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Preferred Learning Styles in Kindergarten Students by the Viewpoint of their Mothers' and Teachers'

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Abstract
One of the most important uses of learning styles is that it makes it easy for teachers and parents to incorporate them into their teaching. There are different learning styles. Three of the most popular in kindergartens grades (KG 1); ones are visual, auditory, and kinesthetic in which students take in information. Some students are visual learners, while others are auditory or kinesthetic learners. While students use all of their senses to take in information, they seem to have preferences in how they learn best. In order to help students learn, teachers and parents need to teach as many of these preferences as possible. This study is investigated of learning styles for Jordan Society, (465) mothers, and (74) females teachers completed (LSI) to determine if their children / students preferred learning styles auditory, visual or kinesthetic. The finding showed that the children's preferred auditory learning style by the viewpoint of his mothers. Therefore, the teachers stated that visual learning style is preferred in kindergartens grades (KG 1) students. The purpose of this study is to increase awareness and understanding of the effect of mother's education, gender, and environment on learning styles. A review of the literature will determine how learning styles affect the teaching process.
Keywords: Learning styles, Auditory, Visual, Kinesthetic, Gender, mother's education.

1. Introduction

Kindergarten is considered an important and purposeful educational level and it is not less important than other educational levels. Moreover, it is a level that has important behavioral, cognitive and affective goals, which the teacher tries to make the students acquire them. The teacher seeks to provide an educational environment to the child to help him acquiring the specified cognitive skills of the curriculum using innovative teaching methods based on the modern cognitive learning techniques, which motivate the child's thinking during the process of learning. In addition, the teacher has variety of roles as motivating the child to acquire behavioral skills that helps the child's transition to the school's level, reducing the child's attachment of his parent when he enrolled with the kindergarten and developing the child's emotional side to be more independent.

Dealing with the child, the teacher has to know the preferred learning styles of every student so that the learning process will be successful and effective and the parents in the Jordanian society especially mothers follow up their children's performance at home. The parents notice that their child may prefer one style of learning more than another and their lack of knowledge of these learning styles caused problems in achievement so this study seeks to identify the child's preferred learning styles in the level of kindergarten from the perspective of the children's parents and the teachers and their relations with variable as the sex of the child and the mother's scientific qualification in addition to the nature of the educational environment of every school.

2. Problem of the study

It was agreed upon that there are individual differences between the students that should be taken into account during the process of learning as the differences between the students in their preferred learning styles. It was found that every child has his/her specific way in understanding the information and acquiring the skills and the students learn better, when their preferred learning styles are compatible with the teaching methods used in the schools. It was noted from the students' different points of view of the learning styles and acquiring knowledge caused differences in the achievement; every one whose learning styles agreed with the common teaching

methods learns better while the child whose learning styles are different may face problems in learning and his achievement will be affected automatically whereas the child whose preferred styles do not agree with the teaching methods may have problems in learning and his achievement's level will be affected. In addition, it is clear that taking into account the students' preferred learning styles is very important to achieve effective education so this study seeks to achieve the following two objectives : to identify what the students prefer in the kindergarten level for their mothers and teacher perspective and to link the styles of learning with the variables: the students' sex, mothers' scientific qualification and the educational environment of the school according to the private schools in Al-Balqa District in Jordan.

3. Questions of the study

1- What are the preferred learning styles by kindergarten students from the viewpoint of their mothers?
2- What are the preferred learning styles by kindergarten students from the viewpoint of their teachers?
3- Are there a statistically significant difference between preferred learning styles related to Gender Variable?
4- Are there a statistically significant difference between preferred learning styles related to mother's qualifications?
5- Are there a statistically significant difference between preferred learning styles related to learning environments variable?

4. Significance of the study

Identifying the students' preferred learning styles is considered an important issue in enhancing the student's effective learning because the information presented to the students that are based on the students' preferred styles of learning has a high value according to the researchers who are interested in studying and improving the learning quality in the Jordanian schools and it is useful to the teachers because it helps them to plan properly the effective ways of teaching that suit what the students prefer so as to achieve variety in the strategies of teaching to include all the students with higher efficiency and makes learning process more interesting .And because of the big number of the private schools in the Jordanian community , the researcher was forced to study the learning styles used in these schools and the extent of difference of each other that make the parents prefer a specific school for their children in the kindergarten stage and because of the lack of the studies which addressed the learning styles used in the special kindergarten's stage . So the importance of these previous reasons motivates the researcher to conduct this study to show the learning styles used to the parents, the teachers and who are concerned with this academic stage.

