

## *Factors Impact University Faculty's Attitudes Toward The Gifted*

**Dr. Ayidh Abdullah M. Algarni**

Assistant Professor of Educational Technology  
Faculty of Education ,Taif University

### **Introduction**

Gifted students are a diverse and frequently overlooked group of students. The needs of these students have been neglected in most Saudi schools, despite the adoption of an official giftedness educational policy (Al Qarni, 2010). Research suggests that this may be rather related to limited gifted education training at the preservice level. In fact, despite the support of Saudi government for gifted education, the availability of preservice training in gifted education continues to be limited at most Saudi universities. Previous research showed a lack of courses related to gifted education not only in Saudi Arabia but worldwide (Hudson, Hudson, Lewis, & Watters, 2010; Clinkenbeard, & Kolloff, 2001). In addition, successful implementation of a training course about giftedness is depends on the attitudes of university faculty, those who are responsible for proposing and providing the course. As a result, this research sought to investigate whether or not a relationship exists between the lack of courses related to giftedness and the attitudes toward gifted education held by university faculty, who is responsible to equip teachers with knowledge and skills to work with gifted students. This study also examines factors that may impact their attitudes toward gifted education.

### **RESEARCH QUESTIONS**

The main purpose of this research is to investigate the attitudes toward gifted education held by university faculty and factors that may impact their attitudes in a university educational school in the Kingdom of Saudi Arabia.

The research question is:

What is the relationship between the attitudes of university faculty and their individual characteristics (i.e., gender, age, specialty, number of years as a school teacher, number of years as a university lecturer, academic positions, training in gifted education, and administration roles).

### **Literature review**

Even though preservice teachers seem to have a crucial impact on recognising gifted students, and meeting their future educational needs, little has been done to equip them with adequate knowledge and skills to work with gifted students (e.g., Abunayyan, 1994; Al-Hemaisan, 1985; Catron & Wingenbach, 1986; Hyatt, 2000; Knight, 2004). In school mainstream classrooms, the increasing diversity in students' abilities requires classroom teachers to meet the needs of all students, including gifted learners. However, if teachers have not been provided with adequate training about gifted education in their university level, they may not be able to meet the needs of gifted students in their future classroom (Bangel, Enersen, Capobianco, & Moon, 2006).

While most preservice teachers, in most countries, have to take one course in Special Education, not all colleges require their preservice teachers to study any course about gifted education (Fraser-Seeto, 2013; Taylor & Milton, 2006; Winebrenner, 2000). Consequently, most preservice teachers are not able to study the needs of these students, and may not be able to provide gifted students with differentiated curricula (Winebrenner, 2000). In Saudi Arabian universities, the only gifted education programs being undertaken are for students specialising in special education. Broadly, as noted by Winebrenner (2000), preservice teachers, specifically those in the US, undertaking Special Education programs are not required to take more than one course in gifted education. As a result, they may lack the knowledge and skills to teach those gifted students.

In Australia, Taylor and Milton (2006) examined teacher educational course provision in the field of gifted education across all universities. They found that Australian universities did not provide adequate training courses about giftedness,

which could have resulted in enhanced future teacher information and experiences about gifted students. Further, they identified that most gifted students were being taught in mainstream classrooms. They emphasised the importance of preservice teachers' skills in providing an appropriate environment for future gifted students. Additionally, Collins(2001), who had conducted an inquiry into gifted education in Australia, emphasised that courses on gifted education would significantly help to dismiss many of the common myths about giftedness and improve the participants knowledge and attitudes towards gifted education.

As shown above, despite the significance of increasing the knowledge of preservice teachers in order to improve their knowledge and attitudes, universities continue to provide few or no courses about giftedness. In addition, despite the support of Saudi government for gifted education, the availability of preservice training in gifted education continues to be limited at most Saudi universities. Successful implementation of a training course about giftedness may depend on the attitudes of those who are responsible for proposing and providing the course.

