Determining the Preferred Learning Styles Modes of the Prospective Preschool Teachers through LSS in Turkish Context

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Abstract: *In recent years, it has been postulated that every individual has a different learning style by Educational researchers. It is important for instructors to know their learners' preferred learning styles as it will help them to plan their lessons to match or adapt their teaching and to provide the most appropriate activities to suit the learners from different learning styles. The purpose of this descriptive study was to determine the preferred learning styles of the prospective preschool teachers using Learning Styles (LSQ) questionnaire. This study was conducted at A.K. Faculty of Education and Vocational High School of Health Services of Selçuk University. LSQ was administered to 263 (144 from faculty of education and 119 from Vocational High School of Health Services) prospective preschool teachers to determine and compare their preferred mode of learning. Learning Style (LSQ) Questionnaire displays that students were divided into four plus multimodal groups including analyst, philosopher, organizer, reflector and multimodal learners. The Unimodality preference was 74.6% and multimodality was 25.4%. Among 263 participants, 33.4 % were analyst, 19.0 % were philosopher, 15.5% were organizer, 6.4% reflector and 25.4 % were multimodal learners in general. Some arithmetic and statistical difference were determined between the learners attending different schools in question. If the instructors in the University know how their prospective preschool teachers internalize and process the knowledge and information they will develop and adapt appropriate teaching and learning approaches to make the teacher training education more productive.*

Keywords: *Learning styles, preschool teachers, multimodal, unimodal, Turkish context, analyzer, philosopher, reflector*

Introduction

Nowadays, educational researchers have studied on how an individual learn and internalize the knowledge in a productive way. To attain their aim, they have focused on individualized learning and learning styles of individuals in education. Despite the amount of related research regarding learning styles, teaching styles, and personality styles of the teachers in general, preservice pre-school education professionals may be unable to fully utilize the results because preservice preschool education teachers were not included in the sample of the previous research much. In this way, most of the educationalists believe that every individual is special and has a special way of learning moods. They may either prefer only one dimension of the same learning styles as unimodal learners or more than one dimension of the same learning styles as multimodal learners. A teacher could meet students having different mode of learning as the number of the students in the same classroom. At this point, academicians, educationalists and teachers should take this situation into consideration while making plan, designing syllabus, preparing curriculum, and proposing educational policies.

Literature Review

It is clear that people learn differently at different paces due to their biological and psychological differences (Reiff 1992). In addition to this, Keefe & Monk, (1986) defines learning styles as the predominant and preferred manner in which individuals retain take-in, process, and recall information. These differences in learning naturally abound in any settings where students come from different cultural and educational backgrounds. Clearly, learning styles include not only the cognitive domain, but also the affective and physiological domains (Oxford, Hollaway, Horton-Murillo 1992). Literature abounds learning styles of the learners. Chapelle (1995) talked about field-independence (FI)/ field dependence (FD) and how people perceive and memorize information in these fields. Dunn and Dunn (1972) developed an instrument to measure learning styles that included elements related to environment, emotion, and sociology. According to Williams (1983) learners who prefer left-hemisphere approaches to processing information excel at analytical tasks and master abstract, factual, and impersonal material easily, while students who are right-hemisphere learners like to work collaboratively to achieve a common goal. Gorham (1986) identified three broad categories of 'learning style': (a) '*instructional preferences*': learners 'comfort and fit' with particular instructional methods such as independent study,