5. Limitations

This study is designed for kindergartens grades (KG 1) of primary students attending the academic stream in Jordan schools within Salt Directorates of Education during the academic year 2012/2013. It is limited specifically to the validity and reliability of instruments. Therefore, other limitation has to do with the extent to which the findings can be generalized beyond the sample study. The number of sample is too limited for broad generalizations**.** The conclusion as well as the limitations of this study also brings forth some fruitful and interesting possible future research that might be needed in relation to the study. The most important future research is to know the preferred of children learning styles from the viewpoints of their teachers and mothers in Kindergartens stage.

6. Definitions of Terms

In order to have a clear understanding of terms used in this study, definitions of key terms are provided and follow:

- **Kindergartens:** (The Arab council for childhood and development on 1998: 20) identifies it as an educational institution with special characters which children attends from age three to age six. It aims to achieve the integrated development represented by its physical, physical, sensation, mental, language, emotional and social aspects to the maximum limit of its abilities by practicing the functional activities that the kindergartens(KG 1) provide to him.

- **Learning style**: is a student's consistent way of responding to and using stimuli in the context of learning. Keefe (1979) defines learning styles as the "composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment." Stewart and Felicetti (1992) define learning styles as those "educational conditions under which a student is most likely to learn." Thus, learning styles are not really concerned with what learners learn, but rather how they prefer to learn.

- **Student sex**: is a biological characteristic of both male and female, which is related to a way of teaching followed by the teacher and parents**.**
- **Qualification:** it is the educational, training and technical experiments that the parents had it, like the degree, or training courses and the scientific results.
- **Learning environment**: is a space where the resources, time, and reasons are available to a group of students to nurture, support, and value their learning of a limited set of information and ideas.

7. Literature Review

Understanding the students' learning styles in the kindergarten is considered a very important axis in choosing the strategies of learning and teaching used in the stage of kindergarten , but unfortunately, most of the time, learning in many schools of kindergarten in the Jordanian community followed the old methods that ignore the individual differences between the students and the learning styles where there is a need to understand the students' learning styles which are increasing in light of threw movement towards group learning in heterogeneous classes. In addition, the educational literature addressed this issue where many researchers confirmed that the variety of the learning styles is important and effective more than following a specific learning style as the cognitive one in the development of the students' achievement (Gadzella & Baloglu, 2002). And according to Vermunt (1996) the followed learning style helps in understanding the whole process of learning in the class and the regulations which are followed in the learning process do not help in succeeding the outcomes of the learning process but the activities which contribute in succeeding the outcomes of the educational process and Kaplan & Kies (1995) emphasized that the learning style which is followed does not change by time but it affects greatly the efficiency of the educational experiences of the students themselves; some students prefer a specific learning style when they see and hear at the same time while others prefer observing and working during the process of learning. Moreover, Felder & Silverman (1988) asserted that students have different styles of learning where some of them prefer to see and hear during learning, some prefer dialogue, discussion and interaction during learning and others prefer logical reasons, memorizing and writing during the process of learning. Kennedy (2002) summarized the idea of Confucius of learning as "To cultivate oneself as an intelligent, creative, independent, autonomous being". Dunn & Dunn (1993) assured that every student learns better using his own way and they considered the interaction between the student and his process of learning varied from one student to another so they called for identifying the students' favorite methods used for learning to make the procedures, that suit the students' style of learning, available because the differences between the students in the processes of cognition is an indicator to the variety and the differences of the students' learning styles .And Curry (1983) also confirmed the idea of the purposeful or the intentional learning that verses non purposeful or intentional learning : " Learning is a process and production at the same time ;it is a process because it is related to adaptation , it concentrates on the future ,affects the students' social and cognitive skills and it is a production because it affects the learner's behavior during the process of learning. Heffler (2001) emphasized that learning is a process. Moreover, Cano-Garcia and Hughes (2000) pointed that learning is related to thinking and different styles are used because of the individual differences between the students. While Felder and Silverman (1988) pointed that, the learner feels relax when learning process depends on the facts, experiments and data whereas others prefer the learning that depends on principals and theories. Cassidy (2004) clarified that learning as a process has a direct relation with styles of learning because the students' preferred methods of learning express the styles of learning, and James & Blank (1993) said that the educational environment with all of its elements expresses the learning styles where the learning styles are described as the individual's preferred method to understand the experience and convert it to knowledge. (Cuthbert, 2005; Honey & Mumford, 1986; Kolb, 1984). And Claxton and Ralston (1987) defined it as the stability of the individual's learning method of response through using the incentives in the process of learning while James and Blank (1993) defined it as the individual's learning with efficiency and with a large mount of cognition to store and retain what has been learnt. While Klob (1984) emphasized the learning process is just the individual's self-preferences to achieve knowledge and Krätzig and Arbuthnott (2006) described it as a memory processing during using incentives, which are related to the learning processes. Curry (1983) stressed on the importance of the individual's cognitive processes of the learning styles and confirmed that learning style is a mixture of the individual's motivation of learning , his participation in the process of learning and the cognitive processing of the information (Curry,1991).