Only few studies examined the attitudes of university faculty toward the gifted (Chamberlin & Moore, 2006; Doda-Bataragoa, 1989). For example, Chamberlin and Moore (2006) investigated the level of knowledge colleges' professors have about gifted education. The participants were 62 professors at 4-year educational colleges who are teaching primary education methods classes. Through a 21-item online survey, the participants were asked to indicate the amount of hours devoted to the topic of gifted education. The result found that 69% indicated 1-2 hours per semester while another 19% reported 3-4 hours. However, only 11% reported 5 or more hours devoted to gifted topics per semester. The majority of the participants at 61% indicated that there was no required course about gifted education in the colleges where they had graduated. The other participants at 24% had only one course that partially included gifted education. In addition, the results show a significance

correlation between the level of self-reported knowledge of gifted education and the number of hours the professors devoted to gifted education in their methods course. There was also a statistically significant correlation between the colleges' requirement of courses in gifted education and the amount of instructional time spent by professors. For example, the more courses the colleges offer the more time the professors devoted to gifted education in their methods course. There was a correlation between the degrees of exposure to gifted education during professors' undergraduate programs and their current colleges' requirement in gifted education. Finally there was a statistically significant correlation between professors' having a course about the gifted during their undergraduate programs and the amount of instructional time dedicated to gifted education in the courses they teach. The results suggest that the more preparation professors have in giftedness, the higher their knowledge of gifted education. The results also show that the more knowledge the professors have, the more time they dedicated to gifted education (Chamberlin & Moore, 2006). This may explain why most of teacher preparation faculties do not provide their pre-service teachers with courses about gifted education.

Other characteristics, such as age, gender, specialty, number of years as a school teacher, number of years as a university lecturer, academic positions, training in gifted education, and administration roles, may also be used as predictors for attitudes. Begin and Gagné (1994), for example, analysed 35 studies into predictors of attitudes toward gifted education. They found "age" of the participants was an essential predictor of such attitudes. Schey's (as cited in Begin and Gagné, 1994) study found that younger educators were significantly more supportive toward the gifted than older educators. Similarly, the study by (Alfahaid, 2002) of 409 Saudi teachers found that younger teachers were more favourably disposed toward gifted students than were older teachers. Thus, it appears that as the age of educators increases, they are more likely to

resist change. Indeed, Moon, Callahan, and Tomlinson (1999) notes that beliefs about teaching remained stable over time.

In contrast, another body of research has shown that older educators hold more positive attitudes toward the gifted than younger educators (Cramond & Martin, 1987; Curtis, 2005; Wiener & O'Shea, 1963). For example, Curtis (2005) examined the attitudes of preservice teachers toward gifted students and their education. He found that female participants who were over 25 years held more positive attitudes toward the general needs of the gifted than younger participants. These studies do not explain clearly, the nature of the relationship. Curtis' (2005) results may be skewed because of a gender bias, with female teachers being more nurturing than male teachers (United Nations Development Program, 2003). Nevertheless, generally, age was found to be a predictor of attitudes toward the gifted.

Prior research on the effects of training in giftedness has been mixed. For example, Bégin and Gagné's (Bégin & Gagné, 1994) review of the research identified eight studies that examined the relationship between training in giftedness and attitudes toward the gifted. Five of the eight studies found a statistically significant relationship; three of the eight did not.

Findings from recent studies also suggest that training in gifted education may assist in improving attitudes towards gifted children and their education. For example, the attitudes of Australian primary school teachers (N = 126) towards intellectually gifted children and their education at eight schools were examined (Lassig, 2009). These schools were categorised into four different classifications in regards to their involvement in gifted education. Key findings include significant associations between teachers' attitudes and their school classifications ( $p < .001$ ), and their participation in gifted and talented education training ( $p < .001$ ). Findings from this study also suggest that teacher training and school-wide involvement in gifted education may assist in improving attitudes towards the gifted and their education.

Another study by Chamberlin and Moore (2006) investigated the level of knowledge colleges' professors have about gifted education. The participants were 62 professors at 4-year educational colleges who are teaching primary education methods classes. The results show a significance correlation between the level of self-reported knowledge of gifted education and the number of hours the professors devoted to gifted education in their methods course.