lecture, 'games', discussion, etc. (Renzulli & Smith, 1978), including those preferences measured by inventories such as the *Grasha-Reichmann Learning Styles Questionnaire* (Reichmann & Grasha, 1974); (b) *'information processing style*' such as Kolb's (1984) model of the experiential learning cycle and the associated learning styles (converger, diverger, accommodator, assimilator) or the related learning styles suggested by Honey and Mumford (1992) (activist style, reflector style, theorist style and pragmatist style); (c) *'cognitive personality elements*' such as field dependence and independence (Witkin et al., 1977). One may add to this the intuitive-analytical dimension (Allinson & Hayes, 1996) and the wholist-analytical and verbalizer-imager dimensions of cognitive style (Riding, 1991). Learning styles is not about the labeling or marking of students, but one of the most effective ways to lead the learners to find their potentials and strengths and make them take responsibility for their own learning. The Dunn and Dunn learning-style model is divided into five strands called *stimuli*. The first stimulus strand consists of biologically-imposed environmental elements, the model's second stimulus strand includes the emotional elements of motivation, persistence, responsibility, and structure, the third stimulus consists of sociological elements that specify whether a person wants to work alone, in pairs, with peers, in a team, physiological strand as a fourth stimulus includes perceptual preferences, intake, time of day, and mobility, and the fifth stimulus strand incorporates the psychological elements of (a) global versus analytic processing, (b) hemisphericity, and (c) impulsive versus reflective behaviors (Thies, 1979, 1999-2000). Rahal (2010) and Zhang (2008) further added that learning style based education is a roadmap to promote students' learning, but, it is not for everyone or all the time, and it is not a free ticket to success. Additionally, researchers have also reported that identification of student learning style can be used to support and guide learning (Pennell, 1985; Pheiffer at all., 2005). Therefore, the use of different learning styles should be taken into account while teaching in the classroom (Saemah at all. 2011). It is suggested by Raven (1992) that teachers who are aware of their learning style as well as the styles of their students, are better able to make sure that any differences between their learning styles will not impede learning.

Kolb Learning Styles

Kolb (1984) put forward that learning is the process whereby knowledge is created through the transformation of experience and knowledge results from the combination of grasping experience and transforming it. Kolb also states that learning involves the acquisition of abstract concepts that can be applied flexibly in a range of situations. In Kolb's theory, the impetus for the development of new concepts is provided by new experiences (Mcleod, 2010). David Kolb (1981, 1984) statistically proposed that four combinations of perceiving and processing determine four learning styles that make up a learning cycle. According to Kolb (1981, 1984) the learning cycle involves four processes that must be present for learning to occur: *Divergers* (concrete, reflective) emphasize the innovative and imaginative approach to doing things and view concrete situations from many perspectives and adapt by observation rather than by action. They are interested in people and tend to be feeling-oriented and like such activities as cooperative groups and brainstorming. *Assimilators* (abstract, reflective) pull a number of different observations and thoughts into an integrated whole and they like to reason inductively and create models and theories and to design projects and experiments. *Convergers* (abstract, active) emphasize the practical application of ideas and solving problems and like decision-making, problem-solving, and the practicable application of ideas. They prefer technical problems over interpersonal issues. *Accommodators* (concrete, active) use trial and error rather than thought and reflection. They are good at adapting to changing circumstances; solving problems in an intuitive, trial-and-error manner, such as discovery learning. Also they tend to be at ease with people.

Having been inspired by Kolb Honey and Mumford directly derived the model called Learning Styles Questionnaire (LSQ). Honey and Mumford (2000) gave the people a questionnaire that probes general behavioral tendencies rather than asking people directly how they learn, as Kolb's LSI does. They substitute the terms "*reflector*" for divergers (reflective observation), "*theorist*" for assimilators (abstract conceptualization), "*pragmatist*" for convergers (concrete experience), and "*activist"* for accommodators (active experimentation). In addition, the new labels have slightly different meanings (Coffield at all, 2004). It is also postulated that people prefer different methods of learning, depending upon the situation and their experience level, thus they move between the four modes of learning, rather than being dominantly locked into one mode. Reflector prefers to learn from activities that allow them to watch, think, and review Theorist prefers to think problems through in a step-by-step manner. Pragmatist prefers to apply new learning to actual practice to see if they work. Activist prefers the challenges of new experiences, involvement with others, assimilations and role-playing (Honey & Mumford, 2000).

Aim of the research

The purpose of this descriptive study was to determine the preferred learning styles of the Turkish prospective preschool teachers by using Learning Styles Survey (LSS) regarding their school types.