Baldwin and Sabry (2003) pointed that because the learners are different , their learning styles are different as well; some learners need help more than others and some have high motivation and clarity in the professional and educational objectives more than others and McLachlan (2006) confirmed the same idea . Felder and Brent (2005: p2) emphasized that the style of learning could be through the following:

"…some students are comfortable with theories and abstractions; others feel much more at home with facts and observable phenomena; some prefer active learning and others learn toward introspection; some prefer visual presentation of information and others prefer verbal explanations. One learning style is neither preferred nor inferior to another, but is simply different, with different characteristic strengths and weaknesses". In addition, in the Jordanian society, the learning styles are basically connected with the parents especially the mothers who have the responsibility of teaching and following up their children and contradiction may happen between the mothers' ways of teaching and the teachers' ways of teaching. As Guild (2001) addressed the idea that the learning styles have direct relation with the individual's culture, family experiences and the interactions, which the individual received in his family and environment. In addition, Heffler (2001) confirmed that the individual's strong and weak style of learning depend on what the individual learns and how he should learn. Although there is a difference in the way of understanding and identifying the methods of learning, it is supposed that the students learn better, when their preferred methods of learning are compatible with their preferred styles of learning. (Honey & Mumford, 1992 & Kolb, 1984). The studies pointed that the learning styles followed by the teacher play an important role in developing the learners' process of learning (Sadler-Smith, 2001; Sternberg & Grigorenko, 1997), where the contradiction between the learning style which is followed by the teacher and the students' preferred learning styles causes a problem in the students' learning process (Felder & Henriques, 1995) and this makes understanding the students' preferred styles of learning an important issue to the teachers because the teachers' success in applying the teaching method which suits the students' style of learning facilitates his educational mission and helps him to have a better level of education (Cuthbert , 2005). And the curricula has a major role in the students' styles of learning and Hall & Moseley(2005) emphasized the same idea which is the importance of designing the curricula and its compatibility with the learner's preferred style of learning because this encourages the learner to think during the process of learning and they also confirmed the important effect of the educational content in enhancing the individual's motivation towards learning and this was confirmed also by Coffield, Moseley, Hall, and Ecclestone (2004:p 1): " There is a strong intuitive appeal in the idea that teachers and course designers should pay closer attention to students' learning styles – by diagnosing them, by encouraging students to reflect on them and by designing teaching and learning interventions around them". And providing an educational environment gives the students the opportunity of learning through choosing what they prefer of styles that have positive impact on increasing the students' motivation towards learning (Gentry, et al., 2001),improving their behavior inside the school for the best and improving their psychological safety (Deci & Ryan, 1985). In addition, some educational studies showed that the students' academic achievement, their interaction in the class and their discipline at the school were improved when their learning includes their preferred styles of learning (Sternberg & Grigorenko, 1997). In addition, the educational environment includes physical factors represented by lighting , ventilation and quietness , and the physical environment represented by the building of the kindergarten in terms of (the different educational components inside the activity room, the seats' order inside the classroom, the size of the activity room, the space allocated to every child, the furniture and the way of ordering) , and the garden or the external space of the kindergarten , tools and the activities of playing and their needs. Therefore, the natural environment includes the physical factors inside and outside the educational situation, which achieve the desired objectives of the kindergarten. Moreover, to ensure the success of the educational process in the kindergarten, the surrounded environment of the child should be organized where every part of the activity room is utilized. When the physical environment that surrounded the child is more interesting and exciting, the growth will move towards the proper direction.