## **Methodology**

In order to obtain comprehensive data, this study includes an attitudinal questionnaire. The next section describes the context and the method.

## **Context**

The study was conducted in the School of Education, at a University in Saudi Arabia. The participants in this study were the School of Education facultymembers. In addition, this University is accredited by the Saudi Arabian Ministry of Higher Education, and is funded by the government of Saudi Arabia.

## **Method**

This section describes the participants, instruments, data collection and data analysis.

## **Participants**

The participants included all School of Education facultymembers (N= Approx. 50) at a Saudi University. The participants' ages range from 26-70 years and are male and female. All the faculty members are employed by the Ministry of Higher Education. Demographic information about the research participants is presented in Table 1.

## **Instruments**

The survey that is used to establish the attitudes of the School of Education facultymembers is divided into two sections. They are the demographic factors and a section about the attitudes of School of Education facultymembers.

*Table (1)*

	Frequency	Percentage %
<b>Gender</b>		
Male	31	63.3
Female	18	36.7
<b>Age</b>		
40 Years and under	17	43.6
41 Years and older	23	56.4
<b>Specialty</b>		
Special Ed	8	19.5
Other Ed fields	33	80.5
<b>Experience as Teacher</b>		
10 Years and less	15	48.4
More than 10 years	16	51.6
<b>Experience as Academics</b>		
10 Years and less	25	52.1
More than 10 years	23	47.9
<b>Academic Position</b>		
Junior lecturer	18	39.1
Senior lecturer and Profs	28	60.9
<b>Training in Gifted Ed</b>		
Never	21	47.7
1 Workshop or more	23	52.3
<b>Faculty Position</b>		
Administrators	5	11.1
NIL	40	88.9

Section 1 contains the demographic data which seek information about the School of Education facultymembers' individual characteristics (i.e., gender, age, specialty, number of years as a university lecturer, number of years as a school teacher, academic positions, training in gifted education, and administration roles).

Section 2 contains the questions about the attitudes of School of Education facultymembers toward gifted students and their education in Saudi Arabia. The resultant survey is adapted from McCoach and Siegle's (2007) attitudinal scale which is based on Likert's Summative Rating Scale. Likert's Summative Rating Scale is the most widely used rating scale in most attitudinal studies (Malhotra, 2006; Stern & Keislar, 1975). This scale has a set of favorable and unfavorable attitudes statements. It can indicate respondents' positive or negative attitudes toward an object on a 5-point scale. It ranges from (1 = Very Rarely, 2 =

Rarely, 3= Occasionally, 4= Frequently, 5= Very Frequently). McCoach and Siegle (2007) designed a psychometric instrument to capture educators' perceptions of gifted education. There were three hypothesized factors for the instrument (Societal Value, Need for Resources, and Comparisons of Funding/Resources). The exploratory factor analysis (EFA) showed that those three factors exist. The total variance explained is 53.95%. The reliability for the Societal Value scale is .91; the Need for Resources scale is .89; the Comparisons of Funding/Resources scale is .70.

The first factor *Societal Value* included the following 9 items: 1, 5, 6, 8, 10, 13, 16, 21, and 22. The second factor *Need for Resources* included the following 7 items: 4, 7, 9, 17, 18, 20, and 27. Finally, the factor *Comparisons of Funding/Resources* included 13 items: 2, 3, 11, 12, 14, 15, 19, 23, 24, 25, 26, 28, and 29.

### Reliability of the Instrument

Cronbach's Alpha coefficients of reliability were calculated for the questionnaire in order to examine the internal consistency of items. McCoach and Siegle's (2007) attitudinal scale was divided into three sub-scales: (Societal Value, Need for Resources, and Comparisons of Funding/Resources).