Method

This survey was designed as a learning tool for learners in training programs such as learning-to-learn (meta-learning) besides leadership development. To achieve this goal, we designed a descriptive study, a study that attempted to reveal patterns associated with a specific group without an emphasis on pre-specified hypotheses. The rational for this descriptive study was to help us design a teaching approach that addressed various domains of all the preservice preschool teachers (Lujan & DiCarlo, 2005).

Sample

The population for this descriptive study was preservice teachers majoring in teacher education at Faculty of Education and Vocational High School of Health Services of Selçuk University. The sample was 263 (144 from faculty of education and 119 from Vocational School of Health Services) preservice teachers enrolled in a methods of teaching preschool courses during 2011.

Instrument

Learning Style Survey (LSS) is based on Honey and Mumford's model (Honey & Mumford, 2000), and Kolb's model (1981, 1984), which has been a source of inspiration for many researchers developing different learning styles (Dede, 2009). This survey is designed to help the learners gain an understanding of their learning styles so that they can incorporate the various learning styles in their daily learning activities. it is a tool for *learning-to-learn* (metacognition) in order to increase self-awareness about their strengths and weaknesses as learners so that they will try the various means of learning, rather than sticking with their preferred methods (http://www.nwlink. com).

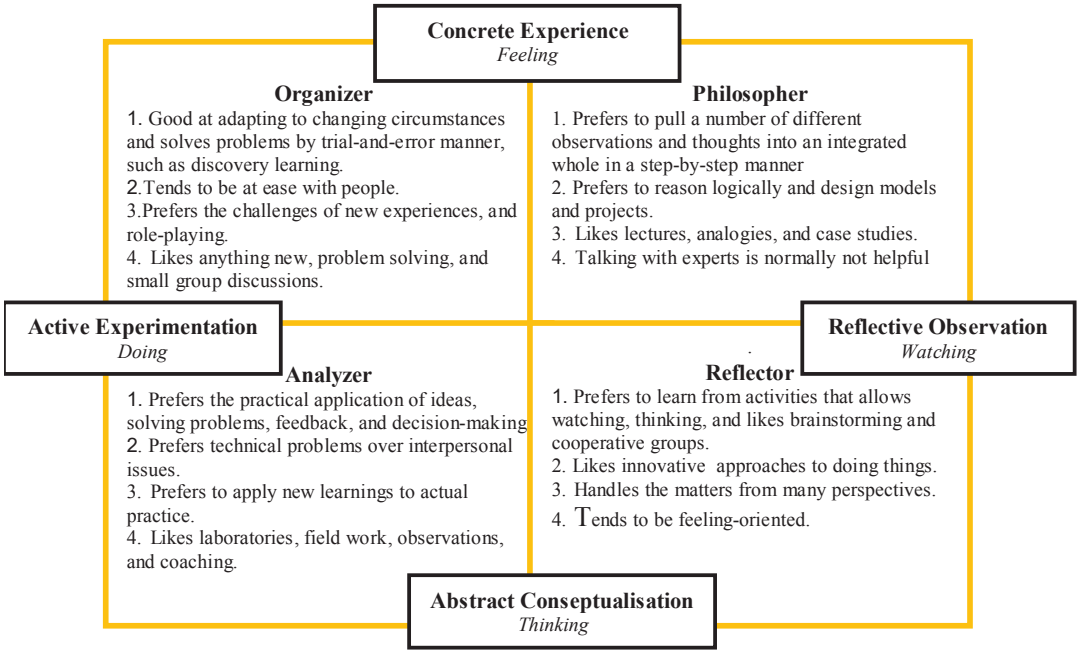
Learning Style Survey (LSS) is two-dimensional, which indicates the two basic components of the learning process. The first of them is the perception of knowledge; the second is the processing of knowledge. At this point, individuals perceive knowledge by feeling or thinking and process it by watching or doing. While knowledge perception presents clues as to how we think, knowledge processing attempts to explain how we do it (Dede, 2009). Learning Style Survey (LSS) displays that learning styles of the learners can be categorized under four learning types, which is the mixture of Kolb's (1981, 1984) and Honey & Mamfurd (2000) models:

Reflector prefers to learn from activities that allow *watching, feeling*, and to review what has happened, such as brainstorming and cooperative groups, and to view situations from many perspectives. Additionally, they like innovative and imaginative approaches to doing things and tend to be feeling-oriented.