The initial advantage of the learning styles is that they can be used as a tool to think of the individual differences and when we help the students discovering their special educational techniques, we give them an opportunity to have the tools that could be used in the school subjects and in different situations outside the school. And although there are differences in the way of understanding and identifying the learning styles , it is supposed the students learn better when their preferred learning styles are compatible with the followed learning styles (Gadt-Johnson and Price , 2000) and this makes understanding the students' preferred learning styles a very important issue to the teachers. And many attitudes appeared in the international educational fields that are interested in the styles of the individuals' learning because they are considered as a set of the learners' distinguished performances which they are used to receive information from the surrounded environment and as (Honey & Mumford, 1992) showed that the learning style affects the way that the students receive the information and the learning style as learned habits to process the information may facilitate or hinder the student's achievement performance. The successful learner tends to use the cognitive strategies that suit the subject, which he learns so as to retain it easily. Therefore, this study tries to identify the learning styles, which are used, by mothers and the teachers in the private schools in the kindergarten stage in Jordan and their relation with the variables: the

student's sex, the mother's scientific qualification in addition to the nature of the educational environment, which is used in every kindergarten in the Jordanian community.

8. Methodology

This study employed a quantitative approach" survey" methodology. This particular design is appropriate given the purpose of this study, which includes fits with the nature, and questions of this study, through applying scale to measure the learning styles for students in kindergartens stage in Al- salt Educational Directorate in Jordan.

8.1. Population of the study

The populations of the study consist of all schools that have a class for kindergarten (KG 1), which follows to Salt educational directorate with total of (37) school for the school year 2012/2013. The number of the female teachers was (139), and the number of students was (3098), (Male = 1633, Female = 1465) in the kindergarten stage.

8.2. Sample of the study

The sample of the study was consist of (74) teachers in the schools that follow the salt educational directorate that is represent (0.20) from the teacher population. The sample of students consists of ((465) (Male = 255, Female = 220)) students were selected randomly to apply the inventory on their mothers by sending it with the children themselves, the sample of mothers represent (0.15) from the students population, the number of inventories obtained by a researcher from the students was (414) (Male = 220, Female = 194).

8.3. Validity and Reliability for learning styles inventory

It has been recognized that validity and reliability for learning styles inventory scores are major issues within the learning style research (Cox & Gall, 1981; Ferrell, 1983; James & Blank, 1993). Gall, Borg & Gall (1996) defined validity as particular assumptions made from test scores that are appropriate, meaningful, and useful. Gall, Gall and Borg (2007) defined validity as "the appropriateness, meaningfulness, and usefulness of specific inferences made from test scores" in testing.

The inventory of learning styles (LSI) survey was used to measure the three domains of auditory, kinesthetic, and visual learning styles for the study. There were two sections in the survey. The demographic survey developed by the researcher was the first section. The LSI survey with 20 questions comprised the second section. There were four questions consisting of first section age, gender, mother education, and school environment. A scoring guide that was already in place for the ILS survey, and descriptive statistics for the demographics were used to determine and describe the learning styles of the participants.

The LSI consists of 20 questions, 6-7 questions for each domain. All of the questions were forced-choice items with always, often, sometimes, and seldom. The participants were expected to select the most appropriate answer or the answer that represents them the most for each question. The scale is considered to be ipsative that forces participants to rank instead of each item. Questions 1, 5, 9, 10, 13, 17 and 20 measure the domain of auditory learning style. Questions 2, 6, 11, 14, 18, and 19 measure the domain of kinesthetic learning style. Questions 3, 4, 7, 8, 12, 15 and 16 measure the domain of visual learning style. The researcher applied the following methods to measures validity and reliability for LSI:

- Content validity

The researcher presented the inventory to ten referees from Balqa Applied University, who are specialized in children learning styles, measurement and evaluation, educational psychology, creation and giftedness and English language, to insure that the items are consistent with the topic of children learning styles, clarity of the items, accuracy and language formulation. Based on their suggestions and remarks of the referees, the inventory finally approved.