The Statistical Package for Social Sciences (SPSS v.19) was used to determine the reliability of the questionnaire data. The Cronbach alpha was utilized to measure the reliability of each sub-scale and overall reliability. The results were as follows:

**Table 2 Reliability Analysis Using Cronbach's Alpha Sub-scales**

	Alpha
<b>Societal Value</b>	<b>0.71</b>
<b>Need for Resources</b>	<b>0.68</b>
<b>Comparisons of Funding/Resources</b>	<b>0.79</b>
<b>Total scale reliability</b>	<b>0.90</b>

According to George and Mallery (2009), Cronbach's Alpha coefficients from .60 to .79 represent moderate reliability and from .80 to .89 good reliability. As indicated in Table 2 above, alpha ranged from 0.68 to 0.90, which indicates moderate to good reliability of the scale.



## Data Collection

The questionnaire was conducted at the Faculty of Education within the selected University in Saudi Arabia. A permission letter requesting distribution of the questionnaires to participants was obtained from the chairperson of the University. Prior to the research implementation, the participants were informed about the study by the researcher and via an information sheet attached to the survey on the exact purpose, methods, process, risks and benefits involved. The participants were invited to complete an attitudinal questionnaire, then fold it over, and place it in a box located at the main entrance to the Faculty of Education Building. The return of the completed questionnaire was accepted as an indication of participants' consent to participate in this project.

## Findings

To address the research question, Spearman Correlation Coefficient was used to examine the relationships between the two levels of demographic variables and participants' attitudes with regard to each of the three sub-scales; (a) Societal Value (b) Need for Resources, and (c) Comparisons of Funding/Resources. The independent demographic variables were gender, age, specialty, number of years as a university lecturer, number of years as a school teacher, academic positions, training in gifted education, and administration roles. These variables were dummy coded (George & Mallery, 2009) as nominal data with two levels (0 and 1).

Spearman Correlation Coefficient was conducted to examine the relationships between the study variables. Spearman's correlation is used to assess the linear relationship between two variables. Moreover, Spearman's correlation is basically a special case of the Pearson product-moment coefficient, in which the data are converted to ranks before calculating the coefficient (Mertler & Vannatta, 2005). It is different from Pearson's correlation only in that the calculations are made after the numbers are converted to ranks (Howell, 2004). The smallest value on  $X$  becomes a rank of 1 when

converting to ranks. The difference between the Pearson correlation and the Spearman correlation is that the Pearson is most appropriate for measurements taken from an interval scale, while the Spearman is more appropriate for measurements taken from ordinal scales (George & Mallery, 2009). So, while the Likert Scale used in this study is ordinal, Spearman Correlation Coefficient was used to examine the relationships between the study variables.

The variables were the three sub-scales (Need for Resources, Societal Value, and Comparisons of Funding/Resources) and the demographic variables. The results described in Table 5, revealed that the “Need for Resources” sub-scale was significantly correlated with the other two sub-scales “Societal Value” sub-scale ( $\rho = 743, p = .000$ ), and “Comparisons of Funding/Resources” sub-scale ( $\rho = 838, p = .000$ ). The “Need for Resources” sub-scale was also correlated significantly with other two demographic variables “Age” ( $\rho = 376, p = .018$ ), and “Experience as Academic” ( $\rho = 449, p = .001$ ).

The sub-scale “Societal Value” was significantly correlated with the other two sub-scales; “Need for Resources” sub-scale ( $\rho = 743, p = .000$ ), and “Comparisons of Funding/Resources” sub-scale” ( $\rho = 757, p = .000$ ). The sub-scale “Societal Value” was also significantly correlated with “Experiences as Academic” variable ( $\rho = 398, p = .005$ ).

The “Comparisons of Funding/Resources” sub-scale was significantly correlated with three variables; “Experiences as academic” variable ( $\rho = 357, p = .013$ ), and the other two sub-scales “Societal Value” ( $\rho = 757, p = .000$ ), and the sub-scale “Need for Resources” ( $\rho = .838, p = .000$ ).

