24</td>
<td>-9.172</td>
<td>.000</td>
<td>660</td>
<td>110</td>
<td>.39</td>
</tr>
<tr>
<td>30</td>
<td>-8.522</td>
<td>.000</td>
<td>664</td>
<td>154</td>
<td>.38</td>
</tr>
<tr>
<td>32</td>
<td>-10.337</td>
<td>.000</td>
<td>660</td>
<td>111</td>
<td>.44</td>
</tr>
</tbody>
</table>

*r values in bold indicate a large effect size, while values in italics indicate a medium effect size.

2. Resistance to objections

There were 10 items in this category, all of which were negatively framed or oriented. This was in keeping with the theme of having to go against or resist the statements, which could be seen as reflecting popular opinion, in order to show a positive opinion towards gifted students and their education. Figure 2 illustrates the pre and post mean scores, while Table 2 outlines the Wilcoxin signed rank test scores and the effect sizes for the individual items within this category. As Figure 2 illustrates, most of the responses were at a reasonable level of disagreement with the statements. So respondents in general did resist the objections that are raised against providing specifically for gifted students. Yet by the end of the semester, respondents’ level of disagreement with each of the statements increased, with 7 of the 10 responses dropping below 2.

![Figure 2: Pre & post results for items relating to resistance to objections.](image-url)

(All items negatively oriented but actual not inverted responses are displayed)

Once again the differences between pre and post scores reached a level of statistical significance at the \( p < .001 \) level for every item, with 6 of the 10 effect sizes considered to be large (see Table 2).
Table 2: Wilcoxin signed rank/ effect size results for resistance to objections items.

<table>
<thead>
<tr>
<th>Item</th>
<th>z</th>
<th>p</th>
<th>Total N</th>
<th>Ties</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>-4.058</td>
<td>0.000</td>
<td>660</td>
<td>58</td>
<td>.17</td>
</tr>
<tr>
<td>4</td>
<td>-6.167</td>
<td>0.000</td>
<td>662</td>
<td>80</td>
<td>.26</td>
</tr>
<tr>
<td>5</td>
<td>-12.30</td>
<td>0.000</td>
<td>662</td>
<td>45</td>
<td>.50</td>
</tr>
<tr>
<td>12</td>
<td>-11.097</td>
<td>0.000</td>
<td>662</td>
<td>55</td>
<td>.45</td>
</tr>
<tr>
<td>16</td>
<td>-15.314</td>
<td>0.000</td>
<td>662</td>
<td>15</td>
<td>.60</td>
</tr>
<tr>
<td>18</td>
<td>-5.11</td>
<td>0.000</td>
<td>664</td>
<td>74</td>
<td>.21</td>
</tr>
<tr>
<td>23</td>
<td>-13.918</td>
<td>0.000</td>
<td>664</td>
<td>34</td>
<td>.55</td>
</tr>
<tr>
<td>26</td>
<td>-14.016</td>
<td>0.000</td>
<td>664</td>
<td>29</td>
<td>.56</td>
</tr>
<tr>
<td>27</td>
<td>-12.385</td>
<td>0.000</td>
<td>660</td>
<td>50</td>
<td>.50</td>
</tr>
<tr>
<td>28</td>
<td>-12.577</td>
<td>0.000</td>
<td>662</td>
<td>60</td>
<td>.51</td>
</tr>
</tbody>
</table>

* r values in bold indicate a large effect size while values in italics indicate a medium effect size.

The two items which remained above 2.5 in the post survey (Items 3 & 18), which also had low effect sizes, related to issues that tend to be of significant concern to teachers – children with learning difficulties and parental responsibilities. Unlike giftedness and gifted education, both of these issues feature heavily in pre-service teacher education programs and so strong opinions tend to have been developed about these, so it is not surprising opinions did not alter as much for these items, although there was certainly a positive change in direction. Some excerpts from students’ reflective journals help to explain this:

“It is easy to put expectations on parents because usually you associate gifted kids with higher socioeconomic status – I must admit I had this assumption myself and thought that parents should take on most of the burden but now I can see that schools also need to share the responsibility for developing gifts/talents/whatever – particularly for the disadvantaged kids like rural, indigenous etc” (Sam, 2008)

“At the start I definitely believed that children with difficulties needed support more than gifted did but now I think they both deserve it – not one more than the other – it shouldn’t be a contest although it is and of course we all know who is going to get the sympathy” (Kate, 2009).

Interestingly those items in this section that did have large effect sizes (Items 5, 16, 23, 26, 27 & 28), tended to relate to social justice issues, such as the fairness and equity of providing services and provisions to gifted students. Some of the reflective commentary from journal entries outlined how the idea of equity altered over the course of involvement in the unit:

“I honestly didn’t think that gifted students needed let alone deserved attention to the same extent that average or learning challenged kids did. It had never entered my mind to think that schools should spend on this group but now I strongly believe that all students have the right to get their needs met, irrespective of their ability” (Ellie, 2010).

“I guess I hadn’t really thought about what elitism really meant until I had gone through some of the readings. Taking a strictly literal approach sort of brought me to my current position – I see now that I was misinterpreting what I saw as giving gifted students a superior educational experience rather than an appropriate one” (Adam, 2008).

3. Social value

This category only had 4 items, one of which was negatively oriented. The items related to the perceived societal value of giftedness. Figure 3 illustrates the pre and post mean scores while Table 3 outlines the Wilcoxin signed rank test scores and the effect sizes for the individual items within this category. There was a mixture of responses to items relating to social value with a reasonably low level of agreement for two of the positively oriented statements relating to the perception of giftedness as a valued attribute (Items 17 & 33). While there was a strong acknowledgment of the value of gifted persons (Item 13), this did not spillover into the idea of them providing tomorrow’s future leaders (Item 33).
Even though there was a statistically significant change with a moderate effect size in relation to the leadership item, it still only rated as a low 3 in the post survey administration, illustrating that respondents were not strongly behind the idea, as explained by some respondents:

“I took offence to this originally as it was almost like saying that gifted people are superior or better equipped to be leaders and that doesn’t follow at all from my own experience. Some of the smartest people I know are introverted and not good at leadership stuff” (Sally, 2008).

“I can see that gifted individuals will be of great value to society as inventors or researchers who develop cures etc but I think leadership is perhaps different. Although you do want leaders to be clever it doesn’t follow that you would be good [at leading] just because you are [gifted]” (Jarryd, 2010).

Table 3: Wilcoxin signed rank/ effect size results for social value items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Z</th>
<th>p</th>
<th>Total N</th>
<th>Ties</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>-7.030</td>
<td>.000</td>
<td>664</td>
<td>198</td>
<td>.33</td>
</tr>
<tr>
<td>17</td>
<td>-7.444</td>
<td>.457</td>
<td>656</td>
<td>133</td>
<td>.03</td>
</tr>
<tr>
<td>25</td>
<td>-7.982</td>
<td>.000</td>
<td>660</td>
<td>59</td>
<td>.33</td>
</tr>
<tr>
<td>33</td>
<td>-9.117</td>
<td>.000</td>
<td>662</td>
<td>104</td>
<td>.39</td>
</tr>
</tbody>
</table>

* r values in **bold** indicate a large effect size, while values in *italics* indicate a medium effect size.

Interestingly, the one positively worded item in the entire survey which had a lower response in the post survey, related to being considered gifted (Item 17). This was also one of two items where differences in responses were not statistically significant. Reflective responses about this item illustrated how an understanding of giftedness and all the associated complexities provided a totally different perspective in regard to personal value:

“I always envied the kids at school who were gifted but I can see now that for many of them it wasn’t enviable – when I read the poem square and brown it made my heart ache for how some of them must feel - so misunderstood” (Mary, 2010).

“I originally thought it would be fantastic to be gifted – that it was a real prize but after completing this unit I can see that there are a lot of difficulties faced especially at school. I guess if giftedness was embraced in our system like with sport then it would be different but we haven’t got there yet” (Paula, 2009).
4. Rejection

This category only included 3 questions which were all positively worded and related to the idea of acceptance of giftedness. Figure 4 illustrates the pre and post mean scores while Table 4 outlines the Wilcoxon signed rank test scores and the effect sizes for the individual items within this category. All three items attracted mid level responses at both pre and post administrations and although the differences were statistically significant for two of the statements, the effect sizes were small to moderate. The main change in this group of questions related to teachers feeling their authority threatened by gifted students (Item 25) but with the post score still below 4, there was still a degree of ambivalence as illustrated by the following comments from reflective journals:

“I don’t know if threatened is the right word – I know that I felt a bit concerned when I had a Grade 2 student who was doing Yr 9 calculus on my prac this year – but I didn’t see it threatening my authority” (Kayla, 2010).

“My mentor has a really gifted kid who can be a pain in pointing out errors etc but I don’t think she is a threat – just a pain in the….“ (Alec, 2009).

There was very little change in the item related to gifted individuals being rejected because of envy, and this ambivalence was explained by a number of respondents in their reflective journal entries:

“I couldn’t really answer this one with any certainty as I don’t fully believe that gifted people are rejected” (Dan, 2010).

“I am still undecided about this one – I guess it is sometimes envy but so many gifted people aren’t even recognized as gifted so it wouldn’t be for that reason only” (Wilma, 2009).

Table 4: Wilcoxon signed rank/ effect size results for rejection items.

<table>
<thead>
<tr>
<th>Item</th>
<th>z</th>
<th>p</th>
<th>Total N</th>
<th>Ties</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>-4.265</td>
<td>.000</td>
<td>660</td>
<td>116</td>
<td>.18</td>
</tr>
<tr>
<td>25</td>
<td>-7.982</td>
<td>.000</td>
<td>660</td>
<td>59</td>
<td>.33</td>
</tr>
<tr>
<td>31</td>
<td>-1.269</td>
<td>.205</td>
<td>662</td>
<td>125</td>
<td>.05</td>
</tr>
</tbody>
</table>

*r values in **bold** indicate a large effect size, while values in *italics* indicate a medium effect size.

5. Ability grouping

This category included 4 questions relating to the practice of ability grouping, 3 of which were negatively framed. Figure 5 illustrates the pre and post mean scores while Table 5 outlines the Wilcoxon signed rank test scores and the effect sizes for the individual items within this category. For each statement within this category, the difference in responses in the post survey differed was
statistically significant at the \( p<.001 \) level with associated effect sizes ranging from small to moderate.

Ability grouping was possibly the most controversial issue covered in the unit EDF4512, due to the heavy emphasis placed on the value of mixed ability groupings in the preservice teacher education courses generally.

Additionally, in the majority of cases, ability grouping had not been experienced, or viewed positively by pre-service teachers in their own primary or secondary schooling. For this reason, there was still some resistance by students to the concept with only Item 20 scoring below 2 in the post survey. This item also had an effect size of .47, and student responses did indicate that views had changed in relation to the concept of gifted students serving as role models or an intellectual stimulus:

“I was doing it already but I felt that maybe it wasn’t always fair to the lower readers but now I have some ammunition and I am going to leave it on the staff room table – I think it will set a few minds at ease” (Jen, 2010).

“I always believed that you needed to keep the bright ones in…it was quite a relief to read about social comparison ….now I don’t feel so guilty about grouping in like ability settings for maths and reading especially” (Penny, 2009).

Table 5: Wilcoxin signed rank/ effect size results for ability grouping items.

<table>
<thead>
<tr>
<th>Item</th>
<th>( z )</th>
<th>( p )</th>
<th>Total N</th>
<th>Ties</th>
<th>( r )</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>-10.039</td>
<td>.000</td>
<td>662</td>
<td>89</td>
<td>.42</td>
</tr>
<tr>
<td>6</td>
<td>-6.417</td>
<td>.000</td>
<td>662</td>
<td>94</td>
<td>.27</td>
</tr>
<tr>
<td>20</td>
<td>-11.357</td>
<td>.000</td>
<td>662</td>
<td>74</td>
<td>.47</td>
</tr>
<tr>
<td>21</td>
<td>-2.623</td>
<td>.009</td>
<td>660</td>
<td>82</td>
<td>.11</td>
</tr>
</tbody>
</table>

*\( r \) values in **bold** indicate a large effect size, while values in *italics* indicate a medium effect size.

6. **Acceleration**

There were 5 items relating to the practice of acceleration, with 3 of them worded negatively. Figure 6 illustrates the pre and post mean scores while Table 6 outlines the Wilcoxin signed rank test scores and the effect sizes for the corresponding individual items within this category. Acceleration, or accelerated learning practice, was possibly the least understood in this unit, with many students admitting to having no real idea about anything other than grade skipping. Initial responses reflected this with all except one in the mid range of 3, indicating a level of uncertainty.
As with the ability grouping category, the difference in the post survey responses for every item relating to acceleration was statistically significant at the $p < .001$ level but effect sizes were varied with only Item 34, relating to grade skipping, registering a large effect size. As student reflections illustrated, most of the pre-service teachers had very little awareness about grade skipping or the potential benefits of such a practice (Colangelo, Assouline & Gross, 2004):

“I can’t believe that I was so misinformed about the damage that acceleration did socially and emotionally. I can’t even really say where I got my views as I haven’t got any personal experience with acceleration” (Sarah, 2008).

“Reading the Nation Deceived report blew me away – I had no idea that there were so many different forms of acceleration or that it wasn’t totally damaging. It is so strange that we have such a negative view of this practice but without any basis whatsoever. I have just always accepted what teachers and lecturers have said about keeping students together” (Lawrence, 2009).

Table 6: Wilcoxin signed rank/ effect size results for school acceleration items.

<table>
<thead>
<tr>
<th>Item</th>
<th>$Z$</th>
<th>$p$</th>
<th>Total N</th>
<th>Ties</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>-4.358</td>
<td>.000</td>
<td>664</td>
<td>76</td>
<td>.18</td>
</tr>
<tr>
<td>8</td>
<td>-9.412</td>
<td>.000</td>
<td>664</td>
<td>94</td>
<td>.39</td>
</tr>
<tr>
<td>10</td>
<td>-5.124</td>
<td>.000</td>
<td>664</td>
<td>85</td>
<td>.21</td>
</tr>
<tr>
<td>29</td>
<td>-9.491</td>
<td>.000</td>
<td>662</td>
<td>75</td>
<td>.39</td>
</tr>
<tr>
<td>34</td>
<td>-12.369</td>
<td>.000</td>
<td>662</td>
<td>67</td>
<td>.51</td>
</tr>
</tbody>
</table>

$r$ values in bold indicate a large effect size, while values in *italics* indicate a medium effect size.

**Discussion**

While analysis of reflective journals was not one of the original aims of the project, it soon became apparent that students in the unit were very keen to share their thoughts about their overall educational journey of learning about giftedness through this medium.

One of the interesting aspects that came out in the reflective journals was that some of the participants were able to identify themselves or a member of their family as gifted, others had experienced gifted education themselves, whereas many believed they had never experienced giftedness and were grappling with the concept but were now aware of their opinions and felt more prepared to deal with gifted students. Some participants commented that they wished they had been given the opportunity to attend selective programs for gifted students, rather than attend the schools which they did, as they had not realized these programs existed.
After reading and analysing the final section of students’ reflective journals which required them to reflect on how their opinions had altered over the semester and their overall journey of learning two major themes emerged. One related to the realisation of their previous lack of knowledge and understanding about giftedness and the second related to the value of the unit’s content for their teaching in general, as illustrated in the following representative comments:

“Looking at the changes in my attitudes I can’t believe how little I knew about gifted students and I was one myself! I just feel that I am much better prepared now” (Julie, 2010).

“My journey through this subject has been one of fantastic enlightenment. I found that the more I studied, the more I felt compelled to learn more in an attempt to affect change…… The growth in my knowledge in this area has made me reflect on my teaching practices over the past 25 years, which at times has been very uncomfortable, but definitely necessary” (Allison, 2008).

“I have really enjoyed this unit on giftedness. I feel it has opened my eyes to important issues I would have been completely unaware of. I now feel I am developing important insight into how to recognise gifted students and how to go about providing for them. Giftedness is such a complex issue with many dimensions to consider. These students won’t always stand out, often they can be the quiet ones that don’t want to be noticed or they can suffer from other disabilities which mask their brilliance. These disabilities can range from Asperger’s syndrome, ADHD to learning disabilities. Awareness and provision for the gifted in schools is slowly increasing, but there is still a long way to go and even further to go for the future of disabled students who are also gifted. Research concludes the gifted that are accelerated or grouped have positive experiences and excel both academically and socially. Social-emotional needs and aspects of gifted students are matched and met when they are placed with like-minded peers. Often to achieve this they have to be placed with older students or paired with a mentor to help them progress and develop their abilities” (Gayle, 2010).

Moreover, there was an almost unanimous perception within every cohort over the three year period, of the need for a compulsory unit on gifted education.

“I am really grateful that I chose this unit but can’t believe it isn’t compulsory – I have told all my friends to make sure they do it as otherwise they won’t have any idea what to do if they get a gifted kid in their class. My mum is a teacher and she is amazed at what I tell her – she has taken a few of the readings to her school for the staff and even asked my advice about one of her students who she now thinks might be gifted” (Sue, 2009).

Finally the following heartfelt statement from one recent student sums up what many students perceive as the inherent value of this elective unit on giftedness:

“I made a bold statement when beginning my journal for this subject: “throughout my academic career, no single unit has left me feeling as astonished and baffled by my own ignorance as EDF4512”. I stand by my words. Being in the final year of a Bachelor of Education, and having completed a law degree a year earlier, I felt as though I was well-equipped to soon enter the classroom as a teacher. Then along came this unit! It wasn’t as if this subject made me feel incompetent, but rather that I simply couldn’t fathom that someone in my position could be so oblivious of an educational issue that almost every single teacher will encounter in their profession. Gifted education cannot be considered in isolation; it permeates all subject areas, across all levels, and I think it’s a real shame that units such as this aren’t made compulsory in teacher education courses. As a pre-service English teacher I feel eternally grateful that I’ve been made aware of key issues surrounding gifted education now, before I formally enter the education profession. But, I do wonder about all those who – due to unavailability of the subject, timetable reasons or otherwise – have not been exposed to this educational issue. I worry because for all the excellent information provided on the characteristics of gifted students, the problems with identification, cultural disparity, and grouping and acceleration alternatives, our response to these issues turns so much on the attitude and knowledge of the teacher. Without an appreciation of what we’ve covered in this course, a teacher is unlikely to instinctively be on the lookout to respond positively and appropriately to the needs of gifted students. This is a real shame. Until there is broader education about giftedness, I feel as though many of the myths and misunderstandings that have punctuated this issue for decades (eg. the ‘zero-sum’ idea that investing in ‘gifted’ and ‘handicapped’) will continue to be peddled. But, on the plus side, you’ll have another lecture theatre full of staunch advocates out there in the schools fighting for proper provisions for the gifted. A small step? Maybe. But a step nonetheless. Thank you for a wonderful semester” (Nigel).
Conclusions

Every year since it was first introduced in 2008, EDF4512 has featured as one of the top ranking units for the university according to formal student evaluations. Moreover, the results of this study illustrate the significant impact that involvement in a single semester unit has had on the opinions of preservice teacher education students towards the gifted and their education. Through pre and post survey responses and detailed reflective journals, participants illustrated the development of more positive understandings towards gifted students and their education. During the thirteen week period in which students were immersed in literature, research and discussion they were also asked to complete a reflective journal which provided a valuable source of data about their journey of learning about giftedness. While each of the 6 categories identified by Gagne and Nadeau (1985) were impacted, the effect size was noticeably more positive in relation to resistance to objections, dealing mainly with the importance of appropriate education for the gifted for social justice reasons, followed closely by the category relating to needs and support of the gifted.

As research in the field has established strong links between specific knowledge and understanding on the development of positive opinions, and the concomitant impact on appropriate provisioning for gifted students, it could be argued that even a semester of study in an Education faculty at university (of units such as EDF4512) can make a substantive difference in helping students learn to be a more informed teacher of the gifted.

References


Croft, L. J. (2003). Teachers of the gifted: Gifted teachers. In N. Colangelo, & G. Davis (Eds.), Handbook of gifted education (pp. 588-571). Boston; Pearson Education.


About the Authors

**Margaret Plunkett**, Ph.D., coordinates and teaches gifted education at the undergraduate level at Monash University. Her main research interests are ability grouping practices, teacher education and professional development. Her Ph.D. was published as a book “Tales from the Pond: Student Perceptions of Ability Grouped and Mainstream Learning Environments” by VDM Verlag in 2009. Margaret has also completed research for the Department of Education, Victoria on the SEAL program and for a range of individual schools in both Gippsland and Melbourne, evaluating gifted programming. Margaret has been an elected Australian delegate of World Council for Gifted and Talented Children since 2007.

**Leonie Kronborg**, Ph.D., coordinates postgraduate gifted education at Monash University and teaches in both the postgraduate and undergraduate courses. Leonie is Past President of the Australian Association for the Education of the Gifted and Talented and the Victorian Association for Gifted and Talented Children. She is an elected Australian delegate and member of the Executive of the World Council for Gifted and Talented Children (2009-2013). Leonie has a particular interest in talent development and gifted females, with her Ph.D. entitled “Talent Development of Eminent Australian Women”, receiving the prestigious NAGC (National Association for Gifted Children) Doctoral Student Award in 2009.

Addresses

**Dr. Margaret Plunkett**
Faculty of Education, Monash University Gippsland, Northways Rd, Churchill, 3842, Victoria, Australia.
e-Mail: Margaret.plunkett@monash.edu

**Dr. Leonie Kronborg**
Monash University, Krongold Centre, Faculty of Education, Monash University, Clayton, 3800, Victoria, Australia.
e-Mail: Leonie.Kronborg@monash.edu
Gifted Education in German-Speaking Countries

Anna Herrmann; and Baruch Nevo

Abstract

The purpose of this article is to provide the reader with a comprehensive yet detailed account of the current giftedness and gifted education situation in Austria, Germany, and Switzerland. It is concerned with four main research questions: (1) How is ‘giftedness’ defined in German-speaking countries? (2) How are gifted children identified? (3) What gifted education programs are there? (4) What are the empirical findings on these programs? The article is based on relevant journal articles, books, and webpages. The review of each of the topics mentioned above is accompanied by some critical comments.

“There is nothing so unequal as the equal treatment of unequals”. (Paul Brandwein, 1981, in: BMBF, 2009)

Keywords: Cross-cultural comparison; identification of gifted children; enrichment programs.

Gifted education in German-speaking countries

This statement captures a notion that is relatively new in the field of education in German-speaking countries. A general dislike of anything associated with the advancement of elites (partly due to the unpleasant association with a very different kind of elite advancement during the Third Reich) and the assumption that gifted children would be sufficiently challenged within the regular education system long dominated gifted education policies. Giftedness and gifted education have thus only recently advanced to an issue of pedagogic concern.

The purpose of this article is to provide the reader with a comprehensive yet detailed account of the current gifted education situation in Austria, Germany, and (the German-speaking part of) Switzerland. It may prove particularly useful to non-German speakers interested in giftedness and gifted education in German-speaking countries, since it can be difficult to find information on this topic in English. The article is concerned with four main research questions:

1. How is ‘giftedness’ defined in German-speaking countries?
2. How are gifted children identified?
3. What gifted education programs are there?
4. What are the empirical findings on these programs?

The article focuses on children and youth up to the age of 18. It focuses mainly on the scholastic/cognitive aspect of giftedness, since this is what most definitions of giftedness and gifted education programs concentrate on. Furthermore, this article has a decidedly practical-empirical focus and thus excludes purely theoretical deliberations. It also excludes more specific topics such as gender differences.

In order to find answers to the four questions outlined above, this report draws upon three main sources of information: journal articles found through online research databases, the internet (websites of researchers, of research centers, and of the respective federal and state governments), and books on the subject. In order to search the online research databases and find relevant articles, the following English and German keywords were used: gifted, giftedness, gifted education, gifted education program, talented, exceptional, and high-achieving, as well as begabt, Begabung, Begabungsförderung, hochbegabt, Hochbegabung, Hochbegabungsförderung, and Hochleistung. Two articles, “Gifted Education in 21 European Countries: Inventory and Perspective” by Mönks and Pflüger (2005) and "Begabungsforschung in Österreich: Erstellung einer Forschungslandschaft und Skizzierung der Forschung in der Schweiz und Deutschland" by Preckel et al. (2008) deserve special mention as they have been particularly helpful in providing comprehensive information on the
giftedness and gifted education situation and research in German-speaking countries and will be cited frequently in this article.

How is 'giftedness' defined in German-speaking countries?

There are three main ways to approach the question of whether and which definition of giftedness a country has adopted: one may look at official definitions provided by a federal or state government (Austria, Germany, and Switzerland are all federal republics), at definitions provided by foundations and other non-profit groups concerned with giftedness, and at definitions employed by major researchers and research centers. In the following, the findings will be presented separately for each of the three countries.

In Austria, giftedness and gifted education became a political priority in the mid-1990s (Köhler, 2006). According to a recent decree on giftedness and gifted education, issued by the Federal Ministry of Education, Art and Culture (BMUKK), the current official definition of giftedness in Austria is "an individual’s potential for outstanding achievements, which includes logical-mathematical, verbal, and visual-spatial as well as motor, music, and social-emotional skills" (BMUKK, 2009). The Ministry’s definition is followed by a list of skills and traits regarded as necessary to transform this potential into high achievement, such as high motivation, persistence, ability to concentrate, the competency to cope with stress, creativity, communication skills, and the readiness to take on responsibility.

The definition provided by the biggest and most prominent network of experience and research center on giftedness and gifted education in Austria, the Austrian Center for Gifted Education and Research on Giftedness (ÖZBF), is quite similar: "Giftedness is defined as an individual’s total achievement potential in different areas of achievement, including non-cognitive, which may be transformed into actual achievement by an active process of learning and development through the interaction between the individual and her or his environment" (ÖZBF, 2010).

The definitions of giftedness employed by leading researchers in the field lend further support to this statement. In present-day research on giftedness and gifted education in Austria, a broad, multi-dimensional conception of giftedness usually serves as the starting point.

In Germany, the definition of the conception of ‘giftedness’ given by the Federal Ministry of Education and Research (BMBF) closely resembles its Austrian counterpart: "Gifted children are children who have the potential for outstanding achievements in certain areas, for example at school, in sports, in music, or in art. (...) Giftedness may be seen as a high developmental potential." (BMBF, 2009). Since education in Germany is the responsibility of the 16 states. However, the exact wording may slightly vary from state to state (Mönks & Pflüger, 2005).

The Karg Foundation, a German foundation concerned with gifted children and the advancement of gifted education, states in an information brochure that individuals with an IQ of 130 or higher are usually considered gifted. They add, however, that an excellent scholastic performance, high motivation, or extraordinary creativity may also indicate giftedness and may also be used as criteria to determine giftedness (Preckel, Schneider & Vock, 2009).

Definitions developed and used in the academy follow this line of thought: the influential Munich Model of Giftedness, for example, developed in 1994 by Heller, Perleth and Hany, conceptualizes giftedness as the potential for high performance, with several factors serving as moderators for the realization of this potential. These factors include personality and environmental factors such as achievement motivation, coping skills, family climate, and quality of instruction (Heller, Lim & Perleth, 2005).

In Switzerland, the educational system is strongly decentralized. Education is the responsibility of the 23 cantons (the Swiss states). Each canton has its own head of education (Mönks & Pflüger, 2005). Through the Swiss Conference of Cantonal Ministers of Education (EDK), however, they coordinate their work on the national level (EDK, 2010). The EDK finances a special network on giftedness and gifted education for the 20 German-speaking cantons, the Netzwerk Begabungsförderung, which provides information and services through the digital world, including the internet (Netzwerk Begabungsförderung, 2010).

For a definition of giftedness, the Netzwerk Begabungsförderung refers to a policy article that references the Munich Model of Giftedness as the basis for its conception of giftedness. Giftedness is defined as "an
individual's potential for outstanding achievements", as well as "a product of interaction, between the individual's potential and the social environment" (Spitzer, 2000).

The Stiftung für hochbegabte Kinder, a Swiss foundation for gifted children, similarly defines giftedness as "a disposition for exceptional performances later on", adding that it is commonly defined by an IQ of 130 or higher.

However, they also state that a definition of giftedness must transcend cognitive intelligence. Leaning on Gardner’s model of intelligence (see above), the foundation holds that a definition of giftedness should also account for musical, social, or verbal intelligence (Stiftung für hochbegabte Kinder, 2010). The research on giftedness and gifted education currently conducted in Switzerland indicates that definitions of giftedness in the Swiss academy closely resemble this definition.

As one can see, the definitions of giftedness presented here quite closely resemble each other. They share the following problem: they commonly refer to "future potential", "future achievement", "exceptional performances later on" etc. Thus, they define gifted children as individuals who have the potential to become gifted adults. They fail, however, to define what a gifted adult is. Furthermore, while the definition of giftedness is open to include non-cognitive talents, the reality, as can be seen later on, is more limited and focuses on scholastic giftedness.

In summary, it can be stated that in German-speaking countries, the traditional definition of giftedness as an IQ based quality is being rejected in favor of a widely agreed upon, multi-dimensional conception of giftedness as an individual's potential for outstanding future performances, which is moderated by several external and internal variables. This common definition of giftedness fails, however, to explain what exactly would be considered "outstanding future performances". The fact that the future outcome in adulthood is unclear implies an ambiguity of the present state of affairs in childhood.

**How are gifted children identified?**

Now that it has been established how 'giftedness' is usually defined in German-speaking countries, the article will address the question of how gifted children are identified. In no country there is such a thing as a systematic screening process that each and every child routinely goes through. Screening usually occurs as a selection process for participation in gifted education programs or studies on gifted education. One may examine diagnostic instruments developed in the academy as well as the identification criteria set by organizations that offer gifted education activities and programs, including schools. Because of this article’s emphasis on practical-empirical aspects, the focus will be on the latter.

Before examining the identification criteria set by several organizations, a short overview of relevant academic activities in German-speaking countries will be presented. In Austria and Germany, as opposed to Switzerland, the identification and diagnosis of giftedness is of major interest to researchers in the field of giftedness and gifted education (Preckel et al., 2008). Several German and Austrian scholars, often in cooperation, are developing and have developed diagnostic instruments such as performance tests, checklists for parents and teachers, and questionnaires on mental well-being. The majority of these instruments attempts to capture and operationalize the complexity of the generally agreed upon, multi-dimensional definition of giftedness presented above. The Munich High Ability Test Battery (MHBT), developed by Heller and Perleth in the framework of the Munich longitudinal study of giftedness and talent, is an exemplary test battery: it includes teacher checklists, questionnaires, and performance tests to measure intellectual, social, and creative abilities as well as relevant personality and social moderators such as interest, motivation, and self-concept (Heller & Perleth, 2008).

In order to understand how gifted children in German-speaking countries are identified, we now turn to the identification criteria set by organizations that offer gifted education activities and programs, including schools. Even though the gifted education programs offered in German-speaking countries will be discussed in more detail later on, we will provide the reader with an overview over the most important programs at this point. Since there is no such thing as a systematic screening procedure every child goes through, it depends on the various organizations offering gifted education programs how gifted children are identified and selected, and it is thus important to know what the most important programs are. Within school, they include acceleration measures such as early entrance into school, sharing classes with higher grades, grade skipping,
and part-time early attendance of university; enrichment measures such as inner-school competitions; and segregation measures such as special curricula, classes, or schools for gifted students. Outside of school, the most important programs are pupils' summer academies and regional, national and international competitions.

Possible criteria are grades, school external achievement (such as success in school external competitions), performance tests (usually IQ tests, but sometimes also measuring social and creative abilities), questionnaires (to be filled out by the child itself or by third parties), parent checklists, self- and other-nominations, as well as other, institutional "self-made" criteria (Mönks & Pflüger, 2005). While the application of these criteria for different gifted education programs may vary from country to country and, within each country, from state to state and from school to school, the following identification and selection processes can be seen as typical for all three countries:

At the request of the parents, a child may enter school early, although the decision is usually up to the school administration, sometimes under consideration of an expert’s opinion. From that point on, excellent grades are a precondition for participation in most programs and activities within school. An exception are inner-school competitions which are often open to any student who wants to participate, but grades are rarely the only criterion. The decision to allow a student to share classes with higher grades or skip a grade, for example, is typically based on high grades, apparent motivation, and teacher nominations/recommendations. The results of an examination through a school psychologist may also be included in the process (Mönks & Pflüger, 2005).

The decision to allow a student to attend a special track or class for gifted students, usually offered only at the secondary school level, up to the school administration, is typically based upon parents’ nomination/recommendation, the child’s performance in primary school, and an aptitude test. The test chosen may vary from school to school, although they usually focus on intellectual ability and the child’s successful participation in a trial lesson (Bayerisches Staatsministerium für Unterricht und Kultus, 2010).

An example for schools for gifted children only is the Sir-Karl-Popper School in Austria, a secondary school for gifted children. Their selection process works as follows: the young applicants, having submitted their grades from primary school and a parental as well as a personal statement, are subjected to a five-hour testing procedure which consists of two test batteries (the Advanced Progressive Matrice Test and the Austrian version of the Intelligence Structure Test, 2000) and an interview by an expert in gifted education (Sir-Karl-Popper-Schule, 2010). The Sir-Karl-Popper School’s screening process was the most extensive, systematic, and objective screening process found for any gifted education program in German-speaking countries.

The identification and selection criteria for gifted education programs outside of school are similar to the ones employed for programs inside of school. When applying for participation in the pupils’ summer academies, for example, a school’s or teacher’s recommendation and/or prior successful participation in a students’ competition is considered sufficient proof of a student’s high abilities (Deutsche Schülerakademie, 2010). There are usually no criteria that have to be met in order to participate in a regional, national, or even international students’ competition. However, the fact that a student has won such a competition is often taken as an identifying criteria for giftedness. The students who win the German Bundeswettbewerb Mathematik, for example, a multi-stage, nationwide student competition in mathematics, automatically receive a scholarship for their subsequent university studies by the Studienstiftung des deutschen Volkes, the prestigious German National Merit Foundation (Bildung und Begabung e.V., 2010).

There is a large variety of procedures and tools used to identify and select gifted children. The fact that every organization is free to set their own criteria, on one hand, means that every organization has the freedom and flexibility to use the criteria that seem best suited to them. On the other hand, a clear disadvantage is that this may lead to unsystematic procedures and the employment of subjective and unreliable tools.

With a few exceptions, the criteria used in order to identify gifted students for participation in gifted education programs seem to be rather conservative. Screening often relies merely on excellent grades and teacher recommendations. This may bear the danger of overlooking children who may not receive the best grades in their classes, but who have an exceptional creative talent or any other "less conservative" talent.

In summary, there is a wide variety of identification and selection criteria such as grades, school external achievement, performance tests to measure intellectual, social, and creative abilities, questionnaires, parent checklists, self- and other-nominations, as well as other, institutional "self-made" criteria, which may be used in German-speaking countries to identify and select gifted
students for gifted education programs. It depends on each country, state, school, and organization which criteria are employed for which gifted education program, but the majority seems to focus on scholastic giftedness and relies on a rather conservative screening process. A major problem with this diversity of local tools is economical: after all, the development of each selection device is a complex and expensive process. Better coordination could have saved a lot of public and private resources.

What gifted education programs are there?

Slogans like "Not to each the same, but to each his own" or "There is nothing so unequal as the equal treatment of unequals" adorn the covers of brochures and the introductions of policy articles in Austria, Germany, and Switzerland alike: gifted education has officially become a political priority (BMUKK 2006, BMBF, 2009). This part of the article will explore to what degree this policy results in political action: what opportunities do gifted children in German-speaking countries have?

Gifted education in German-speaking countries, whether within or outside of school, usually targets school-age children. A short overview of the school systems of Austria, Germany, and Switzerland will help the reader to better understand gifted education in these countries in its context.

In Austria, compulsory schooling begins after a child’s sixth birthday and lasts for eight school years. Education for children is divided into three consecutive categories, primary, lower secondary and upper secondary education. Each lasts for four years, with primary and lower secondary education being mandatory. Upper secondary education leads to the Matura, which gives access to higher education and is usually acquired at age 18 (BMUKK, 2008).

In Germany, compulsory schooling begins after a child’s sixth birthday, and lasts for nine school years. Education is divided into two main categories, primary and secondary education. After their primary education, which usually lasts for four years, children may choose between three main types of secondary schools. Depending on the academic standard and the weighting of practical versus theoretical lessons, secondary school lasts five years (Hauptschule), six years (Realschule), or eight to nine years (Gymnasium). Children may move from one stream to another as they improve. Graduation from Gymnasium leads to the Abitur, which gives access to a university education and is usually acquired at age 18 or 19 (Societäts-Verlag, 2010).

In Switzerland, the educational system is strongly decentralized. Education is delegated to the cantons, resulting in a diverse education system. In most cantons, primary education starts at age six and lasts for six years. Lower secondary education lasts three to five years. Like in Germany and Switzerland, primary and lower secondary education are compulsory. Upper secondary education lasts for two to four years and leads to a graduation certificate that gives access to higher education (The Swiss Education Server, 2010).

Now that the reader is familiar with the regular education system, the article will move on to the gifted education system. The following list provides an overview of the most important gifted education programs in German-speaking countries. As far as Germany and Switzerland are concerned, specific provisions may depend on the state. The categories are rather broad and will be explained in more detail below:

- Early enrolment at primary school;
- Grade skipping;
- Sharing classes with higher grades;
- Early part-time attendance of university;
- Early exit from school to attend university (except in Germany);
- (Any kind of) Ability grouping;
- Special schools for gifted children;
- School internal competitions;
- School external competitions;
- Summer academies (except in Switzerland);
- Other.

(Mönks & Pflüger, 2005)

The programs listed above will be presented in more detail, and as the list shows, early enrolment at primary school, grade skipping, sharing classes with higher grades, and early part-time attendance of university, all of which are measures of acceleration, are available in all three countries. An early exit from school to attend university is possible in Austria and Switzerland, but not in Germany. Acceleration measures are especially popular due to the fact that they are inexpensive and relatively easy to implement.

Early enrolment refers to a child entering primary school before the age of six. In all three countries, early enrolment and grade skipping is
regulated and possible with almost no limitations, depending on the canton/ state (Holling et al., 2005; Mönks & Pfüger, 2005). Parental requests, teacher recommendations, high grades, and, sometimes, an expert’s opinion are the most commonly used criteria in order to allow early enrolment and grade skipping. There usually is a period of probation before making a final decision. In order to share classes with higher grades, the criteria that need to be met are similar. Sharing classes with higher grades may also serve as a way to decide whether skipping a grade would be possible.

Many universities in Austria, Germany, and Switzerland have opened their doors to students who are interested in part-time early attendance. In order to be admitted to such a program, both the student’s school and the university need to give their consent. They usually base their decision on the student’s academic performance and apparent motivation (Löwer, 2005). The minimum age oscillates between 14 and 16 (ÖZBF, 2010). In Switzerland, a special project at the Hofwil-Gymnasium, a boarding school in the canton of Bern, provides gifted students in art, music, or sports, the opportunity to pursue a university degree while still in school. In order to give them enough time to do this, their regular curriculum is stretched by one year. The last three years of secondary school are stretched to four years, enabling the students to accumulate two years’ worth of credit at institutions of higher education for art, music, or sports in Bern at the same time (Grimm & Maurer, 2005).

In Austria, an early exit to attend university full time is possible starting at age 15, but interested students need to successfully pass a special examination as evidence for the necessary abilities. In Switzerland, the permission to leave school early is given only in very special cases (Mönks & Pfüger, 2005), but this is not an option in Germany.

Ability grouping, practiced in all three countries, includes variety of enrichment and segregation programs. In Austria, many schools offer workshops and pull-out programs for gifted students. An example is the so-called "Plus-Kurse", special courses for gifted students, which are offered in the state of Salzburg. Plus-Kurse, offered during the regular school year, are two-hour to four-hour weekly classes during which gifted students have the opportunity to increase their knowledge in a particular topic, e.g. astronomy or web design. They are not designed to substitute regular instruction, but to complement it. Students who show high performances in the regular lessons are nominated by their teachers to attend these special courses. (Furlan & Patry, 2001; Patry, Weyringer & Wageneder, 2001). Also, several Austrian schools are practicing a teaching style called "free learning" in order to allow gifted students more freedom to learn and explore what they wish while keeping them in their regular class. In Germany, "working groups" of gifted students are common. They are very similar to the "Plus-Kurse" offered in Austria. In Switzerland, enrichment is often practiced as "within class differentiation", for example by dividing students into groups who work on tasks at different levels of difficulty (Mönks & Pfüger, 2005). Pull-out programs, frequently as cooperation projects between schools, seem to be popular as well. An example is the "Fördertag für Hochbegabte" in the canton of Thurgau. Once a week, it gives gifted children from regular primary schools the opportunity to pursue their own interests on an individually chosen subject in small groups (Hoyningen-Suess & Gyseler, 2001).

Several schools in German-speaking countries offer special curricula for the gifted. This usually means completing a condensed curriculum in less years in a more creative and free learning style. Again, admittance depends mainly on parental request, teacher recommendations, high grades, and, sometimes, aptitude tests and successful participation in a trial lesson (Bayerisches Staatsministerium für Unterricht und Kultus, 2010). There are several special schools for gifted children only in all three countries, for example the Sir-Karl-Popper School in Vienna or the Talenta School in Zurich.

Even though student competitions are usually open to any student who is interested and are not a gifted education program per se, they can have a motivating effect and further young talent. Especially in Austria and Germany, regional, national, and international competitions and "Olympiads" in the sciences, mathematics, foreign languages, arts, music, and sports, are a frequently organized and popular opportunity for gifted students to explore their talents (Mönks & Pfüger, 2005).

Furthermore, Austria and Germany both offer additional courses and summer academies (Austrian and German Pupils’ Academies) for gifted students, the majority of which are organized and sponsored through the government. Offered during the summer holidays, most academies last for a few days to two weeks and consist of courses from different academic disciplines, usually taught by experts.
from schools or universities on a high academic level. Participants are usually students at the secondary level (Hany & Grosch, 2009).

In light of the fact that gifted education has advanced from a political taboo to a political priority only rather recently, the number and variety of gifted education programs offered in German-speaking countries are rather impressive. The fact that acceleration programs seem to greatly outnumber other gifted education programs, however, needs to be viewed critically. Acceleration programs are commonly known to carry a greater risk for social-developmental problems than enrichment programs. Furthermore, acceleration is without a doubt the cheapest and easiest choice. The fact that it is also the most popular choice indicates that the acknowledgement of the importance of gifted education programs does not necessarily entail a willingness to invest in programs that require a greater financial commitment.

In summary, gifted education programs in German-speaking countries include early enrolment at primary school, grade skipping, sharing classes with higher grades, early part-time attendance of university, early exit from school to attend university, ability grouping, special schools for gifted children, school internal and school external competitions, and summer academies.

What are empirical findings on these programs?

Several gifted education programs in German-speaking countries have been scientifically evaluated. The most relevant studies and their results were found in "Begabungsforschung in Österreich: Erstellung einer Forschungslandschaft und Skizzierung der Forschung in der Schweiz und Deutschland" by Preckel et al. (2008), as well as independently. They are organized by the types of programs that were evaluated and by country. In line with the practical-empirical focus of this article, it will mainly include studies that concentrate on investigating the effects of a certain program. Evaluations of integration programs such as within-class differentiation are excluded.

Grade skipping

The most frequently investigated acceleration program is, without a doubt, grade skipping. It has been evaluated in all three countries. An Austrian survey study by Oswald and Weyringer, conducted in 2000/2001, investigated the frequency of grade skipping as well as attitudes toward acceleration programs in Austria. After conducting preliminary interviews with concerned students, parents, and teachers, the authors administered questionnaires concerning frequency of grade skipping and attitudes toward acceleration programs to the headmasters of all regular primary, secondary, and vocational schools in Austria, about half of which responded. They found that 187 students at 142 schools had skipped a grade that year, two thirds of them in primary school. 94% of the principals of schools where grade skipping had taken place assessed the consequences of this decision as positive for the further development of the concerned child. In contrast, 44% of the principals of schools where no grade skipping had taken place indicated that they would fear negative social-developmental consequences for a child who skipped a grade (Oswald, 2001).