- Internal consistency validity

The internal consistency validity of the inventory was insured by applying it on a pilot sample consisting of (60) students other than the sample of the study. Pearson relative factor was calculated between the degrees of each item of the Inventory, and total score of the Inventory, by using SPSS program, we notice that the relation factor of the item with the total grade of the Inventory was statistically significant for all items of the Inventory, and accordingly, the Inventory on its final version consisted of (20) item.

- Test- Retest Reliability

To test for reliability, the questionnaire was distributed to (30) students selected from the population but outside of the main sample. The questionnaire was distributed again two weeks later to the same sample under similar conditions. The coefficient of the study reached (0.90) which is acceptable for purpose of this study. The Chronbach alpha for internal consistency is (0.82).

8.4. Procedures

Learning styles research has become a necessity in the present times as awareness of students' learning styles

helps teachers and course designers to accommodate the learning styles needs of students. Improving our understanding of all aspects of learning styles will help students' to achieve higher goals academically.

After the determination of the study sample the researcher indicated the purpose of the study, then he clarified how to answer to the scale represented by reading each item and determining the point of view in each item and then selecting the choice that he see the suitable one from the answer scale opposite to the items, the inventory applied directed on all sample of teachers at school, but the inventory were send by students to his/ here mothers to applied it, then the students returned it to the researcher, the times of application ranges from 25-30 minutes.

8.5. Study variables

First: The Independence variables:

- Sex student: consists of two levels.
- Qualification: consists of four levels: "below of secondary, general secondary, diploma, bachelor, higher studies".
- Learning environment: consists of two levels, suitable learning environment and the other is appropriate for the opinion of mothers.

Second: the dependence variable: the viewpoints of the parents and teachers toward the preferred learning styles in the kindergarten stage.

8.6. Correction of the tool

The answers scale consists of five choices (Always, Often, Sometimes, and Rarely). The researchers gave the positive Items: four degrees to choice always, three for Often, two for Sometimes and one for rarely. However, the negative Items degrees were as follows: one for Always, two for Often, three for Sometimes, four for rarely. The degrees of the tested persons on the scale were limited between (20-80).

8.7. Ethical approval

Researchers must be responsible and employ ethical standards of conduct to protect participants. In this spirit, all participants will be provided with information regarding their informed consent prior to participating in the study. This form consists of the study's purpose and terms of agreement. Additionally, participants will be informed of any potential risks as a result of participation and will be able to receive access to information regarding counseling upon request. All data obtained will be used for purposes of this research only. Participants will be informed of all attempts made to ensure confidentiality, which will include securing all data into a password, protected computer database in which only this researcher will have access. Participants will also be informed that their participation is completely voluntary and that they have the right to discontinue participation at any given time. Any information given by those who chose to discontinue participation will not be used or factored into the research analysis.

9. Result

The LSI scores were analyzed by SPSS to gain insight into the preferred learning styles of each teacher and mothers. Each was scored on all three domains of learning styles (auditory, kinesthetic, and visual) where the teachers and mothers scored the highest indicated the student's preferred domain of learning styles.

- What are the preferred learning styles by kindergarten students from the viewpoint of their mothers?

Auditory, kinesthetic and visual learning styles were examined and descriptive statistics are summarized in Table 1. The mothers stated with means score (60, 66) that their sons preferred learning through auditory, while (44, 66) of the mothers stated they preferred learning through visual, and (33, 66) stated they preferred through kinesthetic learning style.

Table 1: The viewpoint of mothers about preferred learning styles for their sons

learning styles	N	Means	SD
Auditory Learning Style	414	60,66	4,66
Kinesthetic Learning Style	414	33,66	3,57
Visual Learning Style	414	44,66	3,06

- What are the preferred learning styles by kindergarten students from the viewpoint of their teachers?

The table 2 shows the means and standard deviations for teacher's answers about preferred learning styles among their students. The teachers stated with means score (84, 33) that their sons preferred learning through visual, while (63, 44) of the teachers stated they preferred learning through kinesthetic, and (52, 66) stated they preferred through auditory learning style.