The variable “Experience as an Academic” was correlated with all three subscales and other four variables. It was significantly correlated with the sub-scale “Need for Resources” ( $\rho = 449, p = .001$ ), the sub-scale “Societal Value” ( $\rho = 398, p = .005$ ), and with the sub-scale “Comparisons of Funding/Resources” ( $\rho = 357, p = .013$ ). It was also correlated

with the following variables; “Age” ( $\rho = 385, p = .016$ ), “Specialty” ( $\rho = 357, p = .022$ ), “Academic Position” ( $\rho = 377, p = .010$ ), and with “Training” variable ( $\rho = 324, p = .032$ ).

The variable “Academic Position” was significantly correlated with the variable “Age” ( $\rho = 344, p = .037$ ). The following Table 5 shows the correlation matrix of variables.

**Table 3 Correlation Matrix of Demographic Questions and the Three Sub-scales**

	2	3	4	5	6	7	8	9	10	11	12			
<b>1 Gender</b>														
<b>2 Age</b>	-.253													
<b>3 Specialties.</b>	-.203			-.043										
<b>4 Experiences as Teacher.</b>	.044				.294				.308					
<b>5 Experience as Academic</b>	.205		.385*			-.357*			.044					
<b>6 Academic Position</b>	.095		.344*			-.017		.087		.377**				
<b>7 Training</b>	.015		.021		-.167		-.105		.324*		.066			
<b>8 Administration role</b>	.130		.036		.177		.111		-.236		.069	-.056		
<b>9 Need</b>	-.030		.376*	-.204		-.254		.449*	.027		.115	-.287		
<b>10 Societal</b>	-.044		.281		-.295	-.225		.398*	.212		.131	-.109	.743*	
<b>11 Comparison</b>	-.056		.274	-.232		-.307		.357*	.126		.023	-.131	.838**	.757**
<b>12 Total</b>	-.056		.303	-.247	-.285	.420**	.121	.084	-.172	.919**	.888**	.942*		

### Discussion

Attitudinal researchers investigated predictor variables that would indicate positive attitudes toward the gifted (Begin & Gagné, 1994a; Chipego, 2004; Curtis, 2005; McCoach & Siegle, 2007). The current research also investigated predictor variables

that were cited in the literature to determine reasons behind difference between participants with regard to gifted education.

The findings of the current study identified that the demographic variable “Experience As Academic”, contributed significantly to the prediction of the following three sub-scales; “Societal Value”, Comparisons of Funding/Resources”, and “Need for Resources”. It was also correlated with the following variables; “Age”, “Academic Position”, and with “Training”.

The results have shown that the more experienced the faculty the more training they have about gifted education. So, it may be that faculty who have more experience tend to have more training in gifted education which may explain the significant correlation between experience and positive attitudes toward the gifted. Previous research showed experience as a predictor of positive attitudes toward the gifted. For example, Rubenzer and Twaite (1979), in a study of the attitudes of 1,200 educators toward the education of the gifted, found that differences in attitudes were related to the amount of teaching experience. Carman (2011) also examined the levels of stereotypic views about gifted individuals held by 119 experienced and future educators. The study found a significant correlation between educators’ years of experience and the number of stereotypical beliefs about gifted students and their education. Less experienced educators were found to have more misconceptions about gifted students and their education.

The results of the current study are also consistent with the finding of the Cramond and Martin (1987) study. These researchers examined the attitudes of 83 experienced teachers and 100 juniors and seniors enrolled in a teacher education program toward the academically gifted. The results found teaching experience as an indicator of positive attitudes toward academically gifted students.