A German survey study by Prado and Schiebel (1995) investigated the frequency, circumstances, and effects of grade skipping in 63 gifted secondary school students and eight gifted comprehensive school students. The survey was designed to collect data on how often grade skipping took place in the different grades, the requirements students had to fulfill to be allowed to skip a grade, the consequences and appropriateness of grade skipping, and the students’ school performance within the first year after skipping a grade. The results indicated that, over the four academic years of the study, grade skipping was rare at the secondary level. As for the circumstances, many instructors were very skeptical about grade skipping, favoring other educational goals over high achievement. The requirements expected from the student included outstanding ability, willingness to work, and high social, emotional, and physical development. As for the effects, the students who had skipped a grade coped well with the work in the higher grade, although the support on part of the school was limited (Prado & Schiebel, 1995).

A meta-analysis by Heinbokel (1997) reviewed research on grade skipping in German primary and secondary schools, including data gathered from interviews with the grade skippers and their parents. The analysis focused on whether schools, parents, and grade skippers themselves experience academic, emotional, or social problems as a consequence of grade skipping. Students, parents, and schools reported a drop in academic performance in only a few cases. In case of emotional or social problems, it was not clear whether they were caused by the acceleration or by other factors (Heinbokel, 1997).
Last but not least, two Swiss studies by Bähr (1998, 2001) investigated how teachers, parents, and grade skippers themselves viewed their decision to skip a grade. The first study included a sample of 31 grade skippers from the years 1994-1996 at the primary school level. The students, their parents, and their teachers were questioned as to how they viewed their decision to skip a grade a year after they had done so. The results indicated that the great majority assessed their decision to skip a grade as positive and would do it again (Bähr, 1998). As a consequence, the process of grade skipping in the canton of Zurich was facilitated: it was decided that a psychological examination would no longer be mandatory in every case, and it became legal to skip the first grade of primary school, and not only the subsequent grades. A subsequent study with the grade skippers from the years 1999-2001, supplemented by 30 interviews, showed similar results, with positive opinions about grade skipping from students, parents, and teachers. Bähr does point out, however, that skipping the first grade in primary school can be socially challenging for children.

Part-time early attendance of university

Another acceleration program that has been scientifically evaluated is part-time university attendance. A German study by Solzbacher (2008) investigated the 331 participating students' background, their motivation, the selection process, the course and effects of their university studies, and the students' satisfaction, by means of an online survey and interviews with several of the students. The results indicate that most of the students who attend university early have parents with an academic background and had already demonstrated their talent in other contexts with excellent grades, successful participation in competitions etc. Their main motives to attend university early were "to deepen my interests", "to learn new content", "occupational orientation", "to shorten the duration of university study", and "prestige". The students were usually selected by their school; and excellent grades and apparent motivation were a precondition. Most students took an average of three courses at the university each semester for one to three semesters. Both the students and the universities assessed their "early studies" as having a positive influence on their work and study behavior. Over all, the students were very satisfied with their experience and succeeded in their courses. Solzbacher critically points out that the students' socio-economic background is very decisive in whether they will take part, that the equalization of giftedness and high achievement excludes certain gifted students who have talents not easily detectable by applying purely scholastic criteria, and that most schools do not sufficiently inform students of the possibility of part-time early university attendance (Solzbacher, 2008).

In Switzerland, early part-time attendance of university has been studied as well: the aforementioned project at the Swiss Hofwil-Gymnasium, allowing gifted students in art, music, or sports to begin to pursue a university degree during their last four years of secondary school, has been evaluated by the directorate of education in the canton of Bern in a study by Maurer and Grimm (2005). The authors wanted to assess the student's success in the "Matur", the final exam leading up to a graduation certificate, and their preparation for it, their success in their art and music training, the challenges and problems the students encountered, the program's effects on the students' attitudes. Methods of data collection included standardized questionnaires, distributed at the beginning, the end, and one-and-a-half years after the program, grades, and student essays. The student sample comprised 55 students in the program. There was a comparison group consisting of students who went to the same school, but did not participate in the program. Furthermore, questionnaires with open and closed questions were distributed to the higher education teachers in the art and music program.

The results showed that the participants achieved higher grades in the Matur than the non-participants. Their estimates concerning their own knowledge were more optimistic than the non-participants' estimates. Even though the participants have to cope with a greater workload, they are less stressed. Their "double-training" helped them learn how to cope with a great workload. Similarly, an analysis of the students' essays indicated that the students in the program had to cope with more problems, enabling them to improve their problem-solving skills. The students were also successful in their higher education studies. The students' career goals corresponded with the nature of their respective programs in art, music, or sports. Most of them continued their studies after graduating from Gymnasium. The students viewed their decision to participate in the program very positively, shortly before their graduation as well as in retrospect one and a half years later, and would recommend the program to others (Maurer & Grimm, 2005).
Summer academies

As far as enrichment programs go, summer academies are the most frequently evaluated program in all countries except Switzerland. An evaluative study by Furlan (2004) may be the most informative study on the Austrian summer academies, since it comprises summer academies in several Austrian states. The evaluation was commissioned by the Austrian Center for Gifted Education and Research on Giftedness (ÖZBF) at the request of the Austrian states. Almost all of the states offer summer academies for gifted youth in different age groups. The purpose of the study was to evaluate the summer academies from the participant’s point of view and to better characterize the academies and their participants. To collect the data, questionnaires were distributed to participants of the summer academies in the year 2003, as well as to participants of earlier academies. The 329 participants of the 2003 summer academies, between 8 and 20 years old, were surveyed before and at the end of the summer academy as well as a few months afterwards. Furthermore, 360 alumni of the academies (ages 14-23) participated in interviews.

The results were as follows: concerning the student’s motivation to participate in the summer academies, their expectations, and their overall judgment of the academies, 91.4% of the participants agreed that the academies are “a valuable opportunity to deepen my interests and to learn new material”. Other widely agreed upon reasons were that the academies are “a good opportunity to get to know like-minded students”, “a great opportunity to make friends”, and “an exciting, challenging time.” None of the participants agreed with the description of the academy as boring and bad. The students especially liked the following elements and characteristics of the academies: group discussions, team work, project-oriented thinking, and independent thinking and working.

Since, according to the study, the media portrays gifted children as suffering in school, it was investigated how gifted youth do in school. It was found that the participants generally received very good grades in school, and often held leadership positions. They estimated their general well-being in school above the theoretical mean. It was also investigated to what degree the students felt that the learning environment of a summer academy complemented the learning environment of their schools and to what extent the academies offered new opportunities. According to them, the academies offered a more appropriate academic challenge as well as more support, and they were a better opportunity to meet like-minded students. The student’s general well-being was a little better in the academies than in school. Also, they felt less frequently mislabeled as “geeks” in the academies.

Another question was how gifted youth deal with the label “gifted”. Most of the participants agreed that there is such a thing as giftedness, but the majority of them disliked or rejected being called (the German word for) “gifted”. They largely preferred the term “especially interested”.

Finally, it was investigated how the participants rated the academies’ long term-effects, how they spent their time after the summer academy, and what personal and career goals they had. The students reported that their studying behavior did not change significantly, but that the academy awoke new interests in them. They also reported a long-term improvement of their hard skills (knowledge) as well as their soft skills (e.g. speaking in front of a group). Almost all of the participants chose to go to university after school, many of them pursuing double-majors. The majority of them chose to study a science or economics. Languages, followed by the humanities, were popular choices as well. Career goals varied widely. Personal goals included being awarded a high school or university diploma, spending time abroad, traveling, finding a satisfying job, independence from one’s parents, broadening one’s horizon, and finding a life partner and starting a family. Overall, the academies seemed to be a very positive and satisfying experience for the participants and offered them opportunities they would not have had otherwise. (Furlan, 2004). Two other evaluative studies, both of which focused on one certain summer academy, yielded similar results (Furlan & Patry, 2001; Krampl & Tischler, 2007).

In Germany, summer academies have been evaluated as well. Two studies on the academies’ short-time and long-term effects effects have yielded particularly valuable insights. An evaluative study by Heller and Neber (2002) focused on three aspects: first, input evaluation - what are the entry characteristics of students participating in the summer-school program? Second, process evaluation – how is the program delivered? Is it implemented as intended? Third, output evaluation - what are the effects of the academy? In order to investigate these questions, two samples of secondary-school students were included. The main sample consisted of 252 students accepted to participate in the summer program in three different areas. The other one consisted of 70 rejected applicants who served as a comparison group. With the main sample, data collection
took place twice, once immediately before the program and once two weeks after the program. The rejected applicants were sent questionnaires by mail, but only once.

In order to investigate the input, information was gathered about the student’s intellectual giftedness, performance-mediating cognitive and motivational characteristics, and socio-educational variables of the students. To investigate the process, perceptions of participating students and teachers at the academy school were measured by a self-report scale developed by the authors. The scale covers instructional methods, students’ self-regulation, cooperation, and curricular objectives as characteristics of the courses. To investigate the output, participants were given the same self-report instruments that were used to measure input, since it was assumed that participation in the academy should further those motivational and cognitive catalyst variables required for attaining high levels of excellence that had already been measured pre-participation.

The input evaluation confirmed that highly gifted students are selected for the program. The participants have high intellectual potentials, as well as strong intrinsic interests in acquiring knowledge and skills on specific domains. They also have very positive attribution patterns for dealing with success and failure, and their family background is characterized by a high social-educational status. The process evaluation indicated that the instruction corresponds with the needs of highly gifted students for self-regulated and discovery oriented learning.

The output evaluation focused on two questions: on whether the program had some impact on individual cognitive and motivational prerequisites for utilizing the intellectual competencies necessary for attaining high levels of excellence, and on possible intrapersonal and environmental factors in explaining the impact. Heller & Neber (2002) reported strong effects were achieved on domain-specific self-efficacy as a motivational belief required for high achievements in challenging fields of excellence. In addition, preferences for competitive learning were strongly reduced indicating an increase in willingness to work in teams on complex projects. Significant but weaker effects were found for the acquisition of domain-specific self-regulatory learning strategies that might be considered cognitive prerequisites for independent work on diverse academic fields. Very low or no effects were found for some motivational characteristics, because of the already developed high level of these characteristics prior to attending the summer-school program. Students’ course-domain-related intrinsic interests were already extremely strong, while their causal attribution patterns in dealing with domain specific successes and failures had been optimally developed. In these respects, no further improvements could be expected (Heller & Neber, 2002).

The long-term effects of the summer academies were investigated in a study by Hany and Grosch (2009). The authors hypothesized that the long-term effects might show in three areas: the academic achievement, the personality development, and the social competence of the academy participants. The study was conducted 10 years after the students had participated in a summer academy. A total of about 800 subjects, 594 participants and 196 matched non-participants as a control group, took part in the study, mainly through online questionnaires. Four different methods of data collection were employed: (1) The participants were asked to submit a detailed personal resume (2) The participants were asked to assess the effects of their participation on their technical efficacy as a motivational belief required for high achievements in challenging fields of excellence. In addition, preferences for competitive learning were strongly reduced indicating an increase in willingness to work in teams on complex projects. Significant but weaker effects were found for the acquisition of domain-specific self-regulatory learning strategies that might be considered cognitive prerequisites for independent work on diverse academic fields. Very low or no effects were found for some motivational characteristics, because of the already developed high level of these characteristics prior to attending the summer-school program. Students’ course-domain-related intrinsic interests were already extremely strong, while their causal attribution patterns in dealing with domain specific successes and failures had been optimally developed. In these respects, no further improvements could be expected (Heller & Neber, 2002).

The results showed that after ten years, the participants were still a highly able group in comparison to the rest of the population. It was concluded that the selection process succeeds in selecting especially able, talented, and motivated pupils for the summer academies. Furthermore, the summer academies fulfill their expectations as an enrichment program: they are remembered as more challenging and inspiring than school, albeit as less so than university studies. The integration into a group of like-minded students was an especially unique positive experience for many participants, more so than their school and university experience. The personal resumes as well as the questionnaire data indicated that generally, the summer academy is seen as very positive for one’s own further development by the participants. A clear majority of the subjects reported that participating in the academy had a positive influence. The strongest subjective impact concerns social and motivational aspects: subjects report a boost in self-confidence and optimism. A minority reported that their participation did not have any long-term impacts. As far as the matched non-participants were concerned, participants and matched controls did not differ very much in their academic development or professional success.
Over all, the results indicate positive long-term effects of the German summer academy program. Students clearly attributed positive long-term effects to their participation, concerning social competencies and motivation as well as technical-methodical skills and knowledge. However, the subjective experience is not perfectly matched by the objective data: participants and matched controls did not differ very much in their academic development or professional success. Thus, it needs to be assumed that while the academy experience is certainly very valuable, its effects can be made up for in case of non-participance, e.g. during one’s university studies (Hany & Grosch, 2009).

Enrichment courses

In Austria, so-called "Plus-Kurse", a set of enrichment courses for gifted students (see above), have been scientifically evaluated. In a study by Patry, Weyringer and Wageneder (2001) with a sample of 139 students in 13 courses taught by 11 teachers were asked to report their perceptions of the learning situation on a lesson-to-lesson base and in a summative questionnaire at the end of the school year. The authors were interested in situation specificity of teaching, interest of the students, demands and student independence in the lessons. The results showed that the teaching is less situation specific, less demanding, less independent on the student’s part, and more direct than assumed. Furthermore, interest seemed to be a very important factor, even with students who are very interested in any case (Patry, Weyringer & Wageneder, 2001).

In Germany, gifted students' "working groups" have been evaluated. A study by Hany and Heller (1992) evaluated working groups for gifted students in the German state of Baden-Württemberg, where they have existed since 1984. These working groups, offered in the state of Baden-Württemberg, take place once a week for two hours and provide the students an opportunity to explore topics in the natural or social sciences that are not covered in their regular classes. Selected results showed the following: concerning intelligence, the participants could be placed in the top 20 % of their age group. They had a stronger achievement motivation and slightly better grades than their peers. The effects of their participation were rated very positively by students as well as by the teachers. Even though the students had to invest some of their free time in the courses, the demand was high and the drop-out rate low. The students noted positive long-term effects on their personality development including independence, self-confidence, and social competence. Student’s career goals were not or hardly influenced by the course (Hany & Heller, 1992, in Preckel, 2008).

In Switzerland, the evaluation of enrichment programs focuses on pull-out programs for gifted students. A study by Wolfgramm (2004) evaluated a pilot project that consisted of additional courses for gifted children in grades 1-6 in the canton of Bern. Once a week, the children gathered in small groups to learn about topics not covered by the regular curriculum and to enhance their cognitive and social skills as well as their motivation. Questionnaires and IQ tests were employed to investigate the selection of the children and the effects of the course. The results showed that a centrally organized selection process with a pre-selection through parents and teachers and a participation criterion of an IQ above 130 led to a percentage of 97 % children with an IQ above 130 in the courses, a conclusion that seems rather circular. Furthermore, it could be shown that the children's scholastic self-confidence as well as their achievement motivation increased, while their integration in their regular classes and their acceptance by their peers decreased (Wolfgramm, 2004).

Special curricula/ classes

Three German studies evaluated the effects of special curricula and classes for gifted students only. All of them were studies on accelerated classes. Kaiser (1997) evaluated a pilot project at six Gymnasien (German secondary schools, comprising grades 5-13 and leading to a university-entrance diploma) in the state of RhineLand-Palatinate. In this pilot project, separate acceleration classes for gifted students were formed. These classes did not have a different curriculum from the regular classes, but they skipped one grade, either grade 6 or grade 9. In other words, "collective grade-skipping" of an entire class, for which the students had been selected beforehand, took place. In grade 12 at the latest, the acceleration classes were dissolved again. That way, students who had attended the acceleration classes and students who had attended the regular classes spent at least the last two years of the Gymnasium together and graduated together.

On average, 24.4% of the students in a given grade participated in an acceleration class. A recommendation from the teachers’ conference, whose criteria were high ability and high motivation, as well as the student’s parents’ consent were necessary for a student to be allowed to attend one
of the acceleration classes. Over all, a sample of 550 students in accelerated classes and a comparison group of 1704 students in regular classes took part in the study, which lasted from 1990 to 1995.

As far as the selection process was concerned, the results showed that the students in the acceleration classes did not significantly differ from the students in the regular classes in their intelligence: the teachers’ conference had not succeeded in nominating all of the students with a particularly high IQ, pointing to the need for more objective testing. Furthermore, not all the students who had been nominated decided to attend the acceleration classes.

The students in the acceleration classes as well as their parents and teachers rated the project positively. It did not make a difference whether grade 6 or grade 9 was skipped. The students in the acceleration classes enjoyed school more than their peers, were more satisfied with their grades and their own achievements, and were more socially engaged. They did not associate more pressure with the acceleration classes. They did not perceive an aversive attitude toward them from the students in the regular classes. The students in the regular classes, on the other hand, perceived the students in the acceleration classes as slightly arrogant, but on the other hand, they also emphasized their willingness to communicate and cooperate.

Shortly before graduation, when the acceleration classes had already been dissolved again, a follow-up was conducted. The results showed that the "re-unification" of the acceleration and the regular classes was nonproblematic for the students who had attended an acceleration class. They continued to achieve good grades and demonstrated a particularly high awareness of their own knowledge gaps, a high motivation, and a high ability for independent study. (Kaiser, 1997, in Holling, Preckel & Vock, 2007).

Another pilot project at four Gymnasien in the state of Baden-Württemberg was evaluated in a 10-year longitudinal study by Heller (2002). Similarly to the program described above, separate acceleration classes with the goal of shortening the time spent in Gymnasium from nine to eight years were formed at these schools. In this case, however, the acceleration classes did not skip a grade, but completed the regular curriculum in a condensed form: the curriculum of grades 5-11 was taught during grades 5-10. After grade 10, the acceleration classes were dissolved and the participants went on to join their peers from the regular classes for grades 12 and 13.

Criteria to be accepted into one of the acceleration classes were high intellectual ability, a high motivation, and an advantageous study behavior. Whether a child was accepted depended on a report from the child’s elementary school, conversations with the parents and the child, and work samples from the child. The students’ intelligence was tested as part of the study, but the test results did not influence the selection process.

The evaluation was conducted from 1992 to 2001. The first three "generations" in acceleration classes were surveyed annually. The sample comprised 117 students, counting only those who successfully completed the condensed curriculum and the following two years leading up to graduation. Students who dropped out did so mainly due to non-academic reasons (e.g., moving to another city). The comparison group consisted of 59-64 students with the number varying on the grade at schools that did not offer acceleration classes. Within this group, there was also a control group of students who would have been accepted into the acceleration classes but who decided not to attend them.

The results showed that the IQ of the students in the acceleration classes was at first half a standard deviation higher, and later one standard deviation higher, than the IQ of the students in the regular classes. The negative development of student motivation observed in the regular classes was not observed in the acceleration classes. Furthermore, the students in the acceleration classes did not experience any significant emotional problems. They had a better academic self-concept and a more advantageous attribution pattern. At the end of their high school career, they were more self-confident, more open to change, and more even-tempered. They achieved better grades than the control group in all subjects, a trend that was reinforced when they were reunited with their peers in grade 12. No differences between the two groups could be found concerning their study behavior or their social skills. Students in the control group that would have been accepted into the acceleration classes but decided not to attend had a less positive self-concept, felt less attractive and more stigmatized, and were less optimistic than their peers in the acceleration classes.

Most parents were very satisfied with their child’s attendance in an acceleration class and did not feel it caused any problems. The teachers were highly satisfied as well, and enjoyed the high motivation and low level of discipline problems in the acceleration classes (Heller, 2002).
Finally, a study by Zydatiß (1999) evaluated a project in Berlin, which formed separate acceleration classes to provide students the opportunity to graduate from Gymnasium after 8 instead of 9 years by condensing the curriculum. Six schools took part in the study, which began in 1997. The students were selected on the basis of their grades from elementary school in grades 1-4 and a personal interview with the Gymnasium’s principal, a selection process that was criticized for being too subjective. The sample comprised approximately 500 students, and students from the participating schools’ regular classes served as a control group.

The results showed that the students in the acceleration classes achieved better grades than their peers in the regular classes. Since grades were the basis of their selection, however, that was to be expected. The students were very satisfied with their experience in the acceleration classes and did not feel overly pressured. Most did not report having to give up any extracurricular activities due to their participation. Furthermore, most of them were very satisfied with the classes “social climate”. Their parents and teachers rated the project positively. The teachers reported that the students in the acceleration classes were more demanding than the students in the regular classes concerning opportunities to work flexibly and independently (Zydatiß, 1999, in Holling, Preckel & Vock, 2007).

### Student competitions

Finally, the effects of student competitions have been investigated in two studies, one by Heilmann (1999) and one by Heller and Lengfelder (2004).

Heilmann investigated the prize winners of the Bundeswettbewerb Mathematik, a multi-stage, nation-wide German student competition in mathematics, in the years from 1972 to 1995. In the first and second stage, the students have to solve mathematical problems; in the third stage, they are interviewed by two mathematicians, one from a school and one from a university setting. The winners receive a scholarship for their subsequent university studies by the Studienstiftung des deutschen Volkes, the prestigious German National Merit Foundation. Heilmann investigated second and third stage winners.

Heilmann’s study showed that successful participants demonstrated a great interest in mathematics, in which they were supported by their environment. Seventy-two percent of them chose to study mathematics at university and generally demonstrated an excellent performance. Many of them showed an early interest in an academic career and aspired professorships. Hardly any differences could be shown between second and third stage winners, which is why Heilmann suggested that second stage winners also receive scholarships by the Studienstiftung (Heilmann, 1999, in: Holling, Preckel & Vock, 2007).

Heller and Lengfelder evaluated the German participants of the International Student Olympiads in mathematics, physics, and chemistry in the years from 1977 to 1997. Over all, 100 participants from the last stage and 135 from the next to last stage took part in the survey study. At the time of the study, they were between 19 and 42 years old with an average age of 27 years and 8 months. Six of the participants were female.

The results of Heller and Lengfelder’s survey showed that many of them came from families with a high level of education. Most of the participants had a tendency to attribute high achievement to talent rather than to effort, and were motivated by a hope for success, rather than a fear of failure. When asked which factors had motivated and facilitated their participation, the two main factors mentioned were a supportive family environment and the availability of books. The participants received excellent grades in the Abitur, the final exam at the end of secondary school which leads to the German university-entrance diploma, especially in their "Olympiad discipline". Over three quarters of them belonged to the top ten students of their class.

After school, 21% of them won awards over the course of their university studies, about 30% chose a career in the academy, and 40% held a Ph.D. Compared to the regular German university student population, a large percentage of them had spent time studying abroad. More than a third of the participants from the next to last stage and about half of the participants from the final stage had pursued a career in the field of the "Olympiad discipline". The percentage who had gotten married was significantly below the average in Germany.

Almost all of the alumni associated positive effects with their participation. They stated that it had positively influenced their self-concept and their career expectations. Neither parents nor teachers, who were also surveyed, reported any negative effects such as a negative reaction from peers. However, it is important to note that 60% of those who had originally been contacted to
participate in the study did not return the questionnaire sent to them, which may have biased the results (Heller & Lengfelder, in: Holling, Preckel & Vock, 2007).

Overall, a high number of studies have evaluated gifted education programs in Austria, Germany, and Switzerland with positive results. However, many of them seem to concentrate greatly on a program’s effects on a child’s mental well-being, and almost neglect to explore its effects on the performance of the adult who participated in the program as a child concerning the skills that the program was supposed to develop. This may be attributed to the negative association with giftedness and the resulting resistance against gifted education that has long dominated the education policies in those countries. As a result of the prejudices against gifted education, its advocates first had to prove to the public that gifted education programs would not have any negative effects on a child. It is important to make clear that gifted education is about responding to a child’s individual educational needs, and that it will not harm the child if implemented correctly. However, it is also important to investigate to what degree a gifted education program has an actual effect on a child’s further performance and development, an aspect that seems almost lost in some evaluation studies of gifted education programs.

Furthermore, not many of these studies are longitudinal and not many of them employ control groups of children that have been identified as gifted but who have not gone through a gifted education program. This is also due to the nature of the gifted education system in German-speaking countries, in which there is no systematic screening process that every child goes through. Children are only screened with the goal of administering a gifted education program for them. Therefore, there are not many children who have been identified as gifted, but who have not gone through a gifted education program.

In summary, several gifted education programs in German-speaking countries have been scientifically evaluated, including grade skipping, part-time early attendance of university, summer academies, enrichment courses, special curricula or classes for gifted students only, and student competitions. Studies have yielded the following results: concerning grade skipping, most students who have skipped a grade as well as their parents and teachers rate their experience positively. As far as part-time early attendance of university goes, the majority of students who have attended university early enjoyed and succeeded in their studies, especially when supported by their environment. Summer academies are a particularly popular program. Participants generally attribute very positive effects to their participation, both concerning their intellectual and emotional/social development. Enrichment courses, while not as intense, were also judged favorably by the participants. Special curricula or classes for gifted students also seem to be a well-liked and effective gifted education provision. Finally, student competitions seem like a very motivating opportunity for gifted students to explore their talents. Overall, a high number of studies have yielded positive results. However, there is still too much focus on a program’s effects on a child’s mental well-being instead of on a program’s effects on the performance of the adult who participated in it as a child. Furthermore, more longitudinal studies with adequate control groups are needed.

References


About the Authors

Anna Herrmann is a graduate student in psychology and an undergraduate student in political science at the Department of Psychology/ University of Mainz, Germany. She also spent a year studying and doing research at the University of Haifa, Israel.

Baruch Nevo graduated from the Hebrew University in Israel, in 1972. He is a professor of psychology at the University of Haifa. His main areas of interest are: Giftedness, Personnel Psychology, Measurement and Evaluation. Dr. Nevo is a member of the National Committee for the Education of Gifted Children. He is a member of the Council for higher Education in Israel.

Addresses

Anna Herrmann,
Department of Psychology,
University of Mainz, Germany.
Wallstr. 92 (Apt. 3321),
55122 Mainz,
Germany.
e-Mail: anna.s.herrmann@gmx.de

Prof. Dr. Baruch Nevo,
Department of Psychology,
The Faculty of Social Sciences,
University of Haifa,
Haifa 31905, ISRAEL.
e-Mail: bnevo@psy.haifa.ac.il
Competitions for Showcasing Innovative and Creative Talents

Tracy L. Riley

Abstract

Competitions are recommended for identifying and providing for the exceptional talents of young people. Competitions have been a cornerstone of gifted education, putting talents to the test by enabling gifted students to showcase their abilities and receive acknowledgement and recognition for their talents. Competitions have been noted as “a training ground for excellence” (Riley & Karnes, 2007, p. 146), but also as “breeding grounds for problems with equity” (p. 151); however, there is support for the facilitation of competitions in schools or for individuals or teams of students. This article explores the literature on competitions, including issues of equity and excellence. It concludes that excellence with equity can be achieved for talented competitors through thoughtful, well-planned facilitation by schools and teachers, and provides step-by-step guidance for practitioners wanting to implement competitions in their gifted programmes. The article also highlights and details many of the international competitions that challenge and celebrate creativity and innovation, providing a description of each competition, contact details, entry criteria, costs, and prizes.

Keywords: Competitions; equity; excellence; creativity; innovation; potential risk.

Introduction

A competition is “a contest whereby two or more individuals or groups vie for some type of incentive (e.g., prizes, awards, recognition). Contests may be skill-oriented, knowledge-oriented, or luck-oriented” (Riley & Karnes, 2009, p. 165); as such, they are great platforms for showcasing innovation and creativity for students of all ages in academic areas, fine and performing arts, leadership, service learning, and athletics (Karnes & Riley, 1996, 2005; Riley & Karnes, 1998/99; 1999a; 1999b; 2005; 2007; 2009). Competitions celebrate creativity and innovation within a single discipline, or across multiple disciplines, as part of the school curriculum, as an out of school opportunity, or as a world-wide event.

Competitions may be designed for individual student participation or group entry. Campbell, Wagner, and Walberg (2001) describe three types of competitions: teams of talented students; long-term independent research projects; and tests to identify exceptional talent. Furthermore, competitions span many areas of talent and provide a platform for an array of creative challenges. For example, one of the longest standing team competitions for creativity is the Future Problem Solving Program developed by Dr. Paul Torrance in 1974. This is an international program serving thousands of students throughout the world with both competitive and non-competitive options, including Team Problem Solving, Community Problem Solving, and Scenario Writing. One of the most well-known long-term independent project-based competitions, showcasing innovation, is the Intel Talent Search in the United States which started in 1942 and involves over 1,500 secondary school students each year. Finally, amongst the longest standing testing competitions are the Olympiads, which date back to as early as 1894 when the first mathematical contests were organised in Budapest, Hungary, followed by the first ever mathematical Olympiad in St. Petersburg in 1934 (Riley & Karnes, 2009). These Olympiads test the content knowledge needed to launch into innovation and creativity. For a glimpse of the many competitions available for gifted and talented students, see Karnes and Riley’s book, Competitions for Talented Kids (2005), which describes over 140 such events. This article highlights and details more international competitions for showcasing innovation and creativity in the final section.

Yet, can creativity and innovation be taught, or is it caught? This question has long been pondered by educators throughout the world, which has led to great debate over what constitutes creativity, how it can be identified, and if students can be taught to be creative.
This article argues that competitions can serve a dual purpose: identification of creative and innovative abilities and talents, as well as a provision for their development (Riley & Karnes, 1998/99). As Campbell et al. (2001) state, “One can create an arena where individuals are allowed to perform some task or set of tasks with those being selected as eligible whose level of performance is judged superior, by whatever definition or criteria” (p. 524). It is not surprising that competitions have been a cornerstone of gifted education, putting talents to the test by enabling gifted students to showcase their abilities and receive acknowledgement and recognition for their talents. However, competitions have been noted as “a training ground for excellence” (Riley & Karnes, 2007, p. 146), but also as “breeding grounds for problems with equity” (p. 151). This article explores the issues of excellence and equity in competing for creativity and innovation, but addresses these through practical guidelines for the facilitation of competitions in schools or for individuals or teams of students.

Why should competitions be used to showcase innovation and creativity?

As Riley and Karnes (2009) explain, education and competitions are inextricably linked in at least three ways. Firstly, children naturally compete, and therefore, educators have utilised competitions to motivate, encourage, and spark learning. As early as the late 1st century BC, a Roman teacher, Marcus Verrius Flaccus, is credited with introducing competition as a pedagogical tool by awarding antiquarian books as prizes (Riley & Karnes, 2009). More current theory indicates that competitions can spark short-term and long-term motivation (Cropper, 1998). Riley and Karnes (1999a) concluded that competitions can serve as a motivational spark plug. Secondly, in the ‘adult world’ there is an expectation of competitiveness and many societies teach their children to compete. For example, this is evidenced in countries such as Singapore, England, and Japan, whereby the national education system encourages competition in examinations for scholarships to university. Finally, competitions are designed as a way of developing talent for the workforce, complimenting educational initiatives in securing and developing a nation’s economic health. In today’s world, businesses are seeking creative, innovative thinkers, as technological advances and consumer needs become increasingly demanding and swiftly changing.

Competitions have long-served as inducements for scientific and technological innovations, for as a Fortune magazine article explains, “The idea is to tempt geniuses to come up with breakthrough solutions to thorny problems” (O’Reilly, 2003, p. 54). Did you know, for example, that canning evolved when Napoleon promised cash prizes to anyone who could work out how to preserve food for his military troops? Lucky Lindy’s 1919 non-stop flight across the Atlantic was lured by the Orteig Prize and parking meters developed in 1933 as a result of the opportunity for a cash prize. Riley and Karnes (2005) state that the goal of these real-world competitions is not dissimilar to those developed for young people by their teachers, businesses, scientists, engineers, technologists, and other interested community members: to solve problems in creative ways.

These three connections between education and competitions are but a few of the reasons for involving students in competition. There are other more compelling educational reasons for using competitions to showcase creativity and innovation, namely the potential benefits for participants. However, it must be stated at the outset that many of the benefits of competitions are speculative, rather than based on strong empirical data. There is a scarcity of research related to the effectiveness of competitions in meeting the unique social, emotional, and intellectual needs of gifted and talented students (Campbell et al., 2001; Rogers, 2002; & Olszewski-Kubilius, 2003).

Riley and Karnes (1999b) assert that the benefits of competitions closely match the characteristics of creative students. These characteristics include independence, confidence, energy, risk-taking, divergent thinking, adventurousness, and enjoyment of playing with ideas. Competitions, it is argued, can sharpen these skills, and importantly, through being given the opportunity to showcase their abilities, provide a chance for students to develop self-awareness. Riley and Karnes (1999b) provide some evidence to support the notion that being recognised as creative, through competition involvement, alerts students to abilities and qualities of difference, of which they may not have been previously aware. They conclude that this newfound self-awareness raises self-esteem and self-understanding.

Competitions also provide opportunities for students to further develop and enhance their content knowledge, process skills, and product design and dissemination (Riley & Karnes, 2009), all of which are essential in creativity development. Creativity, as a process, must be grounded in sound
content knowledge, and ideally will reveal itself in an array of products. The test of innovation relies on public acceptance and recognition, which can only be achieved through its wide dissemination to appropriate peers and audiences. Designing, displaying, and disseminating products, such as experiments, essays, films, paintings, inventions, photographs, posters, songs and sculptures, to appropriate audiences and for constructive critique by experts is part of the competition process. Opportunities to experiment with new and different ways of expressing knowledge, skills, and ideas are also granted by competition involvement. Therefore, competitions provide opportunities for the development of some of the specific skills of innovation, including creative problem finding and solving, critical and analytical thinking, ideas testing, and so on. Riley and Karnes (2007) assert that “students who compete are given opportunities to experience a taste of what lies ahead in the challenges of the everyday world” (p. 149).

Just as innovators work in a variety of ways, competitions give experiences for groups of students or teams to work together, developing the skills of cooperative learning with like minds, while others provide the chance for self-directed learning, which leads to more individual responsibility in planning, setting, and achieving goals (Riley & Karnes, 2005; 2009). Therefore, personal skills can be honed and enhanced through participation in competitions: time management; punctuality; following directions; and planning are developed. Competitions provide a forum to meet and greet new and different students and adults, often of like minds, and serving as a networking tool (Fletcher, 1995). Being placed in a competitive environment, with adequate supports, gives students the chance to learn about individual differences, cope with diversity, aspire to excellence, accept mistakes or failure, and receive recognition for their unique abilities (Davis & Rimm, 1998; Riley & Karnes, 1998/99; 1999a; 1999b; 2007; 2009).

Of course there are other benefits and awards to competition, such as cash prizes, scholarships, ribbons, trophies, certificates, travel, and other incentives. While winning first prize might be the ultimate goal, Karnes and Riley (1996, 2005) believe emphasis should be placed on the premise that participation in and of itself constitutes winning. Riley and Karnes (2007) further explain that winning a competition is what athletes call ‘performance excellence’ but competitions also provide students with the chance to develop the qualities of personal excellence. Personal excellence requires competitors to focus not on the prize, but on the process: how one performs is a better measure of excellence than winning. Rimm (1986) also agrees that students should strive for personal, individual excellence in the competition arena.

Words of warning: The potential risks of competitions

There can be a down side to competing, if students are not carefully managed and supported. For example, Riley and Karnes (2009) warn that students who develop extreme competitiveness – thus striving to win rather than for the aforementioned personal gains – may experience stress, frustration, and feelings of failure in their desire to succeed, and perhaps even begin to strive for perfectionism to their detriment. If too much emphasis is placed on winning, by the student, parents, teachers, and/or peers, competitions can be hurtful to students. In fact, Rimm (1986) feels that competition can lead to underachievement if too much emphasis is placed on winning. Riley and Karnes (2009) provide this advice to combat the potential negative impacts of competitiveness:

“...It is important that students have well-planned competitive goals, and a balanced perspective of winning and losing. They need to learn how to deal with winning and losing, and specifically how to appropriately interpret wins and losses. Others should help students understand that taking the risk of preparation, involvement, and participation makes all the contestants ‘winners’ by placing emphasis on the process rather than the outcome.” (p. 167)

Riley and Karnes (2005) acknowledge, though, that providing this level of support for individual students may prove challenging and difficult for teachers who have busy timetables, an overcrowded curriculum, and limited time. The availability of competitions and the time involved in preparing those out, adequately assessing their value, and working with students in preparation could prove a barrier (Riley & Karnes, 1998/99, 2005). Another potential weakness is the costs involved in relation to entry requirements, travel, materials, sponsorship, and some of these can be ‘hidden’
(Riley & Karnes, 1999a). There are tensions surrounding equity of opportunity, funding, support, and recognition and development of excellence through competition involvement.

For example, as Riley and Karnes (2007) explain, “equity of participation in competitions moves along a continuum of opportunity” (p. 152). What this means is that while competitions at a local level can provide equitable chances for participation, in that all students can be given an opportunity to take part, as students move through competitions at regional, national, and international stages, equity in opportunities for all students decreases. The top competitors certainly get more opportunities, both in terms of participation and benefits. Additionally, the age restrictions, costs, and entry requirements could prove prohibitive to some students’ abilities to participate at these higher competition levels. Riley and Karnes (2007) further explain that while all students should have the chance to compete, some schools may limit competition to students formally identified as gifted and talented or, equally disadvantageous, limit the provisions for gifted and talented students to competition involvement.

Finally, the opportunities for students to showcase their innovative and creative thinking may, in fact, be limited, by the availability of such competitions. For example, Karnes and Riley (2005) outline over one hundred competitions across a wide range of different content and skill areas, but an analysis of these shows that students with abilities and interests in traditional academic subjects have greater chances for participation than others (Karnes & Riley, 2007). The focus on traditional academic subjects, with limited competition products, could, in fact, be a barrier for students who are creative or innovative thinkers. It is for all the above reasons that competitions have been noted as “a training ground for excellence” (Riley & Karnes, 2007, p. 146), but also as “breeding grounds for problems with equity” (p. 151). However, there is support for the facilitation of competitions in schools or for individuals or teams of students, as the next section explores.

Facilitating and implementing competitions in schools

There are several practical steps schools can take to facilitate effective student involvement in competitions. These are outlined by Riley and Karnes (2007) as follows:

1. **Gathering information:** The first step is for teachers to search, collate, and disseminate information about competitions. When gathering information on competitions several key factors must be considered. These are competition goals, age level, curriculum area, entry requirements, deadlines, and costs. Books (e.g., Riley & Karnes, 2005), the World Wide Web, and magazines offer information on competitions – and more are highlighted in the final section of this article. The information needs to be maintained in a database, file, or notebook, easily accessible to teachers, students, parents, and community members (Riley & Karnes, 1998/99).

2. **Aligning competition goals to curricular goals:** Firstly, there should be an interrelationship between the targeted students, their characteristics, and the competition, with identification serving as the mediating link. Secondly, competitions should be planned and implemented in a coherent and comprehensive way – with a scope and sequence of written plans. Therefore, it is advisable that the curriculum experiences (in this case, competitions) “… be carefully planned, written down, and implemented in order to maximize their potential effect” (Van Tassel-Baska, 1998, p. xiv).

3. **Embedding competitions across a continuum of approaches:** Educational provisions for gifted and talented students should grant a continuum of qualitatively differentiated, enriched and accelerated approaches, beginning in the regular classroom and stretching to opportunities outside of school. Riley and Karnes (2007) argue that “Competitions are just one part of that continuum, and their utilization as a stand-alone provision for meeting the needs of gifted and talented students is unjustifiable” (p. 152). Therefore, it is important that the competitions selected should match, or fit in, with the rest of a student’s educational programme.

4. **Analysing curriculum models to facilitate competitions:** Provisions for gifted and talented students are enhanced and strengthened when a curricular framework is used to facilitate and support. Riley and Karnes (2007) link the curricular goals of specialist models in gifted and talented education to competition goals. In their analysis, they conclude that goals specifically related to the processes of creativity fit nicely alongside Renzulli’s Enrichment Triad Model (1977) and the Purdue Three-Stage Model (Feldhusen & Kolloff, 1978). The development of skills of team work and cooperation, thinking and learning processes, creating individual or team products, and self-reflection align well with the Autonomous Learner Model (Betts, 1985). Emulation of the roles, skills, thinking and actions of professionals – in this case innovative and
creative thinkers across all disciplines – is a nice match to the Parallel Curriculum Model (Tomlinson, Kaplan, Renzulli, Purcell, Leppien, & Burns, 2002). The point here is that participation in competitions can be strengthened and justified by analysing and matching curricular and competition goals.

5. Developing specific competition goals: In the development of curricula for gifted and talented students, teachers and schools may also write process goals and objectives specific to competition. For example, Udvari (2000) believes that students need to develop skills and attitudes related to different ways of competing. Riley and Karnes (2005) assert that students need to develop proficiency in setting and evaluating their personal competition goals. Other competencies may be locating competitions, making application, gaining sponsorship or funding, and managing public relations (Riley & Karnes, 2005).

6. Identifying students and teachers for participation: Identification of students for competition involvement should be taken as seriously as identification for any other special programmes (Riley & Karnes, 2007). There needs to be a careful match between the competition requirements and the student’s abilities, qualities, and talents. Similarly, teachers need to be carefully selected, ensuring that they have the commitment of time, energy, resources, and so on to successfully guide and support students through the competition process. Having knowledge of the content, processes, and products required for the competition is equally important.

Finally, and of great importance, these six steps, which are interchangeable and ongoing, must be documented in school-based policies and procedures, so that sustained support can be better assured. The evaluation of competition effectiveness in meeting the needs of gifted and talented children must also be undertaken. Campbell and his colleagues (2001) believe it is crucial for educators to determine the effects of competitions, but explain the lack of such evidence as indicative of the poor track record in gifted education of evaluative studies. They also hypothesise that since many competitions are sponsored by community or business agencies, they may not have the resources or interest in evaluation. “Research into their effectiveness, focusing on the experiences and outcomes for participants and other stakeholders, is warranted” (Riley & Karnes, 2009, p. 168). Other areas to be addressed in written policies or documentation could include the professional learning and support for staff; funding and resources; communication between home, school and the wider community; and public relations strategies.

In summary, for successful facilitation and implementation of competitions for gifted and talented students, schools should consider:

- Effective and coordinated planning and supervision of student participation in competitions (Riley & Karnes, 1998/99), including curricular and policy alignment, documentation, and evaluation (Riley & Karnes, 2007).
- Careful selection of competitions based upon thorough understanding of their purposes and procedures, as well as the identified special abilities of individual students (Riley & Karnes, 1998/99).

**Working with individuals and teams of students to compete**

Beneath the school-wide layers of facilitation and implementation of competitions lies the most critical element: the competitors. Teachers can work alongside their students, individually or in teams, to make decisions about competition involvement. Riley and Karnes (2007) suggest using a standardised interest inventory or simply asking students “What talents do you have?” They might also list their interests and areas they would like to know more about. The interest and talent lists can be combined and ranked for analysis against the competitions available. The student should select several competitions (from resources like Karnes & Riley, 2005 or the school’s competition database or file). Each student should read the descriptions of the competitions, asking the following types of questions, as presented by Riley and Karnes (2007):

- Is this competition in my area of ability and interest?
- Can I do what is expected?
- Do I have the time and resources to participate?
- Do I need a sponsor? If so, how will I get one?
- If a team is needed, are there other students interested?
It is important for students to discuss their ideas with their teachers, parents, and friends. Also, they may want to talk with other students who have participated in the competitions of interest and ask them about their experiences. The students should then write down the advantages and disadvantages of participation, as well as check the deadlines to determine if there is sufficient time to participate. As Karnes and Riley (2005) remind students, it is important they prepare adequately for their involvement and they may choose to use a competition planning calendar or diary.