Table 2: The viewpoint of teachers about preferred learning styles for their students

learning styles	N	Means	SD
Auditory Learning Style	74	52,66	4,66
Kinesthetic Learning Style	74	63,44	3,57
Visual Learning Style	74	84,33	3,06

- Are there a statistically significant difference between preferred learning styles related to Gender Variable?

Table 3: Differences of preferred learning styles related to Gender variable

Learning Styles	Gender	N	Means	SD	t	P
Auditory Learning Style	Female	194	20,64	4,64	-,73	,293
	Male	220	20,96	4,32		
Kinesthetic Learning Style	Female	194	9,17	4,69	-3,83	,013
	Male	220	10,74	4,62		
Visual Learning Style	Female	194	14,77	5,35	1,24	,202
	Male	220	14,36	5,57		

As shown in the table 3, there are significant statistical differences in the study sample about preferred learning styles of female students due to kinesthetic learning style. Means of differences about preferred learning styles of male students in Kinesthetic Learning Style (10, 74) is higher than female students in kinesthetic Learning Style (9, 17).

- Are there a statistically significant difference between preferred learning styles related to mother's qualifications?

Table 4: Preferred learning styles based on mother's qualifications Differences

Learning Styles	Factor	Sum of Squares	DF	Means Square	F	P
Auditory Learning Style	Between Group	46,20	4	11,55	3.85	,023
	Within Group	1230,31	410	3		
	Total	1276,51	413			
Kinesthetic Learning Style	Between Group	8,25	4	2,06	,298	,323
	Within Group	2831,54	410	6,90		
	Total	2839.79	413			
Visual Learning Style	Between Group	40,65	4	10,16	2,50	,053
	Within Group	1666,44	410	4,06		
	Total	1707,09	413			

Whether there is a difference or not on-preferred learning styles of sons based on mother's qualifications were tested with one-way analysis of variance (One-way ANOVA). Results are indicated in Table 4. There is no significant difference between kinesthetic and visual learning styles based on mother's qualifications. However when it comes to auditory learning style, I have found significant difference between the groups ((F=3.85, P < .05). As a result of Tukey HSD test, this difference was found to be due to the higher auditory learning styles of

higher studies (12, 52) than all of the bachelors (10.11), diploma (9.54), general secondary (8.99) and below of secondary (8,51) mother's qualifications.

- Are there a statistically significant difference between preferred learning styles related to learning environments variable?

Table 5: Differences of preferred learning styles related to environments variable

Learning Styles	Response	N	Means	SD	t	P
Auditory Learning Style	Suitable	201	18.64	5,61	-,73	,29
	Appropriate	213	18,96	5,52		
Kinesthetic Learning Style	Suitable	206	8,74	4,89	-3,83	,16
	Appropriate	208	8,17	5,66		
Visual Learning Style	Suitable	196	12,65	5,35	1,24	,15
	Appropriate	218	12,46	4,87		

As shown in the table 5, there are no significant statistical differences in the study sample about preferred learning styles of environments variable due to all dimensions of Learning Styles inventory.

10. Discussion

This research aims to study the preferred learning styles by kindergarten students from the viewpoint of their mothers and teachers. In this study, the mother participants were stated with means (60, 66) that their sons preferred learning through auditory. Auditory is very important dimension in most scale of learning styles, therefore the children in grade of kindergarten predominantly prefer learning through auditory. According to Dunn and Dunn (1978), only 20-30% of school age children appear to be auditory learners. Teachers can incorporate learning styles into their classroom by identifying the learning styles of each of their students. In this study, the teachers' participants were stated with means (84, 33) that their students preferred learning through visual. Visual learners will remember and understand better if the information is presented in a visual manner, such as through pictures, graphs, flow charts, diagrams, videos, or demonstrations. De Vita (2001) agreed that visual learners learn better, when trigger videos and visual organizers such as charts, maps, and Venn diagrams were made available, and that verbal learners learn better with oral presentations and traditional lectures. Felder and Silverman (1988) suggested that to provide the best learning experience to visual learners, material should be presented in different visual forms like diagrams, pictures, sketches, network diagrams, process and logic or information, graphs, films and live demonstrations. Visual learners learn better, when the information is provided to them through pictures, maps, and in colors. Hence, integration of color coding, photographs and sketches help the instructor achieve the course goals and enhance the learning of a visual learner.