The “Need for Resources” sub-scale was also correlated significantly with other two demographic variables “Age” and “Experience as Academic”. It was found that older

faculty members tend to have more positive attitudes toward the needs of the gifted than younger faculty. This result is consistent with Begin and Gagné's (1994a) analytical study who analysed 35 studies concerning predictors of attitudes toward gifted education and found "age" as an essential predictor of attitudes toward the gifted. It also supports previous studies that older educators have shown to have more positive attitudes toward the gifted than younger educators (Cramond & Martin, 1987; Curtis, 2005; Wiener & O'Shea, 1963). For example, Curtis examined the attitudes of pre-service teachers toward gifted students and their education. He found that older pre-service teachers held more positive attitudes toward general needs of the gifted than younger pre-service teachers. However, the result of the current study contradicts other studies where younger educators were more positive toward the gifted than older educators (Alfahaid, 2002; Aljabber, 2004). For example, Alfahaid (2002) examined the attitudes of 409 Saudi teachers toward the gifted. He found that younger teachers were more favorably disposed toward gifted students than were older educators. Schey (as cited in Begin and Gagné, 1994) also investigated the attitudes of teachers toward the gifted by using age as a predictor variable. The results found that younger teachers were significantly more supportive toward the gifted than older teachers. It may be that, older participants in the current study were found to have more teaching experience and training about giftedness. It may also be a result of a smaller study sample. As a result, the older faculty tend to have more training about gifted education which may explain their positive attitudes toward the gifted.

Training in gifted education was shown to influence educators' attitudes toward the gifted. For example, in very early research in the area of giftedness, Wiener and O'Shea (1963) examined attitudes of teachers, university members, supervisors, and university students toward gifted students. The study also aimed to explore relationships between certain selected variables and attitudes toward gifted students. The Wiener and O'Shea was conducted in six different states in the U.S. Similar to

the current study, this study found that training in gifted education as a significant variable positively relating to overall attitudes toward gifted students. By reviewing the literature, Begin and Gagné, (1994b) have also found that participation in gifted program was associated with more knowledge and positive attitudes toward the gifted.

### **Limitations**

The present study suffers from several limitations, which may affect the generalisability of these results. First, because it is a convenience sample, there is a need for future study to include larger population to support the generalisation of the findings beyond the convenience sample of the faculty at one university. The faculty who responded to the survey may differ systematically from non-participant faculty at the other universities, limiting the generalisability of the findings. In addition, the training in gifted education variable was broadly defined, and the quality of gifted education training is impossible to assess. Therefore, it could be that different types of training activities have varying effects on faculty's attitudes toward the gifted. Finally, the instrumentation used in this study captured only a limited number of factors related to attitudes toward the gifted. Therefore, the measurement of attitudes toward the gifted encompassed a distinct subsample of attitudinal factors. It is possible that using different attitudinal measures could produce different results.

### **Implications**

There are two important implications from this study. Having gifted requirements during undergraduate-teacher preparation courses may encourage those who later become faculty member to support the value of gifted education at their institution. When faculty are hired by an institution that does not address gifted issues, the faculty with training in gifted education may work to raise awareness of gifted topics at the institution.

## Conclusion

In conclusion, the undeniable role that preservice teachers play in gifted education in Saudi Arabia has generated the need to examine the factors that might influence their success or failure as gifted teachers. This study has identified the attitudes of faculty members in Saudi Arabia. The findings reveal that faculty with more experience and training have more positive attitudes toward gifted education than those who do not. The outcomes of the study support the generalizability of the theory of reasoned action and the theory of knowledge in predicting the relationships between experience and attitudes. The study examined the impact of experience on attitudes based on these theories. The hypotheses, as suggested by both theories, were well supported.

## References

- Alfahaid, S. S. (2002). A study of gifted education in Saudi Arabia: Teachers' and administrators' attitudes and the impact of the gifted identification training program. (Doctoral Dissertation), The Pennsylvania State University, Pennsylvania, United States. Proquest Dissertations and Theses database. (3076924)
- Aljabber, J. M. (2004). Attitudes of Saudi Arabian secondary preservice teachers toward teaching practices in science: The adequacy of preparation to use teaching strategies in classrooms. (Doctoral Dissertation), Indiana University, Indiana, United States. Proquest Dissertations and Theses database. (3141584)
- Begin, J., & Gagné, F. (1994a). Predictors of a general attitude toward gifted education. *Journal for the Education of the Gifted*, 18(1), 74-86.
- Begin, J., & Gagné, F. (1994b). Predictors of attitudes toward gifted education: A review of the literature and a blueprint for future research. *Journal for the Education of the Gifted*, 17(2), 161-179.