Prior to participation in competitions, students might also set individual competition goals, reflecting what they hope to gain from their participation. Karnes and Riley (2005) suggest students keep a competitions calendar, as well as a journal. Leading up to the competition, teachers can facilitate trial presentation runs, provide time for practice, co-evaluate their performances, help secure resources, and prepare them to cope with competition pressures (Riley & Karnes, 2005).

After students have participated in a competition, they should also reflect upon their involvement, evaluating and celebrating their efforts, as well as setting new competition goals. Karnes and Riley (2005) advise students to reflect upon the following questions after a competitive experience:

• What did I learn?
• What did I do right?
• What could I have done better?
• What do I need to do in order to do better in the future? (p. 5)

While these are very broad general questions, there may be a need for students to consider much more specific competition skills and Riley and Karnes (2007) have created a rubric for evaluation and self-reflection. The rubric highlights, for example, the content, process, and product skills specific to the competition. Additionally, competitors may have others, such as parents, teachers, coaches, or team members, rate their performance. The purpose in self or peer evaluation should be to improve or enhance future participation, and this needs to be made clear to students. From the evaluation(s), individuals can set competition goals by identifying areas in which they would like to improve.

Showcasing innovative and creative talents

There are many competitions available internationally for displaying and testing the creativity and innovation of students of all ages across all disciplines (Karnes & Riley, 1996; 2005). Some of these competitions provide opportunities for authentic problem solving, while others enable creative production, stimulate critical thinking skills, spark creative thinking, or a combination of all these. A brief description of each competition is provided below, and readers are encouraged to visit the competition websites to seek more details.

• **Future Problem Solving Program International, Inc** – The mission of this organisation is to encourage young people to think globally as they use their creative and critical thinking skills to solve futuristic problems. Students can engage in competitive or non-competitive events, as they solve global issues, community problems, or write scenarios. For more information see [www.fpspi.org](http://www.fpspi.org)

• **Odyssey of the Mind** – This international programme provides creative problem solving opportunities for students of all ages through open-ended questions that tap into a wide range of interests. Teams of students are encouraged to ‘think outside the box’ as they solve problems ranging from building mechanical devices to interpreting classical literature. For more information visit [www.odysseyofthemind.com](http://www.odysseyofthemind.com).

• **International Brain Bee** – Capturing student imagination through the study of neuroscience is one of the aims of this competition which encourages high school students to learn more about the brain and how it works. The opportunity to develop advanced content knowledge is needed to critically solve problems leading to innovation in neuroscience. Visit the website at [www.internationalbrainbee.com](http://www.internationalbrainbee.com) for more information.

• **Graphic Communications Week Poster Contest** – Sponsored by the International Graphic Arts Education, Inc, this competition gives students an opportunity for creative production of a poster symbolising the importance and of printed communications. Interpreting the theme challenges students to think both critically and creatively. Find out more about this competition by visiting [www.igaea.org/student-competitions/gcw-poster-contest](http://www.igaea.org/student-competitions/gcw-poster-contest)
• **Intel International Science and Engineering Fair** – Solving scientific and engineering problems by designing their own research tests students’ abilities to problem find and problem solve. Students compete against one another and are judged by top doctoral level scientists as they vie for millions of dollars in prizes. Visit www.societyforscience.org/isef for more detailed information.

• **Global SchoolNet: International Schools Cyberfair** – Youth conduct research about their local communities and cultures and publish their findings on the Internet. This competition fosters their problem solving, critical and creative thinking and production skills as teams also learn about their global community. See their web page for more information: www.globalschoolnet.org/gsncf

• **International Student Media Festival** – In just under seven minutes students must showcase their media skills using animation, video gaming, website design, live-action video and other innovative technologies. To find out more about how media can cultivate creativity see www.ismf.net

• **ThinkQuest** – Students compete internationally to solve a real-world problem through the development of ThinkQuest projects, products using digital media or web-based applications or games. The competition aims to challenge students to “think, create and innovate” (www.thinkquest.org/competition)

• **Cyberteens International Writing and Art Contest** – Students can submit their stories, artwork or poetry for publication on this website, which addresses subjects appropriate for and interesting to teenagers. See some exciting original teenage works by visiting their website: www.cyberteens.com

---

**Conclusions**

This article has explored the use of competitions as one way to showcase the innovation and creativity of gifted and talented youth. There are many potential benefits reported in the literature, and while these remain to be empirically tested and proven, they promise opportunities for students to achieve excellence. However, there are also potential barriers to achieving excellence through competitions, and these relate mainly to issues of equity. It has been argued that through careful school-wide facilitation and implementation, as well as individual guidance and support for competitors, competitions can enjoy competitive excellence with equity (Riley & Karnes, 2007). Students throughout the world can demonstrate their innovative and creative abilities to think, produce, and problem solve through competitions across many disciplines, as the examples have shown.

---

**References**


**About the Author**

**Tracy Riley** specialises in gifted and talented education. She is an Associate Professor at Massey University in New Zealand. Tracy is the chairperson of giftEDnz: The Professional Association for Gifted Education, a former delegate of the World Council for Gifted and Talented Children, and a delegate for the Asia-Pacific Federation.

**Address**

**Assoc Prof Tracy Riley,**
School of Curriculum & Pedagogy,
Massey University,
Private Bag 11-222,
Palmerston North, New Zealand.
e-Mail: t.l.riley@massey.ac.nz
The Importance of Teachers' Attitude in Nurturing and Educating Gifted Children

Hanna David

Abstract

For many decades the issue of "who is to teach the gifted" has been at the center of many teachers-training programs, in many different countries, and in a variety of institutions for higher education. Most experts have agreed that the teacher of the gifted should love teaching, be an interesting person, very knowledgeable, especially in the subject matter he or she teaches, loves to help, be considerate, must be self-confidence, as well as polite and respects others. Others have found that the most important trait of teachers of the gifted is their intelligence: while many gifted students could not connect educationally and emotionally to average intelligence- teachers, the loved being taught by teachers who were experts in the subject matter, taught in a logical, well-built structure; teachers who were not only intelligent but creative as well. However, a recent study done with education students in two teachers colleges revealed a different picture. The most important characteristic of the "ideal teacher" was her or his personal traits, while the least important was her or his general education and broad mindedness. Indeed, in countries such as Israel, where the requirements for being admitted to a teachers' college are the lowest among all other academic professions, it has been hard for many gifted students to be taught by some of the less intelligent teachers. But the most important characteristic of the good teacher of the gifted has been her or his attitude towards the gifted: High intelligent and high educated teachers with a negative attitude towards giftedness made bad teachers for the gifted.

Keywords: Attitudes; gifted children; ideal teacher; characteristics; intelligence.

Introduction

The issue of "the good teacher" has been the focus of many studies in Israel as in the rest of the developed world for many decades. Tzidkiyahoo (1975), who first published an Israeli study on the "ideal teacher" concluded, that such a teacher loves his profession, is interesting to listen to, knows the subject matter very well, is helping and considerate, has self-confidence, is polite and respects others. Milgram (1979), who studied gifted and nongifted children in grades 4 to 6 and found that all children, regardless of intelligence, creativity, sex, or age, valued the intelligence domain of teacher behavior much more than any other trait. She had found that students appreciated teachers who were experts in the subject matter, taught in a logical, well-built structure; teachers who were not only intelligent but creative as well. These basic characteristics have not changed in the next two decades, and similar characteristics of the god teacher have been found by Goldberg (1994).

However, a recent study done with education students in two teachers colleges revealed a different picture. The most important characteristic of the "ideal teacher" was her or his personal traits, while the least important was her or his general education and broad mindedness (Arnong & Reichel, 2011). To understand what originated this discrepancy between students, especially the more talented, who need intelligent, broad-minded, knowledgeable, even expert teachers, and education students who think that "general education and broad mindedness" are the least important, (several research studies will be examined).

Who is the graduate of the Israeli teachers’ college?

Barber & Mourshey (2007) reported in the 2007 McKinsey Report that high quality of teachers is the single most important factor affecting students' success. Teachers are, indeed, the sole human capital of the education system. But let us not forget that the gifted are also taught by
teachers. Thus, it is highly valuable to examine some characteristics of the Israeli teacher in order to decide whether their qualifications are good enough for the advancing of students in general and gifted students in particular. A list of some facts, relevant to Israeli teachers in general, teachers who teach almost all gifted children for a minimum of 5 days a week, as there are only 5 elementary schools with gifted classes operating 6 days a week, and the gifted who do receive some gifted education study in enrichment programs once a week, whether in the morning or in the afternoon is included: A substantial part of teachers’ colleges students would not have been accepted to any university due to their inferior matriculation certificate that does not include a math exam taken at the 4-point level at least (Dattel, 2010):

1. The more knowledgeable, high achieving students often choose not to study in the Israeli teachers’ colleges, especially in the secular Jewish sector. The least academically suitable to teach, those who have not taken the minimal math level required for university studies, are the teachers of Israeli elementary school children (ibid). Even among those who have been trained as math teachers, 27% have failed the 3-year training program, and found unfit to continue teaching math (Khromchenko, 2008). In addition, their average grade was 76.7%, which is not equivalent even to "good" (in American standards between B- and C+), and the highest grade was 96, which means that among the 581 in-service trainees not even one knew perfectly well the elementary school math she or he was to teach (Dattel, 2010).

2. In 2006, the average psychometric grade of 22-24 year old female teachers was 543; that of 35-39 year-olds: 496 (Blass, Romanov, 2010, table 3). Though it might appear an improvement, we must take into consideration that in all age groups from 22 to 39, female teachers who are more 90% of the total teaching force, had lower psychometric achievements than females in other kinds of professions and employments (ibid, table 4).

A McKinsey study (Barber, & Mourshed, 2007) of twenty-five of the world’s school systems, including ten of the top performers indicates high-performing school systems have the following in common (Arlozorov, 2010):

1. They engage the best possible people to become teachers;
2. They develop them into effective instructors;
3. They ensure that the system is able to deliver the best possible instruction for every child.

Unfortunately, none of these conditions is valid in the Israeli education system. "The level of demands required from college of education students is low, and their training is unsatisfactory. Large variance has been observed in teacher training, and the system does not answer the needs. In teachers’ colleges the students’ academic level is low in comparison to other higher education institutions, and the training does not include enough subject matter knowledge and understanding in the different areas" (Dovrat, 2005, p. 48).

On the relatively [un]importance of knowledge in gifted education for teachers of the gifted

Many recent studies refuted the assumption that increasing the education of pre- and in-service teachers to gifted education is a main factor influencing the improvement of teachers’ attitude towards the gifted in general and gifted education in particular. This assumption proved incorrect in many studies. One of the most striking examples to that belief is to be found in the Vidergor and Eilam (2010) article, describing the rationale behind the 5 Israeli in-service programs for training teachers in gifted education:

"[...] “as there are no Israeli scholars specializing in curriculum for gifted students, and certification programs for teachers of gifted, this deep interview represented the beliefs and values of what ought to be included in the curriculum.” (p. 33)

Putting aside some of the many questions that might be asked, e.g.: Are there no Israeli scholars specializing in curriculum for gifted students? If there are indeed no such scholars, how can the described programs operate? Can a “deep interview” replace knowledge, professionalism, experience and knowledge in the relevant area? What are the tasks of the students in these programs? If there are no curriculum experts in gifted education, who is responsible for the reading
lists, if there are any? Do the students have term examinations? Papers to hand? Is there a requirement of a final thesis or final examinations? Etc.

The "beliefs and values of what ought to be included in the curriculum" (ibid), probably those of the interviewed person who, according to the authors, us not an expert in the field of gifted education curriculum, have established the Israeli system of teacher training for gifted students. Such a situation is probably possible when the belief in the advantages of special training for teachers of the gifted is so strong (Vidergor, 2010), that it has been considered a must for all individuals teaching in gifted programs since 2005 (Specialization of teachers of gifted students, 2011), even without "curriculum experts" for these programs. No wonder the main finding of the only quantitative study of the teachers for the gifted training 5 Israeli programs reported:

[…] “the teachers of the gifted in this program [=the enrichment program for the gifted weekly program] that have not studied in any of the training programs enlarged their knowledge, based on field experience, similarly to those studies in one of the training programs.” (Vidergor, 2010, p. 9)

These training programs do not actually improve the knowledge of the participants in the relevant areas. But even when training teachers for teaching the gifted is based on existing research and experience, the role of beliefs in gifted education, and the tendency to treat these beliefs as truths, is frequently found, as in the Bain et al. (2007) study, with 285 undergraduate students of education in American colleges. Furthermore, particularly those entering the teaching profession, hold selected beliefs about the characteristics of giftedness, regardless of the presence or absence of empirical evidence supporting these perceptions (Bain et al., 2006).

For many years, the author has been persuaded that one of the main reasons for the resistance so many teachers express to the gifted in general and to special education for the gifted in particular was a result of their lack of information in the field of gifted education, counseling and psychology. The author was sure lack of knowledge in gifted education was one of the main causes of objection to nurturing the gifted. In fact, this conception is still valid among the vast majority of giftedness experts; many of whom collaborated to write about "19 myths about the gifted" (Gifted Child Quarterly, 2009). This lack of knowledge regarding didactics for the gifted includes many misperceptions:

I. Equity means that all students must reach the same educational level; gifted children who have already reached the minimal required level must not get any additional support;
II. Society has a duty for its weak members; the gifted are strong and thus do not need any further support;
III. Nurturing the gifted must be on the account of the weaker children who deserve to get a greater part of society's resources.

However, a deeper insight into the literature about the attitude of pre- and in-service teachers’ attitude toward gifted students, my 15-year experience of teaching gifted education at the college level, as well as 30 years of parenting my gifted children have made me doubt this assumption. Let us review some of the literature on this issue.

Carrington and Bailey (2000) studied education students in Australia, comparing their attitude towards the gifted to that of pre- and in-service training elementary and high school teachers in the United States, according to Cramond and Martin (1987). The research tool was a questionnaire and the examinees were asked to rank a range of hypothetical gifted children according to their desirability as potential students. Both elementary and high school education students ranked the gifted, studious children at the bottom of the “desirability ladder”, as those they would want the least to teach. Pre-service education students ranked regular, non-studious students at the top of desirability, while those intending to teach in high school preferred gifted students who were not studious. This gives a clear picture, known to many educators: most elementary teachers prefer not to teach any gifted students. High school teachers, who probably need the gifted in their classes in order to "show off", "forgive" the gifted who "supply" them with high achievements, contributing to their image as good teachers, on one condition: that the gifted would not be "typical", meaning to get good grades, but will not invest “too much.” would not ask “bothering questions” and in short act like non-gifted. If that is the situation among most teachers, the question is who are the minority more suitable teachers for the gifted.
Main characteristics needed in order to teach the gifted

The teacher of gifted children faces many complicated assignments whether teaching a gifted class, operating 6 days a week, an enrichment program, operating one morning or one afternoon a week, or teaching gifted children in a regular classroom, which is the situation in most cases (David, 2008). The main characteristic of the "ideal" teacher of the gifted who can, using her various abilities, respond, even partially, to the needs of the gifted child in the education system include: personality characteristics, professional expertise and didactic abilities, knowledge in gifted education and administrative abilities.

Personality characteristics
1. Have a positive attitude to high achievement, creativity, productivity and leadership;
2. Enjoy teaching challenging, innovative and inventive students;
3. Be able to admit both to herself and to her students when having no answer to their questions; and
4. Have a strong tendency to study, develop and enrich herself academically and personally.

Professional expertise and didactic abilities
1. Be an expert in the subject matter taught;
2. Have a high motivation level to look for new, advancing learning materials and learning possibilities;
3. Use many various learning abilities and techniques;
4. Be able to build learning programs tailored to the exact size needed;
5. Be able to set clear and precise aims for the exact target achievements;
6. Be both able and willing to help find data sources;
7. Be a crucial team member of product development; and
8. Be both able and willing to evaluate the students’ studies, results, and work outcomes.

Knowledge in gifted education
1. Be able to identify the unusual abilities;
2. Be knowledgeable enough to recommend Identification for giftedness when needed, and influence parents to avoid the process when unneeded or even being possibly harmful;
3. Be able and willing to refer the student to programs, facilities or institutions specializing in nurturing of the gifted;
4. The ability to differentiate among different cognitive abilities, variety of learning styles and as many as possible subject matters, and plan the teaching accordingly; and
5. Have enough knowledge in areas such as giftedness and underachievement, professional choices, planning the future and special problems frequently found among the gifted.

Administrative abilities
1. Organize enrichment activities for students and teachers;
2. Coordinate the regular activities of the school in general and the class in particular so that outstanding students would be able to advance in their own individual level and pace;
3. Arrange for the time table coordination, as well as the different activities, obligations, duties and rules between the gifted child’s regular and her or his special enrichment or acceleration classes;
4. Have access to new, innovative learning methods, learning materials, human sources that can be used in order to supply the needs of gifted children and adolescents; and
5. Be cooperative of the team work necessary in all existing programs for the gifted (ibid).

Making lists of characteristics of the ideal teacher of gifted students is an interesting theoretical exercise; it might contribute to the field of philosophy of education, and can serve as an optional suggestion for training of pre- and in-service teachers. However, of the 4 groups of the characteristic, in this article the focus will be on personality characteristics. The professional expertise and didactic, the knowledge and administrative characteristics, which are (delete all) very important, are to be discussed elsewhere (David, in press).
1. **Have a positive attitude towards the gifted**

   It is well known that for the individual gifted child who spends most of her or his time in the regular classroom, one of the most important ingredients influencing not only academic achievements, but emotional and social well-being is the attitude of the others with whom he or she has to socialize. While the influence of the teachers has a negative correlation to the students’ age, younger students tend to look up to their teachers, pay more attention to what they say than when older, and most important, mimic and adopt their behaviors towards others, even if these behaviors are not verbally discussed. How do some of the behaviors typical to teachers of gifted children in the regular classrooms influence the attitude of the peers of the gifted towards them?

   Many, too many of the teachers, are impatient when asked "too many" questions, and the more gifted the child is, the higher the prospect that he or she will understand quickly that they better stop asking questions if they want the teacher to like them. As we all know, human beings need to be liked by others, especially by those they spend a lot of time with, and when still very young, by older people who are supposed to look after them. What happens to the children who do not understand they better keep their mouths shut?

   Geake and Gross (2008) cite in their research article about teachers’ attitude towards the gifted, a real story published by Gallagher (1976). The story is about Mr. Palcuzzi, an elementary school principal who had suggested, in a Parent-Teacher Association meeting, that a program for enhancing the gifted should be opened. All reactions were negative, claiming the program was to be elitist, divisive and anti-democratic. Mr. Palcuzzi explained that the program was in fact an old, existing one, already operating for basketball players! Changing just one word in the program’s name, “gifted” instead of “basketball” made the whole difference, from positive to negative.

   There are many studies contradicting the assumption that knowledge has the power to radically change attitudes towards the gifted. For example: McCoach & Siegle (2007) studied the predictors of teachers’ attitude toward the gifted among 262 teachers. They found that teachers who had received training in gifted education held higher perceptions of themselves as gifted, but teachers’ self-perceptions as gifted were unrelated [the italics are mine – H.D.] to their attitudes toward gifted education. Bégin & Gagné (1994a, 1994b) studied the predictors of attitude towards gifted education both as found in the literature (ibid, 1994a) and among parents and teachers (ibid, 1994b). They found that of the 50 variables studied in over 30 studies, not even one single variable consistently emerged as a substantial explanatory factor. When studying, among 139 teachers and 138 parents, the contribution of the educational level and family income, they found socioeconomic status and contact with giftedness explained 12% and 10%, respectively, of the variance in attitude scores. As both socioeconomic status and contact with giftedness correlate highly with intelligence, it can be concluded that people from a higher socioeconomic status, who have been exposed to giftedness in their close circle of family and friends, would probably have a better attitude toward gifted students and giftedness in general.

   In a study of 63 exceptional teachers of gifted students and 1247 talented students, Mills (2003) found that these excellent teachers had the following characteristics: 1. They were twice as likely to be Intuitive Thinkers than middle school teachers in general who were more likely to be Sensing Feelers; 2. The majority of teachers and students were Abstract-Reflective or Abstract-Active while these were the least likely profiles of Middle School teachers; 3. The majority of teachers reported holding advanced degrees in a content area; 4. Most were not certified to teach and reported completing no formal coursework in gifted education [the italics are mine – H.D.]. 5. The personality types of teachers were in many ways similar to the personality types of the gifted students.

   One might think that in an East-Asian culture, where school achievements are highly appreciated (David & Wu, 2009), teachers’ attitudes toward the gifted would have been different. The study of Lee et al. (2004) disproved this assumption. In this study of 132 Korean preservice and inservice teachers’ attitudes towards students, it was found that both Korean teacher groups favored athleticism and nonstudiousness over academic brilliance. The least favored characteristic was the academically brilliant, studious, nonathletic student, often considered traditionally gifted, and usually designated as a girl.

   A similar experience with an "Enrichment program for talented and creative students," operating at the Hof Ashkelon municipality, for the benefit of 5-12-year old children living in 19 villages and Kibbutzim of the southern periphery in Israel was found (David, 2005, 2007a). The students participating in the program studied in three schools (David, 2007b). In order to enable as many students as possible to take part full cooperation was needed of both the educational teams...
and the parents, and especially the good will of the headmasters, who were in charge of the complicated time table, including the transportation of young children from home or from school to the enrichment center, and back to 19 different home destinations. The headmistress with the highest formal education among the three, and the only one who had school age children, said her children were not to participate in the program because she "preferred dancing and music activities. I rather they should not be gifted".

It seems that the negative attitude of both educators and the public towards the gifted crosses religion and cultural borders. In an interview with Mr. Wagi Balum, the head of the Taibe enrichment program, one of the Israeli programs located in Arab centers and aimed for Arab children, he said: "98.5% of the Taibe parents objected to the program. Only 1.5% was for it, in fact, they supported it in all possible ways. No wonder, only 1.5% of the Taibe children were accepted, their very proud parents are, of course, warm fans. Financial support cannot be secured from the city, because the municipality would not give away money against the wish of such a massive majority of the citizens" (David, 2006).

Here are some examples of harmful, even destructive teachers' attitudes towards gifted children.

I. Many teachers would not allow a gifted child to answer any of the questions the teacher asks the class unless nobody else is willing to answer.

II. In many classes it is a custom to use the knowledge and intelligence of the gifted children to impress the headmaster, outside visitors, such as supervisors or visiting university staff members, sometimes accompanied by pre-service teachers or education students.

III. Many times the gifted child, already used to not being called by the teacher, minds her or his business during the class. The teacher sometimes calls the attention of the class to the gifted student who "thinks too much of her/himself"; "does not think he or she has anything to learn." or just "showing disrespect to the teacher". Such insensitive reactions might cause permanent damage.

IV. Falling asleep during the class has its own consequences, usually including the child's parents, who are "invited" to a consultation with the school counselor, the headmaster or even the school psychologist.

V. A milder, though more typical behavior of the gifted child is daydreaming. This is followed, many times, by sudden questions from the teacher directed to the gifted child in order to "catch" her or him in what is perceived by the teacher as a behavior that ought to be ridiculed by the gifted child's peers.

VI. When the tasks the gifted child hands in are not "perfect" according to the teacher's criteria, the child is reproached, called names such as "clumsy", "sloppy", "disparaging student", or "arrogant". When the gifted student is a girl, other name-calling might be added, especially when the work handed in is lacking from the aesthetic point of view: "tomboy", "egotistic" and even "unfeminine."

2. Enjoy teaching challenging, innovative and inventive students

As demonstrated, most teachers would rather not teach gifted children; they show a negative attitude towards giftedness in general and towards gifted, studious students in particular. Here is the list of some of the reasons to this situation.

It is quite often that the teacher assumes that being gifted is an advantage the pupil has received, so he or she should pay back for it by helping her teach in general, and focus on the advancement of weak students in particular. In such cases, the teacher ignores her or his responsibility to teach the gifted student. The gifted child, sometimes even at a very young age, not only understands he or she has no rights in the classroom, should not ask for attention and certainly should have no expectations to be taught anything new, or at a suitable level, but is permanently "in debt" to others because of the good luck he or she has been blessed with.

One of the main reasons teachers do not like to teach the gifted is the high energy level needed in order to do that successfully. About 10 years ago, the author asked the permission of the headmistress of one of the enrichment programs for the gifted to distribute the Hebrew version of the TAAI questionnaire (Milgram, 1999) among her students. She agreed on one condition: the author would have to teach each group participating in the study a 90-minute class about social sciences studies. After teaching three such sessions, "not only were my underarms wet; I felt as if my shirt
was sticking to my body, my legs were trembling, my muscles stretched as in an extremely high energy gymnastics session” [H.D.].

Being used to teaching larger groups of university students while at ease, this feeling, of “being at the edge”, was indeed new to the author.

The substantial amount of energy needed for teaching gifted students is one of the main reasons many teachers would prefer not to have to do that. However, while being an expert in gifted education requires the free will of the teacher, who either applies for a position in the gifted education system, or volunteers to that task, most teachers, who teach in regular classrooms, must teach the gifted students studying in these regular classrooms most, if not all the time. The feeling that one must do something he or she has no way to refuse to do so makes it more difficult, and increases the resistance towards doing that.

3. Be able to admit both to herself and to her students when having no answer to their questions

Many teachers think that saying "I don't know", "This is beyond my understanding" or "I have not thought about this question or issue" would compromise their authority, cause disrespect by their students; even ridicule them. Thus, they try either to avoid any questions from gifted students, being afraid they would not be able to answer them, or even punish their students for asking "difficult" questions. The gifted child learns not only that it is always better not to ask questions, but also that he or she does not have the capacity to foresee the reactions of others, that what might be understood as showing interest, paying attention to the material learnt, and sharing thoughts with others might also be perceived as insulting, revealing of unpleasant truth and even exposing of the teachers' weaknesses.

The mistakes teachers make might cause a lot of trouble to the gifted child. Two real examples, both from one third grade class illustrate mistakes made by teachers.

I. In a science exam the pupils were asked to define a "magnet". A gifted 8-year old student wrote: "a piece of iron drawn to anything made of iron". The teacher "corrected" him, writing: "an iron-stone" instead of "a piece of iron". The pupil knew his answer was right and hers was wrong, but being very developed emotionally, he understood that there was no point telling her that, because she would be very embarrassed and he might have lost her affection, so he got an "A-" in the exam, rather than the straight "A" he deserved, but retained his teacher's likeness.

II. In a geography class held by the same teacher, the subject learnt was Longitudes and Latitudes. In order to illustrate the subject, the teacher took an orange, put it on her table, cut is at its "equator" and said that the orange was cut at its longest longitude. A 9-year old gifted boy, who knew she had been wrong, tried to correct her, but instead of admitting making a mistake, she argued with him, saying he had not heard her correctly. It was almost impossible to mishear what had been said regarding longitudes and latitudes in Hebrew, as the Hebrew term for longitude is "KAV ORECH" and for latitude: "KAV RO'CHAV". In addition to her mistake, the pupil had to deal with his teacher's denial, and with her future suspicious attitude toward him, resulting from her fear that her student "is out there, waiting for her to make another mistake".

4. Have a strong tendency to study, develop and enrich herself academically and personally

The teacher of the gifted must have a high professional or educational level in the field taught, or, if teaching the arts, be a good artist. This characteristic is essential in order to achieve the next stage: "be an expert in the subject matter taught", but not just. For being a high level professional, one needs:

- To wish to learn, to get a satisfaction from "learning for the sake of learning" – or "Torah Li'Shma", as has been valued in Jewish tradition and culture for about 2000 years. The Rambam (Maimonides, 1138-1204) cites the Sifre (1550), that one should not learn Torah in order to be called wise, in order to sit in yeshiva, or for some other reward, but rather one should learn for its own sake. It seems according to Rambam that the concept of "lishma" is not an order or a specific commandment, but rather is part of the general obligation. We do not expect the teacher to work without getting paid; but he or she should learn because they enjoy the learning.
The urge for high achievements. In spite of the high value of "learning for the sake of learning", the teacher of the gifted should value learning even when lacking the high level of inner motivation needed, in order to make learning an integral part of her or his life, which will lead, eventually, to "learning for the sake of learning." This concept is formulated in the Babylonian Talmud (Sanhedrin 105b): "[...] A person should always involve himself with Torah and commandments, even for the wrong reasons, for via the wrong reasons he will come to the right reasons, namely, "for the sake of learning".

A strong wish – as well as belief in one’s ability – to serve as a mentor and role model.

Shavinina (2009) found, in the study of 50 Nobel Laureates, that each of them had at least one exceptional teacher who had acted as a role model. Unfortunately, many educated societies are struggling with the problem of teachers’ quality in general, and thus find it very hard to recruit gifted education specialists suitable to their gifted population in particular. It is important to cite the McKinsey last report on education (Auguste et al., 2010). According to the report, a system cannot be better than its workers, and while in the countries with the highest achievements only the very top students are accepted into colleges of education, in the United States the situation is completely different: only 21% of the primary education students were in the top third according to their SAT scores. In Singapore, on the other hand, only one in 8 applicants was accepted to a training teachers program, which was much higher than the "top third" standard in the United States. In addition, about 80% of the students trained for a teaching license in Singapore had already received a university degree. Finland, with a different system was one of the countries with the best international achievements. Not only were her students at the international top in all examined areas, the achievements of her 10% "bottom students" were in the median of the OECD countries! Such a level of equity, with minimal gaps between the more talented and the weakest students, is a special characteristic of the Finnish education system, based on the quality of the teachers. In South Korea regarding education students, it is even more amazing: only the top 5% candidates are accepted to education departments (McKinsey & Company, 2007); in Singapore it is the top 30%. Comparing the America situation, when 23% of all new teachers "belong" to the top third, to the one in Singapore, where 30% belong to the top third (McKinsey & Company, 2007). However, the top American third is far less talented than the top Singaporean third.

Economics and financial considerations are far less important than what is usually thought. While in Singapore and South Korea teachers’ salaries are comparatively high, and increase sharply with experience, that is not the Finnish case, where the salaries are just decent and increase very slowly. Neither is the class size an important component influencing the students’ achievements: the Finnish average teacher/student is the same as in the United States: 1:15; in Singapore it is higher – 1:20 and in South Korea even higher: 1:26 (McKinsey & Company, 2007). Furthermore, massive investments in the United States and a continuing process of decreasing class size did not result in a higher achievement level. All these facts do not change the basic facts: the achievements in Finland, Singapore and South Korea are much better than in the United States; the teachers in these 3 countries are much better than in the United States (Auguste et al., 2010).

Conclusions

After each presentation the author has provided to parents in the last 15 years one question is posed: Don’t you think that ALL teachers should be as good as the teachers for the gifted? My answer is always the same: From the Book of Numbers, chapter 11, verse 29, Moses saying to Joshua: "Are you jealous for my sake? I wish that all God’s people were prophets". Having excellent teachers for everybody means, of course, that the gifted will also have excellent teachers. This is currently unrealistic, and the potential educational damage made by unsuitable teachers might be much worse for the gifted, and the emotional irreversible harm done by teachers with a negative attitude towards the essence of being gifted might be even tragic.
References


David, H. (2007b). Education in mixed- or single-sex classes? The case of re-structuring the state-religious “Morasha” school to suit the needs of the new students joining it after the disengagement from the Gaza Strip (Hebrew). Retrieved on 16 March 2011 from: http://www.hebpsy.net/articles.asp?id=1231


David, H. (in press). What is to be taught, how and when: Introduction to didactics in teaching gifted and talented students.


Gifted and Talented International – 26(1), August, 2011; and 26(2), December, 2011.


Milgram, R. M. (1999). Tel Aviv Activities and Accomplishments Inventory.


### About the Author

**Hanna David** (née: Ehrenstein), Ph.D., was born in Jaffa in 1952 to a father immigrating to Israel from Vienna in 1938, and Hungarian mother, a survivor of Auschwitz. The second in a 4-child family she had insisted on starting nursery school at the age of 13 months, together with her 13-months older brother, and since then showed deep interest in public speaking, making friends and initiating social intercourses; somewhat later she started reading and has not stopped since. At age 15 years she became a youth-writer of "MA'ARIV LA'NOAR" – the youth edition of the then most published daily Israeli paper, which had led her to publishing of Hebrew and English short stories, and translating to Hebrew, mainly from German. At age 18 she graduated from the Ultra-Orthodox girls’ high-school in Ramat Gan and started her mathematics, physics, Hebrew literature and high-school teaching certificate studies at the Hebrew University in Jerusalem. In 1975 she received her MA from the Jewish Theological Seminary in New York, and soon afterward started her family. Hanna David received her Ph.D., "magna cum laude", in educational psychology (minors: didactics of mathematics and education) from Ludwig Maximilians Universität, München, She worked at the Tel Aviv University between 1976 and 2010. Dr. David’s interest in giftedness started when she was 11, with the birth of her brother who, like all males in the family, was gifted. While still in high school she became an expert of accelerated teaching for Ultra-Orthodox boys whose parents wanted them to get "secular" education in addition to the religious one they received in school. Teaching and counseling the gifted became Hanna’s recognized expertise in 1995, when she started teaching the course; "the gifted child in the regular classroom" at the Talpiyot Teachers’ College in Tel Aviv. Since then she has taught in 3 other high education institutions, and instructed many students in the field of gifted education. In the last 15 years, Dr. David has become a popular counselor for gifted students, with or without disabilities; a known expert of gifted education in Israel and abroad, an often invited lecturer in national and international conferences and meetings; an expert evaluator for the European commission, and a prolific writer of 10 books and over 100 articles.

### Address

Dr. Hanna David, 48 Hakookiyya St., # 18, 75548, Rishon LeZiyyon, Israel. e-Mail: hannadav@post.tau.ac.il
Gifted Students’ Profiles and their Attitudes towards a Gifted Program: The Case of Vietnam

Phu Vu

Abstract

This study describes a gifted program and examines issues related to gifted students’ profiles and their attitudes towards an English specialized program in Vietnam. The data were collected via an online survey and analyzed through descriptive statistics in order to identify patterns of agreement and disagreement between two groups of 60 current and 30 former gifted students. The results indicate that the majority of the participants came from well-educated families and that family influences and traditions had a great impact on their choice of the program. Furthermore, most of them expressed satisfaction with the quality of their English major at the school and appreciated its usefulness for their further study and career. The findings were interpreted in view of their implications for further development and modifications of this program to better meet the increasing demands of students, parents and the whole society.

Keywords: Vietnam; Attitudes; family influences and traditions; gifted student profile.

Introduction

The debate about whether gifted education is a manifestation of egalitarianism or elitism has been a heated topic in almost every education system in the world (Campbell, Eyre, Muijs, Neelands and Robinson, 2004; Haight, 2004; Mazie, 2009). So it has been in Vietnam where, after almost 50 years since launching of the program for gifted students, the question of whether to end this program is still being debated. The decision is further complicated by the lack of empirical evidence about the program’s effectiveness or availability to all students. The purpose of this study is, therefore, to provide an overview of gifted students’ profiles and their attitudes toward the program so that decisions about its future can be based upon systematic program evaluation. Specifically, the study seeks to answer the following questions:

1. Who are the students who choose to study in this program?
2. How do students perceive the effectiveness of the program in helping them acquire a high level of proficiency and English language skills?
3. How do students perceive the role of their English education in their future jobs (for current students) and their study at tertiary level and current careers (for former students)?
4. How did/ do participants feel as students in the program at Le Quy Don Specialized High School?

Definitions of concepts

The problem of defining giftedness is, according to Hagen (1980), complicated by the use of different terms, all of which appear frequently in the literature, but are not used uniformly. In the United States -“No Child Left Behind” legislation, "gifted and talented” students are defined as those “who give evidence of high achievement capability in areas such as intellectual, creative, artistic or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities.” (Title IX, Part A, Section 9101 (22), p. 544). Outside the United States contexts, psychologists in mainland China accepted another term: “supernormal children.” According to Zongding & Yuan (1997),“supernormal” means some children are relatively superior to most of their normal peers. The term “gifted” in Chinese “tian ca” means God’s bestowal upon men, and in Chinese psychologists’ opinions, high ability is not totally
The World Council for Gifted and Talented Children

inborn. In the case of Vietnam, another argot, specialized students, which reads “học sinh chuyên” in Vietnamese, has been employed to refer to those who have excellent academic achievements in specialized high schools, which “are founded at the general secondary education level for those students who achieve outstanding results in studies aimed at developing their aptitude in a number of subjects on the basis of assuring all-round general education.” (Art 61, Vietnamese educational law, 2005).

In conclusion, although different terms have been employed to describe the same phenomenon, and a commonly accepted definition of giftedness has not yet been found, there is a consensus that gifted students are those who have achieved a higher level in academic fields than most of their peers. To make it uniform and comply with the commonly used jargon in the world, in this research, the terms gifted, talented, supernormal and specialized are used interchangeably to refer to the same thing without any distinction.

The gifted program at Le Quy Don Specialized High School

Le Quy Don Specialized High School in Khanh Hoa province, Vietnam was established in 1985 as a locally controlled school whose operations were under the supervision and instruction of the provincial or municipal service of education and training. This model of school is different from that of university-based schools or regional gifted schools which are founded and operated by universities. In 2009, the school had 7 majors: mathematics, Vietnamese literature, physics, English as a foreign language, chemistry, biology and information technology. The total enrolled students were 519 in 3 grades 10, 11, and 12. As regulated in the Decision 82 (2008), the total number of specialized students admitted each year accounted no more than 0.10% of the whole population of the province. To be admitted into the specialized high schools, students must have been learning the major since secondary school and must have passed the entrance exam consisting of 3 separate tests: Mathematics, Vietnamese literature and the major. The minimum required passing score for the major is 6 (on a score band 1-10).

Regarding the school operation, according to the Decision No 82 (2008), it received at least 200% of government’s financial investment as regular schools. Its teaching staff’s salary was 35% higher than that of the teaching staff of regular schools. They also benefited from more opportunities for further study than their peers at regular schools. Finally, one major teaching period (45 minutes/period) by a teacher at this school was equivalent to three periods by a teacher at a regular school. This means that a teacher spent 4.5 hours per week working in this school in comparison to their counterparts at a regular school who worked 12.75 per week.

Literature Review

Research on gifted students’ attitudes toward the program is rather rare and out of date. According to Ford (1978), since it is generally assumed that talented students hold favorable attitude to special programs, it may be why the question about students’ perceptions of the effectiveness of the programs has received little or no attention in research. In a survey with approximately 500 middle grade students in 13 school districts in the state of Connecticut, Ford (1978) reported that more than 90% of the gifted students expressed satisfaction about being in a special program. Similarly, Colangelo & Kelly (1983) found that gifted students showed significantly more favorable attitudes to the gifted program than regular students and that they had more desire to take part in gifted programs. In 2001, Gentry, Rizza and Gable conducted a survey with 2,221 elementary students from grades 3 – 6 and 1,523 middle school students. The findings were that gifted students both in rural and urban areas had positive attitudes toward the gifted program although the levels of interest, choice and enjoyment were different between samples.

In summary, related literature and research have provided evidence that gifted students hold a generally positive view about their programs of study. However, most of these studies have mainly involved participants from the United States under the general term giftedness without any specific identification of what kind of giftedness the students possessed. Therefore, this present study aims to contribute and expand on previous research by engaging gifted students from a specialized English language major in Vietnam. It is hoped that the results will bring insights into the specific characteristics, perceptions and attitudes of students who are gifted in learning languages.
Method

Participants

Two groups of subjects were involved in the study, sixty current students out of the total of 85 students in three grades 10, 11, 12 in the major of English as a foreign language and 30 alumni students in different years at Le Quy Don Specialized High School, Vietnam. Besides mathematics, chemistry, biology, history, physics, geography, and Vietnamese literature, these students took advanced English for six periods per week, whereas their peers in regular schools only had basic English for three periods per week. Students’ competencies were evaluated in a formative way including spot check oral examinations, pop-up quizzes, in-class tests and final semester exams. Students were sent to regular schools to continue their study if they failed to meet one of the following criteria:

1) Their overall major score is under 6.5 on the score band from 1-10;
2) Their overall average score for all subjects is under 6.5 on the score band from 1-10;
3) Any subject score is under 5.0 on the score band from 1-10; and
4) Their moral behavior level is at average (there are 5 levels for this, which includes: Excellent, good, average, bad and very bad).

Procedure

The school had three grade levels and a population of 85 students in the English major. Using the schools’ student list, twenty students were randomly sampled from each grade level. The sample’s ages ranged from 16 to 18. There were 20 male students, (33.3%) and 40 females (66.7%). The alumni were selected through the school’s alumni network which had a list of 245 alumni from different years. However, only 50 of them had both email and telephone to contact. Thirty out of 50 of these alumni were then selected on purpose for the sake of contact convenience and to make sure that its gender percentage is equivalent to that of the current student samples. Among them, age ranged from 18 to 40, 9 (30%) were male and 21 (70%) were female.

Specifically, for the recruitment of the sample of current students, an emailed invitation to participate was sent to them three times at two week intervals. The participants were asked to contact the researchers directly for clarification about questions in the survey rather than skipping or omitting them. In addition, the researchers’ colleagues in each grade helped with reminding and encouraging their students to participate in the survey before their class every week.

The procedure for alumni selection was similar to that of current students, which began with the invitation for participation. After sending the invitation, the researchers and colleagues at the school directly contacted each subject through both email and telephone to encourage their participation.

Instrument

The instrument included two versions of an online survey with both open ended questions and three point scale items “Not satisfied at all”, “Somewhat satisfied” and “Completely satisfied”, one for the current students and the other for the former ones. The survey consisted of three parts, the first part of which was about demographic information such as age, gender, and family background. Part Two was composed of 19 items covering two main areas: students’ attitudes toward teaching methods and students’ perceptions of being specialized students at Le Quy Don Specialized High School. Part Three focused on the influence of the program over students’ development.

Data analysis

Participants were provided with a link to access the survey in the webpage www.Quia.com. This webpage then automatically processed the responses and exported the data into the Microsoft Excel program (Version, 2000). For the responses to the three point scale items, Quia could calculate the percentage of each item. However, it was not software set up to handle qualitative data. Therefore, answers to the open ended questions were manually processed by identifying similar opinions and categorized into themes. A count of how often each theme was conducted and its result was then converted to percentages. For example, in the parent job category, jobs were divided into two categories: blue collar jobs including “worker and farmer” and white collar jobs including business related career, doctor, and teacher.
Results

Question 1

The first question was “Who are the students who choose to study in this program?” To answer this guiding question, three sub questions were asked about students’ family background, preparation for the school entrance exam and family tradition of attending the program. Both the former and current students were similar in their responses to the question. Their parents were highly educated and the majority of them held BA degrees and white-collar jobs. Preparation for the school entrance exam was taken seriously as the majority of the participants indicated taking private lessons prior to the exams. Finally, connections to the school through relatives (current students) and acquaintances (former students) played a part in the students’ choice of the school.

Question 2

The second question was “How do students perceive the effectiveness of the program in helping them acquire a high level of proficiency and English language skills?” Seven questions were included, each offering the following three options: “Not satisfied at all”, “Somewhat satisfied” and “Completely satisfied.” The responses of current and former students are summarized in Table 1 below.

Table 1: Students’ perceptions about the effectiveness of the program.