Philosopher prefers to learn from activities that allow *watching and thinking* and to pull a number of different observations and thoughts into an integrated whole in a step-by-step manner and to reason logically and design models, theories, and projects. They also like lectures, analogies, systems, and case studies, but, talking with experts is normally not helpful.

Analyzer prefers to learn from activities that allow *doing and thinking* and prefers the practical application of ideas, solving problems, feedback, and decision-making, technical problems over interpersonal issues, new learnings to actual practice to see if they work. In addition to these, they like laboratories, field work, observations, and coaching.

Organizer prefers to learn from activities that allow *doing and feeling,* and the challenges of new experiences, involvement with others, assimilation, and role-playing. Additionally, they tend to be at ease with people, like anything new, problem solving, and small group discussions, furthermore, they are good at adapting to changing circumstances and solves problems in an intuitive, trial-and-error manner, such as discovery learning (http://www.nwlink.com).



Uni/Multimodal Learning Styles (Adapted from Riding & Rayner,1998)

Data Collection

The translated version of the Learning Style Survey (LSS), which is derived from Honey and Mumford's model (Honey & Mumford, 2000), and Kolb's model (1981, 1984), was conducted to the participants in question above to determine their preferred modes of information processing. They were required to mark the best choice(s) of the survey, which fit(s) them best. Data handled were analyzed by using SPSS version 14.0. The following are internet links to the LSS homepage http://www.nwlink.com/~Donclark/hrd/styles/learn_style_survey.html

Results and Discussion

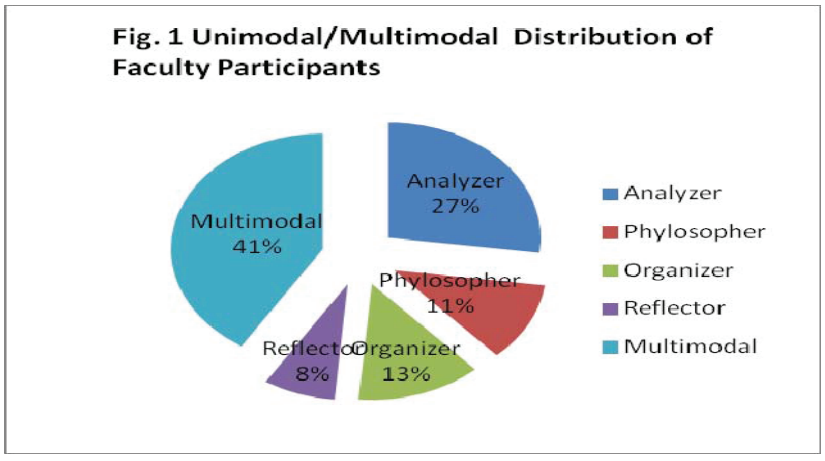


Figure 1 shows the distribution preferred learning styles of the faculty participants. Of the study group, 41 % of the students preferred a multimodal learning style while 69 % of the students preferred a unimodal mode of learning style. In multimodel mode of learning styles the participants generally prefer any two combinations of out of four learning style modes including analyzer, philosopher, organizer, and reflector. Of the students who preferred unimodel information processing, 27% (39 students) of the participants were analyzer, 11% (16 students) of the students were philosopher, 13% (19 students) of the students were organizer, and 8.0% (11 students) of the students were reflector.