- Carman, C. A. (2011). Stereotypes of giftedness in current and future educators. *Journal for the Education of the Gifted*, 34(5), 790-812. doi: 10.1177/0162353211417340
- Chamberlin, S. A., & Moore, A. D. (2006). Cognizance of gifted education among elementary-education professors from MCREL member states. *Roeper Review*, 29(1), 49-54.
- Chipego, A. D. (2004). Factors associated with the attitudes of elementary level classroom teachers toward gifted education. (Doctoral Dissertation), Widener University, Pennsylvania, United States. Proquest Dissertations and Theses database. (3120729)
- Clinkenbeard, P. R., & Kolloff P. B. (2001). Ten suggestions for including gifted education in pre-service teacher education. *The Teacher Educator*, 36(3), 214-218.
- Cramond, B., & Martin, C. E. (1987). Inservice and preservice teachers' attitudes toward the academically brilliant. *Gifted Child Quarterly*, 31(1), 15-19.
- Curtis, J. (2005). Preservice teachers' attitudes toward gifted students and gifted education. (Doctoral Dissertation), Columbia University Teachers College, New York, United States. Proquest Dissertations and Theses database. (3175682)
- Doda-Bataragoa, A. A. (1989). The attitudes of chief administrators, principals, teachers, faculty members, and parents toward gifted and talented education in North Sulawesi, Indonesia. (Doctoral Dissertation), Washington State University, Washington, United States. Proquest Dissertations and Theses database. (9007773)
- George, D., & Mallery, P. (2009). *SPSS for Windows Step by Step: A Simple Guide and Reference, 16.0 Update (9th ed.)*. Boston, MA: Pearson.
- Hudson, P., Hudson, S., Lewis, K., & Watters, J. J. (2010). Embedding gifted education in preservice teacher education: A collaborative school-university approach. *Australasian Journal of Gifted Education*, 19(2), 5-15.
- Malhotra, N. (2006). Questionnaire design and scale development. In R. Grover & M. Vriens (Eds.), *The*



- handbook of marketing research: Uses, misuses, and future advances (pp. 83-94). Thousand Oaks, CA: Sage Publications.
- McCoach, D. B., & Siegle, D. (2007). What predicts teachers' attitudes toward the gifted? *The Gifted Child Quarterly*, 51(3), 246-255.
- Mertler, C. A., & Vannatta, R. A. (2005). *Advanced and multivariate statistical methods: Practical application and interpretation* (3ed ed.). Los Angeles, CA: Pyrczak.
- Rubenzler, R. L., & Twaite, J. A. (1979). Attitudes of 1,200 educators toward the education of the gifted and talented: Implications for teacher preparation. *Journal for the Education of the Gifted*, 2(4), 202-213.
- Stern, C., & Keislar, E. R. (1975). *Teacher attitudes and attitude change. Volume 2: Summary and analysis of recent research*: National Inst. of Education (DHEW).
- Wiener, J., & O'Shea, H. (1963). Attitudes of university faculty, administrators, teachers, supervisors, and university students toward the gifted. *Exceptional Children*, 30(4), 163-165.
- Abunayyan, F. F. (1994). *The identification of artistically gifted male students in Saudi Arabia: Relations among art teacher selection, students' beliefs, and art making abilities*. (Doctoral Dissertation), The Pennsylvania State University, Pennsylvania, United States. Retrieved from <http://proquest.umi.com/pqdweb?did=741783611&Fmt=7&clientId=13713&RQT=309&VName=PQD> Proquest Dissertations and Theses database. (9518698)
- Al-Hemaisan, M. I. (1985). *Science achievement, attitudes toward science, learning motivation, and divergent creativity of Saudi Arabian middle school male students identified as academically gifted or non-gifted*. (Doctoral Dissertation), Indiana University, Indiana, United States. Retrieved from <http://proquest.umi.com/pqdweb?did=751408241&Fmt=7&clientId=13713&RQT=309&VName=PQD> Proquest Dissertations and Theses database. (8526980)