<table>
<thead>
<tr>
<th></th>
<th>Current students</th>
<th>Former students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Speaking</td>
<td>Speaking</td>
</tr>
<tr>
<td>NS</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>SS</td>
<td>47</td>
<td>21</td>
</tr>
<tr>
<td>CS</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>Reading</td>
</tr>
<tr>
<td>NS</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>SS</td>
<td>43</td>
<td>20</td>
</tr>
<tr>
<td>CS</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Writing</td>
<td>Writing</td>
</tr>
<tr>
<td>NS</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>SS</td>
<td>56</td>
<td>19</td>
</tr>
<tr>
<td>CS</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Listening</td>
<td>Listening</td>
</tr>
<tr>
<td>NS</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>SS</td>
<td>50</td>
<td>14</td>
</tr>
<tr>
<td>CS</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Grammar</td>
<td>Grammar</td>
</tr>
<tr>
<td>NS</td>
<td>39</td>
<td>8</td>
</tr>
<tr>
<td>SS</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>CS</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Vocabulary</td>
<td>Vocabulary</td>
</tr>
<tr>
<td>NS</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>SS</td>
<td>44</td>
<td>23</td>
</tr>
<tr>
<td>CS</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Pronunciation</td>
<td>Pronunciation</td>
</tr>
<tr>
<td>NS</td>
<td>35</td>
<td>19</td>
</tr>
<tr>
<td>SS</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>CS</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Legend: NS: Not Satisfied at all    SS: Somewhat Satisfied    CS: Completely Satisfied

The percentages in Table 1 show that except for very few differences, both current and former students had similar perceptions of the effectiveness of the program. Specifically, more than 70% of both current and former students were satisfied with the opportunity to develop good speaking skills in English. For reading skills, current students had a little higher rate of satisfaction than former ones; but, in general, both groups were pleased with the opportunities to develop their reading skills in English. For writing, current students also showed a higher rate of satisfaction than former students, 93% of current students as compared to 63% of former ones. 80% of current students were satisfied with the opportunity to develop good listening skills in comparison with 47% of the former students. Concerning the opportunity to acquire extensive knowledge of English.
vocabulary, both group samples shared almost the same rate of satisfaction, 73% for current students and 77% for former ones. Both former and current students expressed dissatisfaction with the opportunity to acquire clear and native-like pronunciation. Interestingly, the main difference in satisfaction was found in relation to grammatical competence, where 60% of former students expressed somewhat satisfaction while 65% of current students showed that they were not satisfied with the way the grammar teaching was conducted.

Question 3

Question 3 focused on how students perceived the role of their English education in their future jobs (for current students) and their post high school education and current careers (for former students). To find the answers to this question, two sub questions were asked in the survey for both samples. The first sub question was about what students would study (for current students) or had studied (former ones) after completing the program to see whether there was any relationship between their English education and future career selection. The second one asked if they thought the English skills and proficiency acquired in the program would be or were useful for their further study and career.

In reply to the first sub question, 3% of current students indicated that they would like to become teachers of English. Another 3% wanted to pursue a degree in international relations. The majority of students (94%) were interested in pursuing a career in business or economics. Among the former students, 60% of students indicated that they had continued their English education at tertiary level and 40% of students chose to study business or economics. A difference in choices of career and field of study between former and current students was observed. As for the second sub question, 100% of both current and former students agreed that the English skills and proficiency acquired in the program would be useful for their future study and career (for current students) and previous study and current jobs (for former students).

Question 4

Question 4 asked about how participants felt as being students in the program at Le Quy Don Specialized High School. To elicit information for this question, one question was devised for current students and two for former ones. Current students were asked whether they would choose this school or go to another school if they could make the decision all over again. They were also asked to briefly explain their responses. One hundred percent of them confirmed that they would choose the same school for the following reasons: 75% indicated that it was the best school in the province; 20% emphasized their pride of being students there; and 5% pointed out that they would prefer the school because of its good teaching and learning atmosphere. By slight contrast, 3% of former students would not choose this school if they went back in time, though they did not explain why. The rest of the 97% would stay in the same school because of its quality of education. A second question addressed only to former students asked them whether they would like their children to study in the same program or not. Three percent responded that they would not because they were not pleased with the curriculum and teaching methodology. This view is effectively summarized by the following quote provided by a former student: “Vietnamese curriculum and teaching methodology are outdated and rigid, it will not encourage a child’s creativeness and a child will not have a chance to fully develop in many aspects.” The other 97% responded that they would like their child to study in the English major program because of its proven quality and success.

Conclusions and Discussion

Students’ profile

The findings indicated that the majority of students in the gifted program shared similar profiles since they came from families of well-educated parents holding white-collar jobs such as doctors, teachers, and business or economics related fields. It is noteworthy that students from different generations were remarkably similar in the backgrounds they came from. This result was similar to that of a study by Field et al. (1998), which revealed that the majority of gifted students had parents of middle class socio-economic status who held high education degrees. It was also apparent that, the students were encouraged and supported by their parents in preparing for the entrance exam. The majority of them indicated they had taken private lessons to get ready for
the exam. This implied that successful admission seemed to be guaranteed by paying for tutoring services. One possible interpretation of this fact is that middle class and highly educated families pay more attention to their children’s education through encouraging and supporting them in the process of applying and preparing for the school’s entrance exam. In contrast, children of less educated parents who cannot afford to pay tutoring costs seem to be unlikely to achieve the admission standards of the program. This raises the question of whether the program was conceived as a privilege for the children of the “elite” class or as one for all children interested in learning English as a major. And if initially it was originated as a program open for all children, how and why did it become accessible to only a certain class of Vietnamese families? Is it because of the entrance exam which requires rigorous preparation that is not offered in school and is thus not affordable to low-income students? Or is it because of family background and influences? Or is it a combination of both of these factors and other unaccounted ones?

Indirectly, these unanswered questions raise the issue of whether the English Major program in Vietnam has been conceived as egalitarian or elitist, an issue that has been discussed in the related literature (e.g. Campbell, Eyre,Muijs, Neelands and Robinson, 2004; Haight, 2004; Mazie, 2009), but has not been resolved. Obviously, the question cannot be resolved in the context of this study either: but, the information provided by the participants suggests that the program is more of an elitist than an egalitarian nature.

Students’ attitudes towards the program

Both groups of participants expressed similar opinions about the effectiveness of the program and the value of studying English for their future careers. If we consider the English major program as part of the general gifted education program, we can see that this finding corroborates previous research by Colangelo and Kelly (1985), Feldhusen and Dai (1997), and Ford (1978). That is, gifted students had positive attitudes towards the program and were proud of being students in the program. Several participants’ opinions are quoted below to further illustrate the above finding; For example, one participant said:

“I am proud of being a gifted student at Le Quy Don School. When I came to Ho Chi Minh city to study, I was admired by my friends and teachers there. I love my school and am grateful to my teachers’ efforts to teach me.”

Another one replied “I have a good study environment. I have opportunities to meet new friends who specialize in many other subjects, which really helps me in understanding difficult assignments at school. I was taught by well-qualified teachers. There are a lot of good students in school which become a motivation for me to study harder and achieve many things in life.”

Overall, the majority of participants was pleased with their study in the English major program and perceived the learning of English as an asset to their professional development and careers. It seems that their initial choice to enroll in the program was well justified and that almost none of them regretted this decision.

In conclusion, from educational administration perspectives, this program is effective in the sense that the students showed positive attitudes toward and were satisfied with the program. More importantly, the majority of its students pursued careers in the expected fields described in the objectives of this program to educate and train those students who were good at foreign languages to become government officers in cultural and foreign business fields. However, in view of equality in educational opportunities, this program posed a challenge to its stakeholders through the fact that students from low income families were almost excluded from the program. To summarize, this study shows evidence in favor of specialized programs for gifted students. However, it also poses the question of how such programs can be made available to all talented students regardless of their family backgrounds. That is the question educational administrators should focus on in considering to end the program or not.

Limitations of the study

Like most research designs, this study has its own limitations which stem from the nature of survey research and the use of an online system of data collection. Here are the most important facts that warn against broad generalizations of the reported results. As with all online research, it was impossible to know if a person doing the survey was exactly a potential subject, nor could the researcher control how many times a subject might have submitted the survey. Also, how much time each subject spent on the survey could not be controlled. Finally, the unbalance between the two groups of samples is also another issue to this study. Therefore, the results of the study may not
convey the real perceptions and attitudes of the two groups of subjects. The above outlined limitations can serve to inform future investigations which may want to consider them in designing their research instruments, specifically in relation to selecting open-ended questions as well as subject selection criteria, especially concerning the alumni sample.

References


About the Author

Phu Vu is a high school teacher in Vietnam, and studying for his Ph.D. at Southern Illinois University, Carbondale, IL, USA. Phu Vu is interested in: Gifted education; teacher education; and instructional technology.

Address

Phu Vu,
313 E. Mill St # 1,
Carbondale, IL, 62901, USA.
e-Mail: vphu@siu.edu
Humor Styles and their Relationship to Well-Being among the Gifted

Pieternel Dijkstra; Dick Barelds; Siewke Ronner; Arnolda Nauta

Abstract

The present study examined the extent to which a sample of 202 gifted individuals (members of Mensa) engaged in four humor styles and the extent to which these humor styles were related to their well-being. These results were compared to a comparative population sample (n = 265). Results showed that gifted individuals most often used positive humor styles. There were no within sex differences in the use of humor styles between the gifted sample and the comparative population sample. Men (in both samples), however, used aggressive humor more than women. Self-enhancing humor (+) and self-defeating humor (−) were related most consistently to well-being across sub-samples. For men, significant differences were found between the two samples with regard to the relations between humor styles and well-being: Affiliative and self-enhancing humor related positively and substantially to well-being in men from the comparative population sample, but not in men from the gifted sample.

Keywords: Giftedness; humor styles; well-being.

Introduction

Lay theories on humor hold that having a good sense of humor is healthy and enhances one’s mental well-being. Research seems to confirm this belief: several studies, for instance, have shown that a sense of humor reduces the impact of daily hassles and stress on well-being (e.g., Abel, 2002; Kuiper & Martin, 1993; Thorson, Powell, Sarmany-Schuller & Hampes, 1997), reduces feelings of anxiety (Yovetich, Dale & Hudak, 1990), worry (Kelly, 2002) and perceptions of pain and physical health complaints (Kuiper & Nicholl, 2004).

The relation between well-being and humor, however, is more complex than lay theory suggest. Rather than being a single dimension, humor is a multidimensional phenomenon that consists of different aspects (e.g., Thorson & Powell, 1993; Kirsh & Kuiper, 2003; Martin, Puhlik-Doris, Larsen, Gray & Weir, 2003). Martin and colleagues (2003) developed a model that distinguishes four humor styles relating to different uses or functions of humor in everyday life. According to Martin and colleagues (2003), two of these styles are conducive to psychosocial well-being, while two others are less benign and potentially deleterious to psychosocial well-being. More specifically, the two humor styles that are assumed to be beneficial to well-being are affiliative and self-enhancing humor.

Individuals who use affiliative humor say funny things, tell jokes, and engage in spontaneous witty banter to amuse others, to facilitate relationships, and to reduce interpersonal tensions. Affiliative humor is an essentially non-hostile, tolerant use of humor that is affirming of self and others and enhances interpersonal cohesiveness and attraction. Self-enhancing humor, on the other hand, reflects a generally humorous outlook on life, a tendency to be frequently amused by the incongruities of life, and to maintain a humorous perspective even in the face of stress or adversity (Kuiper et al., 1993). In comparison to affiliative humor, the use of self-enhancing humor involves a more egosyntonic intrapsychic process.

The two potentially deleterious humor styles are aggressive humor and self-defeating humor. Aggressive humor refers to the use of sarcasm, teasing, ridicule, and “putting-down” of others. It also includes the use of humor to manipulate others, by means of an implied threat of ridicule. Finally, self-defeating humor reflects attempts to amuse others by doing or saying funny things at one’s own expense as a means of ingratiating oneself or gaining approval, allowing oneself to be the “butt” of others’ humor, and laughing along with others when being ridiculed or disparaged.

To assess these four humor styles, Martin and colleagues (2003) developed the
Humor Styles Questionnaire (HSQ). Studies using the HSQ have revealed interesting and differential relationships between the four humor styles and indices of well-being. Both affiliative and self-enhancing humor have, for instance, been found to be related positively to general well-being and self-esteem (Martin et al., 2003), and negatively to obsessive-compulsive tendencies, psychoticism, phobic anxiety (Chen & Martin, 2007), and depression (Frewen, Brinker, Martin & Dozois, 2008). In contrast, self-defeating humor has been found to be related positively to anxiety, hostility, neuroticism, depression, symptoms of psychological discomfort (Martin et al., 2003; Frewen et al., 2008; Kuiper & McHale, 2009; Saroglou & Scariot, 2002), obsessive-compulsive tendencies, and paranoia (Chen & Martin, 2007). Finally, aggressive humor has been found to be related positively to hostility, neuroticism (Martin et al., 2003), somatization, and paranoia (Chen & Martin, 2007).

There are indications that individuals from different backgrounds and/or with different characteristics differ in the degree to which they engage in specific styles of humor. For instance, Chen and Martin (2007) found Chinese people to less often engage in aggressive humor than Canadians, whereas Kazarin and Martin (2006) showed that Armenian-Lebanese people, compared to Canadian and Belgian individuals, engaged less frequently in all four styles of humor. In addition, well-being and humor styles may be related differently for different groups of individuals. For instance, Taher and colleagues (2008) found that the four humor styles do not predict psychological and social well-being as well in the Lebanese context as in Western countries. Because of these potential differences between groups, it seems important to study humor styles and well-being in different contexts and/or in different subgroups of the population. Examining what humor styles individuals from different backgrounds use, and how well-being and humor styles are differently related for these individuals may increase our understanding of psychological well-being of these specific groups and open up avenues for interventions aimed at promoting well-being among these groups.

The present study focused on the relationship between humor styles and well-being in an interesting, yet understudied population when it comes to research on humor and/or well-being, that is, gifted adults.

Humor among the gifted

Although there are several definitions of intellectual giftedness, the most commonly used (statistical) definition, which will also be used in the present study, refers to an individual’s IQ. In general, individuals who score 130 or higher on a standardized intelligence test are considered to be intellectually gifted (e.g., Hollinger & Kosek, 1986). Statistically, this is equivalent to about 2% of the population. It must be noted, however, that the appropriateness of this statistical approach to giftedness, based on IQ-scores, depends on potential cross-cultural differences with regard to the performance on standardized IQ-tests.

One cannot automatically generalize findings on humor and well-being found in the general population or among college graduates to the gifted. Several studies, mainly conducted in the sixties and seventies of the twentieth century, have shown that IQ or cognitive intelligence is related to a sense of humor (e.g., Wierzbicki & Young 1978; Pinderhughes & Zigler 1985). To interpret something as funny, one has to identify and comprehend the humorous nature of a situation, cartoon or joke. Consistent with this assumption, research has found that individuals with high IQ comprehend and appreciate more complex jokes, cartoons and other forms of humorous stimuli (Wierzbicki & Young, 1978; Pinderhughes & Zigler, 1985). Among children, Hauck and Thomas (1972) even found a correlation of .91 between IQ and a sense of humor as perceived by peers. Given the fact that this study used peer-ratings of sense of humor, this very high correlation might, however, also be (to some extent) the result of a confounding variable relating to both perceptions of sense of humor and IQ, such as social or school success, or the result of a halo-effect of intelligence. The scarce, but more recent studies on this topic confirm these earlier findings. According to Howrigan and MacDonald (2008), in our evolutionary past, humor evolved as an indicator of intelligence and mental fitness (see also Miller, 2000). Whereas previous studies focused on the relationship between humor appreciation and comprehension on the one hand and intelligence on the other hand, these authors showed that IQ is related to the production of humor as well. It must be noted, however, that even these findings on IQ and humor must be interpreted with caution when referring to the gifted. It is very well possible that this select group of individuals may be characterized by the use of qualitatively, rather than quantitatively, different forms of humor use. The first goal of the present
study is to examine the extent to which gifted individuals engage in the four humor styles distinguished by Martin and colleagues (2003).

Studying humor among the gifted is both interesting and relevant. As noted before, humor is related to well-being, and, information about this relationship may help uncover possible sources of well-being among the gifted. It is possible that humor styles are related differently to well-being among the gifted than among other individuals. In general, the gifted encounter unique psychosocial and developmental problems and challenges that are usually not experienced by individuals with lower IQ’s. For instance, gifted students may be labeled derogatorily as ‘nerds’ or ‘know-it-alls’ (Moulton, Moulton, Housewright & Bailey, 1998), often struggle with parents’ high expectations (Chan, 2003), feel sadder, and feel less satisfied with the social support they receive (Vialle, Heaven & Ciarrochi, 2007). In addition, gifted individuals are thought to possess characteristics that make them relatively vulnerable to psychological distress, social and emotional problems, and even suicide, such as high levels of perfectionism, sensitivity and neuroticism (e.g., Gere, Capps, Mitchell & Grubbs, 2009; Hayes & Sloat, 1989; Pfeiffer & Stocking, 2000). It is possible that, because of these unique stressors and challenges, gifted individuals’ sense of humor is related differently to their well-being than is the case among other individuals. In sum, the present study aimed to examine the following two research questions: (1) To what extent do the gifted engage in the four humor styles (i.e., affiliative, self-enhancing, self-defeating and aggressive humor); and (2) How are affiliative, self-enhancing, self-defeating and aggressive humor related to well-being among the gifted?

Method

Participants and procedure

**Gifted sample.** Intellectually gifted participants are not easy to recruit: according to the statistical definition of giftedness (which we will adopt in the present study) the gifted only form about 2% of the population. Moreover, gifted adults are not simply those individuals who excel in school or career: due to, among other things, boredom, many gifted individuals are underachievers rather than overachievers (e.g., Ford, Grantham & Milner, 2004). As a result, the only reliable way to trace and select gifted adults, according to the statistical definition of giftedness, is to measure individuals’ IQ score on a standardized intelligence test, and asking those individuals who score 130 or more IQ-points to participate in the study. This is, of course, a very expensive and time consuming procedure that discourages many researchers from studying gifted individuals. Therefore, as early as 1968, Fogel suggested that researchers in need of gifted participants should consider studying members of the Mensa society (see www.mensa.org). Mensa represents a population of highly intelligent individuals, representing all levels and fields of endeavor. In order to become member of Mensa individuals have to score higher than 98% of the general population on a standardized intelligence test. This means that Mensa members might be used as a proxy for a gifted sample. Today, Mensa has some 100,000 members in about 100 countries spread across the world. To date, scholars involved in a few dozen studies took op Fogel’s invitation (e.g., Bessou, Tyrrell & Yziquel, 2004). The present study did the same, by recruiting members of the Dutch branch of the Mensa society. Although one cannot automatically generalize findings among Mensa members to the gifted population in general, we will refer to this sample as the gifted sample throughout the manuscript.

Gifted participants were recruited through newsletters of Mensa and Mind in development (both organizations for the gifted), asking readers to visit the website of Mensa where a link was posted to an online study, accessible to Mensa members. Within this online study, participants were branched to different sub studies. The number of participants (all Mensa members) that completed all instruments used in the present study was 202 (100 men and 102 women), with a mean age of 41.2 years (SD = 9.8 years, range 18-66). Educational level was scored on an eight point scale (1 = primary education, 8 = Ph.D.). Participants, on average, scored 5.5 (SD = 1.7) on this scale (corresponding roughly to a Bachelor’s degree).

**Comparative population sample.** The comparative population sample was collected by means of advertisements posted on the internet. Participants that were willing to participate in what was announced as an online study on humor could click on the posted link, and were then automatically transferred to the website containing the questionnaires. These were filled in online and data were stored anonymously. The comparative population sample that was collected consists
of 265 participants (78 men and 187 women) with a mean age of 49.1 years (SD = 12.0). There were no Mensa members in this comparative population sample. Educational level was scored on a scale ranging from 1 (primary school) to 8 (Ph.D.; M = 4.4, SD = 1.8). The comparative population sample differs significantly and substantially from the gifted sample with regard to both educational level [F(1, 466) = 43.91, p < .001], and age [F(1, 466) = 57.77, p < .001]. The difference with regard to educational level was as expected, with the gifted sample having a higher mean educational level. Effect size (Cohen’s d) for this difference is 0.64. The mean age difference was not expected, and unwanted, and might affect the present study’s results. We explain how we dealt with this issue at the end of the Method section (under Foregoing analyses). In addition, the present comparative population sample displays an overrepresentation of women, compared to the gifted sample. Because analyses will be conducted for men and women separately in the present study, this is not a problem in this case.

Measures

Humor Styles Questionnaire (HSQ). The HSQ (Martin et al., 2003) is a 32-item questionnaire that aims to assess four styles of humor (eight items per scale): Affiliative, Self-enhancing, Aggressive, and Self-defeating humor. In the present study, respondents rated their agreement with statements relating to each humor style on 5-point scales (scored from 1 = disagree to 5 = agree), with higher scores indicating that the style of humor is more descriptive of the respondent. Martin et al. (2003) demonstrated good reliability and validity for this measure. Example items are: ‘I laugh and joke a lot with my friends’ (Affiliative humor), ‘Even when I’m by myself, I’m often amused by the absurdities of life’ (Self-enhancing humor), ‘If someone makes a mistake, I will often tease them about it’ (Aggressive humor), and ‘I let people laugh at me or make fun at my expense more than I should’ (Self-defeating humor). Reliabilities (Cronbach’s alpha) for the four scales were 0.88 for Affiliative humor, 0.84 for Self-enhancing humor, 0.70 for Aggressive humor, and 0.85 for Self-defeating humor.

General Health Questionnaire. Our first measure of well-being was the 12 item version of the General Health Questionnaire (GHQ-12; Goldberg, 1972). The GHQ-12 measures a range of psychological disorders and has been shown to be a valid and reliable instrument across cultures. Items are, for example, ‘Were you able to concentrate on your activities lately?’, and were assessed on five point scales (1 = not at all, 5 = very often). Cronbach’s alpha in the present study was 0.89.

Satisfaction With Life Scale. Well-being was also assessed by means of the frequently used and psychometrically sound Satisfaction With Life Scale (SWLS; Diener et al., 1985). The SWLS consists of five items, such as ‘In most ways my life is close to my ideal’, that were rated on five-point Likert scales (1 = disagree, 5 = agree). Cronbach’s alpha in the present study was .87.

Foregoing analyses

The gifted sample and the comparative population sample display a sizeable mean age difference (see also Participants and procedure; effect size d = 0.67). Therefore it was decided to control all dependent variables (i.e., the four humor styles and the two well-being measures) for age. This was done by means of regression analyses (in SPSS 16.0), entering the aforementioned six variables as dependent variables, and age as the predictor. Residuals (unstandardized) were saved and used for further analyses. To facilitate the interpretation of the results, and to enable direct comparisons of humor styles (within participants), mean raw scale scores on the six scales across the two samples (i.e., prior to the regression analyses) were added as a constant to the unstandardized residual scores (which all have a mean of 0). This procedure yields age-corrected scores for both humor styles and well-being.

Results

Because previous studies have shown men and women to differ in the use of humor styles (e.g., Kazarian & Martin, 2006), analyses were conducted separately for men and women. First, to examine the extent to which gifted individuals engage in the four humor styles, mean scores for the four humor styles were computed, for men and women in the two samples separately (see Table 1).
Table 1 also lists the mean well-being scores for both men and women in the two samples.

**Table 1**: Mean humor style and well-being scores by participant sex and sample (gifted; comparative population).

<table>
<thead>
<tr>
<th>Humor style</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gifted</td>
<td>Comparative population</td>
</tr>
<tr>
<td>Affiliative humor</td>
<td>30.4, (6.6)</td>
<td>31.6, (5.6)</td>
</tr>
<tr>
<td>Self-enhancing humor</td>
<td>27.2, (6.1)</td>
<td>28.3, (6.0)</td>
</tr>
<tr>
<td>Aggressive humor</td>
<td>20.4, (5.2)</td>
<td>21.1, (5.3)</td>
</tr>
<tr>
<td>Self-defeating humor</td>
<td>16.3, (5.9)</td>
<td>16.8, (5.7)</td>
</tr>
<tr>
<td>Well-being</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General health</td>
<td>47.3, (7.2)</td>
<td>46.8, (7.5)</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>17.8, (4.3)</td>
<td>18.9, (4.6)</td>
</tr>
</tbody>
</table>

**Note**: Means with different subscript letters differ significantly between columns (p<.01). SDs in parentheses.

A MANOVA was conducted next to compare the mean humor style scores of the four groups depicted in Table 1. There was a significant multivariate group effect [F(12, 466) = 3.20, p<.001], that could be attributed to a univariately significant group difference with regard to Aggressive humor [F(3, 466) = 11.99, p<.001]. Post-hoc tests revealed that men used significantly more Aggressive humor than women, both in the gifted group and the comparative population group (see Table 1; ps<.01). There were, however, no significant differences between the gifted sample and the comparative population sample. Moreover, for both men and women, all mean humor style scores differed significantly within participants (paired samples t-tests; ts > 3.19, ps < .01). In all four groups depicted in Table 1, scores for Affiliative humor were significantly higher than the scores for the other humor styles, followed by Self-enhancing humor, Aggressive humor, and, finally, Self-defeating humor.

In addition, it was examined whether the mean well-being scores of the groups listed in Table 1 differed significantly. A MANOVA was conducted for this purpose, entering both well-being scores as the dependent variables. There was no significant group effect [F(6, 461) = 2.21, p=ns], meaning that the four groups listed in Table 1 do not differ significantly with regard to well-being.

**Humor styles and well-being**

Next, correlations were computed between humor styles and well-being, for both the gifted and the comparative population group, and for men and women separately. These correlations are listed in Table 2. The results show that Self-defeating humor is related significantly and negatively to well-being in all four groups listed in Table 2: as individuals use more self-defeating humor, they report lower well-being. Aggressive humor is not related significantly to well-being, whereas Self-enhancing humor is: with the exception of gifted men, Self-enhancing humor is related significantly and positively to well-being in all groups listed in Table 2.

**Table 2**: Correlations between humor styles and well-being by participant sex and sample (gifted sample; comparative sample).

<table>
<thead>
<tr>
<th></th>
<th>Gifted sample</th>
<th>Comparative sample</th>
<th>Gifted sample</th>
<th>Comparative sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General health</td>
<td>Satisfaction with life</td>
<td>General health</td>
<td>Satisfaction with life</td>
</tr>
<tr>
<td>Affiliative humor</td>
<td>.05</td>
<td>-.22*</td>
<td>.43*</td>
<td>.47*</td>
</tr>
<tr>
<td>Self-enhancing humor</td>
<td>.07</td>
<td>-.05</td>
<td>.40*</td>
<td>.38*</td>
</tr>
<tr>
<td>Aggressive humor</td>
<td>-.14</td>
<td>.10</td>
<td>.05</td>
<td>-.10</td>
</tr>
<tr>
<td>Self-defeating humor</td>
<td>-.46*</td>
<td>-.22*</td>
<td>-.25*</td>
<td>-.17</td>
</tr>
<tr>
<td></td>
<td>General health</td>
<td>Satisfaction with life</td>
<td>General health</td>
<td>Satisfaction with life</td>
</tr>
<tr>
<td>Gifted</td>
<td>.11</td>
<td>.11</td>
<td>.10</td>
<td>.03</td>
</tr>
<tr>
<td>Comparative</td>
<td>.38*</td>
<td>.39*</td>
<td>.28*</td>
<td>.21*</td>
</tr>
<tr>
<td>sample</td>
<td>-.11</td>
<td>-.00</td>
<td>-.03</td>
<td>-.06</td>
</tr>
</tbody>
</table>

* p<.01

Gifted and Talented International – 26(1), August, 2011; and 26(2), December, 2011.
Affiliative humor is related significantly and positively to well-being only in men from the comparative population sample, with moderate correlations of over .40. The correlations for the two female samples are highly comparable in both size and direction. For men, however, there are clear differences between the correlations found for the two samples (i.e., gifted and comparative population). To statistically compare the correlations found for gifted men and men from the comparative population sample, tests for independent correlations were conducted. Results reveal that all correlations between Affiliative humor and Self-enhancing humor and well-being differ significantly between gifted men and men from the comparative population sample (z-scores between 2.30 and 3.45, p<.01).

Discussion

The present study is the first to examine the humor styles of the gifted and the relation between these humor styles and gifted individuals' sense of well-being. Our study showed that the gifted sample was most likely to engage in positive humor styles, that is, affiliative and self-enhancing humor, whereas this sample was least likely to engage in negative humor styles, that is, aggressive and self-defeating humor. There were, however, no differences with regard to the use of humor styles between the gifted sample and the comparative population sample. There was one consistent sex difference: men in both samples were found to use aggressive humor more often than women.

The fact that the gifted sample did not differ from the comparative population sample with regard to the use of humor styles was unexpected. As noted before, several studies have found relationships between IQ and sense of humor (e.g., Hauck & Thomas, 1972; Pinderhughes & Zigler, 1985), especially between general intelligence and humor production (e.g., Howrigan & MacDonald, 2008). A possible explanation for our finding is that our measure of humor styles relatively heavily tapped into the humor appreciation aspect of humor, in contrast to the humor production aspect. Humor production - knowing to say the funny thing at the right time to the right people – likely requires a higher level of IQ, whereas this may be less the case with humor appreciation. The fact that gifted individuals (as individuals from the comparative population group) mostly use positive humor styles is consistent with previous studies among individuals from the general population or undergraduates. For instance, similar to our findings, previous studies conducted in China, Canada and Belgium have shown (non-gifted) individuals to use affiliative humor the most and self-defeating humor the least (Chen & Martin, 2007; Saroglou & Scariot, 2002).

Even though there were no differences between the gifted sample and the comparative population sample in the use of humor styles, nor well-being, there were significant differences with regard to the relations between humor styles and well-being for men. Among men in the comparative population group, affiliative humor (+), self-enhancing humor (+), and self-defeating humor (-) were all related to well-being. Among gifted men, however, only self-defeating humor was related (-) to well-being. Why is, among gifted men, self-enhancing humor not related to well-being, whereas it is among men from the comparative population group, as well as among gifted women, women from the comparative population group, and individuals from the general population (as reported by previous studies; e.g., Martin et al., 2003)? Why doesn't a humorous outlook on life and the ability to use humor to cope with stress, affect gifted men's well-being?

The finding that, for gifted men, self-enhancing humor is not related to well-being, may reflect the possibility that gifted men use other means to cope with stress and to remain optimistic and cheerful than do non-gifted men. For instance, gifted men may rely on active, cognitive problem-solving strategies to cope with stress rather than self-enhancing humor. Studies among gifted children show some evidence for this explanation: relative to non-gifted boys, gifted boys prefer quick and efficient solutions to problems and are more likely to select action-oriented approaches to solving problems and handling stress (Preuss & Dubow, 2004). This does not necessarily explain, however, why the relations found for gifted men are different from those found for women (gifted and from the comparative sample).

Several studies have found a positive association between affiliative humor and general well-being (e.g., Martin et al., 2003). Affiliative humor may contribute to well-being by increasing relationship satisfaction and by strengthening individuals' relationships and social support network (e.g., Campbell, Martin,
& Ward, 2008). The present study, however, only found a positive relationship between affiliative humor and well-being among men in the comparative population group. A possible explanation for our finding that, among gifted men, affiliative humor and well-being are unrelated, is that for gifted men’s sense of happiness and well-being, social relationships are less important than for non-gifted individuals. Several studies have indeed shown that gifted individuals attach high value to their intellectual capacities and problem-solving skills, more than to their social and emotional skills (e.g., Burdick, Kreicker, & Klopf, 1981), that gifted individuals derive more positive emotions from their academic abilities and achievements than non-gifted individuals (Chovan & Morrison, 1984), and that, relative to their non-gifted peers, gifted students value independence more and social support less (Bachtold, 1968). Thus, although the gifted seem to engage to a similar extent in the four humor styles distinguished by Martin and colleagues (2003), humor styles seem to be related differently to well-being among gifted men, compared to other populations.

For women, there were no differences between the gifted sample and the comparative population sample with regard to the relations between humor styles and well-being. The present study showed that, among women, self-enhancing humor was related positively to well-being, whereas self-defeating humor was related negatively to well-being. These relations are consistent with previous studies (e.g., Martin et al., 2003). The positive relation that has been reported in previous studies between well-being and affiliative humor (e.g., Martin et al., 2003) was not replicated in the two subsamples of women that were used in the present study. Although for both subsamples the relations were positive, they did not reach significance. Probably more interesting than the fact that in both subsamples of women there was no relation between affiliative humor and well-being, however, is the fact that among men from the comparative population group there was a substantial relation between these variables. Apparently, using affiliative humor, which is often used to improve the relations with others, contributes particularly to men’s well-being (albeit not in the gifted population).

Conclusions

Concluding, the present study is the first to study humor styles and their relation to well-being among the gifted. In doing so, it contributes to our knowledge on both giftedness and humor styles, and their relation with well-being, and opens the door for future research. When it comes to humor as a tool for promoting well-being, our results suggest that interventions aimed at promoting the well-being of the gifted should take into account the differences between gifted men and women in the humor styles that are associated with well-being. For instance, whereas gifted women may benefit from learning how to more adequately use self-enhancing humor to cope with daily stress, such an intervention may be ineffective among gifted men. Gifted men, however, as well as gifted women and non-gifted individuals, may be helped to become aware of the potential aversive effects of self-defeating humor on their well-being and be learned how to more adequately deal with social situations and stressors than by using self-defeating humor. Of course our study also suffered from several limitations. First, our study was cross-sectional in nature. We can therefore not draw conclusions about the precise role of humor styles in well-being: do specific humor styles enhance well-being, does well-being enhance specific humor styles, or is there a third variable that causes humor and well-being to be associated? Second, and more importantly, it is well possible that members of Mensa are not entirely representative of the population of gifted adults. We adopted the statistical IQ-definition of giftedness in the present study, and subsequently used Mensa members as a proxy for a gifted sample. Although the results found in the present study for this sample might generalize relatively well to gifted individuals in western countries, this might not necessarily be the case for gifted individuals from non-western cultures or gifted individuals in general. Moreover, perhaps our findings should not be attributed to the (IQ-based) giftedness of our participants per se, but rather to fact that they represent a group of persons who have voluntarily joined an exclusive group (the Mensa society). On the other hand, most studies among the gifted, especially among gifted children, use much more limited samples than the present one (for instance, examining children from one or two specific schools for the gifted only). A strength is that the Mensa sample that we used is relatively heterogeneous: it consists of participants of different ages, and educational levels, thereby increasing the generalizability of our findings. The representativeness of the comparative population sample that we used is, of course, also questionable. Although this was a heterogeneous group of participants, we do not know to what extent this sample, that was collected
online, is representative for the general Dutch population. There was, for instance, an overrepresentation of women in the comparative population sample. Because we examined the results for men and women separately, this was, however, not necessarily a problem. The age distribution of the comparative sample was comparable to that of the general Dutch population, as was the distribution of educational level. Future studies will need to cross validate our findings by comparing the humor styles of gifted adults (whether or not Mensa members) with those found in the general population. In addition, future studies may examine the possibility that the gifted use other humor styles than those that can be distinguished on basis of the instrument used in the present study. Finally, future research may follow up on the present study’s findings on well-being, and, for instance, examine how humor styles exactly affect the well-being of the gifted, or vice versa.

References


About the Authors

**Pieternel Dijkstra** works as an independent psychologist, researcher, writer and teacher. As a researcher, she is interested in topics such as personality, social relationships and jealousy. In addition to having published more than 40 scientific papers (see PsycINFO), she has written 15 popular psychological books and hundreds of articles in popular magazines on a diversity of psychological topics. In addition to doing research, her mission is to make scientific findings accessible to the general public.

**Dick Barelds** is an Assistant Professor at the University of Groningen. His main field of interest is personality psychology, which he combines with an interest in relationship topics, such as jealousy, and occupational topics, such as work satisfaction and work engagement. In addition to having published a couple of dozen scientific papers, he has developed several psychological tests (e.g., personality and intelligence tests), that are used for selection and diagnostic purposes in The Netherlands.

**Sieuwke Ronner** works as an independent coach, trainer and management consultant, and is specialised in gifted individuals at work. In addition to having published several articles concerning psychosocial stress and violence at work, she has written a book about working and living with giftedness and (together with Noks Nauta) more than 10 articles about this topic. Her mission is the improvement of gifted individuals’ self-confidence, and the improvement of the competencies of professionals, such as occupational health doctors and psychologists, that work with gifted people.

**Noks Nauta** is a medical doctor, specialised in occupational health and a psychologist of work and organisation and became interested in gifted adults in 2000. She writes articles and a book (together with Sieuwke Ronner) about working and living with giftedness. Her mission is the empowerment of gifted adults and the improvement of professionals’ competences (e.g., doctors, psychologists) on the theme of giftedness. Since 2010 she works for the Netherlands Gifted and Talented Adults Foundation (IHBV).

Addresses

**Pieternel Dijkstra**  
University of Groningen,  
Department of Psychology,  
Grote Kruisstraat 2/1, 9712TS Groningen,  
The Netherlands.  
e-Mail: pieterneldijkstra@ziggo.nl  
www.pieterneldijkstra.nl

**Dick P. H. Barelds,**  
University of Groningen,  
Department of Psychology,  
Grote Kruisstraat 2/1, 9712TS Groningen,  
The Netherlands.  
e-Mail: d.p.h.barelds@rug.nl

**Sieuwke Ronner,**  
Meríones Advies,  
The Netherlands.  
e-Mail: s.ronner1@hetnet.nl

**Arnolda P. Nauta**  
IHBV (Gifted and Talented Adults Foundation),  
The Netherlands.  
e-Mail: arnolda.nauta@gmail.com
The Importance of Multi-Group Validity Evidence in Gifted and Talented Identification and Research

Scott J. Peters

Abstract

Practitioners and researchers often review the validity evidence of an instrument before using it for student assessment or in the practice of diagnosing or identifying children with exceptionalities. However, few test manuals present data on instrument measurement equivalence/ invariance or differential item functioning. This information is critical as it allows the user to determine if the instrument yields equally valid information for a diverse group of children. This article presents the rationale and need for such information as well as a detailed process for how test developers, practitioners, or education researchers might complete their own evaluation of instrument invariance.

Keywords: Gifted; talented; identification; validity evidence; test development.

Introduction

The following hypothetical situation should sound familiar to many people involved in gifted and talented student identification. Suppose a teacher or administrator is involved in a school’s student identification plan and that as a part of that plan the school uses a standardized achievement test, ability test, or any other quantitative instrument or rating. Such instruments are made up of multiple items/questions that serve as indicators of academic ability, achievement in a specific content area, school readiness, a particular disability, or some other indicator of giftedness. In an average school, such a test would be given to students from a variety of ethnic, racial, and socio-economic backgrounds. This is not hard to imagine, since as of 2005 African, Native, Asian, and Hispanic American students have made up at least 42% of public school students in the United States (NCES, n.d.). A critical (and often overlooked) assumption of standardized assessments is that they measure the same traits in the same way for all students. Put another way, all assessments should measure the same thing in the same way regardless of subgroup membership: what country the student is from, how much money his or her parents make, or his or her religious preference. If this assumption holds true, then the test could be used as one of several indicators to make gifted education placement decisions or by a researcher in a study related to giftedness. If such an assumption is false, or even if it has not been researched, then the test should not be used in such high-stakes decisions because the test may not be a valid measure of the same trait across different groups.

Often test developers or users argue that a test has been “validated” (something that is actually not possible given currently accepted usage of this terminology (Sireci, 2007)) on a particular diverse group. Unfortunately, what has happened is a case where an instrument was developed using a large number of individuals (often middle to upper-income members of the dominant cultural group) can drown out lack of instrument validity for non-majority individuals. When educators or researchers are interested in the degree to which one test measures the same trait across multiple groups, there are concerned with measurement invariance or equivalence (often abbreviated MI/E). As discussed by Vandenberg and Lance (2000), “the establishment of MI/E is a precondition for conducting substantive group comparisons” (p. 12). As a field that focuses a great deal of time and effort in making group comparisons, the fields of education, especially those dealing with students with exceptionalities, need to spend more time questioning the measurement equivalence or invariance of the tests so often used.
What is measurement invariance and why does it matter?

Put in a formal definition, measurement invariance (MI) examines “the extent to which items or subtests [or whole tests] have equal meaning across groups of examinees” (French & Finch, 2006, p. 379). If members of one group consistently score lower than members of another group, simply due to group membership, then the test is not yielding valid information and can be considered non-invariant. What constitutes a “group” is not universally accepted because such definitions must be based on the theory underpinning the topic of interest. For example, many measures of academic achievement are highly correlated with family income (Valencia & Suzuki, 2001). Because of this, in education, income groups should be considered for MI/E evaluation. The importance of investigating MI/E with regard to a testing instrument cannot be overstated. An example of an instance where this is especially important can be seen in the Naglieri Nonverbal Abilities Test (NNAT: Naglieri, 2003). This instrument has seen widespread use by schools in an attempt to identify gifted and talented students who come from a wide variety of backgrounds. Naglieri and Ford (2003) have made the claim that the NNAT is culturally neutral – meaning that an individual’s membership in a traditionally underrepresented group has no bearing on the individual’s NNAT score. Put into MI/E language, this claim is one of NNAT invariance with regard to such factors as ELL, income, or racial / ethnic group status. When such a claim or assumption is a critical component, as with the NNAT, the importance of the evaluation and presentation of research regarding MI/E seems clear – this issue being noted in the Buros Mental Measurement Yearbook review of the NNAT (French, 2005). Without such information, practitioners and researchers have no way of knowing if the NNAT is any more or less culturally loaded than traditional standardized ability tests of achievement or ability or specific measure of giftedness and talent.

Typical ability or achievement tests often report how validity evidence was evaluated in the technical manual as recommended in the Code of Fair Testing Practices in Education (JCTP, 2005) and the Standards for Psychological and Educational Testing (AERA, 1999). However, the reporting of MI/E or evaluation of group differences has yet to see widespread inclusion in test manuals or reviews. The reason this causes a problem is that test users (e.g., schools, teachers, parents, researchers) have no way of knowing if the test yields equally valid information for any one group of students as it does for another. In the example from above, the NNAT might yield an average score 15 points lower for students from low-income families. This is not a hypothetical situation, but rather was observed in a study by Carman and Taylor (2010). Since the NNAT is not meant to measure income or SES, this could indicate non-invariance or bias against that particular group. Unfortunately, mean-difference testing or general linear model methods, such as ANOVA, are not sufficient to evaluate all aspects of a test that could suffer from non-equivalence, which is better evaluated using latent variable models such as those in the covariance structure or structural equation model family (Thompson & Green, 2006). Further, the origin of any observed non-equivalence can be difficult to evaluate. In the case of the Carman and Taylor (2010) study, the observed differences could be due either to actual group differences on the underlying construct, or it could be the case that the instrument simply does not work in the same way for members of different income groups (non-invariance). Without some kind of MI/E evaluation, there is no way to know. As the NNAT stands, users and test-takers have no way to know if the instrument yields equally valid information for students from dominant and non-dominant cultural groups alike.

Conducting measurement invariance testing using Confirmatory Factor Analysis

Evaluating MI/E can be approached from several different perspectives. Two of the most common of these approach the issue from the item response theory (IRT) or structural equation modeling (SEM) perspectives, the latter being the confirmatory factor analysis example presented here. Those interested in the IRT approaches should consult the new book by Osterlind and Eversen (2009) or the seminal work by Lord (1980).

The first step in conducting MI/E testing using SEM is to specify the model to be tested. For most cases this is simple as items on a test are written to assess certain factors or subscales. For example, the NNAT reports a single global score, but includes four types of items: pattern completion, reasoning by analogy, serial reasoning, and spatial visualization. Specifying which items are meant to assess which factors serves as the model to be tested for each group separately. Even if there is only a single factor (perhaps the general ability or “G” factor), this is still a theoretical model.
to be tested. Put another way, a traditional confirmatory factor analysis (CFA) would now be conducted for each group, hence the term multiple-group confirmatory factor analysis (See step 2 in Table 1). One caveat worth noting is that if a general CFA with all group members tested at once does not meet traditional cutoff criteria (explained below), then there is little point to continuing with the MI/E testing – if the model does not fit for all individuals tested at once (Step 1), larger validity concerns exist. However, even if a general CFA model does fit, MI/E problems can still be present. Table 1 presents an example table based on Brown (2006) that might be completed by a researcher interested in conducting MI/E on any given assessment. Each step in this table will be explained next.