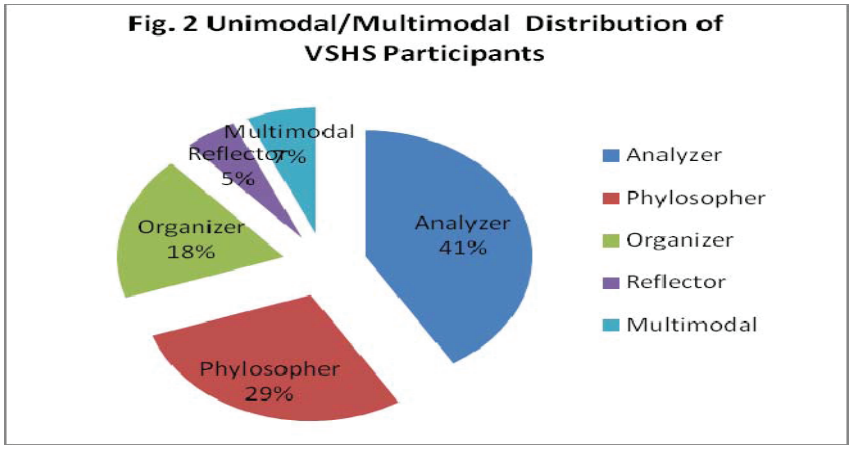


Figure 2 displays the distribution preferred learning styles of the Vocational School of Health Services (VSHS) participants. Of the study group, 7.0 % (8 students) of the participants preferred a multimodal learning style while 93% (111 students) of the participants preferred a unimodal mode of learning style. In multimodel mode of learning styles the participants generally prefer any two or three combinations of out of four learning style modes including analyzer, philosopher, organizer, and reflector. Of the students who preferred unimodel information processing, 41 % (49 students) of the participants were analyzer, 29% (34 students) of the participants were philosopher, 18% (22 students) of the participants were organizer, and 5.0% (6 students) of the participants were reflector.

Fig. 3 Comparision of Learning Styles of Faculty and V.S.H.S Participants

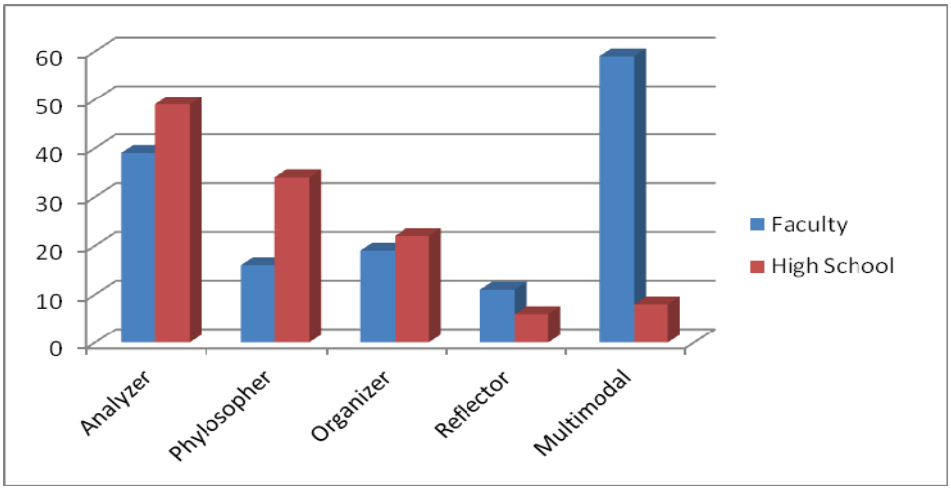


Figure 3 shows the comparison of the learning style modes the faculty and V.S.H.S. participants preferred.