Significant differences have been found between kinesthetic learning styles of male and female students. This result shows that males prefer to use kinesthetic learning styles more than their peer females. This finding of the study is in parallel with research findings (e.g. Dunn, 1993; Price & Milgram, 1993) which indicate that male prefer to use kinesthetic learning style much more than females. The result of this study indicated that the mother's qualifications are important to support type of learning styles for here children, the mothers who had higher education significant difference between the groups for the auditory learning styles. The levels of mothers' education are more importance of Jordanian society, because the follow-up sons are usually by the mother after school in home. In Jordanian society almost mothers proud of the child's achievements in school more than father. The researcher found no significant differences about preferred learning styles due to environments variable for all dimensions of learning styles inventory.

This study has focused on the three learning styles. The most important limitation of this study is examination of a limited number of learning styles. However, learning styles can be examined with different dimensions and in a more comprehensive way. It is an important aspect of the study that it is one of the first studies examining the preferred kindergarten students learning styles in Jordanian society. It is considered that the obtained results will contribute quantitative studies related to learning styles of other grade of students. Those who will do research on this subject, are suggested especially to examine learning styles comprehensively and focus on elementary grade of students.

References

[1] Arab council for childhood and development. (1998). *Report of the teaching symposia, kindergartens in the Arab world between reality and prospection.*

[2] Baldwin, L., & Sabry, K. (2003). Learning styles for interactive learning systems. *Innovations in Education & Teaching International, 40* (4), 325-340. Barbe,

[3] Cano-García, F., & Hughes, E. (2000). Learning and thinking styles: An analysis of their interrelationship and influence on academic achievement. *Educational Psychology, 20*(4), 413-430.

[4] Cassidy, S. (2004). Learning styles: An overview of theories, models, and measures. *Educational Psychology, 24*(4), 419-444.

[5] Claxton, D. S., & Murrell, P. (1987). *Learning styles: Implications for improving educational practices.* (ASHE-ERIC Higher Education Report No. 4). Washington DC: Association for the Study of Higher Education. (ERIC Document Reproduction Service No. ED293478).

[6] Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning Styles and Pedagogy in Post-16 Learning - A Systematic and Critical Review* (Report No. 1543/06/04/500). London: Learning and Skills Research Centre. Retrieved March 19, 2008, from http://www.lsda.org.uk/files/PDF/1543.pdf.

[7] Cox, P. W., & Gall, B. G. (1981). *Field dependence-independence and psychological differentiation: Biography with index.* Supplement No.5. Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED214977).

[8] Cuthbert, P. (2005). The student learning process: Learning styles or learning approaches? *Teaching in Higher Education, 10*(2), 235-249.

[9] Curry, L. (1983). *An organization of learning styles theory and constructs.* Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Quebec.

[10] Curry, L. (1991). Patterns of learning style across selected medical specialties. *Educational Psychology, 11*(3/4), 247-277.

[11] Cuthbert, P. (2005). The student learning process: Learning styles or learning approaches? *Teaching in Higher Education, 10*(2), 235-249.

[12] Deci, E. and Ryan, R. (1985). Intrinsic motivation and self- determination in human behavior. New York: Plenum.

[13] De Vita, G. (2001). Learning styles, culture and inclusive instruction in the multicultural classroom: A business and management perspective. *Innovations in Education & Teaching International, 38*(2), 165-174.

[14] Dunn, R. (1993). Teaching gifted adolescents through their learning style strengths. R. M. Milgram, R. Dunn & G. E. Price (Eds.), *Teaching and Counseling Gifted and Talented Adolescents: An International Learning Style Perspective* (pp. 37-67), London: Preager Publishers.

[15] Dunn, R., & Dunn, K. (1978). *Teaching Students through their Individual Learning Styles.* A Practical Approach. Prentice Hall, Reston, VA., ISBN: 10: 0879098082, 336.

[16] Dunn, R., & Dunn, K. (1993). *Teaching secondary students through their individual learning styles: Practical approaches for grades 7–12.* Boston: Allyn & Bacon.