- Al Qarni, M. (2010). Evaluation of provision for gifted students in Saudi Arabia. (Unpublished Doctoral Dissertation), University of Wollongong, Wollongong, New South Wales, Australia. Retrieved from <http://ro.uow.edu.au/cgi/viewcontent.cgi?filename=0&article=4197&context=theses&type=additional>
- Alfahaid, S. S. (2002). A study of gifted education in Saudi Arabia: Teachers' and administrators' attitudes and the impact of the gifted identification training program. (Doctoral Dissertation), The Pennsylvania State University, Pennsylvania, United States. Retrieved from <http://proquest.umi.com/pqdweb?did=765187851&Fmt=7&clientId=13713&RQT=309&VName=PQD> Proquest Dissertations and Theses database. (3076924)
- Bangel, N. J., Enersen, D., Capobianco, B., & Moon, S. M. (2006). Professional development of preservice teachers: Teaching in the super Saturday program. *Journal for the Education of the Gifted*, 29(3), 339-361.
- Begin, J., & Gagné, F. (1994). Predictors of a general attitude toward gifted education. *Journal for the Education of the Gifted*, 18(1), 74-86.
- Bégin, J., & Gagné, F. (1994). Predictors of attitudes toward gifted education: A review of the literature and a blueprint for future research. *Journal for the Education of the Gifted*, 17(2), 161-179.
- Catron, R. M., & Wingenbach, N. (1986). Developing the potential of the gifted reader. *Theory into Practice*, 25(2), 134-140.
- Collins, J. C. (2001). The education of gifted children: Senate Employment, Workplace Relations, Small Business and Education References Committee.
- Cramond, B., & Martin, C. E. (1987). Inservice and preservice teachers' attitudes toward the academically brilliant. *Gifted Child Quarterly*, 31(1), 15-19.
- Curtis, J. (2005). Preservice teachers' attitudes toward gifted students and gifted education. (Doctoral Dissertation), Columbia University Teachers College, New York, United States. Retrieved from

- <http://proquest.umi.com/pqdweb?did=920925851&Fmt=7&clientId=13713&RQT=309&VName=PQD> Proquest Dissertations and Theses database. (3175682)
- Fraser-Seeto, K. (2013). Pre-service teacher training in gifted and talented education: An Australian perspective. *Journal of Student Engagement: Education Matters*, 3(1), 29-38.
- Hyatt, K. J. (2000). Meeting the needs of the gifted in the regular education classroom. (Doctoral Dissertation), University of Pittsburgh, Pennsylvania, United States. Retrieved from <http://proquest.umi.com/pqdweb?did=727737731&Fmt=7&clientId=13713&RQT=309&VName=PQD> Proquest Dissertations and Theses database. (9985016)
- Knight, B. A. (2004). Analysing the needs of gifted and talented students: Implications for the rights of gifted students. *TalentEd*, 22(1), 3-8.
- Lassig, C. (2009). Teachers' attitudes towards the gifted: the importance of professional development and school culture. *Australasian Journal of Gifted Education*, 18(2), 32-42.
- Moon, T. R., Callahan, C. M., & Tomlinson, C. A. (1999). The effects of mentoring relationships on preservice teachers' attitudes toward academically diverse students. *The Gifted Child Quarterly*, 43(2), 56-62.
- Taylor, T., & Milton, M. (2006). Preparation for teaching gifted students: An investigation into university courses in Australia. *Australasian Journal of Gifted Education*, 15(1), 25-31.
- United Nations Development Program. (2003). Arab human development report 2003: Building a knowledge society. Retrieved from <http://www.arab-hdr.org/>.
- Wiener, J., & O'Shea, H. (1963). Attitudes of university faculty, administrators, teachers, supervisors, and university students toward the gifted. *Exceptional Children*, 30(4), 163-165.
- Winebrenner, S. (2000). Gifted students need an education, too. *Educational Leadership*, 58(1), 52-56.