Table 1. Chi-square test of the learning styles of the faculty and V.S.H.S. participants

School		Analyzer	Phylosopher	Organizer	Reflector	Multimodal	Total
Faculty	N	39	16	19	11	59	144
	%	27.1	11.1	13.2	7.6	41.0	100
V.S.H.S.	N	49	34	22	6	8	119
	%	41.2	28.6	18.5	5.0	6.7	100
Total	N	88	50	41	17	67	263
	%	33.5	19.0	15.6	6.5	25.5	100

X^2= 46.17 df=4 p= .01

The Chi-Square test results displayed the results whether there is a difference or relation between the schools the participants are attending. When the table 1. is examined, the proportion of the V.S.H.S. participants who preferred "*Analyzer*" mode of learning style is up to % 41.2 while it is % 27.1 for the faculty participants. It is heightened to % 28.6 for the V.S.H.S. participants while the proportion of the faculty participants who preferred "*Phylosopher*" mode of learning style is % 11.1. As for the "*Multimodal*" mode of learning styles of the participants, the proportion of the V.S.H.S. participants who preferred "*Multimodal*" mode of learning style is % 6.7 while it is heightened to % 41.0 for the faculty participants.

The fact that the faculty participants prefer "*Multimodal*" mode of learning style on the proportion of % 41.0 and the V.S.H.S. participants prefer "*Analyzer*" mode of learning style on the proportion of % 41.2 show that the difference between the participants attending different schools is significant (X^2= 46.17 df=4 p<.05). In other words, there is a significant relation regarding their views and the different schools the participants attending.

Conclusion

The research on preservice preschool teachers' preferred learning styles is important to help maximize the quality of their instruction. It is clear that academicians who better understand the preferred learning styles of their students can tailor the course information to the styles that are most effective for their students. Regardless of the specific teaching style(s) that academicians choose to use when teaching, however, teachers-to be that understand their own learning style preferences can organize course information into the style that is most suited. Based on this, the results of this study indicate that the faculty and Vocational School of Health Service participants chose different mode of learning styles and inevitably that those with different learning style preferences could perform differently at schools.

Although the participants were not given any question to self-assess their preferred multimodal learning style and there were no choices corresponding to a multimodal preference. % 25.4 participants put forward that they preferred fifth dimensions of learning style, which is multimodal learning style. The results of this investigation contribute to the growing body of evidence showing that their learning style preferences may give birth to another learning style mode of learning, which is multimodal one. While % 75 of the participants preferred a specific mode of learning strategy, % 25 of them preferred at least double, triple or quadruple mode of learning strategy. In other words, both faculty and V.S.H.S. participants would prefer eclectic mode of learning strategies, which is the mixture of two, three or more learning strategies besides the unimodal learning styles including analyzer, philosopher, reflector and organizer. As to those students in this study that would have indicated a multimodal preference if they had had the choice, it is likely to think that at least some of those students had a dominant learning style preference and were therefore able to adequately choose double, triple or quadruple preferences.

Future studies in this area should use a different, and preferably a statistically validated, method for assessing learning style preferences and should include whether their mode of learning styles impact on their success or not. With regard to future research, several questions regarding learning styles emerged from this study. For example, do multimodal-mode of learners perform better in the classroom than unimodal-mode of learners? From the instructor perspective, should one mode be used more than another? How well do grades correlate with their learning styles for specific classes, e.g., do analyzers perform better in preschool classes and do philosophers perform better in preschool teaching practicum? How do the academicians accommodate both those who prefer only one style and those who prefer many? All of these questions lead to further research.

References

Allinson, C.W.& Hayes, J. (1996). The Cognitive Style Index: A measure of intuition-analysis for organisational research. *Journal of Management Studies* 33(1): 119–135.

Dede (2009) The Teacher's Educational Leadership Roles According to Kolb's Theory Of Learning, *Humanity & Social Sciences Journa*l 4 (2): 153-163.

Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning styles and pedagogy in post-16 learning: A systematic and critical review.* www.LSRC.ac.uk: Learning and Skills Research Centre. Retrieved January, 02, 2012: https://crm.lsnlearning.org.uk/user/login.aspx?code=041543&P=041543PD&actic

Chapelle, C. (1995). *Field-dependence/field-independence in the second language classroom*. In learning styles in the ESL/EFL classroom. Ed. J. Reid. Boston: Heinle and Heinle Publishers.

Dunn, R. and K. Dunn. (1972). *Practical approaches to individualizing instruction*. Englewood Cliffs, NJ: Parker Division of Prentice-Hall.