<table>
<thead>
<tr>
<th>Table 1: Measurement invariance tests results.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Single Group Solutions (Step 2)</td>
</tr>
<tr>
<td>Students eligible for Free/ Reduced Lunch Program</td>
</tr>
<tr>
<td>Students not eligible for the Free/ Reduced Lunch Program</td>
</tr>
<tr>
<td>Measurement Invariance</td>
</tr>
<tr>
<td>Equal Form (Step 3)</td>
</tr>
<tr>
<td>Equal Factor Loading (Step 4)</td>
</tr>
<tr>
<td>Equal Indicator Intercepts (Step 5)</td>
</tr>
<tr>
<td>Equal Indicator Error Variances (Step 6)</td>
</tr>
<tr>
<td>Population Heterogeneity</td>
</tr>
<tr>
<td>Equal Factor Variance (Step 7)</td>
</tr>
<tr>
<td>Equal Latent Mean (Step 8)</td>
</tr>
</tbody>
</table>

As in the example presented here, this type of group comparison can involve separating a dataset into students from low-income families and those not from low-income families. It could also involve separate comparisons for students from a variety of majority and minority cultural groups. The process is the same regardless of the number of groups, but can become unwieldy when looking at more than three or four (this is not a hard and fast rule). The code or software process for this step should be the same as was used for the general CFA model described above, with only the source dataset(s) being different. This is where the researcher would run the same CFA on separate groups to determine the level of respective fit. These fit statistics (discussed next) are examined as shown in Table 1. Those interested in evaluating a larger number of groups might consider a multiple indicators, multiple case (MIMIC) model (cf. Brown, 2006), which can be simpler but does not yield as detailed of information.

Starting with Step 2, certain information is needed in order to evaluate the MI/E of the parameters under investigation. The exact magnitude of values of fit indices and other indicators that dictate an invariant or equivalent model is not widely agreed upon in the scholarly literature. However, one example of which indicators to record is presented in Table 1. An explanation of each of these many indicators is beyond the scope of this manuscript. Stated briefly, the chi-square ($\chi^2$) values are used in each successive step to determine any significant decrease in fit ($\chi^2$diff) as indicated by a statistically significant increase in the $\chi^2$ value. It is important to note that as with any other application, $\chi^2$ values are influenced by sample size. As such, if the two or more groups being compared differ markedly in sample size, it will be difficult to compare them using $\chi^2$. Instead, the researcher could randomly sample individuals from each of the various groups in order to make them equal in size. This will allow for more direct comparisons of $\chi^2$. In addition, a significant result may be present at any point due solely to a large sample size. However, in such a case other fit indices are still available. The Root Mean Square Error of Approximation with 90% confidence interval (RMSEA<.05 or .10), Tucker-Lewis Index (TLI>.90), Comparative Fit Index (CFI>.90), and
Standardized Root Mean Square Residual (SRMR<.05) are all various measures of error and fit with some traditional cutoff values (presented in parentheses following each corresponding term). There is disagreement over these values, and interested readers should consult Hu and Bentler (1999) for specifics. At each step these various values can be entered into a table like the one presented in Table 1 and used to compare successive models.

If the values of the various chi-square indicators and fit statistics are acceptable according to established criteria, the researcher can proceed to step 3 involving the test of equal form. In this step, the parameters being tested are the actual number of underlying factors and the relationships of the items to those factors. With the NNAT, this would involve testing that the relationship and existence of four different types of items / latent factors and their respective indicators is the same for the various groups. A similar test could be conducted to determine if a single “G” factor better represent the data. In fact, testing alternative models is a common practice (Thompson & Daniels, 1996). How to accomplish this test will vary depending on the software being used. However, this model’s $\chi^2$ will be the base for which the next step (Step 4) will have its value (see “A” in Table 1) compared. The difference between these two values (See “B” in Table 1) is the primary indicator for lack of fit. If this test of equal forms does not hold true according to the $\chi^2$ and other criteria as explained above, further investigation is not needed as the most basic comparison, that of similar construct form, has been shown to be different for the groups being compared which would likely cause all successive tests to indicate lack of fit. Lack of fit in the case of equal model form means that the test-taker’s SES inappropriately influences the actual structure of what is being measured by the instrument. Since most instruments used gifted and talented identification and research are not meant to measure student income status, this would be an example of non-invariance.

The remaining steps are all the same with regard to how they are evaluated, with the only difference being the specific parameters under investigation (after equal form would be the factor loadings, followed by the indicator intercepts, etc.) with the same methods being used to determine degree of fit. This process is evaluating whether each sub-item parameter (e.g., intercepts, loadings, error variances) is the same across the multiple groups. At a more technical level, each step is evaluating whether there is a statistically and pragmatically significant decrease in model fit when different parameters are held equal across groups. Since the goal is equality across groups, any decrease in fit is a bad thing and indicates the model being tested is not the same across the groups being tested. If there are inequalities (non invariance) than there will be a significant increase in $\chi^2$ and fit statistics will not meet traditional cutoff values and/or indicate worse fit than previous steps. If at any time the model is found to be non-invariant, the researcher can go further to specify that the sub-item parameters are tested for one test item at a time. This allows the researcher to locate exactly which items are problematic, rather than assuming there is a problem with the entire instrument. For example, perhaps item 7 is non invariant at the factor loading level indicating it does not load on the same factor (subscale) for one particular group. The deficiencies of this one item can cause the entire test of equal factor loadings to appear non-invariant, even if all other items are functioning the same across groups. For this reason, once non invariance is found, the researcher should conduct further analyses of partial item invariance in order to determine if the problem is systemic across all items or is limited to a few. The code for partial invariance testing is the same for each step as described above, but with only one item or factor parameter at a time being evaluated as opposed to all at once.

**What does it all mean?**

Unfortunately, deciding what to do with non-invariant items is not as simple as throwing them out. It is possible that items might fit very well with established theory, but might yet appear non-invariant in one analysis. It is also possible that a test author might keep an item that is invariant in one direction as well as retaining an item that balances it in the other direction. What’s important to remember is that a lack of invariance does not disqualify an item automatically. Further, often subjective, analysis is necessary. However, if non-invariance appears to be systemic in that a large number of items or factors are non-invariant across major groups, this is indicative of a larger issue; that the instrument in fact does not measure the same thing for various groups.

In the Carman and Taylor (2010) example cited above, the authors found evidence using MANOVA methods that this was the case regarding non-invariance for low-income students. Using CFA methods the authors could determine exactly where the non-equality was occurring, whether it was actually being caused by non-invariance, and if it could be repaired. If we assume the non-
invariance is in fact systemic regarding low-income and non low-income students, the instrument would not be appropriate for making across-group (low-SES to non-low SES) comparisons. Put another way, if non-invariance was found using the NNAT with students from low-income families, the use of this measure in identifying students from low-income backgrounds for gifted education programs would be inappropriate given the fact that the instrument does not measure what its supposed to measure in the same fashion for both groups of students. As it stands, the invariance of the NNAT with regard to SES groups, as is true with many other instruments, remains unknown.

Implications

Test authors should evaluate measurement invariance before an instrument is ever put into widespread use and the results from such analyses should be presented in the instrument’s technical manual. If such information is not available, school practitioners and academic researchers should be wary of using an instrument with diverse groups, as they cannot be sure the instrument measures the same thing for people in various groups. However, a secondary analysis of a test, as presented with the NNAT example, should also be conducted in order to assure previous validity evidence is still supported over time and across new groups.

A look at the test manuals of larger, more established instruments such as individual intelligence tests or computer-adaptive achievement tests will reveal detailed sections on how MI/E, bias, or differential item functioning were evaluated in the development phase or in instrument revision. Interested readers do not have to be too concerned with how to evaluate such information when presented, because it is so rarely presented with regard to instruments commonly used in gifted and talented research. However, even today some measures do include this information. For example, the technical manual of the Scales for Identifying Gifted Students (Ryser & McConnell, 2004) does present DIF validity evidence across racial/ethnic and gender groups, although no comparisons were made for income groups (Matthews, 2007). Still, this type of reporting should become standard in any field where across-group comparisons are common.

Researchers interested in conducting MI/E from the SEM perspective should consult Brown (2006), who includes a step-by-step process as well as statistical code for several computer programs. A CFA can be run in most statistical programs. LISREL and MPlus allow for the widest range of estimation procedures and examination of partial (sub-item) MI/E. EQS, AMOS, and SAS will also run CFA analyses, but have a limited variety of estimation procedures (although this should not cause a problem for most research). Brown (2006) is an excellent source for example code for all of these procedures. The MPlus technical manual (Muthén & Muthén, 2007) also presents code for a variety of different CFA situations.

References


About the Author

Scott J. Peters is an Assistant Professor of Educational Foundations at the University of Wisconsin – Whitewater where he teaches courses related to measurement and assessment, research methodology, and gifted education. He received his Ph.D. from Purdue University specializing in gifted and talented education with secondary areas in applied research methodology and English education. His research interests include educational research methodology with particular focus on assessment and identification as well as nontraditional giftedness and secondary student programming outcomes. He has published in Teaching for High Potential, Gifted Child Quarterly, the Journal of Advanced Academics, the Journal of Career and Technical Education Research, Ed Leadership, and Pedagogies. He is the past recipient of the Fedhusen Doctoral Fellowship in Gifted Education, the NAGC Research an Evaluation Network Dissertation Award, and the NAGC Doctoral Student of the Year Award. For the last three years he has served as the Assistant Program Chair and Program Chair of the AERA Research on Giftedness, Creativity, and Talent SIG and as the National Association for Gifted Children Research and Evaluation Secretary.

Address

Dr. Scott J. Peters,
University of Wisconsin – Whitewater,
800 W. Main St.,
Whitewater, WI 53190, USA.
262-472-5407
e-Mail: peterss@uww.edu
Gifted Immigrants and Refugees in Israel
Shoshana Rosemarin

Abstract

Since its establishment in 1948, the state of Israel has acquired a lot of experience in absorbing Jews who migrated from different parts of the globe. Two very different groups have immigrated into Israel during the last two decades – Ethiopians (100,000) and Russians (700,000). Due to the basic differences between those groups and cultures, the integration of each of them and the issue of giftedness related to them involve different considerations and strategies.

Keywords: Gifted Immigrants; Ethiopians; Russians; cultural integration; issues of giftedness; strategies.

Introduction

By defining culture as “a certain way, proper to each people, of feeling and thinking, of expressing itself and of acting”, cultures are no longer liable to be placed in the same historical time and ranked as advanced or backward. This "certain way", or character, is the symbiosis of the geography and history, of race and ethnic group. Cultures express the pluralism of humanity rather than evolutionary stages. Yet, Western racism assigns lower human capabilities to "non-Westerns" (Kebede 2006, p. 819).

"Immigrant children, or children of immigrant parents, face many difficulties:
They have to learn a new language, adapt to a new educational system, deal with academic challenges, establish a new social network, and adjust to new customs and normative behavior. They need to redefine certain aspects of the self (ethnic identity, values, and perception of self competence), while dealing with the gaps often dividing their home culture from the surrounding value system and norms. It may be noted that the extent to which the culture of origin differs from the host culture may affect adjustment in general and self concept construction in particular” (Tannenbaum, 2008, p. 189).

Two different cultures: Ethiopian and Russian

A - Ethiopian immigration

Because of continuous wars due to internal religious conflicts, foreign invasions and regional rivalries for the control of the imperial power, Ethiopia deteriorated from a state of a ruling empire (1st century) to a state of a stagnant system in which increasing poverty and an arrested state of knowledge and techniques of production became its defining features (Kebede, 2006, p. 817).

Thus, Baykedagn (an Ethiopian scholar, who was raised in Europe in the early 20th century) maintains that people struggling for a stable state desire for wealth and knowledge as well as their innate abilities are equal to those of Europeans (Kebede, 2006, p. 820).

With the help of the Israeli government, over 70,000 Ethiopian Jews immigrated to Israel in the two large waves of 1984 (Operation Moses) and 1991 (Operation Solomon) (Shuval & Leshem, 1998). Since then, Ethiopian Jews have continued immigrating to Israel in smaller numbers. Recently, the last group of 8000 was granted permission to immigrate: (http://www.pmo.gov.il/PMO/Archive/Decisions/2010/11/des2434.htm).

Specific difficulties of Ethiopian immigrants

Despite its years of experience in immigrant absorption, the state had difficulty understanding the uniqueness of the Ethiopian community (Shabtay & Kacen, 2005). Due to their
skin color they suffer from prejudice and are frequently the target of negative, stereotypic
teachers, (S.R). According to Feuerstein’s theory of Mediated Learning Experience (MLE) (Feuerstein, 1991) it is
to differentiate between two concepts – cultural difference and cultural deprivation. People who have
experiences, due to severe circumstances, are defined as culturally deprived, and will express a lesser learning potential, and as a result will face greater difficulties adjusting to a new culture.

The three most significant criteria of MLE are:

- Reciprocity – The need for both the mediator and the mediatee to be equally willing to share the experience of mediation;
- Transcendence: The need to go beyond the immediate act or behavior, together with the creation of structural changes in the child’s expectations and need system; and
- Meaning: Ascribing meaning throughout life, mostly determined by the culture of the individual.

Assuming that giftedness exists in equal proportion among all populations, then the challenge is to find the procedures for identifying these characteristics among diverse populations that have been historically underrepresented (Lidz et al., 2001). Traditional methods (which remain the only procedures for identification) will not suffice in identifying minority children (Richert, 1985).
While the ministry of Education is debating ways to improve techniques for identifying giftedness in this population, Feuerstein’s Instrumental Enrichment (IE) has been implemented and proven to be very successful in enhancing cognitive skills.

In one study conducted in four primary schools, the subjects (9-10 years old) were either from Ethiopia or Israeli born children of Ethiopian origin. The program included 15 weekly hours of intervention divided between IE, language, and math. The work was supervised by a senior IE consultant and two specialists – one in teaching Hebrew as a second language and the other in teaching math to new immigrant students.

Most of the participants improved their mathematical skills and reading comprehension and became fully reintegrated into regular classes (Kozulin, 2006). In another study, in which the intervention related only to analytic perception, there was a significant improvement in this ability. The relatively quick acquisition of these skills under conditions of intensive mediated leaning indicated that the subjects were culturally different rather than culturally deprived (Rosemarin et al., 1994).

B - Russian Immigration – A different story

In wake of the opening of the gates in Russia in 1989-90, over 500,000 immigrated to Israel. The integration of the Russian population is completely different from the Ethiopian. Although this group is quite heterogeneous, the Russian immigrants can be characterized by relatively high education, low endorsement of religion and modernization (Gittleman, 1997).

They grew up in a society that believed that achievement was environmental rather than genetically conditioned. Achievement was attributed basically to diligence. In the early 1960’s several special day schools and four boarding schools attached to leading universities were established. Three-fourths of Russian mathematicians of age 50 or less are graduates of those special schools. In the 1970’s the government support for those institutes has declined, which brought to the decline of their number. But at the end of that decade new special schools were opened, and many schools in which special programs had been curtailed, were revitalized. The target of the administrators was to label their schools – special mathematics and physics schools.

More than ten nations, including the United States, operate special schools similar to those of Russia. These nations share with Russia and the United States the belief that scientific and technological leadership in this century will depend upon recognition of talented students as an irreplaceable national resource (Donoghue et al., 2000).

Difficulties in absorption in the Israeli educational system on one hand, and criticism of it and despair from it on the other hand, have led Russian specialists in math and physics to establish a separate educational system (called “Mofet”), in which they implement teaching methods they have brought from Russia. Israeli educators have investigated these methods and have considered incorporating them into the Israeli system.

The focus is on motivation and hard work and not necessarily on initial giftedness, and thus the classes are heterogeneous. Yet, excellence and the development of high level thinking skills are crucial in the program and seem to be in accordance with the declared goals of the Ministry of Education (http://www.mofet-il.org/8/)

In 1994, 28 out of 182 students in the "Israel Arts and Science Academy" in Jerusalem, were of Russian origin. This Academy is a three-year residential high school (grades 10-12) for students gifted in the arts, science and mathematics, or both (Jewish virtual library publications).

A few interesting findings emerged from an in-depth study that focuses on the experience of Israeli teachers, who worked for a decade and a half with their highly motivated, academically successful immigrant students from the former Soviet Union.

Several teachers acknowledged preparing for classes more thoroughly owing to the intelligent questions these students posed, yet there seemed to be a difference between junior and senior teachers. The senior teachers tended not to recognize the excellence of those students, because of the perceived threat to their professional status, as it might have underscored their responsibility for the relatively lower level of the local students. Thus, they declared that the percentage of outstanding individuals among them was comparable to that among Israeli students.

On the other hand, the junior teachers were willing to acknowledge these students' imported skills and distinguished performance and were prepared to invest time and energy in their advancement (Eisikovits, 2007). All of them realized that those students come in as Russians and leave as Russians after the school years, because they keep feeling different.
Conclusions

A few guidelines emerge from the review of the two groups of immigrants. Firstly, from the experience with the Ethiopian group, it seems that the concept of dynamic evaluation represented here by Instrumental Enrichment is the right approach for identifying individuals with higher learning potential initially obscured by poor performance (Rosemarin et al. 1994).

The experience with the Russian immigrants demonstrates the need for teacher training. The coexistence of excellence with cultural isolationism is unfamiliar to most of the teachers. In their experience, cultural diversity necessarily leads to underachievement. Multicultural teacher trainers should pay attention to this phenomenon and address it systematically in both pre-service and in-service contexts (Eisilovits, 2007).

References


About the Author

**Shoshana Rosemarin**, Ph.D., musical giftedness. She holds a B.A. in Education (teacher training) and English literature, and an M.A. in special Education and guidance counseling from Bar Ilan University, Israel. She has worked at Talpiot College as a teacher trainer, at Bar Ilan University in the school of Education, as well as in the Department of Musicology, and at the University Center Ariel in Semaria. She has published numerous theoretical and research articles focusing on teaching, giftedness (general and musical), Mediated Learning and cognitive functions. She has given series of lectures in several certification programs for teachers of gifted students, where she has introduced Renzulli’s Model for identification and nurturance of the gifted. She has been a regular presenter in the conferences of the World Council for Gifted and Talented Children for the last 20 years (where she serves as the Israeli delegate), as well as in the European Council for High Ability and in the International Center for Innovation in Education.

Address

**Dr. Shoshana Rosemarin**,  
13 Avivim st.,  
Sha’arei – Tikva,  
Israel, 44810  
e-Mail: shoshr@talpiot.ac.il
Views of Gifted Elementary Students about Self-Directed Learning

Penny Van Deur

Abstract

Despite the connection between independent learning and gifted students, little is known of the views these students hold about the process of being self-directed learners. This interview study examined views of ten gifted elementary school students in South Australia about Self-Directed Learning. The interview responses showed that these gifted students had detailed knowledge about Self-Directed Learning, emphasised the importance of motivation, and described differences in Self-Directed Learning at home and at school in terms of choice of activities. The results of the study suggest that gifted elementary students have explicit awareness of their knowledge of Self-Directed Learning, which is associated with their positive motivation for Self-Directed Learning. The results also suggest that development of knowledge and skills of Self-Directed Learning, together with choice of school-based independent learning inquiries, could provide these students with the motivation and challenge they need to plan and implement investigations while evaluating their own progress.

Keywords: Self-Directed Learning; gifted students; student perspective; motivation; independent learning.

Introduction

The development of skills that increase independent learning has been recognised as an essential element in the education of the gifted (Karnes & Stephens, 2008) but little is known of the views of gifted elementary students about Self-Directed Learning (SDL). Since 1975 Treffinger’s SDL model has been available as a guide to teachers to build on the strengths and interests of gifted elementary students while developing skills sequentially to enable them to assume more control over their own learning.

This model was outlined in the support document (DECS, 1996) for the South Australian policy for educating gifted students and characterises gifted students as independent or self-directed learners. Braggett (1997) described SDL for gifted students in terms of autonomy. By this he meant that the curriculum for gifted students should stress SDL in which students negotiate an aspect of their own studies or their own learning style and are trained in the skills required.

Further to this, they would carry out independent or small group work on open-ended activities, cultivate time management skills and be involved in evaluating their own products. Karnes and Stephens (2008) discussed independent learning and gifted students and concluded that in schools the process of becoming more self-managing and confident in implementing independent projects is often neglected.

Self-Directed Learning for gifted students has been characterised as involving a variety of cognitive and affective processes and outcomes that include critical and creative thinking, problem solving and evaluative thinking, as well as attitudes toward learning (Treffinger, 1975).

Treffinger (1993) pointed out that, even though students did not necessarily know how to manage and direct their own learning, they were capable of learning to do so through active participation in every phase of the process of planning goals and objectives, diagnosing learning needs and evaluating progress. Self-assessment is important in SDL and requires that students learn to understand themselves better as they think about their knowledge, and gain an insight into ways they learn best. Through this process they are motivated to complete work which they see as meaningful (Brady & Kennedy, 2001). This process of reflection is particularly important for gifted students.

It is important to investigate what gifted students know about SDL and to ascertain whether they believe they are using SDL at school. The student perspective can show how the characteristics of the individual and the student’s construction of a task influences
learning strategies employed and learning outcomes (Ainley, 1993).

Models of student learning need to take into account the influence of students’ general orientation toward learning (Ainley, 1993). Gifted students’ views about SDL or their epistemological beliefs about knowledge are being examined in this study because these beliefs influence the way students interpret tasks, establish goals, attend to information, and employ strategies to work on inquiry activities (Butler & Winne, 1995).

Myers-Kelson (2000) argued that students can be assisted to set goals, plan and select strategies, and evaluate their own learning and that in this process they use meta-cognitive and self-assessment strategies. Importantly, they also use knowledge of themselves to determine what they will learn, how they will learn it and how they will know that they have learned it (Myers-Kelson, 2000). Gifted students have been shown to know about their own cognitive resources and the compatibility between themselves as learners and particular learning situations in which they were working (Hannah & Shore, 1995). Schwanenflugel, Stevens and Carr (1997) carried out studies with two groups of students and found that the group identified as gifted showed superior meta-cognitive knowledge over the non-identified group.

Zimmerman & Martinez-Pons (1990) carried out a study of student differences in self-regulated learning analysed by grade, sex, and giftedness in relation to self-efficacy and strategy use. They found that when students from an academically gifted school and regular schools were asked to describe their use of 14 self-regulated learning strategies and to estimate their verbal and mathematics efficacy gifted students made greater use than regular students of self-regulation for regulating personal processes, their behaviour and their environment. Gifted students sought more adult assistance than regular students and generally they took greater advantage of parental resources at home by seeking assistance from their parents. Gifted students displayed very high levels of self-efficacy in the verbal area which Zimmerman and Martinez-Pons (1990) proposed could explain the extraordinary motivation and achievement of these students. They noted also that gifted students made greater use of learning strategies designed to regulate personal processes, behaviour functioning, and environmental events.

Gifted students have been shown to believe in their personal control over problem solving (Chan, 1994) with this belief having a positive influence on their use of strategies. Their attributional beliefs indicated that they had greater confidence in their personal control over learning outcomes. They believed that school successes and failures were dependent on their own effort rather than luck, and they identified their attributions for success to internal and controllable factors. Chan concluded that motivation for learning can be increased through the explicit teaching of learning strategies, where students can attribute their success or failure on tasks to causes over which they have personal control. Chan (1996) carried out a comparative study on the motivational orientations of groups of students defined as gifted and non-identified as gifted and concluded again that the gifted students felt more confident of their own personal control over success or failure on school tasks. The gifted students in Chan’s 1996 study were in control of the amount of effort to put in on a task and in their use of strategies to solve a problem.

Treffinger (1975) argued that gifted elementary students should be helped to become effective managers and directors of their own learning. He described the teacher’s role as one of scaffolding to develop gifted students’ skills to manage their learning, work with others and carry out evaluation. Karnes and Stephens (2008) describe Treffinger’s four step plan for leading gifted students toward a higher degree of independent self-initiated learning. In the command style the teacher directs all aspects of learning for the student; in the task style the teacher provides options from which the students make choices; in the peer-partner style students take a more active role in decisions about their learning activities, goals and evaluation; and finally in the self-directed style students are prepared to make informed choices, plan and implement activities and evaluate their own progress. In Treffinger’s plan to develop self-directed learning the teacher supports gifted students by engaging them in setting goals and defining instructional objectives, diagnosing their entering behaviour, selecting and implementing learning activities and making self-evaluations of whether objectives have been achieved (Treffinger, 1975). Importantly, Treffinger argued that teachers could develop self-direction in gifted students by involving them in experiences requiring “increasing degrees and kinds of self-management” (Treffinger, 1975, p. 53).

Gifted students need skills to be independent learners at school and out-of-school. Ideally they should be motivated to learn about topics studied at school and then continue to pursue their
interest in the topic out-of school (Pugh & Bergin, 2005). In practice though gifted students may be interested in topics which are not discussed at school so that they will need to be able to acquire, apply, and create knowledge and skills while working on their own problems (Fischer & Scharff, 1998). Increasingly, these processes are being acknowledged as important for in-school activities for all students and especially gifted students.

The skills traditionally needed in school learning involve students learning to think in an abstract way, while the skills needed in out-of-school contexts have been related to learning with others in a more concrete way and in specific situations (Resnick, 1987). Both these types of learning situations require management, although traditionally learning in school activities may be managed by the teacher, while beyond school the learner will need to be self-managing and self-directed in their learning. In a constructivist approach teachers need to assist students to be self-directed learners while they engage in school activities where they are taught to manage their activity, as they access resources and people in the environment who can help them to reach their goals.

Knowledge of self-directed learning

The purpose of the study

This interview study uses the student perspective to examine the epistemological beliefs of gifted elementary students about their knowledge of SDL. The views were collected of 10 gifted students in a metropolitan primary (elementary) school in South Australia. The main purpose of the study was to examine gifted elementary students’ knowledge and views of self-directed learning.

Goals and hypothesis of the study

The goals of the study were three-fold:
1. Identify how gifted elementary students describe SDL (knowledge and process);
2. Identify the attitudes to SDL of gifted students; and
3. Investigate whether there are differences in gifted students’ views of SDL related to whether it is carried out at school or out-of-school.

The study explores the hypotheses that gifted students’ have well-developed views about the process of being self-directed, and recognise that they can be self-directed at home as well as at school.

Method

Participants

Interviews were carried out with ten students (in years four and five) identified as gifted students on school-based assessments using Slosson Intelligence Test Primary (Erford, Vitali & Slosson, 1999). Six of the students were boys (mean IQ 151.7) and four were girls (mean IQ 143.7). The students had a mean age of 10.8 years.

Instrumentation

The interview

Interviews about SDL were developed in order to gather information from gifted elementary students about their knowledge and beliefs related to SDL.

Slosson Intelligence Test

The Slosson Intelligence Test Primary' (Erford, Vitali & Slosson, 1999) had previously been used in the school to select students as gifted to be involved in group activities designed to extend their abilities. This reasoning test is commonly used to select students for gifted programs or services in South Australian schools.

Design and procedure

The Principal of a DECS elementary school in South Australia was contacted to invite students assessed as gifted within the school in Year 4 and Year 5 to participate in the interview study. The parents of twenty-five eligible students were sent a letter of introduction, information sheet about the study and consent form. Completed consent forms from ten parents were returned to the school. Interviews were conducted in the school in Term 4 of the school year.
Procedure

Semi-structured interviews were carried out with the students to obtain information about the way gifted students viewed SDL. An interview schedule was used and individuals’ answers to questions were recorded on audio tape and transcribed. In the interview, students were asked about three main issues: (a) their knowledge of SDL; (b) their attitudes to SDL and (c) explanations of SDL at school and out-of-school. (see interview schedule in Appendix)

Data analysis

The 10 participants gave responses to all of the 22 interview questions. The responses were recorded on audio-tape and transcribed using each student’s ID code. The interview responses were analysed to identify themes and issues. Inter-rater reliability was calculated by giving to a colleague the questions and categories formed from the gifted students’ interview responses to questions 1, 2, 3, 4, 8, 9, 11, 12, 14, 15, and 18. These questions comprise 11 out of 22 questions (50% of the interview questions about SDL). There was agreement between the researcher and rater on 1, 2, 3, 4, 9, 12, 14, 15 and 18. The percentage of agreement was calculated to be 82%. The themes were mapped to show interconnections between them and quotations were found to illustrate each one (Thomas, 2009).

Results

A Self-Directed Learning Theme Map was drawn to show the themes in the interview data and issues within the themes. Figure 1 shows the main themes and connections between each one (Thomas, 2009).

![Figure 1: Self-directed learning theme map, gifted students’ views of SDL.](image-url)
Self-directed learning themes

Knowledge of self-directed learning

The responses to the interview indicate that gifted students have detailed knowledge of self-directed learning. Gifted students described self-directed learning in terms of teaching yourself and learning by yourself. I think it’s about where somebody if they want to learn something they will go on their own path and do it instead of getting help or something. One child mentioned the benefit of self-directed learning being related to a person’s future ability to learn by him/herself. All gifted students agreed that they were self-directed on some activities with most of the students mentioning being good at being self-directed on projects. Um yeah. Projects. I’m better on other things. Probably because its much more free-er because say you are working on the topic and you use the internet or look in the book. You’ve got more choice. School related activities like language, spelling, and mathematics were cited, and art was mentioned by one student as well. Two students referred to effort as the reason why they were self-directed on some activities.

Most of the gifted students said that they did not know anyone who is really good at self-directed learning, but four of the students were able to describe the actions of a person they believed was self-directed. Two students described others as being good at self-directed learning because they completed their work, while one student described his friend as being very independent. My friend is pretty good at self-directed learning. He’s independent, very independent, he likes to find out stuff on his own, looking at his own reference books before going into the asking someone else.

Knowledge of the SDL process

Six of the ten gifted students said they would learn about something by carrying out inquiry. They mentioned thinking and asking questions as well as using resources such as the computer, encyclopedia, reading books, and looking for information on the internet. Three students described strategies for being self-directed in learning that included actions such as teaching yourself a strategy, trying to figure out an answer, and setting goals. You’d be talking about it, you’d be thinking it through probably writing it down and once you’d finished thinking about it you put all your ideas together and create what really is what you were learning.

The majority of the gifted students recognised that self-directed learners would check what they are doing with the most frequent explanation being that they would proof read the work or ask another person to proof read it. Maybe get a parent to proof read what they are doing or spell check if you’re doing it on the computer and they do it themselves if they have a good sense of what they are doing and how to correct it.

Nine of the ten gifted students said a self-directed learner would plan the use of time to find out about a topic. Yeah, I think they would because you would have to like one day read some books and find some information and like next day you go on the internet and yeah. One student explained that a self-directed learner might not plan but use their time carefully. One student said that a self-directed learner would plan the use of time at school but not at home, and another indicated a motivational orientation indicating that if a person is motivated to be a self-directed learner he/she would want to plan in order to find out about other topics.

All of the gifted students were able to suggest ways they could get better at self-directed learning, with most saying they could get better at self-directed learning by wanting to learn and encouraging themselves. Encouraging yourself and saying to your mum if I ask you this just don’t tell me what it is ‘cos I want to be self-directed and things like that. Eight of the ten gifted students said that they would reflect on what they did in learning about a topic and the process of learning about it. I usually think about what I could have done and what mistakes I made. Often I think well I could have done this better. Other explanations included thinking about mistakes and thinking about what was done and how that could be used on subsequent learning. Yeah and then you can use that sequence that you worked well in to do something else properly.

Self-directed learning at school

The gifted students were able to describe a person becoming self-directed at school by taking initiative and working out problems alone. First you try to work it out first but if you can’t work it out then you get a friend to help. Four of the students answered that they would work out how to do something at school by looking it up in a book. I’d read about things that I want to know about. There was also mention of teaching yourself, finding your own way and finding your own resources.

Gifted and Talented International – 26(1), August, 2011; and 26(2), December, 2011. 115
However, the majority of answers mentioned asking the teacher for help or asking another person for help. *I think you could probably look it up. Look it up on the internet or maybe go to the library or you could ask your teacher, yeah you could.*

The answers to the question about handling mistakes at school indicated the view that students would ask the teacher or someone else about a mistake. *You could probably ask the teacher and if he doesn’t know I’d try to do it again by yourself and come out with the best answer you can get.* One student answered that he/she would fix the mistake alone. *I sort of think about what I’ve done wrong and then I try to fix it.*

**Self-directed learning out-of-school**

The gifted students answered the question about what they would do as they worked out how to do something out-of-school by placing a strong emphasis on asking their parents or other people to help work out what to do. They said they would use resources such as the library, the internet and books. *You can go to the library, at the public library, go on your home internet thing, you can ask your parents maybe, just ask people.* Two students mentioned effort attributions in comments about trying to work out how to do something. *I first try myself and then if I can’t get it I just ask my mother.*

The answers to the question about what makes a person good at working out how to learn about things at home indicated the view that resources are important. The strategy of asking people was mentioned, as was the strategy of not asking other people. One gifted student mentioned motivation as the reason for a person being good at working out how to learn about things at home. *Um sort of wanting to do it and using as many resources as possible.*

The majority of gifted students indicated that at home they would respond to mistakes by fixing or correcting them. Four students mentioned the strategy of telling or asking someone as a way of handling a mistake. *Um probably you try and correct it you know, don’t cry over spilt milk but you just work out what the mistake was and fix it.* In general, the answers to questions about working out how to do things at home suggest that students worked more independently at home than at school.

**Comparison of self-directed learning at school and out-of-school**

All but one of the gifted students said there are differences in the way they learn about things at school and the way they learn about things at home. The characteristics of learning about things at school that were suggested by the students can be summarized as working alone, being directed by the teacher, having more resources at school, school being more focused on learning, that being in a class of thirty students makes it hard to concentrate, being dependent on other people, having to do things, and having a big library. *I think there is a big difference because in the classroom there’s thirty other people and at home sometimes there’s just either you or two or three other people. Probably be a lot easier to concentrate.*

The characteristics of learning about things at home can be summarized as doing activities alone, thinking for yourself and using your own brain and resources, not having computers or the internet to use as well as not having a big library, it being easier to concentrate with only two or three people around, and at home there is more time to do things. *Yeah I think so because at school you just depend on other people and if they’re not at home you can be self-directed.*

The majority of gifted students said they were usually more self-directed at home than at school. *Yes because normally at school you’re directed by your teacher to what you are actually learning but at home you um think for yourself on a project it’s partly directed by your teacher say in homework but you use your own brain to find it out like your own resources.* The reasons given for this were that they liked working by themselves and using their own resources, that it was easier to learn at home because there were not so many people to be distracted by, they were not rushed at home, and that there were more books and the internet to use at home. *At home mainly. Probably because I like to learn about that stuff. I just normally just get taught at school and I normally just learn that stuff at home.*
Two students answered that they were more self-directed at school. One said he needed to set his own tasks and this meant that he could not rely on other people. The other student explained that he was more self-directed at school because at home he played around. One student answered that he was self-directed both at home and at school. Well I’m sort of both because at school we normally, I normally don’t need help on some work and at home I like doing activities by myself because its actually quite fun.

All of the gifted students said that self-directed learning is important both at home and at school and three students explained that self-directed learning would be important for them in the future. Both, it just makes you better educated so when you’re an adult you can learn. You can be self-directed when you’re young and when you’re an adult when you want to find out about things you can do that. When you’re an adult you know the skill.

**Attitudes towards self-directed learning**

All of the gifted students said that they believed that they could get better at being self-directed. Yeah you just need to encourage yourself more and say I can do this instead of saying I can’t. I have improved. Nine of the students expressed the view that they had improved in being self-directed since the beginning of the year (interviews were done in November toward the end of the Australian school year). Experience in being self-directed was mentioned as a way of improving. You can get better by starting to do things by yourself and once you’ve done one thing try another one and then a few more and then after that you definitely become a self-director. I’m much better than at the beginning of the year.

Seven of the ten gifted students said that they believed that self-directed learning was important. Six of the students mentioned a future orientation in their answers by saying that self-directed learning would be important when they were older. Yes because later on in life say at Uni. You have to rely on yourself a lot. If you just ask everyone when you’re younger in primary school it will teach you to be less independent when you are older. Four of the students mentioned that self-directed learning is important in being independent. Yes because you need to be able to do it later.

Five students made further comments about self-directed learning suggesting that it is important for life in the future. I think it’s a good idea because once you leave school you’re independent and you need to know what to do. One gifted student showed a discriminated view of self-directed learning in comments suggesting an awareness of the need for self-direction in some situations and a different approach in other situations. Um just that I think that it’s really important in some places. You don’t have to be self-directed all the time yeah.

**Preferred way of learning**

Most of the gifted students said that they would prefer to find out about something by asking friends. Two students mentioned that they would ask friends after trying to do it on their own. Well I usually work stuff out for myself at home and friends help me. The reasons given for students preferring to find out about things with friends were that friends have more knowledge, they can give advice, they have more ideas and they can give help. Two students answered that they would prefer to find out about things on their own because they could get more ideas alone, and they can use their own ideas. All but one of the students expressed positive views about their attitude to learning. The students gave a variety of explanations of their favorite way of learning about things. Half of the students included reading in their explanation and three added that they liked learning. I actually like to read books and learn stuff.

**Discussion**

Answers given by gifted elementary students showed that they knew about SDL and that they recognised that motivation was important, that help could be sought from others, and that they had knowledge of the process of planning time, checking, and reflecting on SDL processes. As a group the gifted students expressed positive attitudes to SDL and the possibility of improving as self-directed learners.

The responses indicated this group of gifted students viewed SDL differently at school from the way it was viewed out-of school. The answers given implied most of the gifted
students have little choice in the activities they do at school, while at home they can try more things, take their time, do activities by themselves and think for themselves. They emphasised the social dimension of learning in working with friends, and asking others for help both at school and out-of-school as well as using resources such as the library, the internet and reading books. At school they would take initiative and ask the teacher about mistakes but out-of-school they would ask others for help, use resources, work by themselves, and generally think for themselves. These responses indicate these gifted elementary students know about and use SDL at home, but they may not be given the opportunity to learn in a self-directed way at school. This is a concern considering independent or self-directed learning is advocated for gifted students in South Australian schools.

Conclusions

The results of this study suggest gifted elementary students have explicit knowledge about Self-Directed Learning which they described as teaching or learning by themselves through asking questions, working out problems, checking work, planning time, and reflecting on the SDL process. They expressed the view that SDL can be a social activity which is carried out with friends or with the help of adults in particular with teachers and parents. The students expressed positive attitudes to SDL and showed a high level of positive motivation for self-directed learning which was associated with explicit awareness of their knowledge of SDL. They emphasized motivation in their comments about encouraging themselves to improve at SDL. While they described SDL as applying to activities in school and out-of-school, these gifted students indicated they viewed themselves as being more self-directed out-of-school.

Implications

Gifted students’ interview responses showed they know about SDL and are capable of using it out-of-school and at school. While they may need less attention to explicit teaching of SDL processes and less structure than other students, they should have the opportunity to carry out inquiry and learn about SDL at school. Pre-testing their knowledge of SDL could determine what aspects of SDL these students need to be taught about by the teacher. The results indicate a high priority should be given to promoting inquiry for gifted elementary students in line with current policy. School-based activities to develop knowledge and skills of Self-Directed Learning, together with choice of school-based independent learning inquiries, could provide these gifted students with the motivation and challenge they need to plan and implement investigations at school while evaluating their own progress.

Pugh and Bergin (2005) advocated that gifted students should be motivated to continue learning about topics first encountered at school. The views of the gifted students in this study suggest that teachers of gifted students in elementary (primary) schools should ask the following questions:
1. Are we giving gifted students the opportunity to carry out inquiry at school?
2. Are we teaching gifted students what they need to know to be independent or self-directed learners?
3. Are we stimulating them to want to pursue their interest in topics studied at school?

References


---

About the Author

**Penny Van Deur** is a Research Associate at Flinders University. She holds a Ph.D. and MA in educational psychology, as well as a Master of Gifted Education. Currently her research and teaching involve issues surrounding self-directed learning, the development of inquiry in schools, school-wide support for inquiry, gifted students, the International Baccalaureate and inquiry, and working with students in middle schools.

**Address**

Dr. Penny Van Deur,  
110 Ridge Road, Mylor, 5153,  
South Australia, Australia.  
e-Mail: penny.vandeur@flinders.edu.au
Appendix 1

Interview schedule
Questions organised into issues related to SDL

Issue 1: Knowledge of SDL
Q1. What do you think SDL is all about?
Q17. Are you good at being self-directed as you work on some activities, and why?
Q21. Do you know anyone who is really good at SDL? Can you say what the person does?
Q11. Do you think you can get better at being self-directed?

Explanations given by the students of the SDL process
Q11. If you were being self-directed in learning about something, what sorts of things would you do?
Q12. How do you think a self-directed learner would check what they are doing?
Q13. Do you think a self-directed learner would plan how they will use the time they have to find out about a topic?
Q15. What could help you get better at being self-directed?
Q20. When you have finished learning about something, do you usually think about what you did and what worked well as you were learning?

Issue 2: Attitudes of the students to SDL
Q14. Do you think you can get better at being SDL?
Q18. Do you think self-directed learning is important?
Q22. Is there anything else that you would like to say about SDL?

Preferred way of learning
Q9. When you need to find out about something, what works best for you, to do it on your own or with friends and why?
Q10. Do you have a favourite way to learn about things?

Issue 3: SDL at school
Q2. How do you get to be a self-directed learner?
Q3. When you are at school and you want to work out how to do something what do you do?
Q7. What about when you make a mistake at school?

SDL out-of-school
Q4. When you are not at school and you want to work out how to do something what do you do?
Q5. What do you think makes someone good at working out how to learn about things at home?
Q6. If you are working on something at home and you make a mistake, what do you do about it?

Comparison of SDL at school and out-of-school
Q8. Are there differences in the way you learn about things at school and the way you learn about things at home?
Q16. Are you usually more of a self-directed learner at home or at school, and why?
Q19. Is SDL important for learning at home or at school?
Student Voice: What do Students who are Intellectually Gifted Say they Experience and Need in the Inclusive Classroom?

Susan Prior

Abstract

The research available to find the voice of the student who is intellectually gifted is examined briefly in regard to the changes in education. In contrasting and critiquing different views I confirm that there is little direct information available from individuals in mainstream classes who are intellectually gifted as to what they experience as learners or whether it matches what the professionals say should be happening. Overwhelmingly there is a call for a more personalised and coordinated approach to education for individuals, who are gifted rather than for “the gifted.” I discuss the possibilities to transform our thinking about education for students who are gifted within the current context of inclusive schooling. Some suggestions for future research including lines of inquiry in the individual voices of students who are gifted, are offered.

Keywords: Intellectually gifted; student voice; least restrictive environment; inclusive education; personalised learning.

Inclusion

Ainscow describes how the “Improving the Quality of Education for All” (IQEA) school improvement project is an example of an inclusive framework where the central area of focus is the quality of the students’ experience. It emphasises collaboration, voice and inquiry in order to change paradigms (Ainscow, 2005). However, there is some confusion about what inclusion means (Salend, 1998, Ainscow et al., 2000, in Ainscow, 2004; Smith, 2005). The principles of inclusion and mainstreaming are embedded in the concept of the “least restrictive environment” which states clearly that while the aim is to educate all students with their peers it is acknowledged that the regular classroom may not always be educationally the most enhancing placement for their individual needs (Gallagher, 1997, p. 153). Inclusion then doesn’t mean that all children necessarily receive the same instruction in the same place at the same time, but it does suggest embracing differences and providing a more personalised approach to delivering curriculum. Flexibility, options and individual needs seem to be the essential elements inherent in all these principles rather than a particular place (Cresswell, 2006). The least restrictive environment then is the one that supports academic excellence for any individual student (Gallagher, 1997, p. 164) and equity is not the product of identical learning experiences for all students rather it is the product of a broad range of differentiated experiences that take into account each student’s unique strengths (Renzulli, 2005, p. 25 in Hockett, 2009).