[17] Felder, R. M., & Brent, R. (2005). Understanding student differences. *Journal of Engineering Education, 94*(1), 57-72. Retrieved April 9, 2008, from North Carolina State University website: http://www.ncsu.edu/felderpublic/Papers/Understanding_Differences.pdf.

[18] Felder, R. M. & Henriques, E. R. (1995). Learning and teaching styles in foreign and second language education. *Foreign Language Annals,* 28 (1), 21–31.

[19] Felder, R. M. & Silverman, L. K. (1988). Learning and teaching styles in engineering education. *Engineering Education,* 78 (7), 674–681.

[20] Ferrell, B. G. (1983). A factor analytic comparison of four learning-style instruments. *Journal of Educational Psychology, 75*(1), 33-39.

[21] Gadt-Johnson, C., & Price, G. (2000). Comparing students with high and low preferences for tactile learning. *Education, 120*(3), 581.

[22] Gadzella, B. M., Stephens, R., & Baloglu, M. (2002). Prediction of educational psychology course grades by age and learning style. College Student Journal, 36, 62-68.

[23] Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: an Introduction*. New York: Longman.

[24] Gall, M. D., Gall, J. P., & Borg, W. R., (2007). *Educational research: an Introduction*. (8th ed.) New York: Longman.

[25] Gentry, M. et al., (2001). "Gifted Students Perceptions of Their Class Activities: Differences Among Rural, Urban, and Suburban Student Attitudes", Gifted Child Quarterly, 45,n.2: 115-129.

[26] Guild, P. B. (2001). Diversity, Learning Style and Culture. Teaching and learning strategies. VII (4). Retrieved April 9, 2008 from New Horizons for Learning website: http://www.newhorizons.org/strategies/styles/guild.htm.
[27] Hall, E., & Moseley, D. (2005). Is there a role for learning styles in personalized education and training? *International Journal of Lifelong Education*, *24*(3), 243-255.
[28] Heffler, B. (2001). Individual learning style and the learning style inventory. Educational Studies, 27(3), 307e316.
[29] Honey, P., & Mumford, A. (1986). *The manual of learning styles.* Maidenhead: Peter Honey.
[30] Honey, P., & Mumford, A. (1992). *The manual of learning styles: Revised version.* Maidenhead: Peter Honey.
[31] James, W. B., & Blank, W. E. (1991). A comparison of adult's perceptual learning style and their educational level. *Mountain Plains Adult Education Association Journal, 19*, 11-21.
[32] James, W. B., & Blank, W. E. (1993). Review and critique of available learning-style instruments for adults. *New Directions for Adult and Continuing Education, 59*(Fall) 47-57.
[33] Kaplan, E. J. & Kies, D. A. (1995). Teaching styles and learning styles: Which came first? *Journal of Instructional Psychology*, 22 (1), 29-34.
[34] Keefe, J. W. (1979) Learning style: An overview. NASSP's *Student learning styles: Diagnosing and proscribing programs* (pp. 1-17). Reston, VA. National Association of Secondary School Principles.
[35] Kennedy, P. (2002). Learning cultures and learning styles: Myth-understandings about adult (Hong Kong) Chinese learners. *International Journal of Lifelong Education, 21*(5), 432-445.
[36] Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.
[37] Krätzig, G., & Arbuthnott, K. (2006). Perceptual learning style and learning proficiency: A test of the hypothesis. *Journal of Educational Psychology, 98*(1), 238-246.
[38] McLachlan, J. C. (2006). The relationship between assessment and learning. *Medical Education, 40*, 716-717.
[39] Sadler-Smith, E. (2001). Does the learning styles questionnaire measure style or process? A reply to Swailes and Senior (1999). International Journal of Selection and Assessment, 9(3), 207e214.
[40] Sternberg, R. J., & Grigorenko, E. L. (1997). Are cognitive styles still in style? American Psychologist, 52 (7), 700–712.
[41] Stewart, K. L., & Felicetti, L. A. (1992). Learning styles of marketing majors. *Educational Research Quarterly*, 15(2), 15-23.
[42] Vermunt, J. D. (1996). Meta cognitive, cognitive and affective aspects of learning styles and strategies: a phenomenographic analysis. Higher Education, 31(1), 25–50.