Gorham, J. (1986). Assessment classification and implications of learning styles as instructional interactions.*Communication Education, ERIC Reports* 35(4): 411–417.

Honey, P. & Mumford, A. (1992). *The Manual of Learning Styles*. Maidenhead: Peter Honey.
Honey, P. & Mumford, A. (2000). *The learning styles helper's guide.* Maidenhead: Peter Honey Publications Ltd.
Keefe, J. W. & Monk, J. S. (1986). *Learning Style Profile*. Reston, VA: National Association of Secondary School Principals.
Kolb D. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, New Jersey: Prentice Hall.
Kolb, D. A. (1981) Learning Styles and Disciplinary Differences. In A. Chickering and Associates (Eds.), *The Modern American College,* San Francisco: Jossey-Bass Publishers.
Lujan H. L. and DiCarlo, S. E. (2005) First-year medical students prefer multiple learning styles. *Advan Physiol Educ,* 30:13-16. http://www.nwlink.com/~Donclark/hrd/styles/learn_style_survey.html
Mcleod, S. A. (2010). *Simply Psychology; Kolb Learning Styles.* Retrieved 23 December 2011, from http://www.simplypsychology.org/learning-kolb.html
Oxford, R., M. Hollaway, and D. Horton-Murrillo. (1992). Language learning style and strategies in the multicultural, tertiary L2 classroom. *System*, 20, 3,439–456.
Pennell, L., (1985) Academic Intervention Program: Applying Brain and Learning Style Concepts. *Theory into Practice*. 24(2): 131-137.
Pheiffer, G., D. Holley and D. Andrew, (2005) Developing Thoughtful Students: Using Learning Styles in an HE Context. *Education and Training*. 47(6): 422- 431.
Rahal, T. (2010). Learning Styles:Learning that Empowers Students? *Learning and Teaching in Higher Education:Gulf Perspectives*, 7(2), 33-51.
Raven, M. (1992). Teaching students with different learning styles. *The Agricultural Education Magazine*, 66(5), 5-6, 15.
Reichmann, S.W. & Grasha, A.F. (1974). A rational approach to developing and assessing the construct validity of a study learning styles scale inventory. *Journal of Psychology* 87:213–223
Renzulli, J. S. & Smith, L.H. (1978). *The Learning Styles Inventory: A Measure of Student Preference for Instructional Techniques*. Mansfield Centre, CT: Creative Learning Press.
Riding, R. J.(1991). *Cognitive Styles Analysis*. Birmingham: Learning and Training Technology.
Riding, R, J. &. Rayner, S. G. (1998). *Cognitive Styles and Learning Strategies*. London, David Fulton Publishers, pp: 52-78.
Reiff, J. (1992). *What research says to the teacher: Learning styles*. Washington, DC: National Education Association.
Saemah, R. Mazli Sham, A. Ruhizan, M. Y. T. Subahan Mohd M. Lilia, H. & Ruslin, A. (2011) Student Learning Style and Preferences for the Promotion of Metacognitive
Development Activities in Science Class. *World Applied Sciences Journal* 14 (Special Issue of Innovation and Pedagogy for Diverse Learners): 11-16, 2011
Thies, A. P. (1979). A brain-behavior analysis of learning styles. In *Student learning styles: Diagnosing and prescribing programs* (pp. 55-61). Reston, VA: National Association of Secondary School Principals.
Thies, A. P. (1999-2000). The neuropsychology of learning styles. *National Forum of Applied Educational Research Journal,13*(1), 50-62.
Witkin, H.A., Moore, C.A., Goodenough, D.R & Cox, P.W. (1977). Field-dependent and fieldindependent cognitive styles and their educational implications. *Review of Educational Research* 47: 1–64.
Zhang, D. (2008). Effective Combination of Learning Styles and College English Teaching, *Sino-US English Teaching*, 5(4), 25-28.
http://nwlink.com/~donclark/hrd/styles/learn_style_survey.html