Therefore, what it is required to be inclusive is a system of education “implementing a multilevel, multi-modal curriculum that can meet the needs of a heterogeneous population” (Sapon-Shevin, 1996 in Campbell et al., 2005, p. 25). Smith argues that until recently the place of gifted education in the move towards inclusion has largely been ignored (Lowe, 1992, Gallagher, 2000, Renzulli and Purcell 1996, in Smith, 2005). Advocates of specialised gifted education often refer to the rigid and regular classroom as a reason for removing and educating gifted students separately. Bernal (2003) is concerned that inclusion, in terms of educating all students in the heterogeneous regular classroom means loss of specialized gifted and talented programs as part of a continuum of services. This is also reflected in the awareness that the degree of giftedness needs to be determined so the appropriate level of differentiation can be realized (Pohl, 1996, p. 27; Delcourt & Evans, 1994, Moon, Swift and Shellenberger, 2002 in Adams-Byers, Squiller, WhitSEL & Moon, 2004). The more highly gifted the child the more different to the main classroom the education adjustments may need to be in order to
sufficiently address their individual learning. This then implies that a full range of gifted students need to be involved in research in the mixed ability setting to see what impact their level of giftedness has on their experiences. The students who are the most profoundly and exceptionally able are more rare but seem to have been studied more closely perhaps due to their unique situations (Gross, 2000). The reality is however, learners are all essentially different (Brighton, 2002, Fischer & Rose, 2001, Griggs, 1991, Guild, 2001, Tomlinson, 2002, in Subban, 2006, p. 7) and this is why individual voice is important.

### Differentiation

With an increasing demand to differentiate due to the increased diversity in inclusive classrooms there is some concern that the intellectual and social emotional needs of learners who are gifted will not be met sufficiently in the mixed ability classroom, because reality is that teachers make few if any accommodations or differentiate for gifted learners in these mainstream classrooms (Archambault et al., 1993, in Bernal, 2003, Westberg and Daoust, 2004). When teachers do differentiate, they tend to focus their efforts on the more struggling learners in the classroom, believing that gifted students do not “need” differentiation (Brighton, Hertberg, Callahan, Tomlinson, & Moon, 2005) however intellectual giftedness is most closely related to the need for differentiation in the academic curriculum (Valpied, 2005, p. 120; Gentry et al., 2002; Subban, 2006).

Certainly few researchers have actually asked students directly about their educational experiences (Gallagher, Harradine and Coleman, 1997 in Knight and Baker, 2000) and fewer case studies have examined the characteristics and educational experiences of primary age gifted children (Gross, 1986; Gross, 1993; Harrison, 2003). Most differentiation, even when it is addressed, focuses on the academic needs of gifted students and overlooks their emotional needs. Sisk (2009) suggests that evaluation studies in gifted education should investigate the impact of such programs on students’ lives. (Shultz, 2003; Sisk, 2009) According to Tomlinson, even when teachers express support for inclusive classrooms they are likely to plan for whole-class instruction (Morocco, Riley, Gordon, & Howard, 1996 in Tomlinson et al., 2003). Misunderstandings about differentiation—that it is a form of scaffolding for struggling learners rather than a method of meeting the unique needs of all levels of learners and other early misuses of differentiation can actually make the regular classroom a less challenging place for gifted learners (Hertberg-Davis, 2009). The themes of choice and challenge are echoed in the literature regarding gifted students’ learning needs. (QCA, 2007, Winebrenner, 2001; Rea, 2000; Yewchuk, 1999; Moneta, G & Csikszentmihalyi, 1996).

Maker’s (1998) concept of differentiation includes the emotional and physical environments in order to create a safe, flexible open space which encourages risk taking where learners are engaged to the point of their proximal development (Vygotsky, 1962 in Gentry Gable and Rizza, 2002).

Research clearly shows that schools and teachers can increase the level of challenge within heterogeneously grouped classrooms if they take into consideration students’ experiences and perspectives and use those to make what is taught more accessible to students (Csikszentmihalyi, Rathunde, & Whalen, 1993; Delcourt, Loyd, Cornell, & Goldberg, 1994; Reis et al., 1993 Commenras, 1995; Dahl, 1995; Johnson & Nicholls, 1995; Lincoln, 1995). However, according to the Westberg and Archambault study (1997), which was also replicated in Australia with very similar results (Whitton, 1997) there were no meaningful differences in curriculum for gifted students (Westberg & Daoust, 2003). The conclusion was that teachers’ differentiation practices in grade 3 & 4 classrooms had not changed in the last 10 years. Clark (2002) argues that gifted students are at risk in this scenario and Cathcart (2006) claims therefore it is not safe to rely solely on provision in the classroom. Much less is known about non-cognitive effects of gifted programs (Moon, Swift & Shallenberger, 2002 in Cresswell, 2007). Betts and Neihart (1998) support this by suggesting that as many as 90 per cent of students nominated as gifted by untrained teachers tended to be high achieving conformists, in that they were the pupils “who often become bored in school but learn to use the system to get by with as little effort as possible” (p. 249). Schlechty (1997 in Tomlinson et al., 2003) and Clinkenbeard (1994 in Hoekman et al.,1999) advise teachers to consider “what motivates a particular student and then design work that is responsive to this intrinsic motivation”.

Empirical research has shown that practices of differentiation via acceleration, enrichment and homogenous grouping lead to more successful learning than any one approach employed alone (Shore, Cornell, Robinson, & Ward, 1991 in Campbell et.al, 2005, p.16). Rogers goes further to detail...
the nature of the differentiation required. “…Instructional delivery must be differentiated in pace, amount of review and practice, and organization of content presentation” (Rogers, 2007). Rogers backs this up with data from Start (1995) with intellectually gifted students where it was found that a child two standard deviations above average (moderately gifted) learns eight times faster than a child with an intellectual ability two standard deviations below. The student who is highly gifted needs more individual attention perhaps by providing tutoring; acceleration, or planning individualised studies and projects than the mildly or moderately gifted (Gallagher, 2000). However, schools are not consistently able to distinguish highly gifted from extraordinarily gifted students when they assess academic ability.

Voices of students who are gifted

Voice is “the focus on the design, facilitation and improvement of learning” (Mitra, 2004, p. 4 in Manefield et al., 2004). Student voice has “transformative potential” to enhance students’ own learning and school improvement through “essential first hand evidence” (Flutter and Ruddock, 2004 in Harland, p5.) ‘However, it is not enough to simply listen to student voice. Educators have an ethical imperative to do something with students, and that is why meaningful student involvement is vital to school improvement’ (Fletcher, 2003). Dillon adds that we do not always recognize the dynamic nature of children’s identities (Aitken, Lund & Korjholt, 2007). “The engaged voice must never be fixed and absolute but always changing, always evolving in dialogue with a world beyond itself” (bell hooks, 1994, p.11 in Cruddas, p. 62). The social constructivist approach, which supports the inclusive schools philosophy, also reflects the gradual changes in education for identifying and providing for gifted students (Renzulli & Purcell, 1996; Gallagher, 2000; Lowe, 2002; and Brown et al., 2005 in Smith, 2006, p. 11).

This qualitative paradigm now calls for a mainstream focus on provision for and identification of “gifted behaviours” because the regular classroom is where most students are. Given that giftedness may show itself at any time in a given child’s life the inclusive mixed ability classroom is an obviously important focus point of identification and provision for all students (Grub, 2008). An individual’s potential cannot be predetermined (Dweck, 2000 in Hertzog, 2003, p. 12) so identification therefore is not an end in itself but its purpose is to continuously provide appropriate educational experiences for all children who display giftedness and ability through challenging activities (Freeman, 1998; Sizmur, 1991; Teare, 1997). Identification should be approached as an opportunity for educators to employ a range of resources to develop a picture of an individual student’s educational strengths, weaknesses and needs (Campbell et al., 2005, p. 7).

So, rather than relying on an individual IQ score (Renzulli, 1998) assessment now is usually dynamic, using multiple sources (Passow, 1984 in Grubb, 2008) and contextualized due to the multicultural and diverse nature of the learners. There is no single, universal definition of giftedness (Fahlman, 2000; Marland & Gardner in Yewchuk, 1999) and no single method of assessment. However, as intellectual giftedness can be described in degrees from mild to profound it is important to acknowledge the link between levels of intellectual giftedness and the cognitive differences which then impact on learning in the mixed ability classroom. Also the more different to the average in terms of intellectual ability the person is, the rarer the ability becomes in term of a peer group. Are their chronological peers their intellectual peers? (Gross in Smith, 2006, p.134). Individuals who are gifted may show various preference in learning styles, be unidentified, underachievers (Reis & McCoach, 2000, Winebrenner, 2001) at risk of exclusion, academically successful in only one specific area, have disabilities or be multi talented and fit anywhere along the intellectual level continuum. This again is why the individual’s voice is very important. This is not a homogenous group.

The gap between what is ideal regarding inclusion and what is experienced in the classroom is said to be improved through a personal approach to dialogue and partnership (Davalos and Griffin, 1999) where teachers’ and students’ roles shift and develop skills to “articulate what is important, insightful or relevant” (Fielding & Ruddock, 2002, in Manefield, 2007). Current international research is beginning to suggest that student voice, when it involves students having a genuine say in their learning, has served as a catalyst for change in schools (Manefield et al., 2007, p. 41). Increasing participation and involving all students in planning and decision-making is consistent with the inclusion principle (Thomas et al. in Cruddas, 2001, p. 63). Teachers must first listen to students in order to engage them in constructing their own learning (Manefield et al., 2007, p. 16) and fielding notes that this requires a radical collegiality and blurring in roles to invite enquiry with students as co researchers (Fielding, 2004; Jackson, 2005, in Manefield, 2007, p. 5).
The research literature on the individual gifted student's voice in relation to teaching and learning is rare (Gallagher, Harradine & Coleman, 1997, in Knight & Becker, 2000). According to Tannenbaum (1993 in Smith, 2006, p. 150) there is a “love-hate relationship between society and the construct of giftedness”. This supports the view that “the gifted” are a marginalised group of individuals and as such are often invisible or unheard (Nieto, 1994, in Corbett & Wilson, 1995, p. 396). This may partly be by the nature of their giftedness which can result in them being more vulnerable to criticism and hostility from teachers and others (Gross, 1993, in Kirby & Townsend, 2002, Yewchuk, 1999, p. 37) and therefore not sought out for interviews, as well as perhaps having articulate and perhaps critical views of their teachers and their teaching. Individuals who are gifted can be “hiding” in classrooms. For example, extremely gifted children will often conform for peer acceptance and so conceal their special interests or abilities in class (Gross, 2000). It would be interesting to see if speaking out would be too risky for some or if in fact the opportunity to speak up safely would help to identify needs more accurately in students who are intellectually gifted (Gross, 1989). Greene (1994 in Hertzog, 2003, p. 531) claims qualitative studies “give voice to the normally silenced and can poignantly illuminate what was typically masked”.

What the research says the students say

Chessman (2007) notes that an important consideration is the match between task complexity and the level of student skill. This is the concept of “flow” or optimal engagement (Csikszentmihalyi, 1987 in Van Tassel-Baska, 1993, p. 366). In 1993, Csikszentmihalyi conducted a study in which the outcomes showed that when tasks were too simple or too difficult the students disengaged (Tomlinson et al., 2003, p. 9). Tasks that are too easy cause boredom and tasks that are too difficult cause frustration (National Research Council, 1999, p. 49 in Tomlinson et al., 2001). Furthermore, Csikszentmihalyi’s (1978) research on intrinsic motivation suggested that the central requirement is useful feedback to the person, demonstrating meaningful challenges are being met through their actions (Hoekman et al., 1999). Another study on perfectionism in students who are gifted showed that overall, the majority of the participants, regardless of their type of perfectionism, indicated a decrease in their perfectionism as a result of a rigorous academic environment (Speirs Neumeister, et al., 2007). Learners who are gifted “are often intellectually capable of understanding adult situations but remain powerless to create effective change” (Yewchuk, 1999). Yet, they want leadership activities that are meaningful, and some real responsibility (Wade & Putnam, 1995 in Manefield et al., 2007, p. 9). Authentic decision making opportunities for all students, means a constructivist approach to learning (Bruner, 1996 in Manefield et al., 2007, p. 4) where active conversations engage students in designing and taking responsibility for their own learning. Recent research confirms that students need the opportunity to clarify feelings beliefs and experiences as well as inform teachers of their learning needs (Casey, 1996; Elbaz, 1993, in Knight and Becker, 2000). Without the student making the choice to learn, no learning can occur (Schultz, 2003).

Vialle and colleagues (2001) found that students wanted pretests, compacting, choices, and student centered learning, enrichment/extension and support, but what teachers provided was teacher directed learning. In this study, there was a direct contrast between preferences of students who are gifted and teacher provision and the students reported that even once accelerated there was no differentiation and so was more of an administrative than pedagogical solution for them. In other examples, when the curriculum was challenging there were options and student voice in design and delivery of programs (Vialle et al., 2001). This study concluded the absolute importance of attending to individual differences including social and emotional needs. Challenge and choice were concerns listed by students in the Gentry et al. (2002) study.

Hertzog (2003) reported that most students studied expressed a frustration about being part of a “gifted group”, as if it was a type of label. This was particularly true for students who were placed in separate classrooms within a school, but still attended general classes for some periods of the day. Highly able students may suffer from the “sucker effect”, where they feel exploited as tutors of the less able, held back and less productive (Robinson, 1990; Ross & Smyth, 1995 in Campbell et al., 2005).

Adams-Byers, J.; Squillers Whitsell, S.; Moon, S.M. (2004) found in their study that gifted and talented students differ in their desire to participate in mixed-ability groups, and concluded that a school should include a broad range of grouping options for gifted and talented students. Are students who possess an ability level far from the mean more inclined to prefer homogeneous grouping than students whose ability levels are closer to that of the average student and does this have more to do with personality than with levels of giftedness (Adams-Byers et al., 2004)?
Further research

Case study is a form of qualitative research, which allows us to hear and include the voices of people who are gifted in the gifted education discourse (Mendaglio, 2003). However, gifted education continues to favor quantitative inquiry (Coleman et al., 2007). According to Coleman et al. (2007) from 1996 to 2000, the state of qualitative research flourished, however a relatively small number of people who are gifted have been studied and much of the research is from the outsider perspective. The insider perspective is urgently needed. In addition, the interaction of curriculum, student, teacher, and program from varying perspectives is an untouched area of inquiry. More research is needed in all these areas (Coleman et al., 2007).

“What can we do to support educators in developing the skill and will to teach for each learner’s equity of access to excellence in today’s inclusive schools?” (Tomlinson, 2003). The answer may be to ask our students or, ask them which questions we should be asking (Sebba, 2007, p. 38). One of the notable aspects of the Manitoba School Improvement project has been the belief that having students shape the questions that need to be asked in their schools and then collect, analyse and present the results provides students with a powerful voice (Manefield et al., 2007, p. 41). There is definitely an opportunity here for researchers to enlist students who are gifted to co research these ideas in their schools. The research does not appear to yet have a line of inquiry into gifted student voice in terms of active political participation in their own education programs in inclusive schools, but more case studies about lived experiences are occurring. VanTassel-Baska & Johnsen (2007) state in their vision of teacher education standards in the field of gifted education for the 21st century, that teachers should “give students a voice in their learning process” (Hughes, 1999; Kanevsky & Keighley, 2003).

Karen Rogers (2007) synthesized the research on educational practice in gifted and talented education. Her main argument is that the learner who is gifted should be reconceptualised as an idiosyncratic individual, rather than one of “the gifted” to ensure appropriate services are developed. However, strangely her title contains the phrase “the gifted”! Rogers found that there was a need for daily challenge in the specific areas of talent. The role of mentoring in focusing this development has major implications for the mixed ability classroom and indeed any program in which the student is involved. Rogers also notes however that where student preferences were included it did not always synchronise with expected academic achievement unless there are trained teachers collaborating with the student and others. In the case of individual students who are intellectually gifted the degree of their giftedness is a significant factor in the research when it is in the high to profound category. The next step in the curriculum pathway is to individualize the differentiated curriculum to become responsive to each student who is gifted (Kaplan, 2009).

So, one way to know what students who are gifted experience in their classrooms is to ask them. However, in the gifted education literature generally, it is not easy to find the voices of teachers or students who are participating in gifted programming and recommendations are often directed primarily toward administrator concerns (Callahan, 2000, p. 539 in Matthews & Kitchen, 2007). The perceptions and expectations students hold—especially adolescents who are gifted—have been sparsely examined in the literature (Gallagher & Rogge, 1966; Hansford & Hattie, 1982; Marsh & Shavelson, 1985; Raph, Goldberg, & Passow, 1966; Shavelson & Bolus, 1982; Shore, Cornell, Robinson & Ward, 1991; Whitmore, 1980; Wylie, 1961, 1970; Zilli, 1971 in Schultz, 2003). The most common type of general programming reported was the pull-out program, which may not be sufficient to meet the needs of highly gifted individuals (Feldhusen, 1997; Winner, 1997). Pullout programs may be as minimal as one or two hours per week (Cox, Daniel, & Boston, 1985; U.S. Department of Education, 1993), and the gifted program curriculum is often unrelated to the core academic curriculum (Schiever & Maker, 1997 in Swiatek and Lupowski-Shoplik, 2003, p. 11).

Implications

The literature shows room for improvement in the study of intellectual giftedness in individual students and how they experience learning. The gap between what we say and what we actually provide in schools needs to be addressed by further first hand evidence including student voice. Researchers need to work more closely with gifted students as co-researchers. In an inclusive setting, it is important to listen to the voices of all those within the school community to ensure the “insider perspective” is included (Borland, 2003a in Matthews & Kitchen, 2007). The diversity in our schools demands that we respond flexibly and openly to the many different students and their ways of being gifted. More research is needed in all these areas (Coleman et al., 2007). Callahan (1992)
proposed that qualitative program evaluation strategies were needed to determine individual responses to individual intervention situations (Hertzog, 2003, p. 121).

Inclusive mainstream schools and intellectual giftedness need not be mutually exclusive. It is important that schools define with their communities what they mean by giftedness, inclusion and voice because individuals learn in community. Students who are intellectually gifted say they need independent learning and time with like-minded peers. They say they need pace and they need depth; they need choices and they need mentoring. Intellectually gifted students have the potential to personalize their educational experiences significantly by being supported to develop their individual voices and internal motivation. Part of the way forward in beginning to transform thinking and practice in schools may be to use a more reflexive approach with students who are gifted. There needs to be more connection made between teaching, learning, and giftedness and how growing this benefits the whole school community. The mixed ability classroom is part of a continuum of services to meet the educational needs of intellectually gifted children but not the only location. Case studies into levels of differentiation required for individuals and how this is best assessed at the individual school level would benefit the range of students who need a differentiated approach to their life long learning.

References


http://www.metagifted.org/topics/gifted/giftedAdolescents/researchActualizationOfGiftedness.html


The World Council for Gifted and Talented Children


Acknowledgment

An extended version of this article was originally submitted as completion of a Masters of Education Degree in November 2009. It was then accepted in revised format to support a roundtable presentation at the ACEL conference in Sydney 2010. Since then power point representations of this material have been delivered by the same author as professional development at University High School in Melbourne in February 2011; at the conference of the International Centre for Innovation in Education (ICIE) in Istanbul July 2011; and the conference of the World Council for Gifted and Talented Children (WCGTC) in Prague 2011.
About the Author

Susan Prior is interested in the experiences and perspectives of the individual learner who may be gifted, have special needs or be twice exceptional. Contracted to set up the Education Support Centre at Trinity College in East Perth in Western Australia in 2000, Sue subsequently joined a school service Pilgrimage through India and Nepal for 6 weeks in 2002/3. She volunteered alongside others in several of Mother Teresa's facilities, and other service providers in some of the poorest areas across India, which led her to a new level of awareness of the diversity in cultural conceptualisations of disability and giftedness. She was appointed the co-chair of a whole school gifted and talented review committee of a large International School in Bangkok in 2007. In 2011, she created “Prior Learning” which provides consultancy for inclusive, gifted and special needs support internationally and within Australia. Registered to teach in Western Australia and Queensland. Sue has a B.Ed. in special needs and M.Ed. (leadership and gifted education) and is currently a Ph.D. candidate at Southern Cross University.

Address

Susan Prior,
Prior Learning,
P.O. Box: 45,
Samford QLD 4520 Australia.
e-Mail: info@priorlearning.com.au
Greek Talented Students’ Motivation: A Qualitative Analysis

Dimitrios Zbainos; and Anastasia Kyritsi

Abstract

This article presents one of the few recent attempts to investigate aspects of motivation of Greek gifted students. This effort is particularly challenging since gifted education in Greece is a nonexistent concept, and any study of Greek gifted students has to overcome obstacles related to definition, location and identification of gifted students. The present study investigated the motivation of 10 Greek talented students who had won national and international competitions in different fields of talent. The method of investigation was qualitative through interviews. Their narrations demonstrated that their occupation with what would later become their talents, started either by chance, or by a member of the family who distinguished some ability and operated as their mentor. In the process all participants described mastery goal orientation motivating their actions, until they started participating in competitions, where performance orientation operated additionally to their existing mastery orientation. In general, their behavior was directed by approach motivation, while avoidance motivation did not seem to be present at all.

Keywords: Gifted motivation; Greek education; qualitative analysis.

Introduction

The first step for researching gifted students is to define giftedness. However, understanding and universally defining giftedness (as any other controversial issue) seems rather unattainable. For some giftedness is a “chimera” (Borland, 2005), or an arbitrary notion with relatively limited practical use in society and schooling (Hertzog, 2009). However, people have always believed that some individuals are more “able” than others, and thus, implicit theories of giftedness have been formed. Sternberg and his colleagues (Sternberg, 1993; Sternberg, Jarvin, & Grigorenko, 2011; Sternberg & Zhang, 1995) studied implicit theories of giftedness and proposed that giftedness can be better understood using five criteria, which they called the “pentagonal theory for the identification of the gifted.” According to this theory, in order to be characterized as gifted, a person should meet five criteria: a) the excellence criterion, which states that the individual is superior in some dimension or set of dimensions relative to peers; b) the rarity criterion states that to be labeled as gifted, an individual must possess a high level of an attribute that is rare relative to peers; c) the productivity criterion states that the dimension(s) along which the individual is evaluated as superior must lead to, or potentially lead to, productivity (doing something); d) the demonstrability criterion states that the superiority of the individual on the dimension(s) that determine giftedness must be demonstrable through one or more tests that are valid assessments; and e) the value criterion states that for a person to be labeled as gifted, the person must show superior performance in one or more dimensions that is valued by his or her society.

Besides the identification criteria, there is a plethora of theories concerned with the nature of giftedness. Numerous attempts have been made to categorize them under their common characteristics (Davidson, 2009; Davidson & Downing, 2000; Sternberg, et al., 2011). Sternberg et al. (2011) divided the theories concerning giftedness into three major groups: The first includes the no conception theories such as the one proposed by Borland (Borland, 2003, 2005). The second includes the traditional intelligence theories which base giftedness on IQ scores, according to which intelligence is considered to be genetically set, relatively stable overtime, and IQ tests are seen as the best means for its measurement (Carroll, 1996, 2005; Jensen, 1998). The third category considers intelligence, and thus giftedness, as an aptitude that goes beyond IQ; it consists of more dimensions, and is regarded more as a cultivation of expertise (a developing ability), than the mere expression of naturally inherited characteristics. For instance, Gardner’s theory of multiple intelligences (Gardner, 1983, 1993) and Sternberg’s theory of successful intelligence (Sternberg, 1985, 1988, 2002) are examples of such conceptions of intelligence.
On the grounds of the latter group of theories, a number of models for understanding and educating the gifted have been proposed, which have stressed, among other factors, the role of motivation in the manifestation of giftedness and in the education of the gifted. For example, Sternberg (2005) has placed intrinsic and extrinsic motivation at the centre of his model of the development of abilities into competencies, and competencies into expertise. Renzulli (Reis & Renzulli, 2010; Renzulli, 1978, 2002; Renzulli & Reis, 2010) regarded motivation (task commitment) as a component of giftedness, partially overlapping with the other two components of the model, namely, above average ability, and creativity. Francois Gagné viewed motivation and volition (needs, interests, passions, values, resource allocation, adaptive strategies and effort) as catalysts for the transformation of gifts into talents according to his Differentiated Model of Giftedness and Talent (Gagné, 2004, 2005, 2009).

The Munich Model of Giftedness (Heller, Perleth, & Lim, 2005; Perleth, Sierwald, & Heller, 1993) considered achievement motivation as a non cognitive personality characteristic which operates as one of the mediators between person-related talents and the performance areas of expertise. Feldhusen (Feldhusen, 2005; Feldhusen & Hoover, 1986) has also stressed the importance of motivation, self concept, and achievement goals for the nurturance and development of gifted students’ capabilities. Gottfried and colleagues (A. E. Gottfried & Gottfried, 2004, 2009; A. W. Gottfried, Cook, Gottfried, & Morris, 2005) described motivation not simply as a construct related to giftedness, but they further proposed a conceptualization of motivation as an area of giftedness in and of itself.

The area of student motivation has attracted the attention of theorists and researchers for a long time and thus the body of research is enormous. Here, only a brief presentation of the literature will take place, in order to be discussed in relation to the findings of the present study. Pintrich & De Groot (1990) categorized student motivation under a model that proposes that there are three motivational components which are linked to student learning: an expectancy component, a value component and an affective component. In this article, only the first two components are going to be discussed, due to the attention they have received by the literature concerned with gifted motivation.

The expectancy component of student motivation includes students’ beliefs about their ability to perform a task. Constructs such as self-esteem, locus of control, outcome expectations, even self concept are included in this component. The predominant construct, however, of this component is self-efficacy, which is concerned with people’s beliefs in their capability to produce given attainments (Bandura, 1997). According to Bandura (2006), perceived self-efficacy should be distinguished from other similar constructs (Schunk & Pajares, 2005), although the distinction between self-efficacy and self concept is relatively subtle (Bong & Skaalvik, 2003). In a review of the literature regarding academic self-efficacy, Klassen & Usher (2010) concluded that students’ beliefs about their academic capabilities powerfully predict a wide range of academic behaviors, and that self-efficacy beliefs are related to the effort students will expend on an academic task or activity, their perseverance in confronting obstacles, and their resilience in the face of adverse situations. In gifted motivation, it has been demonstrated that IQ and other cognitive measures contribute to higher self perception of abilities and self-efficacy of students (Pajares, 1996). Consequently, gifted students have been found to exhibit higher self-efficacy in verbal and math self-efficacy and to feel more challenged, compared with their non gifted peers (Bouffard-Bouchard, Parent, & Lavrée, 1993; Pajares, 1996; Zimmerman & Martinez-Pons, 1990) while non gifted students tended to overestimate their confidence in their abilities compared with gifted students (Ewers & Wood, 1993; Pajares, 1996).

The value component includes students’ goals and beliefs about the importance and interest of the task. This component encompasses several related constructs concerning goal achievement that have extensively been studied in the past forty years, after behaviorist approaches to motivation were proven to be insufficient to fully explain human motivation. In the early 70’s the concept of intrinsic motivation was introduced; since then it has been developed into a comprehensive theory of motivation (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b). The achievement goal construct was introduced by Dweck and her colleagues (Diener & Dweck, 1980; Dweck & Elliott, 1983) in an effort to explain why children of equal ability responded differently to failure: Some appeared helpless while, others, displayed an adaptive, mastery response pattern. Dweck and Leggett (1988) described two types of goals in volitional behavior: performance goals, in which the purpose of behavior is to demonstrate one’s competence (or avoid demonstrating one’s incompetence), and learning goals, in which the purpose of behavior is to develop one’s competence and task mastery. Nicholls (1984) described achievement motivation under the terms ego involvement and task involvement. Ego
involvement is a motivational state applied when individuals seek to demonstrate ability to others and leads to a negative pattern of affect, cognition, and behavior, while task involvement is a motivational state when individuals do not seek to demonstrate their ability to others and it is related to positive achievement-relevant affect, cognition, and behavior.

Although the positive effects of mastery goals were predominant in the research related to the goal construct, Elliot & Harackiewicz (1996) noticed that research on lack of attention to the potential positive, adaptive behaviors were led by the performance approach goals, and thus, they proposed a trichotomy of the performance goal construct, by keeping the mastery goal intact as introduced by Dweck and by dichotomizing the performance goal into two independent ones, namely a potentially adaptive performance goal, where students seek to receive recognition by others, and a maladaptive performance avoidance goal, where students try not to fail. In later work Elliot (Elliot, 1999) proposed a 2X2 model of the achievement goal with a dichotomization of the mastery goal construct into a mastery approach goal and a mastery avoidance goal. Mastery–approach goals were described as a strive to develop one’s skills and abilities, advance one’s learning, understand material, or master a task, while mastery-avoidance goals as a strive to avoid losing one’s skills and abilities (Elliot, 2005). This categorization led to the reconceptualization of goals and motives in a less expansive way (Thrash & Hurst, 2008) and human motivation was described under the “approach–avoidance” distinction defined as follows: “Approach motivation may be defined as the energization of behavior by, or the direction of behavior toward, positive stimuli (objects, events, possibilities), whereas avoidance motivation may be defined as the energization of behavior by, or the direction of behavior away from, negative stimuli (objects, events, possibilities)” (Elliot, 2008, p. 8).

Research on the goal orientation of high achieving students is rather variable. Some studies have shown that gifted students prefer learning or task involvement goals over performance ego involvement goals (Clinkenbeard, 1989; Schunk & Swartz, 1993), as well as self referenced task information than social comparison (Ruble & Flett, 1988), yet there is evidence that suggests that high-achieving students spent more time on normative comparison information than low-achieving students in the control group (Butler, 1992). Such findings have led to the conclusion Dai, Moon, & Feldhusen (1998) that, especially for talented people, Elliot’s 2x2 model (Elliot, 1999) is preferable by stating “it is almost inconceivable that so many talented people opt to undertake many years of hard, sometimes tedious, work in professional training programs without some prospect of financial and status rewards in mind” (Dai, Moon, & Feldhusen,1998, p. 53).

Before proceeding to the (limited) literature concerned with gifted students, let us take a brief look at the Greek educational system. The Greek system of compulsory education consists of: one year of kindergarten, six years of elementary and three years of secondary school (Gymnasium). Then, students can choose between general and vocational post-compulsory education (general or vocational Lyceum). The overwhelming majority of Greek students choose the general post-compulsory education (Eurydice/Eurybase, 2008/9). The Greek educational system (in accordance with the overall political system) has a hierarchical structure with a top down direction in decision making (Saiti, 2009), and thus, it constitutes a closed system, not easily amenable to change and innovation (Alahiotis & Karatzia-Stavlioti, 2006; Ifanti, 2007; OECD, 1994).

At the summit of the pyramid is the Ministry of Education, which oversees the administration of all schools in the country through its Central and Regional Services (Eurydice/ Eurybase, 2008/9). In such an educational system, it might be assumed that any changes introduced by the Ministry of Education would be implemented in schools. However, the lack of long term planning, the frequent change of ministers of education with subsequent changes in policies as well as political administrators, plus a lack of a coherent theoretical framework of any innovations (Kassotakis, 2010; Saiti, 2009) have resulted in the formation and implementation of traditional and intuitive implicit theories by Greek teachers in the classroom.

In this framework, gifted education in Greece is (more or less) nonexistent. Although in the law for special education there is a mention for the recognition of “children who have one or more intellectual abilities and talents developed to a much higher degree than the expected for their peer group” as children with special needs, and a “Guide for the students with exceptional abilities and talents” has been published since 2004. In reality, there are no accepted identification methods, no special schools for the gifted, no special classes, no acceleration provisions, and, more important, no provisions for curriculum differentiation for the integrated education of the gifted and talented, since the centrally designed National Curriculum and teachers’ traditional intuitive implicit theories promote an “one for all” instruction.
Most of the studies in the area of gifted education in Greece have mainly focused on teachers, while research of gifted students is very rare, reflecting the state of gifted education in Greece. Greek teachers consider themselves untrained to provide education for the gifted, while inservice-training in the area of giftedness does not exist (Pigiaki, 1995; Starida, 1995). Also, in accordance with the international literature, it has been shown that student and in service Greek teachers perceive giftedness mainly with regards to academic learning characteristics and to a lesser extent to their creativity, although student teachers tend to perceive giftedness in a more comprehensive way. They also think that gifted students are highly motivated (Theodoridou & Davazoglou, 2006; Theodoridou, Kokkinos, & Davazoglou, 2002). Motivation among Greek gifted students has been examined by only one study (Gari, Kalantzzi-Azizi, & Mylonas, 2000). They showed that the group of gifted, nominated by their teachers students were interested in school courses and school routine in general, but were simultaneously deprived of feeling challenged by the potential of future professional success. Moreover, they were not satisfied with their efforts to strive for good grades at school or with their social relationships at school.

Trying to bridge the gap in the research concerned with giftedness in Greece, this study aimed at examining Greek secondary gifted students’ motivation within the broader theoretical framework of giftedness and motivation presented above. In particular it attempted to study the sources of interest of Greek students in their particular fields of talent, their self-efficacy, intrinsic motivation, learning goals and task involvement as well as the existing degrees of extrinsic motivation, performance goals and ego involvement.

Method

In a country where in general very little has been done in the area of giftedness, both in educational provisions and in research, first of all a deeper understanding of the concept of giftedness as experienced by gifted students is primarily needed. Qualitative research is interested in “how people make sense of the world and how they experience events. It aims to understand ‘what it is like’ to experience particular conditions” (Willig, 2008, p. 8). Qualitative research was therefore thought to be more appropriate to serve the aims of the present study. Interviews were chosen as the particular method for investigation because “at the root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of that experience” (Seidman, 2006, p. 9). Similarly, (Kvale, 1996) mentions that “the purpose of interview is to obtain descriptions of the lived world of the interviewees with respect of the described phenomena (Kvale, 1996, p. 30).

Sample

The sample consisted of 10 talented students (high school and university) who had won national or international competitions in certain talent fields. The term talent is used as defined by Gagné (2009a): “Talent designates the outstanding mastery of systematically developed competencies (knowledge and skills) in at least one field of human activity to a degree that places an individual at least among the top 10% of “learning peers”, which is differentiated to giftedness, defined as “the possession and use of untrained and spontaneously expressed outstanding natural abilities or aptitudes (called gifts), in at least one ability domain, 2 to a degree that places an individual at least among the top 10% of age peers” (p. 158). Distinctions in national and international competitions was thought to be an adequate criterion for talent identification since it represents individuals who undoubtedly are placed among the top 10% of their peers. It is not based solely on school grades, which may be biased, especially in Greece where grading is determined solely by school teachers, or on intelligence testing, which is not being used extensively in Greece, and additionally, its sole use as a criterion for giftedness has been criticized. Competition winners are in line with the pentagonal theory of giftedness, (Sternberg & Zhang, 1995) because they meet the excellence, the productivity, the rarity, the demonstrability and the value criteria as described earlier. Also, competition winners have been used in many studies of the gifted (e.g., Campbell & Feng, 2010; Feng, Campbell, & Verna, 2001; Tirri & Nokelainen, 2010).

Table 1 shows participants’ fields of talent, their gender and the most important prize they had won up to the time of the interview. The prizes listed in the table are only representative of their high ability; they are not the only prizes they have won. More precisely, three participants had won competitions in astronomy, three in mathematics, two in music, and two in sports. Their ages ranged
from 15-20 years, and at the time of the study they were students in high school or in the early years of university. University students were competition winners when they were high school students and they described their school experiences.

Table 1: Study’s sample.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Field of Talent</th>
<th>Gender</th>
<th>Age</th>
<th>Prize won</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Astronomy</td>
<td>Boy</td>
<td>19</td>
<td>Honorable mention, 2nd Astronomy Olympiad, 2008</td>
</tr>
<tr>
<td>2</td>
<td>Astronomy</td>
<td>Boy</td>
<td>18</td>
<td>Honorable mention, 2nd Astronomy Olympiad, 2008</td>
</tr>
<tr>
<td>3</td>
<td>Astronomy</td>
<td>Boy</td>
<td>17</td>
<td>Member of the Greek team 1st team prize 3rd Astronomy Olympiad, 2009</td>
</tr>
<tr>
<td>4</td>
<td>Mathematics</td>
<td>Boy</td>
<td>17</td>
<td>Golden medal Greek National mathematical Olympiad, 2010</td>
</tr>
<tr>
<td>5</td>
<td>Mathematics</td>
<td>Boy</td>
<td>19</td>
<td>Bronze medal 49th International Mathematical Olympiad, 2008</td>
</tr>
<tr>
<td>6</td>
<td>Mathematics</td>
<td>Boy</td>
<td>15</td>
<td>Golden medal Greek National mathematical Olympiad, 2010</td>
</tr>
<tr>
<td>7</td>
<td>Sports</td>
<td>Girl</td>
<td>17</td>
<td>1st in Greek National Athletics Games, 2009</td>
</tr>
<tr>
<td>8</td>
<td>Sports</td>
<td>Girl</td>
<td>17</td>
<td>1st in World Athletics Junior Championships, 2010</td>
</tr>
<tr>
<td>9</td>
<td>Music</td>
<td>Boy</td>
<td>20</td>
<td>2nd in National Greek Piano Competition, 2008</td>
</tr>
<tr>
<td>10</td>
<td>Music</td>
<td>Boy</td>
<td>19</td>
<td>Distinction in &quot;Filon&quot; National Piano Competition</td>
</tr>
</tbody>
</table>

Procedure

Semi-structured interviews were planned and carried out by one of the researchers in the Autumn of 2010. All but one of the interviews was tape recorded and then transcribed. One participant disallowed the use of a tape recorder, and, for this reason, notes were taken during the interview and just after the interview finished, the main points of the interview were written down by the interviewer. The main structure of the interviews included questions about their early childhood experiences, their school experiences, their social relationships, and their participation in the competitions. In this article only the analysis of the parts of the interviews concerned with their motivation are presented.

Results and Discussion

Participants’ descriptions of their early motivation in the area of their talent show that it was either provoked by an intrinsic interest in the area, either nurtured by a mentor, usually a family member, or just by chance.

“I’ve always liked the universe, the planets, the stars since I was very young. I liked looking at the sky at night. I always looked for information in books, on television, documentaries.” (p. 1)

“My interest in the world of stars, began at the age of 11. I came across an astronomy book and then everything changed …. I started searching .. reading … until I got my first computer. Then, it became my great companion, my friend …. I started collecting information about everything related to astronomy.” (p. 2)

“My interest (about astronomy) began very early. I was in elementary school… I was young when I came across a small book about the life of stars …. I was charmed…..” (p. 3)

All three participants with a talent in astronomy described their initial motivation as an intrinsic interest that charmed and excited them. The above descriptions are a clear portrayal of intrinsic motivation as described by Deci and Ryan (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b).
This early expression of intrinsic motivation supports the claim by (Deci & Ryan, 2000) that the need for competence is innate and that it is part of the adaptive design of the human organism to engage in interesting activities and to exercise their capacities. For those who were talented in the area of mathematics or sports; however, the initial motivation was not provoked by an internal interest, but mainly by the contribution of their family, maybe because mathematics do not have as explicit or overt charm such as the stars; they need to be introduced to people:

“(My occupation with mathematics started) probably because of my brother who studies mathematics, who influenced me a lot … but also because of my mother’s brother, who is a mathematician. Mathematics began very early … at a very early age. Although at some point in my life, I thought of getting involved with language and history, but I knew I would have to memorize a lot of stuff… And that was something I could not stand …” (p. 4)

“My interest in mathematics started very early. I remember myself in primary school, to learn the multiplication tables very easily. Actually before I went to primary school … My uncle, who is a mathematician, had instilled to me love for maths, and he gave me lessons at home.” (p. 5)

“Since when I was young, I did math in my spare time my father, who is a Chemical Engineer, but liked math. Not so much as mathematics, but primarily as a game. At first I did not it like much.” (p. 6)

“My parents were champions Greece in athletics, so often watched games, I was in the process for years… My parents have always had in the back of their heads that when I grow up I would start athletics, and the directed me towards that, in a very indirect way. They would say ‘go and if you like it …’ so I decided to try. This is how everything started.” (p. 7)

The above extracts describe that members of the closer or the extended family provoked and cultivated an interest which in due course was internalized by the student, as described by Ryan & Deci’s (2000b) Self-Determination Theory as extrinsic motivation with integrated regulation and with internal perceived locus of causality—that is, the closest state of extrinsic motivation to intrinsic. This is in line with the findings of the literature concerned with the motivating effects of home environments on gifted children which has shown that the home environment affects the development of intrinsic motivation and, eventually, achievement (Garn, Matthews, & Jolly, 2010; Gottfried, Fleming, & Gottfried, 1994, 1998).

The participants described how members of their family not only affected their motivation, but also helped in its development. In other words they became early mentors of gifted students. This is also in line with the literature which has demonstrated the importance of mentoring for gifted students, which has multifaceted beneficial effects on gifted students, especially in emotional, social, and vocational development (Casey & Shore, 2000; Pleiss & Feldhusen, 1995). Torrance (1984) stressed that that the real significance of the relationship between gifted adults and their mentors is related to the transmission of attitudes and values besides personal and professional development. In motivational terms parents and mentors may operate as role models for vicarious learning both by direct and indirect instruction (Bandura, 1986; Pleiss & Feldhusen, 1995); they are a source for the development of students’ self-efficacy and self confidence (Edlind & Haensly, 1985; Schunk & Pajares, 2002).

The importance of the findings in the above extracts is that the role of mentoring may be undertaken by members of the Greek family, although in the literature home environment operates as a supporter of the child, while teachers take the role of gifted students’ mentors. This finding may be due to the fact that the Greek family members are aware that the educational system does not have any provisions for the gifted, and therefore family members have to undertake that role, especially if they see that the child expresses some particular interest or ability in a certain area. It was shown before that the father-mentor of one of the participants insisted on playing mathematical games, although the child did not like it very much at first, most probably because he intuitively realized that the child had a special mathematical ability. The complete absence of formal education
in the early detection and nurturance of gifts leaves this obligation to the family. It is however, particularly unfair for gifted children who come from a low socioeconomic background, as uneducated parents do not have the experience to detect giftedness, and even if they do so, do not have the knowledge or the financial ability to help the development of their children’s gifts. For instance, one participant talented in music realized his gift when he was young because his family had hired a music teacher at home.

“We took private lessons at home. First my sister and then I followed. Within a year I did the material, my sister had covered in two years. So we found that there was some talent, and my teacher thought the same.” (p. 9)

If the family could not afford a private teacher, then the talent of this man would have never been recognized, because music education in primary schools in Greece is mostly theoretical and musical ability cannot be detected there (Zbainos & Anastasopoulou, 2008).

As participants grew older, they described their motivation to be intrinsic and their goals to be mastery and task oriented. It was the process in which their gifts are being transformed into talents (Gagné, 2004). This transformation happened with hard work, participants found pleasure in it, but also sometimes they got frustrated and they had to put more effort to it in order to learn more and become better.

“until I went to high school when I got my two telescopes. It was time now to actually see all this splendor. Endless hours ... understanding how the world around me works ... How the universe works. A world of magic, without boundaries and borders.” (p. 2)

“The solving of an exercise, a difficult exercise... was everything to me... a great challenge... and yet a great pleasure ... I could manage it! And I had learned ... and I was moving on!! Further and further on! Making an effort is not easy... you should love what you do... and the more you learn... eventually, the more inadequate you feel, because you understand the great range of this science.” (p. 4)

“You need to love what you do in order to carry on. The more you read the weaker and insufficient you feel when you understand the extend of the science.” (p. 6)

“And then I started searching, mainly through the internet for everything – to find musical pieces that I would be able to play, that would make me happy and try to find some essence in them. And I managed to find them, although they were of an average musical difficulty.” (p. 10)

The present sample consisted of winners of national and international competitions. Therefore, performance was at least partially an aim of their effort; performance goals were also set after they got involved with competitions.

“When I heard about the competition prize wanted to win it to live this unique experience. For me it isn’t only the journey that matters, but the destination as well. I think that both ‘count’ for me”. (P.1)

“Competitions give you the opportunity; they are a way to distinguish. Because at school you are not given this opportunity, and when you can do it, you go after it.” (p. 5)

“Whether it’s for my participation in a competition or just because I realize that I’m weak in one area of mathematics, I set goals to make up for them. I want to do better in the next competition, which may be held in 8 months or even a year later. In this case, I plan my moves.” (p. 6)

“After all this training, so much work, so much tiredness, going on the podium gives you relief, calmness. This moment cannot be described. Your feelings are so much, you feel so full inside you, you feel unique, you have a feeling of awe.” (p. 7)

Performance motivation is evident in participation in competitions. However it does not exist solely by itself but, for many participants together with other motivational components such as socialization, cultivation of self-efficacy, intrinsic motivation and mastery orientation as described earlier.

“Participating in the competition made me feel more certain for myself. More secure.” (p. 2)

“You don’t go to competitions only because you want to win. You also do it because you like the subject. And you work all the time to move on.” (p. 5)

“I was happy to meet other kids who love mathematics, to count my ability and, in general, to live the experience.” (p. 4)

The above extracts demonstrate that the participants of this study were motivated by many of the different motivational constructs described in the literature. Their descriptions of their
motivation tends to support Elliot’s (2008) conceptualization of performance motivation, defined as
the energization of behavior by, or the direction of behavior toward, positive stimuli (objects, events,
possibilities). The participants of this study were energized towards positive stimuli, whether these
were their love for their science, or a position on the podium, or a prize in a national or international
competition.

One of the interesting views expressed by one participant was that competitions were
attractive to him because they provided an alternative way of interacting with knowledge in
comparison to formal schooling.

“Competitions make u think, they teach to solve problems of logic, they force you to have your mind in
vigilance... Maybe on purpose everything that requires imagination or creative thinking, is
automatically out of the material. The perspective of a shape that needs another way of thinking, which
might be more difficult, even in advanced mathematics, is out of the material. Uniformity of tasks has
prevailed.”

“Only for competitions I felt happy. Five teachers were occupied with three children. Especially the last
weeks before the competition every day for two hours we were in the labs for biology, for chemistry,
for physics. Separate labs for those subjects in our school!!! Later when I thought of what had
happened I got angry. Because I had seen that so many resources, so much potential had remained
inactive.” (p. 3)

According to this student, Greek formal education is completely uniform and not challenging
for students. On the contrary, national and international competitions require different thinking and
therefore are more challenging and motivating, and therefore more suitable for students with high
abilities. The most important part of that interview is that he felt angry when he realized that the
teachers at his school did some differentiated teaching in labs for some children for some weeks
only before they went to the Olympiad. Having in mind that his school is considered one of the elite
schools in Greece, then, it can be understood how things are in public schools, where uniformity of
education does not allow the expression of any gift but the reproduction of memorizations.

Conclusions

The present study demonstrated that according to Greek competition winners’ descriptions,
motivation has played an important role in the cultivation and expression of their talent. It showed
that the occupation with what would later become their talent started either by chance, or by a
member of the family who distinguished some ability and operated as their mentor. In the process,
all participants described mastery goal orientation to motivate their actions, until they started
participating in competitions, where performance orientation operated additionally to their existing
mastery orientation. In general, their behavior was directed by approach motivation, while avoidance
motivation did not seem to be present at all.

The major conclusion of this study, however, is the complete absence of the role of
schooling in the motivation of the children of our sample. Parents, books, the internet, and
competitions are some of the sources of motivation mentioned by students, but school as a
motivator was not mentioned at all. This demonstrates the (un)motivating effects of the person-
environment (un)fit (Eccles & Roeser, 2009). Gifted students need a more flexible schooling system,
not only one that incorporates them, but also that motivates them to get better. Recently, some
changes by the Ministry of Education are being made so that traditional teaching based solely on the
memorization of the handbook is to be abolished. A lot more changes, however, are needed for the
integration of gifted students to the Greek educational system.

This study has certain limitations which do not allow any generalization of the results found.
First of all, as described in the method section of this article, the collection and analyses of this
qualitative data aimed at the exploration of participants’ experiences and not at generalizing the
results for the motivation of all Greek gifted and talented students. Also, it is based on their
descriptions and their narrations, not on an objective method of data collection such as experiments.
Further, the sample consisting of competition winners has special motivational characteristics that
may not resemble the characteristics of other Greek gifted students.

In conclusion, research concerned with giftedness is in an embryonic state in Greece, and
this study is only a minor contribution to what needs to be done. More research not only on the
motivational orientations but also on other aspects of Greek gifted students may result in a change
in educational practices toward a more inclusive education for the benefit of all Greek students.
References


About the Authors

Dimitris Zbainos was born in Edessa Greece. He graduated the Pedagogic department of University of Thrace and continued his studies at a postgraduate level at the Institute of education, University of London, (Diploma in Education, M.A. in psychology of education) where he was awarded a Ph.D.. He is currently a lecturer at the Harokopio University, Athens. He has taught in primary schools, in the Department of Psychology at University of Crete, and in postgraduate courses in the School of Philosophy at University of Athens. His research interests include themes in psychology of education, assessment and curricula. In particular he is interested in assessment and teaching for the development of cognitive abilities, motivation and curricula for the gifted.

Anastasia Kyritsi has studied home economics & ecology at Harokopio University, Athens. She did M.A. of educational psychology at Harokopio University where she is currently studying for a Ph.D. in psychology. She has worked as a teacher of home economies in public middle schools and as a career counselor in the fields of counselling and vocational guidance. She is a member Hellenic Society of Counselling and Guidance, and has a special interest in gifted education.

Addresses

Dr. Dimitris Zbainos,  
Harokopio University  
El. Venizelou 70,  
Athens, Greece.  
e-Mail: zbainos@hua.gr

Ms. Anastasia Kyritsi,  
Platonos 116,  
Kallithea 176 74,  
Athens, Greece.  
e-Mail: anaritsi@yahoo.gr
Impact of Professional Development Programs for Teachers of the Gifted

Hava E. Vidergor; and Billie Eilam

Abstract

The aim of the present study was to assess the impact of the Israeli certification program for teachers of gifted children. Pre- and post-tests addressed Israeli teachers’ perceptions of unique teaching-learning situations in pullout centers, the desired characteristics of teachers of the gifted, as well as knowledge of gifted and instructional related competencies acquired. The research sample comprised 147 teachers composing three groups: (a) PDTG teachers; (b) pullout center teachers; and (c) school teachers. Measures of perceptions were based on three instruments: (a) a questionnaire measuring level of collectivism; (b) an open-ended question about the teaching-learning situation and statements about desired cognitive, personal, and pedagogical characteristics of teachers of the gifted; and (c) a questionnaire measuring knowledge of gifted education and related competencies. Significant effects for group, interaction of group by culture, and type of program were detected in issues addressed. The study findings suggest a limited impact of certification programs. The study proposes a new lens for examining professional development programs, in particular as related to cultural orientations, and discusses practical implications for teacher certification programs.

Keywords: Gifted education; certification program in gifted education; teachers’ desired characteristics; cultural orientation; teachers’ knowledge of gifted education; teachers’ related competencies.

Teachers’ certification programs in gifted education have been developed in the past several decades. There are very few studies relating to these programs preparing teachers for the instruction of gifted students in different frameworks. We offer a cognitive lens to examine the impact of such a certification program addressing Israeli teachers’ perceptions according to cultural orientations, calling for further investigation to better cater for teachers’ and students’ needs.

US standards for certification and professional development of teachers of gifted

US standards for professional development of teachers of the gifted (PDTG) are based on research and main theories in the field of gifted education (Van Tassel-Baska & Johnsen, 2007). They define the essential knowledge and skills teachers need for becoming effective in classrooms, and can be used to guide program developers in preparing future teachers of the gifted. The standards ensure that teachers acquire knowledge concerning relevant theories, research findings, pedagogy, and management techniques, so that they can identify gifted students, develop programs and offer gifted students substantial learning opportunities.

It is suggested that these standards should guide program developers when preparing teachers at all levels, ranging from endorsement, certification, and/or a master’s degree program with emphasis in gifted education. Moreover, these standards can also be used as assessment tools by institutions and teacher education programs (Van Tassel-Baska & Johnsen, 2007). To link standards with candidate performance, a list of six required assessments was developed: (a) licensure or content-based; (b) content knowledge; (c) candidate’s ability to plan instruction; (d) teaching in a field placement; (e) effect on student learning; and (f) additional assessment addressing standards (Johnsen, Van Tassel-Baska & Robinson, 2008).

US professional development for teachers of the gifted

Certification/ endorsement in gifted education: According to a report on teacher certification in gifted education in the US, 28 states require certification/endorsement, three of which indicate that it is optional. Only two states require a Master’s degree for certification in gifted education. Study requirements vary from 6 to 21 hours, and only one state requires teachers of gifted education to pass a final exam before certification (Karnes, Stephens & Whorton, 2000). At the same time,
Existing professional development programs for teachers of the Gifted (PDTG): Programs available in colleges and universities expand teachers’ knowledge beyond basic requirements, and expose them to issues concerning the education of gifted students (Karnes, Stephens & Whorton, 2000; Clark, 2002). Universities offer M.A., M.Ed., and Ph.D. degrees in special education, (e.g., Ohio College of Education, 2009), or in educational policy and leadership (e.g., College of William & Mary, 2009), with a specialization in gifted education. Programs can also be completed separately for licensing (e.g., Northern Kentucky University, 2009). Courses range between 12-30 semester hours.

Pre-and post-test comparisons for individuals completing courses and workshops offered at the Belin-Blank International Center for Gifted Education, as part of a professional development program for teachers of gifted learners, demonstrated more positive attitudes toward gifted students and significant increase in knowledge about the education of gifted students after completion of the programs (Croft, 2003).

An assessment of teachers’ differentiated practices evaluated the efficacy of teacher behavior in the following categories (Van Tassel-Baska, Quek & Feng, 2007): (a) curriculum planning and delivery; (b) accommodation for individual differences; (c) problem solving; (d) critical thinking strategies; (e) creative thinking strategies; and (f) research strategies. Such a tool can also be employed in planning efficient Professional Development for Teachers of the Gifted, focusing on the development of desired teacher abilities.

Israeli professional development program for teachers of the gifted (PDTG)

Certification/ endorsement: An Israeli program for certification and professional development of teachers of the gifted is in its initial stages. The steering committee (Ministry of Education, 2004) has stressed the need for a legislative procedure that would result in a Gifted Act and establish frameworks for the professional development and training of teachers of the gifted. The committee has determined that teaching and education of the gifted is a unique pedagogical domain that requires a special framework of training and certification. Consequently, five PDTG training centers have been established in the north, center, and south of the country and approved by the Ministry of Education. The need for establishing a certified training program derives from the fact that most current instructors teaching in gifted frameworks lack any formal training in gifted education or even in teacher education (Division of Gifted Education, 2008/ 2009).

The PDTG training program in Israel aims at developing a holistic approach to the education of gifted students, emphasizing the relations between the cognitive, emotional, social, and environmental components of gifted education (Zorman, Rachmel, & Shaked, 2004). Completion of all the requirements grants participants Ministry certification, which permits them to work in the field of gifted education (Division of Gifted Education, 2008/ 2009). Two types of PDTG program evolved: Type 1 (duration 4 semesters, 4 semester hours) first year focusing on theory and second year on practice; and Type 2 (duration 6 semesters, 6 semester hours) focusing on the development of teachers’ personal characteristics, in addition to theory and practice (Vidergor & Eilam, 2010). Examination using a curriculum transformation model (Goodlad et al., 1979) revealed differences in program design, and PDTG teachers’ perceptions of program contribution (Vidergor & Eilam, 2010).

Participants in Israeli gifted teacher education program: Participants in the teacher education program are professionally and culturally diverse. A large number of participants is from the Arab and Druze communities, which are characterized as collectivist societies (Triandis, 1995). There is a growing interest in gifted education in these communities. In many Arab schools, collectivist norms are translated into granting teachers ultimate authority; discouraging students from expressing opinions, criticizing, or arguing; and stressing memorization and rote learning (Al-Haj, 1995; Mar’l, 1974). In two studies, Eilam (2002, 2003) examined the orientation of Jewish, Arab (Christian and Muslims), and Druze teacher trainees toward teaching-learning processes in relation to their cultural background. Significant differences were found between trainees’ orientations toward the teaching
of Jewish and Arab (especially Muslim) students, and in critical issues of teaching and learning. Arab and Druze teacher trainees graduated from a western-oriented teacher education program and were in the process of returning to teach in their own communities (Eilam, 2002). This issue of multiculturalism gained attention in teaching education programs around the world, current classrooms being characterized as multicultural due to large demographic changes (Kitano, Lewis, Lynch & Graves, 1996; Banks 7 McGee Banks, 2007). It is therefore particularly important, in light of the stated objectives of the PDTG framework, to meet the needs of a culturally diverse student body. To ensure that PDTG program characteristics match the students’ needs and cultural background in the context of their future performance, it must be thoroughly examined.

**Gifted education in Israel**

Programs for the gifted were first established in Israel in the early 1970s. Currently, approximately 12,100 (1-3% of total school population) gifted students, identified by the Division of Gifted Education, participate in a variety of programs. About 7,000 of the students have a choice of a variety of enrichment topics offered in weekly pullout programs at one of 53 centers for gifted education (36 centers in Jewish and 17 in Arab communities, when Arabs make up about 20% of the Israeli population). Other programs available for talented students include separate classrooms and summer programs offered by universities (Division of Gifted Education, 2008/ 2009). Most Jewish and all Arab teachers of gifted students teach in centers for gifted education in the areas of their residence.

**Teaching-learning situation in pullout courses vs. regular classrooms**

The present study applied Schwab’s notion of the four commonplaces to obtain a comprehensive perspective of all four aspects of teaching-learning situations in pullout centers, compared with regular classrooms as perceived by teachers. The study examined pullout learning situations involving a teacher who is teaching a subject matter to students in a social and cultural context – *the milieu* (Schwab, 1973, 1978).

*The teacher:* Teachers of the gifted are portrayed by experts as life-long learners, having various desired cognitive abilities, in particular the ability to think and process information simultaneously, use skills associated with knowledge domains, have a deep understanding of a specific area of knowledge, and be passionate about it (Van Tassel-Baska, 2005). Specific competences of successful teachers include the ability to teach thinking skills, problem solving and creativity; to interact with students effectively; to use appropriate motivational techniques; to conduct student-directed activities; and to facilitate independent research (Feldhusen, 1997).

Teaching-learning strategies, often practiced with gifted students in various programs, are based on different models and include the application of higher-order cognitive skills (Anderson & Krathwhol, 2001), problem-based learning (Gallagher, 1997; Stepien & Pyke, 1997), independent study (Johnsen & Goree, 2005), creativity and creative thinking (Cramond, 2005), technology (Pyryt, 2003), and the application of meta-cognitive strategies (Van Tassel-Baska, Avery, Little & Hughes, 2000). Students studying in pullout programs for gifted in Israel favored the personal and cognitive characteristics of their teachers over pedagogical (Vidergor, 2010).

*Students:* Gifted students are identified by the Division of Gifted and Excellent Students in the Ministry of Education in Israel as the top 1-3% of their cohort (Ministry of Education, 2004), who attend the centers for gifted education in their regions. One of the main determinants of whether students attend these centers or drop out is their perception of how important it is to be and to study with other students who possess similar characteristics and abilities (Vidergor & Reiter, 2008). Jewish and Arab students addressing contribution of pullout program, emphasized personal and social characteristics developed (Vidergor, 2010).

*Milieu:* To ensure students’ satisfaction and the successful operation of the pullout centers, it is important to create an open, no-stress, but highly challenging environment (Vidergor & Reiter, 2008). Gallagher and Harridine (1997) found that gifted students valued courses in math and courses with high content complexity that fit their fast learning pace. Another study, found a positive correlation between students’ perception of extra capability and a preference for challenging learning experiences (Feldhusen & Dai, 1997). Students studying in special programs for the gifted in the fifth and eighth grades in Israel reported having higher expectations from teachers, receiving more feedback, and devoting more time to studying and homework than did their peers in regular classrooms (Shields, 1995).
**Subject matter:** The variety of courses offered at pullout centers has a great influence on the students’ willingness to remain in the program or drop out (Vidergor & Reiter, 2008). Israeli pullout programs are conducted in centers for gifted education, open to gifted students in 3rd to 9th grades. Courses are designed mostly by uncertified local teachers or experts, based on the preferences of local students. The range of course offerings increases with the students’ age. The most common subjects taught are math, sciences (space, medicine, computers, and astronomy), languages (English, Chinese, and Japanese), arts, and law (Division of Gifted Education, 2008/2009).

**Teachers’ perceptions of cognitive, pedagogical, and personal characteristics of the teacher of gifted students**

Experts often speculate whether teachers of the gifted should be gifted themselves, in other words, whether they should possess the same characteristics as their students (Croft, 2001; Vialle & Quigley, 2002). A comparative study of specifically trained and untrained teachers of the gifted showed that trained teachers were more aware of the cognitive needs of the gifted, employed pedagogical strategies that encourage high-level thinking, promoted independent learning, and were more creative than their untrained peers (Hansen & Feldhusen, 1994). A more recent Australian study (Rowley, 2003) found that both teachers trained and those currently undertaking training in gifted education demonstrated better teaching skills than the untrained group and those teachers with specialized training in gifted education created better learning environments and utilized more effective teaching strategies to facilitate learning for the gifted and talented students. Feldhusen (1997), who stressed the teachers’ acquisition of knowledge and pedagogical competences in the course of their professional development, also observed that similarly to gifted and talented students, successful teachers were highly intelligent, achievement-oriented, knowledgeable, and flexible; had cultural and intellectual interests; respected individual differences; and interacted well with gifted individuals. Mills (2003), examined the characteristics of effective teachers of gifted learners, and suggested that the teachers’ personality and cognitive style may play an important role in their instructional effectiveness.

Reviewing past surveys on successful teachers’ competences in working with gifted and talented students, (Chan, 2001) addressed the following three dimensions: (a) the cognitive dimension, teaching thinking skills, problem solving, and creativity; (b) the personal ability to interact with students effectively and to use appropriate motivational techniques; and (c) the pedagogical competence to conduct student-directed activities and facilitate independent research. Researchers noted that the competences needed to teach specific content domains may vary, as the teaching of science and mathematics is significantly different from teaching art and music. A cross-cultural study that examined beliefs about best teaching practices among teachers in Singapore and the U.S. suggested that, regardless of cultural background, the exemplary teacher should exhibit the following characteristic qualities (Van Tassel-Baska, Quek & Feng, 2007): (a) content mastery; (b) a passionate personality dedicated to the teaching profession and to students; and (c) a flexible and adventurous spirit in practicing instruction. The top three essential skills required for working with the gifted included: (a) knowledge and effective use of teaching techniques; (b) strong communication skills; and (c) the ability to understand and to address students’ needs.

To summarize, it is widely believed that teachers of gifted students should possess many of the characteristics attributed to gifted students, should be competent in using different teaching and learning strategies, and be able to apply cognitive abilities suitable for gifted and talented learners without neglecting the affective and social dimensions.

**Focus of the study**

In light of the accumulating knowledge, the proposed study attempts to examine the impact of PDTG program on their participants; namely, to investigate the changes occurring in Jewish and Arab teachers who participate in professional development for teachers of the gifted, as compared with teachers of regular classrooms who have no training in teaching gifted and teach in, and individuals who teach gifted students without any professional training. It attempts to identify differences in three areas: (a) teachers’ perceptions of the teaching-learning situations in pullout centers in Israel; (b) teachers’ perceptions of the desired characteristics of teachers of the gifted; and (c) teachers’ self-assessment of knowledge and competencies they acquired. These perceptions will be examined in relation to cultural orientations.
Method

Participants
To meet the study objectives, participants were recruited into the following groups:

- **Group 1: PDTG teachers:** A total of 57 teachers, Jewish (n=34) and Arab (n=23), learning in five PDTG programs. Most of them were of medium SES, teaching for 8-30 years a range of subjects in various regular schools. The teachers’ interest in the gifted evolved from past contact with gifted students or personal experiences with gifted family members.

- **Groups 2: Pullout center teachers:** A total of 45 teachers, Jewish (n=23) and Arab (n=22), teaching for 2-20 years in various pullout programs in different places in Israel. They lacked professional training as teachers for the gifted. It is reasonable to assume that these teachers have gained some experience in teaching gifted students through practice alone, which enables us to investigate the effect of experience of working with gifted learners on teacher knowledge.

- **Group 3: School teachers:** A total of 45 experienced teachers, Jewish (n=24) and Arab (n=21), teaching for 8-35 years various subjects in regular classrooms. They lacked training and experience in teaching gifted children. Table 1 presents the composition of participants by cultural orientation.

<table>
<thead>
<tr>
<th>Group</th>
<th>Cultural Orientation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jews</td>
<td>Arabs</td>
</tr>
<tr>
<td>PDTG Teachers</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td>Pullout Center Teachers</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>School Teachers</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>66</td>
</tr>
</tbody>
</table>

Table 1: Study’s population: Number of teachers in 3 study groups by culture.

Procedure
Questionnaires in Hebrew were administered to PDTG teachers during the first two weeks of the program, and at the same time to pullout center teachers of the gifted at the centers and to school teachers at schools. The questionnaires were administered to same teachers towards the culmination of certification program two years later. Teachers completed the questionnaires at their learning/teaching locations, at their convenience, and returned the questionnaires to the researcher. They were told that the data would be used anonymously for a study concerning gifted education. Questionnaires were completed in approximately 25 minutes.

Instrumentation

- **Collectivism questionnaire** (adapted from Oyserman, 1993). The questionnaire comprised 11 closed items, Cronbach’s alpha = .73. Responses to statements were provided on a five-point Likert scale, ranging from 1 = “totally disagree” to 5 = “totally agree” (Oyserman, 1993). Cronbach’s alpha calculated for the adapted questionnaire was .69. The questionnaire was administered to all three groups of Jewish and Arab participants (N=147) to assess their orientations. Scores ranged from 1 (low) to 6 (high) collectivist orientations.

- **Teachers’ desired characteristics questionnaire.** The content of items used to measure teachers’ perceptions of desired teacher characteristics was validated by an expert in gifted education. The questionnaire comprised three parts: (a) an open-ended question about the teacher’s opinion on the differences between the teaching-learning process in a gifted pullout centers and regular schools. This part was answered first to avoid the influence of other parts of the questionnaire on the teacher’s response; (b) 43 statements, requiring a response on a six-point Likert-type scale, ranging from 1 = "completely incorrect" to 6 = "completely correct." Responses reflected the teacher’s evaluation of the extent to which teachers of the gifted should possess the characteristics stated; and (c) Demographic information representing the independent variables, including group type and cultural orientation (Jewish or Arab). Table 2 presents the results of factor analysis according to the perception of the various dimensions.
Table 2: Results of Factor Analysis according to perceptions of various dimensions.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Cognitive</th>
<th>Personal</th>
<th>Pedagogical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>.78</td>
<td>.86</td>
<td>.81</td>
</tr>
<tr>
<td>Not assign research</td>
<td>.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present diverse modes of solving a problem</td>
<td>.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage students to always think in the same way</td>
<td>-.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Show a single mode of solving a problem</td>
<td>-.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not assign the building of models</td>
<td>-.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus the subject and not get carried away</td>
<td>-.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture most of the time</td>
<td>-.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teach a subject with no connection to other subjects</td>
<td>-.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be knowledgeable in subjects he/she does not teach</td>
<td>.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teach each subject in a single way</td>
<td>-.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be able to make meaningful connections among ideas originating in different subjects</td>
<td>.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teach the same topic from different points of view</td>
<td>.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assign independent research projects</td>
<td>.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage the presentation of research and creative projects in the classroom</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use movies, songs, objects and games for illustration</td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create good personal relations with students</td>
<td>.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage students’ self evaluation</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assign cooperative work during class</td>
<td>.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be aware of differences among students</td>
<td>.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulate students’ curiosity</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assign creative work</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respect the students</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be aware of students’ different learning modes</td>
<td>.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use rich language</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organize visits to museums and labs</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present the use of acquired knowledge in new situations</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivate students to learn</td>
<td>.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occasionally have a personal conversation with each student</td>
<td>.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be creative</td>
<td>.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not reject students’ opinions</td>
<td>.41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explained Variance (in Percentage) | 15.0 | 17.3 | 10.7 |
Mean Score | 5.22 | 5.56 | 4.1 |
(SD) | (.47) | (.38) | (.68) |
A factor analysis with Varimax rotation performed on teacher responses to pre test (N= 217) yielded three scales of teacher characteristics (43 items, Cronbach’s alpha = .85), each one describing a different dimension:

(a) Teachers’ cognitive characteristics, and in particular teachers’ application of cognitive skills and requirement that students do the same (apply them as well) (13 items, Cronbach’s alpha = .78). This dimension included statements such as “Teachers are able to make meaningful connections between ideas originating in different subjects”, “Teachers present different methods of solving a problem”, and “Teachers encourage students to always think in the same way”;

(b) Teachers’ personal characteristics, teaching-related characteristics, attitudes toward students, and degree of fostering creativity (17 items, Cronbach’s alpha = .86), including statements such as “Teachers respect the students” and “Teachers are aware of differences between students”; and

(c) Teachers’ pedagogical characteristics concerning teaching modes and classroom activities (13 items, Cronbach’s alpha = .81), for example, “Teachers send students to regional or national competitions” and “Teachers hold science competitions for students”.

Pre–post–tests (N=147) yielded the following results: for pre-test (43 items, Cronbach’s alpha = .79); teachers’ cognitive characteristics, Cronbach’s alpha = .76; teachers’ personal characteristics, Cronbach’s alpha = .82; and teachers’ pedagogical characteristics, Cronbach’s alpha = .82. For post-test: (43 items, Cronbach’s alpha = .82), teachers’ cognitive characteristics, Cronbach’s alpha = .76; teachers’ personal characteristics, Cronbach’s alpha = .86; and teachers’ pedagogical characteristics, Cronbach’s alpha = .80.

**PDTG program contributions questionnaire**: The content of items used to measure teachers’ assessment of PDTG program contribution was based on US standards. The questionnaire (25 items, Cronbach’s alpha = .97) comprised three parts:

i. Teachers’ self-evaluation of what they know about different aspects related to gifted education (15 items, Cronbach’s alpha = .97) requiring a response on a four-point Likert-type scale, ranging from 1 = "do not know" to 4 = "know." This dimension included statements such as “definitions of giftedness”, “characteristics of gifted children”, and “instructional strategies”.

ii. Teachers’ self-evaluation of their competencies (10 items, Cronbach’s alpha = .95) requiring a response on a six-point Likert-type scale referring to what teachers think of their own abilities or skills, ranging from 1 = "completely incorrect" to 6 = "completely correct. This dimension included statements such as “identify a gifted child in the regular classroom”, “better communicate with gifted students”, and “plan a lesson or unit for gifted in a pullout program”.

iii. Teachers’ satisfaction and readiness requiring a response on a four-point Likert-type scale, ranging from 1 = "completely satisfied" to 4 = "completely dissatisfied", and 1 = "completely ready to 4 = “not ready at all”.

**Data analysis**

**Qualitative data analysis**

Teachers’ responses for the open-ended question were analyzed using grounded theory (Strauss & Corbin, 1990). A pilot test for analysis of the open ended question, administered to 60 Jewish and Arab teachers, yielded the following results:

(a) Axial coding procedure generated categories from the initial coding were teachers’ personal characteristics, teachers’ pedagogical characteristics, teachers’ cognitive characteristics, gifted students’ characteristics, course characteristics, learning environment characteristics, and climate characteristics; and

(b) Selective coding created four core categories relating to the four commonplaces: teacher, student, subject matter, and milieu. A reliability of 92% was calculated for 20% of the analyzed content, performed by two independent coders. The same categories were obtained by axial and
selective coding procedures on responses of 147 teachers. A reliability of 88% was calculated for 20% of analyzed content, performed by two independent coders. Table 3 presents examples of the coding procedure.

**Table 3: Examples of three levels of coding procedures.**

<table>
<thead>
<tr>
<th>Level I Codes</th>
<th>Level II Codes</th>
<th>Level III Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original Responses From Teachers</strong></td>
<td><strong>Categories Generated From Level I Codes</strong></td>
<td><strong>Consistent Themes Created From Level II Codes</strong></td>
</tr>
<tr>
<td>&quot;Able to build close relationships.&quot;</td>
<td>Personal Characteristics</td>
<td>Teacher</td>
</tr>
<tr>
<td>&quot;Attentive, open and flexible.&quot;</td>
<td>Cognitive Characteristics</td>
<td>Gifted students</td>
</tr>
<tr>
<td>&quot;Promotes creative thinking.&quot;</td>
<td>Pedagogical Characteristics</td>
<td></td>
</tr>
<tr>
<td>&quot;Enhances the ability to think.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Designs special curriculum.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Asks challenging open-ended questions.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Students are bored quickly.&quot;</td>
<td>Characteristics</td>
<td></td>
</tr>
<tr>
<td>&quot;Students have special talents and abilities.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Subjects are more varied.&quot;</td>
<td>Course Characteristics</td>
<td>Subject Matter</td>
</tr>
<tr>
<td>&quot;Subjects are different than regular school.&quot;</td>
<td>Climate Characteristics</td>
<td>Milieu</td>
</tr>
<tr>
<td>&quot;Freedom of thinking.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Open and accepting.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Challenging&quot;</td>
<td>Learning Environment Characteristics</td>
<td></td>
</tr>
<tr>
<td>&quot;Higher level and faster pace.&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Our memos on the initial stage of analysis and coding exhibited the following subcategories: teachers’ knowledge, teachers’ personality, teaching methods, teaching tools, level of studies, pace of studies, level of interest, students’ social contribution, students’ personal skills, climate, and subjects taught. Core categories that emerged were: teacher, studies, teaching strategies, students, courses, and teaching-learning environment. Some sub-categories were renamed, refined and combined to form one core category. Core categories emerging, describing the teaching-learning situation in pullout programs, were found similar to the commonplaces suggested by Schwab (1973, 1978).

**Quantitative data analysis**

Teachers’ reference to a single characteristic of any of the commonplaces was scored 1. The summed scores of Jewish and Arab teachers for each commonplace were compared to reveal differences in their perceptions of the inherent importance of each commonplace, as expressed by the number of characteristics they assigned to it. Mean values of participant scores in each group were calculated for open-ended question. Repeated measures ANOVAs were performed to establish the differences between Arab and Jewish teachers’ perceptions of various characteristics of pullout centers and teachers’ desired characteristics. Repeated contrast tests were used post hoc.

In the pilot test, results of a factor analysis of 60 Jewish and Arab teachers’ responses to a questionnaire of 52 items (9 items omitted, 3 rephrased) yielded three scales of teacher characteristics. The internal consistency of the 43-item instrument yielded a reliability of Cronbach’s alpha = .85 describing three dimensions of teacher characteristics: (a) cognitive characteristics (13 items, Cronbach’s alpha = .77); (b) personal characteristics (17 items, Cronbach’s alpha=.86); and (c) pedagogical characteristics (13 items, Cronbach’s alpha = .80).

The mean values of statement scores of group participants were calculated for each dimension of teacher characteristics, and two-way MANOVA tests were performed to establish differences between Arab and Jewish teachers’ ratings. Pearson correlations were performed to establish the relevance of the collectivism variable. Differences between Arab and Jewish teachers’ ratings on statements within groups were established by t-tests.
Results

Indirect impact of PDTG

The uniqueness of the teaching-learning situation in pullout courses

Pre-and-post-tests for teacher responses to the open-ended question revealed differences in their perceptions of teaching-learning situations in gifted pullout courses and in regular schools. A total of 115 teachers (54 certification, 35 teachers of gifted, and 26 regular teachers) out of a total of 147 participants responded to the question. Multivariate tests revealed a significant main effect ($F_{[4,106]}=13.07$, $p≤.001$, ES = .330). Per-and-post-tests revealed significant differences in two commonplaces: teacher ($F_{[1,109]}=5.94$, $p≤.05$, ES = .052), and milieu ($F_{[1,109]}=52.46$, $p≤.001$, ES = .325). Comparison by group yielded a significant difference in the commonplaces of teacher ($F_{[2,109]}=4.13$, $p≤.05$, ES = .071), and comparison by culture ($F_{[2,109]}=4.54$, $p≤.05$, ES = .040) in the commonplace of milieu.

Table 4 shows the differences in mean scores, F values and effect size between groups and cultures for the commonplaces of teacher and milieu.

Table 4: Mean Scores (and SD), F values, and Size Effect for differences between pre-post tests for the commonplaces of teacher and milieu: Results of multivariate tests according to group and culture.

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>F</th>
<th>Size Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test</td>
<td>Post-Test</td>
<td>(df=1,109)</td>
</tr>
<tr>
<td>General</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>2.28 (1.82)</td>
<td>2.74 (1.88)</td>
<td>5.94* .052</td>
</tr>
<tr>
<td>Milieu</td>
<td>1.19 (1.35)</td>
<td>.25 (1.56)</td>
<td>52.46*** .325</td>
</tr>
<tr>
<td>Teacher by Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDTG Teachers</td>
<td>3.09 (1.75)</td>
<td>3.07 (1.84)</td>
<td>4.13* .071</td>
</tr>
<tr>
<td>Pullout Teachers</td>
<td>1.63 (1.76)</td>
<td>2.91 (1.94)</td>
<td></td>
</tr>
<tr>
<td>School Teachers</td>
<td>1.46 (1.33)</td>
<td>1.81 (1.65)</td>
<td></td>
</tr>
<tr>
<td>Milieu by Culture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewish Teachers</td>
<td>1.43 (1.39)</td>
<td>.26 (1.59)</td>
<td>4.54* .040</td>
</tr>
<tr>
<td>Arab Teachers</td>
<td>.88 (1.25)</td>
<td>.24 (1.51)</td>
<td></td>
</tr>
</tbody>
</table>

* $p<.05$ *** $p<.001$

Teacher: In describing the unique characteristics of teaching in pullout centers compared with regular school curriculum, PDTG participants referred more to the commonplace of teacher than did pullout teachers and school teachers [M (SD)= 3.07 (1.84), 2.91 (1.94) and 1.81 (1.65) respectively after leaning in the program. Pre-and-post-tests within groups indicated a significant difference in pullout center teachers [1.63 (1.76) and 2.91(1.94), MD=1.286, t=3.60, $p≤.001$]. No difference was detected in PDTG teachers [3.09 (1.75) and 3.07 (1.84), MD=.019, t=.063, $p≤.950$], and school teachers [1.46 (1.33) and 1.81(1.65), MD=.345, t=.850, $p≤.404$], concerning their reference to the commonplace of teacher.

Milieu: Examination according to cultural orientation showed Arab teachers attributed less importance to the milieu commonplace than did their Jewish counterparts in per-test [M= 1.43 (1.39) and .88(1.25)], when teachers from both cultures referred to the commonplace in post-test of milieu significantly less [.26 (.59) and .24 (.51)].

Table 5 presents pre-and-post-test results of teachers’ answers according to group relating to the commonplace of teacher by the three dimensions of teachers’ desired characteristics.
Table 5: Pre-and-post-test results of teachers’ answers according to group relating to the commonplace of teacher by the three dimensions of teachers’ desired characteristics.

<table>
<thead>
<tr>
<th>PDTG Teachers</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>&quot;Uses rich language&quot;</td>
<td>&quot;Uses rich language&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Possesses vast knowledge&quot;</td>
<td>&quot;Possesses vast knowledge&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Connects between domains&quot;</td>
<td>&quot;Connects between domains&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Promotes creative thinking&quot;</td>
<td>&quot;Promotes problem solving&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Offers intellectual challenges&quot;</td>
<td>&quot;Offers various solutions to a problem&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Enhances the ability to think&quot;</td>
<td>&quot;Serves as guide or tutor&quot;</td>
</tr>
<tr>
<td>Personal</td>
<td>&quot;Creative&quot;</td>
<td>&quot;Creative&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Flexible&quot;</td>
<td>&quot;Flexible&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Curious&quot;</td>
<td>&quot;Curious&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Open&quot;</td>
<td>&quot;Open&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Possesses good communication skills&quot;</td>
<td>&quot;Possesses good communication skills&quot;</td>
</tr>
<tr>
<td></td>
<td>Sensitive to giftedness&quot;</td>
<td>&quot;Possesses a special character&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Able to build close relationships&quot;</td>
<td>&quot;Attracted to novelty&quot;</td>
</tr>
<tr>
<td>Pedagogical</td>
<td>&quot;Serves as guide or tutor&quot;</td>
<td>&quot;Serves as guide or tutor&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Designs special curriculum&quot;</td>
<td>&quot;Designs special curriculum&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses discussions&quot;</td>
<td>&quot;Uses discussions&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Assigns independent learning&quot;</td>
<td>&quot;Assigns independent learning&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses reflection&quot;</td>
<td>&quot;Uses reflection&quot;</td>
</tr>
<tr>
<td>Pullout Teachers</td>
<td>&quot;Promotes abstract thinking&quot;</td>
<td>&quot;Promotes abstract thinking&quot;</td>
</tr>
<tr>
<td>Cognitive</td>
<td>&quot;Promotes creative thinking&quot;</td>
<td>&quot;Promotes creative thinking&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Promotes problem solving&quot;</td>
<td>&quot;Promotes problem solving&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;possesses vast knowledge&quot;</td>
<td>&quot;Acknowledges students’ cognitive abilities&quot;</td>
</tr>
<tr>
<td>Personal</td>
<td>&quot;Attentive&quot;</td>
<td>&quot;Attentive&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Open&quot;</td>
<td>&quot;Open&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Flexible&quot;</td>
<td>&quot;Flexible&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Creative&quot;</td>
<td>&quot;Creative&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Original&quot;</td>
<td>&quot;Original&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Able to create good personal relations&quot;</td>
<td>&quot;Able to create good personal relations&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Relates to emotional aspect&quot;</td>
<td>&quot;Relates to emotional aspect&quot;</td>
</tr>
<tr>
<td>Pedagogical</td>
<td>&quot;Uses independent study and inquiry&quot;</td>
<td>&quot;Uses independent study and inquiry&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses group work&quot;</td>
<td>&quot;Uses group work&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Assigns creative projects&quot;</td>
<td>&quot;Assigns creative projects&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses riddles&quot;</td>
<td>&quot;Uses riddles&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses experiments&quot;</td>
<td>&quot;Uses experiments&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Does not assign homework&quot;</td>
<td>&quot;Does not assign homework&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses integrative teaching-learning situations&quot;</td>
<td>&quot;Uses integrative teaching-learning situations&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Designs curriculum with students&quot;</td>
<td>&quot;Designs curriculum with students&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Uses visual aids&quot;</td>
<td>&quot;Uses visual aids&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Asks questions&quot;</td>
<td>&quot;Asks questions&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Serves as guide or tutor&quot;</td>
<td>&quot;Serves as guide or tutor&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Focuses on process&quot;</td>
<td>&quot;Focuses on process&quot;</td>
</tr>
</tbody>
</table>

Comparison of the two groups of PDTG and pullout center teachers reveals PDTG teachers possessed less knowledge in pre-test compared with pullout counterparts. Post-test results indicate
pullout center teachers have shown a broader perception of teachers’ characteristics, and PDTG teachers expanded their knowledge and understanding, expressing a similar perception.

**Teachers’ perceptions of desired teacher characteristics in various dimensions**

Per-and-post-tests showed all study participants attributed greater importance to the personal [5.60 (.35)] as well as cognitive [5.19 (.48)] characteristics of the teacher than to pedagogical dimension [4.10 (.68)] and 4.08 (.66)].

A significant effect was detected for the pre-and-post-test ($F_{[1,144]}=4.85$, $p \leq .05$, SE=.033), in the cognitive dimension of teachers’ desired characteristics. No changes were detected in the perception of personal and pedagogical dimensions. The correlations between cognitive and personal dimension of teachers’ desired characteristics, which was found significant in per-test, was strengthened in post-test (Correlation =.422, and $p \leq .01$). Meaning that, teachers who rated higher in the cognitive, did the same in the personal dimension. The negative correlations between cognitive and pedagogical dimension found in pre-test (Correlation= -.196, $p \leq .01$) disappeared in post-test (Correlation = -.126), meaning that, in post-test there is no connection between higher rating of cognitive and lower rating in pedagogical dimension.

Table 6 presents the results of post hoc tests for the three groups of teachers and two types of certification program concerning the measures of the cognitive dimension of teacher characteristics.

**Table 6:** Mean Scores (and SD), $F$ values, and Size Effect for differences between pre-post-tests for the cognitive dimension: Results of multivariate tests according to group, group by culture, and type of PDTG programme.

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>$F$ (df=1,144)</th>
<th>Size Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test</td>
<td>Post-Test</td>
<td></td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>5.19 (.47)</td>
<td>5.08 (.52)</td>
<td>4.89* .034</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDTG Teachers</td>
<td>5.32 (.45)</td>
<td>5.12 (.47)</td>
<td>3.19* .043</td>
</tr>
<tr>
<td>Pullout Teachers</td>
<td>4.99 (.54)</td>
<td>5.05 (.57)</td>
<td></td>
</tr>
<tr>
<td>School Teachers</td>
<td>5.21 (.40)</td>
<td>5.07 (.52)</td>
<td></td>
</tr>
<tr>
<td><strong>Group by Culture</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDTG Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>5.44 (.33)</td>
<td>5.19 (.45)</td>
<td>4.51* .060</td>
</tr>
<tr>
<td>Arab</td>
<td>5.14 (.55)</td>
<td>5.01 (.50)</td>
<td></td>
</tr>
<tr>
<td>Pullout Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>5.16 (.44)</td>
<td>5.09 (.62)</td>
<td></td>
</tr>
<tr>
<td>Arab</td>
<td>4.82 (.59)</td>
<td>5.01 (.53)</td>
<td></td>
</tr>
<tr>
<td>School Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>5.25 (.38)</td>
<td>5.11 (.45)</td>
<td></td>
</tr>
<tr>
<td>Arab</td>
<td>5.18 (.44)</td>
<td>4.84 (.56)</td>
<td></td>
</tr>
<tr>
<td><strong>PDTG Type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 1</td>
<td>5.39 (.33)</td>
<td>5.11 (.45)</td>
<td>4.56* .077</td>
</tr>
<tr>
<td>Type 2</td>
<td>5.17 (.60)</td>
<td>5.13 (.52)</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$
Differences within groups

A significant difference within groups was found in the cognitive dimension ($F_{[2,144]}=3.14, p<.05$, SE=.165) with PDTG teachers rating the desired cognitive characteristics of the teacher of the gifted significantly higher in the pre-test compared with post-test [M(SD)= 5.32 (.45) and 5.12 (.47), MD=.198 (.42), t=3.58, p<.001]. Pullout center teachers [4.99 (.54) and 5.05 (.57)] and school teachers [5.21 (.40) and 5.07 (.52)] rated the cognitive dimension lower than did PDTG teachers showing no changes in their perceptions. Correlations between the cognitive and personal dimension were found significant in pre- and post-tests for PDTG teachers (Correlation = .432, p<.01 and .666, p<.01) and pullout center teachers (.487, p<.01 and .603, p<.01). Meaning that, in both groups, teachers rating cognitive dimension higher rated personal dimension accordingly.

Differences concerning cultural orientations

The interaction of group by culture was found to have a strong effect on teachers’ perception of the cognitive dimension ($F_{[2,144]}=4.51, p<.05$, SE=.60) indicating a gap within groups between teachers’ perceptions of the cognitive dimension according to culture. This mainly results from pre- and post-differences in PDTG Jewish teachers’ perceptions [M(SD)= 5.44 (.33) and 5.19 (.45)]. Although a significant decline was detected in their ratings of the cognitive dimension, their rating was the highest compared with all Jewish and Arab teachers of other groups and Arab PDTG teachers [M(SD)= 5.14 (.55) and 5.19 (.45)]. Correlations between the cognitive and personal dimension were found significant in pre- and post-tests for Jewish teachers (Correlation = .416, p<.01 and .704, p<.01) and Arab counterparts (.364, p<.01 and .530, p<.01). Correlations in post-test were strengthened in both cultures, although a stronger connection between the two dimensions can be detected among Jewish teachers.

An ANOVA for dependent variable of collectivism on a scale of 1 to 6 (1 indicating low collectivism, 6 high collectivism) showed a significant difference in culture [M(SD)= 2.98 (.63) and 3.57 (.63), $F_{[1,140]}=45.88, p<.001$, ES=.247] and an interaction of group by culture ($F_{[2,140]}=9.36, p<.001$, SE=.118). Arab pullout center teachers were found to be the most collectivist [M(SD)= 3.88 (.57) and 3.94 (.45)], and their Jewish counterparts the least collectivist [M(SD)= 2.77 (.54) and 2.89 (.72)]. Among PDTG teachers, although less collectivist compared with pullout center teachers, the significant difference between Jewish and Arab teachers in pre-test [M(SD)= 2.87 (.59) and 3.38 (.67)] remained unchanged in post-test [M(SD)= 3.06 (.70) and 3.52 (.81)].

The correlations between dimensions of teachers’ desired characteristics and level of collectivism by culture, and group by culture interaction yielded several significant differences. Table 7 presents the Pearson correlations between dimensions and the collectivism of teachers according to culture and group by culture.

Table 7: Pearson correlations between three dimensions of teachers’ characteristics and collectivist orientation according to culture, group, and group by culture.
Cognitive dimension: A negative correlation on the cognitive dimension suggests a reversed relation between the teachers’ orientation and their score on the cognitive dimension. In other words, teachers who rated higher on the cognitive dimension expressed less collectivist orientations. Thus, the negative correlation between the cognitive dimension and collectivism found among Jewish and Arab teachers, shows that the lower they rated collectivism, the higher they rated the cognitive dimension. An interaction of group by culture yielded only a single negative correlation, for Jewish pullout center teachers on the cognitive dimension.

Pedagogical dimension: The significant correlations found between orientation and the pedagogical dimension, were positive for the total population and higher for pullout center group regardless of orientation.

Personal dimension: An interaction of group by orientation yielded a single negative correlation, for collectivism among Jewish pullout center teachers.

Differences concerning certification group types

Investigation of per-and-post-test results according to PDTG group types relating to the cognitive dimension revealed a significant difference ($F[1.55]=4.56$, $p≤.05$, SE=.077) between group types. Type 1 PDTG teachers perceptions showed a decline from pre-to-post-test [M(SD)= 5.39 (.33) and 5.11 (.45), MD=.28 (.42), $t=4.07$, $p≤.001$]. Type 2 PDTG teachers perceptions did not change [M(SD)= 5.17 (.60) and 5.13 (.52)].

Direct impact of PDTG

Knowledge and Competencies

Self evaluation of knowledge and competencies addressed were based on US standards. The variable of self evaluation knowledge was measured on a scale of 1 to 4 (1 indicating no knowledge, 4 high level of knowledge), and the self-evaluated variable of competency on a scale of 1 to 6 (1 indicating low competency, 6 high competency). Table 8 presents results of multivariate and pared sample tests in these two dimensions according to culture and group type.

Table 8: Mean Scores (and SD), F values, t-tests, and Size Effect for differences between pre-post-tests of teachers’ self-evaluated knowledge and competencies according to group, group by culture, and type of PDTG programme.

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>F</th>
<th>t</th>
<th>Size Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test</td>
<td>Post-Test</td>
<td>df=1,109</td>
<td></td>
</tr>
<tr>
<td>Main</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Evaluated Knowledge</td>
<td>2.03 (.61)</td>
<td>3.41 (.39)</td>
<td>293.81***</td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>3.12 (1.19)</td>
<td>5.03 (.64)</td>
<td>181.84***</td>
<td></td>
</tr>
<tr>
<td>Culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Evaluated Knowledge Jewish</td>
<td>2.05 (.50)</td>
<td>3.33 (.36)</td>
<td>2.24</td>
<td></td>
</tr>
<tr>
<td>Self-Evaluated Knowledge Arab</td>
<td>1.95 (.73)</td>
<td>3.53 (.39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Evaluated Competence Jewish</td>
<td>3.23 (1.09)</td>
<td>4.86 (.59)</td>
<td>3.65</td>
<td></td>
</tr>
<tr>
<td>Self-Evaluated Competence Arab</td>
<td>2.98 (1.33)</td>
<td>5.27 (.64)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 1 Self-Evaluated Knowledge</td>
<td>2.27 (.56)</td>
<td>3.34 (.38)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 1 Self-Evaluated Competence</td>
<td>3.51 (1.17)</td>
<td>4.93 (.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 2 Self-Evaluated Knowledge</td>
<td>1.60 (.45)</td>
<td>3.54 (.36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 2 Self-Evaluated Competence</td>
<td>2.44 (.91)</td>
<td>5.21 (.67)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** $p<.001$
Investigation of per-and-post-test results according to PDTG group types revealed significant main effects for both teachers’ self evaluation of their knowledge ($F_{1,53}=293.81, p<.001, SE=.847$), and their competencies ($F_{1,53}=181.84, p<.001, SE=.774$). No differences were detected in examination by culture regarding both aspects, meaning that, teachers’ evaluations of themselves did not differ according to culture within groups.

Investigation according to group type revealed differences in both dimensions. Both groups indicated they have gained knowledge and competencies in relevant aspects of gifted education. Type 2 PDTG teachers, who seemed to start program with lower self-evaluation of knowledge and competencies, felt they have gained more in both dimensions compared to Type 1 counterparts.

PDTG teachers’ answers relating to satisfaction and readiness measured on a scale of 1 to 4 (1 indicating low satisfaction or readiness, 4 indicating high level of satisfaction or readiness), revealed a general perception of satisfaction (80%) and feeling of readiness to teach gifted students (88%). Investigation according to group types revealed Type 2 teachers were less satisfied (70%) compared with Type 1 counterparts (86%). Among Type 2 teachers 20% indicated they were not very satisfied with the program, whereas only 8.3% of Type 1 group answered likewise. Both groups felt they have acquired enough knowledge and skills feeling well prepared for teaching gifted students.

In summary, the present study investigated two aspects, the teaching-learning situation in pullout programs, and the desired characteristics of the teacher of the gifted comprising the indirect impact of PDTG. The direct impact was investigated by teachers’ self-assessment of knowledge and competencies acquired. Concerning the indirect impact, results revealed a strong group effect in the perception of the teaching-learning situation in pullout centers relating to the commonplace of teacher. Pullout center teachers showed the most significant change, although analysis of written answers indicated PDTG counterparts have gained new knowledge and exhibited a similar understanding of the uniqueness of teaching-learning situation in pullout centers. Concerning the desired characteristics of teachers of the gifted a group and group by culture effect indicated a change in the cognitive dimension. A negative change detected from pre-to-post-test in Jewish PDTG teachers, derives from Type 1 program. PDTG teachers, opposed to pullout counterparts, were found to be less collectivist and slightly differed according to culture. Results of assessment of direct impact of PDTG showed all PDTG teachers indicated they have improved self evaluation of their knowledge and competencies to some extent, regardless of culture. Type 2 program teachers, who exhibited a lower starting point, have shown greater improvement.

Discussion

Indirect impact of PDTG

The uniqueness of the teaching-learning situation in pullout courses

PDTG teachers were expected to show the most significant change in the perception of the teaching-learning situation in pullout centers. Pullout center teachers showing a significant change, and addressing the commonplace of teacher equally to PDTG counterparts in post-test reveals the effect of practicum. Study results exhibiting no change among PDTG in the perception of teacher’s role, as translated into the importance attributed to the commonplace of teacher from pre-to-post-test, relates to a single aspect. The larger perspective, considering the analysis of written answers, shows PDTG teachers have gained new knowledge and exhibited a similar understanding of the uniqueness of teaching-learning situation in pullout centers. This finding exhibits a limited impact of PDTG program, but does not rule out the likelihood of practicum effect exhibited by pullout center teachers.

Practicum is mentioned as one of the main components of the PDTG program proposed by the Division of Gifted and Excellent Students (Zorman, Rachmel & Shaked, 2004), but was not applied as such, due to organizational difficulties (Vidergor & Ellam, 2010). It seems that as most PDTG teachers work in regular schools rather than gifted pullout centers, they were unable to practice and make the mental investment required for processing theoretical information acquired in the program and transforming it into practice.
Teachers’ perceptions of desired teacher characteristics in various dimensions

Per-test results show PDTG teachers rated the personal and cognitive characteristics higher compared with pullout center counterparts, and similar to school teachers. Meaning that, they already entered certification program with conceptions related to gifted education and teachers’ role. These conceptions may have been formed by personal experiences with gifted children at home or school. They might have also affected the lower level level of collectivism of Arab PDTG teachers interested in improving community and contributing to it by focusing on the individual gifted child. In addition, Arab PDTG teachers, still more collectivist compared with Jewish counterparts, may be experiencing a transition. This is consistent with previous findings, which might be explained by a longer exposure to teacher education system in Israel, which possesses a more individualistic orientation (Eilam 2002, 2003; Vidergor & Eilam, 2011).

Pre-and-post-test examination within groups revealed no changes in the perception of personal and pedagogical characteristics, while a light negative change was detected in the cognitive dimension. This questionnaire, including an open-ended question and statements, referred to knowledge processing by influence of instruction. Research on conceptual change proposes that prior concepts are highly resistant to change, and some are attached to others, generating thoughts and conceptions. A revision to a concept requires revision to others (Posner et al., 1982). Most learning is additive and involves an enrichment of existing knowledge. Conceptual change cannot be achieved through additive mechanisms (Vosniadou, 1994). The use of additive mechanisms in situations requiring conceptual change is one of the major causes of misconceptions. Misconceptions are interpreted as individuals’ attempts to assimilate new information into existing conceptual structures that contain information contradictory to their view (Vosniadou, 1994). Most teachers attending PDTG program are experienced in teaching and possess firm opinions and pedagogical content knowledge formed by their personal experience. In order to create a significant conceptual change they should be exposed to a different type of experience.

The slightly negative change in the perception of teachers’ desired cognitive characteristics among PDTG teachers attending Type 1 program might occur due to exposure to program for a shorter period of time. Studies suggest that the duration of professional development is related to the depth of teacher change (Shields, Marsh & Adelman, 1998; Weiss, Montgomery, Ridgway & Bond, 1998). Type 1 program (duration 4 semesters 4 semester hours) designed in clusters addressing different aspects of gifted education might face greater difficulties in transforming curriculum catering for PDTG teachers’ needs. Difficulties, detected in program design, and continuity of subjects addressed by invited lecturers, might affect teachers’ perceptions and the ability to construct coherent knowledge (Vidergor & Eilam, 2010).

Direct impact of PDTG

Knowledge and competencies

An assessment of PDTG teachers’ perceptions of program contribution regarding knowledge and competencies revealed changes from per-to-post-test. School teachers interested in the field entered professional development program with a limited knowledge of what giftedness means, the unique characteristics of gifted students, and suitable planning and instructional strategies. As these aspects were taught to some extent during the two year duration of PDTG program, teachers, regardless of culture, felt they have gained a good perspective of gifted education.

Teachers, possessing a somewhat limited view of the field, based on what they have been exposed to, feel competent and ready to teach gifted students. PDTG program investigated using a curriculum transformation model (Goodlad et al., 1979) detected difficulties in operational facet referring to lecturer, and subject matter; and experienced facet referring to program contribution and program disadvantages. Namely, difficulties in teaching relevant content, modeling and experiencing teaching strategies and learning environment suitable for gifted, resulted in some PDTG teachers finding theoretical and practical knowledge insufficient (Vidergor & Eilam, 2010).

Type 2 program taking a different perspective of program design, focusing on developing PDTG teachers’ personal characteristics, in addition to gifted education aspects addressed (Vidergor & Eilam, 2010) may contribute to Type 2 teachers’ perceptions regarding knowledge and competencies acquired. Some Type 2 teachers might think that these personal development courses come at the expense of theoretical or practical aspects, addressed to the same extent in the program, therefore, showed less general satisfaction compared with Type 1 counterparts.
Conclusions

PDTG program had some impact on teachers of both cultures attending it for two years. There is no doubt that they have gained knowledge about the difference between teaching in a pullout program and a regular school, particularly from the point of view of the teacher’s role. By being exposed to various aspects of gifted education, teachers felt better equipped and prepared to teach gifted students. Still, there is a doubt whether they have processed what they have learnt, forming inter-connections and connections to their prior knowledge.

Implications

Certification program designers need to strive for the incorporation of observation and practicum in the PDTG program. The observation and practicum can take place in pullout centers for gifted available within program proximities. Another option would be guiding PDTG teachers on how to design pullout programs or resource centers for gifted and excellent students within regular school. Program coordinators, experienced in teaching gifted students, will monitor and assess teachers’ progress, using evaluation tools based on US standards, revised and adapted to local needs. The program needs to be closely monitored and evaluated for several years until it is stabilized. Such evaluation will supply solutions to various problems encountered by different types of programs, or other local difficulties. It will enhance PDTG program impact and create a conceptual change in teachers’ minds, changing the perception of teacher’s role in the education of gifted students, and enable constant improvement.

Program designers are additionally advised to raise their awareness of teachers’ cultural orientations, trying to design a program sensitive to teachers possessing collectivist orientations, accustomed to more conventional ways of teaching. This is mainly true for the coming years, when many more Jewish and Arab pullout center teachers are about to attend PDTG program, which will become a pre-requisite for teaching gifted students in Israel.

Study significance

The significance of this study is threefold. First, it can serve as a resource for professionals in the examination of direct and indirect impact of teachers’ professional development programs for teaching gifted students. Second, the study opens a new line of research relating to cultural differences among teachers. And finally, it establishes the international relevance of the American standards for teaching gifted students by employing them for the assessment of PDTG impact.

Study limitations

The current study examined teachers’ perceptions concerning knowledge acquired represented in the teaching-learning situation in pullout programs, characteristics of teachers of gifted students, and self-assessment of knowledge and competencies. As it is known from the literature that self-assessment of knowledge and competence is not similar to these dimensions being measured by objective tools (Ackerman, Beier & Bowen, 2002) such an evaluation might be insufficient. As certification program in Israel is in its initial stage and faces various difficulties, such evaluation of knowledge and competencies seemed irrelevant at that point. Teachers’ answers for open-ended question were brief and mainly expressed in phrases and points.

A further examination of program outcomes by deep interviews with PDTG teachers can shed light on knowledge and competencies acquired, as well as, satisfaction with program design and relevance. An indirect assessment of PDTG teachers’ conceptual change might be accomplished by analysis of video or written case representations. An assessment of teachers’ knowledge and competencies acquired could be carried out by final exam and classroom observations of PDTG graduates. A comparison of certification programs in different parts of the world could shed light on similarities and differences related to cultural orientations, program design and structure, knowledge acquired, and teachers’ perceptions of their roles as educators of gifted students.
References


Cramond, B. (2005). Developing creative thinking. In F. Kames, & S. Bean (Eds.), Methods and materials for teaching the gifted and talented (pp. 313-352). Waco, TX: Prufrock Press.


Johnsen, S., & Goree, K. (2005). Teaching gifted students through independent study. In F. Kames, & S. Bean (Eds.), Methods and materials for teaching the gifted and talented (pp. 379-408). Waco, TX: Prufrock Press.


Note:
Research tools (in English) developed for this study will be supplied upon request.
About the Authors

Hava E. Vidergor, Ph.D., is a pedagogical coordinator and lecturer in a certification program for teachers of gifted students at Oranim Academic Teachers’ College, Israel, where she has designed a number of courses related to effective pedagogies and curriculum planning for gifted and excellent students. She is an invited lecturer in certification programs for teachers of gifted, as well as a large number professional development programs for teachers of high achievers. She is an experienced teacher in both general and gifted education frameworks, where she has designed and taught courses on leadership, and creativity in English as a second language to middle school gifted students. She is the initiator and co-editor of The handbook for teaching gifted and able learners (2012) with Carole Ruth Harris and Taisir Subhi Yamin. She has recently developed an innovative Multidimensional Curriculum Model (MdCM) focusing on preparing students for life in the 21st century. She has published a number of refereed journal articles, and has given presentations and workshops in national and international conferences. She recently established the HV Gifted Expertise Center supported by a team of renowned international scholars. Her research interests are: Instruction, teacher education, and policy. Personal website: www.hvgifted.com.

Billie Eilam is a professor in the faculty of Education in the University of Haifa, Israel and currently the head of the curriculum track. Her research focuses on visualization in learning, instruction and curriculum, with an emphasis on cognitive skills and contextual and cultural factors. Many of her studies examine the application of theories in authentic learning situations.

Addresses

Dr. Hava Vidergor,
P.O.Box: 53,
Tivon, 36021, Israel.
e-Mail: vidergor@bezeqint.net

Prof. Dr. Billie Eilam,
Visualization in Learning, Instruction and Curriculum,
Faculty of Education, University of Haifa,
Mount Carmel,
Haifa 31905, Israel.
e-Mail: beilam@construct.haifa.ac.il
Book Review

Editors:

Taisir Subhi Yamin  
International Centre for Innovation in Education (ICIE).  
e-Mail: taisir@cie.world.net

Heinz Neber  
University of Munich; Germany.  
e-Mail: heinz.neber@online.de

Sandra K. Linke  
Hochschule für Bildende Künste Braunschweig; Germany.  
e-Mail: sandra.linke1@web.de

Hava E. Vidergor  
Oranim Academic Teachers’ College; Israel.  
e-Mail: vidergor@bezeqint.net
Book Review (1)

Classroom of the Future: Orchestrating Collaborative Spaces


Book Review by Heinz Neber; and Sarah Sennebogen

The “classroom of the future” will be more flexible, diverse, and interactive than the traditional, almost completely teacher-regulated classroom with its fixed roles, few non-changing settings, and a rigidly designed architecture. Getzels (1975) already emphasized in an earlier publication on learning environments that the traditional classroom with its rectangular arrangement of tables corresponds to a conception of learners as being non-intentional, cognitively “empty”, without having their own questions, creative thoughts or self-initiated communication.

In the first chapter of the reviewed book, Schratzenstaller illustrates that the architectural and instructional design of most classrooms still reflects these misleading assumptions about learners. In classrooms that display the gap between the architecture of the 19th century and the constructivist learning theory of today they may attain only restricted learning effects (e.g., non-transferable inert factual knowledge). The potential of students, especially of gifted students, for actively constructing deep and complex knowledge cannot be productively used in such environments.

For transforming classrooms into environments (“spaces”) with active learners, this book contributes a variety of solutions about recent developments in school architecture. Detailed information is provided about available computer- and internet-based components, about intelligent objects like interactive walls and desks that can be used by multiple users, as well as about educational approaches that provide frameworks and procedures for implementing such components and objects in meaningful ways.

These new approaches come along with a change in the role of the teacher from providing knowledge to orchestrating the various activities and supporting the learning processes of the students. Altogether, the twelve chapters of the book describe possibilities to establish school-life transitions by transforming school-based learning environments into communities with intentionally engaged and interactive learners who generate individual and community-related knowledge on different levels.

Although this book does not focus exclusively on gifted learners, it is highly important for realizing, and in particular for further developing gifted education. The “classroom of the future” enables to design environments that are required to implement teaching models of the gifted (e.g. as collected in Maker & Schiever, 2006; or recently presented by Vidergor, Harris & Yamin, 2012). The developments and models proposed by the book under review contribute to the knowledge of designing classrooms and schools with a larger diversity of students. Moreover, it illustrates how to promote individual advancement within an increased spectrum of individual differences. This not only provides new possibilities for integrating gifted and non-gifted students into the same environment, but also offers much better opportunities for multidisciplinary learning or effectively mixing a variety of instructional methods that have been considered as sharp contrasts in the past (e.g. direct instruction versus discovery approaches like project- or problem-based learning). Thereby not only the acquisition of meaningful disciplinary knowledge is promoted, but also of competencies to self-generate this knowledge by the learners in more complex multi-media and communicatively enriched environments.
In addition, teaching is facilitated by advanced educational technology. Interactive components may trace activities, the progress of each student, and continuously inform the teacher about individual differences in the classroom or within a group of students. This enables individualized and adaptive teaching in heterogeneously composed classrooms needing much less effort and less resources of the teacher than in traditional classrooms.

In the second and main section of the book, new technologies that can be used for scaffolding distributed and individual learning activities are presented. Holleis et al. describe a range of tools to support e.g. accessing information by the students, as well as to record and display collected information, to abstract knowledge structures from the data, to reflect and to communicate processes or products by the students. Various case studies illustrate the orchestration of such tools. Baraldi describes nature and functions of intelligent whiteboards, walls, tables, and other smart objects that may be used as “digital artefacts” for facilitating collaborative knowledge generation processes in classrooms. The development of these artefacts is based on principles of natural interaction to enable dialogues between user, digital artefacts and objects, persons, and groups in the environment. Digital tools undoubtedly add new functions to already existing methods and tools. Several scenarios exemplify their integrated use (e.g., the Wiki collaboration model for creating artefacts, or distributed concept maps for the collaborative building of conceptual knowledge). Kaplan & Dillenbourg supplement this information with well-elaborated evidence-based “scripts” as scaffolding procedures for prescribing and distributing roles in order to regulate and orchestrate collaborative learning in technology-enhanced learning environments.

The “Argue Graph”, for example, triggers collaborative knowledge building through argumentation, whereas the “Concept Grid” represents a detailed method for distributing roles and managing processes in generating conceptual knowledge. Scripts are offered as easy-to-use scaffolds structuring the interaction within groups of learners and they can be adaptively applied by gradually fading them out. In addition, these authors tie architectural, technological, and scaffolding components together into a more general classroom ecology model, and outline its general characteristics (e.g. role switching, dynamic group formation).

Part three continues this generalization or model-building process. In particular, Nistor discusses “knowledge communities” as a general framework for embedding the components and special purpose instructional methods that have been outlined in the previous chapters of the book. The important “feeling of belongingness” which is taken as a defining characteristic of such communities may be achieved in communities differing in size and purposes, in the range of (distributed) places involved, and in prescribed and designed as well as in spontaneously evolved communities.

In all cases, communities are heterogeneously composed, offer reciprocal communication, provide recognition and sense of efficacy for their members. In everyday school life the development of “knowledge communities” proceeds in three stages: stage of pure information exchange among the members, co-construction of knowledge and constructing a long-lasting collective memory. A good starting point for stimulating the required cooperative learning processes is to offer authentic and ill-structured problems as it is the case in problem-based learning.

The last section expands upon technology-based solutions for specific domains and purposes. Lingnau describes three projects that have been implemented in regular (traditional) classrooms. These projects aim to facilitate the existing classroom processes and to gain an added value for the teacher, the students and the learning process by using computers.

Slotta provides a rather in-depth description on the development of the “Web-Based Science Environment” (WISE), and its recent transformation into a “Scalable Architecture for Interactive Learning” (SAIL) which allows everyone to contribute adaptations, modifications, and improvements.

WISE and SAIL are well-described, illustrated, and documented examples for interdisciplinary projects that connect and integrate educational researchers, teachers and science
domain experts. Slotta’s contribution to this book is an invitation to become active in further realizing the transformation of classrooms into classrooms of the future.

Finally, Kollar mentions the conditions for bringing to fruition the ideas about the “classroom of the future” that were presented in the book. Clear educational objectives, convincing and detailed instructional methods, and the collaboration of all stakeholders, including teachers, administrators, parents, and politicians are required. Undoubtedly, already elaborated objectives, methods, and even programs in Gifted Education offer a usable framework, and may greatly help in further specifying conditions for implementing the advancements outlined in this book.

References
Creativity 101

James Kaufman (2009)

Book Review by Trevor J. Tebbs

Creativity 101 is just one of an intriguing and expanding series of books published by Springer under the general title of The Psych 101 Series. The Series is introduced in the following way: Short, reader-friendly introduction to cutting-edge topics in psychology. With key concepts, controversial topics and fascinating accounts of up-to-the-minute research. The Psych 101 Series is a valuable resource for all students of psychology and anyone interested in the field.

If Kaufman’s Creativity 101 is anything to go by, Springer’s description is on the mark. Additional and specific information regarding Kaufman’s text validates selection of this book as an excellent primer or review of what is out there in terms of research, definitions, theoretical considerations, and leading thinkers in the world of creativity. Seven chapters comprise the book’s core, but there is a useful appendix section detailing recommended books on creativity and a rich reference section.

As a professional watercolor artist and past teacher of art in K-16+ educational settings, I have long been fascinated by the nature and meaning of creativity. At risk of stating the obvious it certainly is a highly complex and, I believe, vulnerable construct plagued by misunderstanding and uninformed opinion. I recall several conversations with colleagues in elementary schools convinced the sole arbiter and measure of their own creativity and that of their students was an ability to draw pictures. Sadly, by reason of their not being able to “draw a straight-line” they did not consider themselves creative! That it should be so misunderstood and so easily dismissed! I have lost count of the times my immediate response went something like this: “But I wouldn’t want you to draw a straight line! There are many ways to get from A to B”. For any who work with children, young people or adults in settings where full functionality, including the capacity to be creative, is encouraged and nurtured, it is manifestly evident that creativity and being creative goes way beyond being able to draw a straight line.

Being so highly complex, yet such an irrefutable and profoundly important aspect of our being human, creativity is distinguished as a legitimate and fascinating focus for research. And indeed, there are many texts testifying to the great energy and intellectual effort expended in order to acquire deeper understanding of this uniquely human capacity.

Faced with a plethora of material and sometimes confusing information, I found James Kaufman’s Creativity 101 a great relief. It offers an immensely enjoyable read while at the same time offering a thoroughly satisfying overview from an academic point of view. It is written in such a personable way. I found myself learning and having fun at the same time. This review simply will not do the book justice!

Predictably, the first chapter – Defining Creativity - is devoted to a discussion regarding how creativity is variously defined. The diversity of perspectives with respect to the exact nature of creativity certainly contributes to its complexity in the mind of the layman. However, the lively and entertaining way Kaufman methodically addresses mainline ideas proves immensely helpful in the effort to tease apart differences, for example, between mystical views from the past and rather more empirically-driven views espoused by some researchers today.

Kaufman’s second chapter is entitled Modern Theories of Creativity - a self-explanatory title. The author guides readers through a virtual “Who’s who” in the field of creativity. He enters the topic
through a “four P” (person, process, product and press) portal, arguing the notion of creative product is the most widely studied, measured and tangible of the four.

A particular name of note associated with product and creativity is Mihalyi Csikszentmihalyi. He proposed the Systems Model – an important model that forces consideration of some powerful and perplexing questions (e.g., What is, or what is not a creative product or when does a product demonstrate creativity? Was Bach’s work always considered creative? Can the creative products of children actually be considered creative?). Despite such questions, creativity is an element essential embraced in a broad array of domains, e.g., math, science, as it is ultimately responsible for changes recognized, accepted and perhaps even initiated by the field gatekeepers taking place within the domain.

From the perspective of this reviewer it is hard to single out specific areas worthy of note - each chapter is so rich. As Chapter Two progresses readers work through sections where useful reviews of theories more or less associated with the three other “Ps” - process, person and press or environment are found. For example, there is a review of Simonton’s work in the context of the third “P” or person. Over the years Simonton has conducted many studies germane to creativity. The area I found especially interesting is his exploration of creative career trajectories, particularly with respect to peak performance, within the specific context of writing. Who peaked earlier? Poet or fiction writer?

Another piece that catches the attention is the discussion around questions raised with respect to the novice and expert and their capacity to judge what is or is not truly creative. Kaufman presents a number of studies he, his colleagues and others have conducted, e.g., on a sample of eighth grade writers.

This review is not the appropriate forum for revealing and discussing every gem of information and individual detailed in the chapter, so I will transition into the third chapter by sharing a definition of creativity Kaufman considered “nice” and which he chose to include towards the end of Chapter Two. Creativity is: “The interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context” (Plucker et al., 2004, p. 90).

“Is Creativity One Thing or Many Things?” Doubtless an intriguing question and one that doubles as the title of Chapter Three. As with all chapters a rich mix of thought-provoking material is provided - all extremely worthwhile but too much to cover in this review. In the first section Kaufman focuses on individuals whose lives have richly proclaimed the presence of creativity, e.g., in writing, musical composition, and dancing.

The question as regards whether or not such acknowledged luminaries could be as creative outside their recognized domain is thought provoking. After a discussion focused on “g” or general intelligence, Kaufman wonders if there is a creativity element peculiar to human beings analogous to “g,” perhaps called “c” and which “transcends domains and enhances the creativity of a person across many different areas” (page 55). He admits the question has initiated many debates over the years but suggests a convergence of thinking has recently taken place. Several pages are devoted to the issue and in doing so touches on the ‘problem’ of geniuses, Miss Piggy (yes – Miss Piggy), fluid and crystalized intelligence, and – sadly - age –related diminishment of adaptability and creative performance.

For the most part, creativity’s complexity resides in the fact that it is not unidimensional. In each domain, there are so many aspects, described by Kaufman as microdomains, to consider. I found his presentation on the twin notion of axis and focus peculiar to Howard Gardner and his colleagues (p.79) helpful in this context. The concept of an axis gives opportunity to view creativity horizontally and, or vertically. What that means in full, dear reader, turn either to Creativity 101 or the original work. But as a taster, Kaufman likens his own culinary efforts to horizontal creativity, apparently a rather free and unrestrained activity that leads to unusual but useful concoctions.
Vertical creativity, on the other hand, is more restrained, with small innovative touches making a difference, for example, within the set limits of a computer program or musical composition.

The relevance of focus is underlined by way of considering what is desirable as an end result – not in terms of the precise form, for example, a sculpture or new product, but rather the realization of purpose. Again, Kaufman uses his own experience, this time as a professor teaching psychology in creative ways. He explains that in one course his focus is to actually initiate creative ideas (product) while in another teaching the process of creative thinking is more to the point. In either case, creativity is important but ultimately how he goes about working with his students is dependent on the needs and expectations of the community.

Given the focus of this journal, Kaufman’s fourth chapter, Where does creativity fit in? Personality, motivation and intelligence, is so pertinent. Few with any personal or professional involvement with highly able and creative children can fail to understand the relevance of the interplay between creativity, personality, motivation and intelligence throughout their lives.

This chapter is thoroughly enjoyable and instructive. Topics covered include the issue of openness to experience through to testing for creativity, how creativity levels change over a lifetime, the relationship between intelligence and creativity, the Threshold Theory, Multiple Intelligence, and intrinsic motivation and productivity.

At risk of revealing story’s end and thus spoiling the story, Kaufman’s final section of this chapter is headed, “Where creativity fits.” He discusses emotional creativity and how, unlike emotional intelligence, it relates to creativity itself. He considers the role of thinking styles and how they might influence an individual’s creativity. Specifically he mentions field independence and how that may relate more to creativity compared with field dependence. Finally Kaufman gives a paragraph over to Sternberg’s Theory of Mental Self Government. It proposes that out of the inevitable – three primary functions, i.e. Legislative, Executive and Judicial, those possessed of the more self-directed legislative mindset are likely more creative.

Chapter Five – “Does creativity have a dark side? A great question! And the answer is? “Sure,” says Kaufman. But it is hardly surprising that he goes on to say much more. Another fascinating chapter providing insights into creativity’s links with mental illness, psychiatry and psychology, alcohol and drug use, the lives of leading figures in the arts and other domains of human endeavor, research in the field that has explored both positive and negative aspects of creativity, personality, gender and the likelihood of a poet dying earlier than other writers.

It is hard to avoid mentioning the section in this chapter entitled Malevolent Creativity. Kaufman considers creativity to be perceived by most as benevolent. However, given the wide array of humanly-orchestrated events recently experienced and how a tsunami-like effect has been felt globally, it is essential that we face the fact that creativity can present a very dark and nasty side. Kaufman takes a serious look at this issue. He does not restrict his comments to the more obvious, e.g., mass murder of innocent people by terrorists, but perhaps more subtle concerns, for example, creative but unethical means of marketing.

A final point mentioned in Chapter 5 is the possibility of de-stigmatizing creativity. Kaufman is persuaded that perceptions of its worth can be modified. For example, he proposes “gatekeepers” worldwide, in particular those empowered to admit or hire, would contribute positively in this regard. This issue is sufficiently important to the author that he actually heads his 6th Chapter with question: “Should Creativity Be Included in School Admissions?” After an insider review of what a postsecondary admission officer might look for in a prospective student. There are concerns that an individual’s creativity is overlooked when the focus is on perfect scores and fear of admitting someone too unusual. Kaufman begins to present ways that process could allow creativity. As an example of this notion the “offbeat” inclusion to the admission package required by Boulder Leeds School of Business is referenced.

So ... should creativity be included? Kaufman thinks so. More than that, he also argues creativity is an essential element to be considered in any prospective student irrespective of, for example, gender and disability. In the context of disability it was interesting to read a discussion.
highlighting the population of individuals with William’s Syndrome. Having been involved in a study of young people with this rather rare condition and having witnessed firsthand their creativity my reaction was one of deepening respect for the author and his determination to cover creativity so thoroughly.

Finally, chapter 7 – “Looking Forward, What Now?” The opening paragraphs of this chapter illuminate the mindset of our author powerfully. If, after reading the first six chapters of Creativity 10, Kaufman’s enthusiasm for all things creative and avidity for learning about creativity is not noticed, then this chapter is the “fix.”

Kaufman certainly does not put creativity into a restrictive box. He is clearly anxious to consider the subject from multiple perspectives, including: how more might be learned about creativity and creative people through research, how creativity might be discovered and tested in the future, how creativity might be nurtured, how creativity is determined by brain function, how new knowledge and understanding about creativity might be applied to real-life and the problems so badly in need of solutions, and how individuals might more easily evaluate their own levels of creativity.

As mentioned earlier, this review will not do this text justice. Although relatively brief given the enormity of the subject, this diminutive volume of 242 pages (including the Appendix, Reference and Index sections) in my opinion, packs some punch. Thank you Dr. Kaufman, I had a blast reading it!

Reference


ISBN: 978-0-8261-0625-4
Book Review (3)

Misdiagnosis and Dual Diagnoses of Gifted Children and Adults: ADHD, Bipolar, OCD, Asperger's, Depression, and Other Disorders

James T. Webb; Edward R. Amend; Nadia E. Webb; Jean Goerss; Paul Beljan; F. Richard Olenchak (2005)

Book Review by Judy Wiener

“One of the hardest aspects... was knowing what is a normal part of being a teenager, what is normal for being gifted, and what is behavior that we should be concerned about”. This was the struggle a parent described in one of many touching and instructive vignettes in Misdiagnosis and Dual Diagnoses of Gifted Children and Adults: ADHD, Bipolar, OCD, Asperger’s, Depression, and Other Disorders. Many of us, parents and professionals alike, have been struggling with similar issues.

Such concerns led to a successful collaboration of six highly trained and experienced health care professionals in the field of giftedness: clinical psychologists James Webb and Edward Amend, clinical neuropsychologists Nadia Webb and Paul Beljan, educational psychologist F. Richard Olenchak, and board-certified pediatrician Jean Goerss. These authors had encountered many instances of experienced professionals misdiagnosing and treating mental disorders in gifted children and adults who, in fact, simply were exhibiting behaviors typical of giftedness. On the other hand, they found that genuine disorders were being overlooked and attributed, for example, to the sensitivity, intensity, or quirkiness of the gifted people.

“Dual diagnoses” were not being recognized also when high intelligence obscured an individual’s learning disabilities, and when the IQ and the disabilities masked each other. Assessment and diagnosis of the gifted can be quite complex because there is considerable overlap between characteristics of giftedness and characteristics of certain disorders, and because gifted individuals tend to be more prone than is the general population to certain diagnoses.

The book is written with clear language and organization that bring understanding of these complex issues to gifted individuals, parents, and professionals. It begins with a discussion of characteristics of gifted children and adults, a subject missing from the training of most health care professionals. Next it explains, especially for the non-professional, the use (and misuse, according to the authors) of diagnosis as delineated in the DSM IV-TR, the Diagnostic and Statistical Manual, Fourth Edition of the American Psychiatric Association. Subsequent chapters address clusters of diagnoses, including ADD/ADHD, anger diagnoses, ideational and anxiety disorders, mood disorders, learning disabilities, sleep disorders, and allergies/asthma/reactive hypoglycemia. There is also a chapter about the impact of giftedness on relationships and some of the relational problems that tend to occur.

In each chapter, after reviewing a DSM IV-TR diagnosis, the authors discuss how that diagnosis relates to giftedness, first with similarities and later with “incompatible or contradictory features.” For instance, they explain that a child who is inattentive or distractible in a classroom may appear to have Attention Deficit Disorder. However, in a more appropriate and stimulating
environment, the child may demonstrate “prolonged intense concentration on challenging tasks of interest with no readily-evident immediate reward,” a characteristic of giftedness.

In order to avoid misdiagnosis and inappropriate interventions, the authors advocate a thorough assessment process, with particular attention being paid to the child’s functioning in different environments. They recommend taking a complete developmental history and observing the child doing different kinds of activities. In addition to meeting with the child and his or her parents, and perhaps the teacher, it also may be helpful to arrange intelligence, achievement, neuropsychological, and/or personality testing by a professional who is familiar with gifted issues. Once the gifted child or adult’s needs and strengths are understood, the recommendation may be simply to educate him about giftedness and how it relates to him.

Parents, teachers, physicians, counselors, etc. also benefit from such education, and adjustments in the environment often make a major difference. Other suggestions may include formal or informal parent support groups and/or periodic consultation with a therapist. In cases of more serious disorders, psychotherapy and/or medication may be necessary, with the role of giftedness being taken into consideration. The book concludes with advice about how to select a health care professional or therapist who understands giftedness.

As a psychotherapist with particular interest in gifted issues, I had been searching rather unsuccessfully for information about the complex interplay between giftedness and mental health. I certainly had not learned about giftedness in graduate school nor in my subsequent training. And the literature I found on giftedness did not adequately address mental health issues and differential diagnosis. Finally, this sorely needed book arrived, offering valuable information, insights, and guidance. I recommend it highly to gifted individuals, parents, and health care and counseling professionals.

Reference


ISBN: 0910707642 (hbk)
ISBN: 0910707677 (pbk)
Why not share your ideas with the world?
Submit an article to Gifted and Talented International

Submission Guidelines

Manuscripts submitted to the GTI should contain original research, theory or accounts of practice. Submission of a manuscript to the GTI represents a certification on the part of the author(s) that it is an original work, and that neither this manuscript nor a version of it has been published previously nor is being considered for publication elsewhere. If accepted by this journal, it is not to be published elsewhere without permission from the GTI. However, conference papers included as part of conference proceedings may be considered for submission, if such papers are revised in accordance with the format accepted by this journal, updated if need be, and full acknowledgement given in regard to the conference or convention in which the paper was originally presented.

Electronic submission

Authors should send the final, revised version of their articles in electronic form. Submit the final version to the journal’s editorial office. All submitted papers are assessed by a blind refereeing process and will be reviewed by at least two independent referees. Therefore, avoid clues in the text which might identify you as the author. Authors will receive constructive feedback on the outcome of this process. Please note that the process will take two to three months in duration.

Manuscripts should be written in accordance with the publication manual of the American Psychological Association (6th Edition). For example, the following should be adhered to:

Title page

Include title of paper, name(s) of author(s), affiliation, mailing address (include postal codes, if applicable also e-Mail address and fax-number) and a running headline. The title page will be removed by the Editor-in-Chief prior to the refereeing process to allow for a masked review.

Abstract

Should consist of a maximum 150 words on a separate page. The abstract must, if the result of empirical research, briefly outline theoretical basis, research question(s) (in one sentence if possible), methodology and instrumentation, sample(s) and pertinent characteristics (e.g., number, type, gender, and age) as well as the main findings of the study (if applicable include statistical significance levels). Also, include conclusion and the implications or applications. An abstract for a review or a theoretical article should describe in no more than 150 words the topic (in one sentence), the purpose, thesis or organising structure and the scope of the article. It should outline the sources used (e.g., personal observation and/ or published literature) and the conclusions.

Length

A paper submitted should not exceed 6000 words including abstract, keywords, references, and illustrations.

Language

The GTI is an international scholarly journal and papers should be written in English. It is recommended that non-native English speakers have their papers checked in regard to language accuracy prior to submission. British spelling, as well as American spelling is accepted.

Manuscript

Papers must be word processed, and printed or photocopied with a clear print, double-spaced and with margins of at least 4 cm (approximately 1.5 inches) on all four sides. Use one side of the page only.
Statistics
Are an aid to interpretation and not an end in themselves. If reporting statistics, include sufficient information to help the reader corroborate the analyses conducted (cf APA-manual).

Qualitative data
If submitting a qualitative study, be sure to include a discussion on the stringency observed whilst obtaining and analysing the data (e.g., biases, analysis model, transcription keys, validation of results and so on). Include sufficient data to help the reader, as far as possible, to corroborate the analyses conducted.

Footnotes
Should be kept to a minimum or preferably avoided completely. If used, they should be numbered consecutively with superscript Arabic numerals.

Abbreviations
Must be kept to a minimum and not followed by a full stop, for example cm (not cm.), kg (not kg.)

References
See the APA-manual for a full description of how to make references and how to quote other research or other sources. The reference list should be double-spaced like the rest of the paper, alphabetically sorted with names and journal titles. Note that journal titles may not be abbreviated.

Illustrations
Authors should follow APA-format in designing tables and figures and consider the fact that illustrations supplements - not duplicates - the text. In the text, refer to every table and figure and tell the reader what to look for.

Figures
Must be computer drawn or photographed and submitted on separate pages in the manuscript; not included in the text. Note that they must also be included as separate computer files (jpg, jpeg or gif format). Figures should be identified with Arabic numbers and an explaining text, and their approximate place in the text should be clearly indicated in the manuscript.

Tables
Should be placed on separate pages; not included in the text. Note that tables also should be submitted as separate file(s). Tables must have an Arabic number, an explaining text and a title. Their approximate place in the text should be clearly indicated in the manuscript. Observe also that templates for tables provided with most word processing software may not be used unless templates follow APA-format. Spreadsheets, while inevitable when constructing diagrams with software such as for example Microsoft Excel of SPSS, should not be used as basis for table construction in the paper.

Proofs
One proof will be sent to the author(s) to be corrected and returned—within three days of receipt—to the Editor-in-Chief. The cost of corrections in the first proof resulting from extensive alterations in the text will be charged to the author.

Early electronic offprints
Corresponding authors can now receive their article by e-mail as a complete PDF. This allows the author to print up to 50 copies, free of charge, and disseminate them to colleagues. In many cases this facility will be available up to two weeks prior to publication. A copy of the journal will be sent by
post to all corresponding authors after publication. Additional copies of the journal can be purchased at the author’s preferential rate of US$25.00 per copy.

Copyright
Authors of accepted manuscripts must transfer copyrights to the GTI which holds copyrights to all articles and reviews. Authors, may, of course, use the article elsewhere after publication, providing that prior permission is obtained from the WCGTC. Authors are themselves responsible for obtaining permission to reproduce copyrighted material from other sources.

Submission
Please send manuscript(s), which will not be returned, to the Editor-in-Chief:
Prof. Dr. Taisir Subhi Yamin;
Editor-in-Chief;
General Director, The International Centre for Innovation in Education (ICIE);
Heilmeyersteige 93;
D-89075, Ulm;
Germany.
Phone: (+49) 731.50.94494
Mobile: (+49) 172.929.7632
e-Mail: taisir@yahoo.com

Note that you must submit also, on a separate page together with your manuscript, 10-15 lines of biographical information about each author to be published with the article. Contact address should be included.
Notes