AN INVESTIGATION OF THE LEARNING STYLES OF PROSPECTIVE EDUCATORS

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Abstract: One of the most important aspects of today's education is the learning styles of students since their success is dependant to the way they learn best. This can be achieved by understanding their individual differences and considering this in their education. When teachers become aware of different learning styles and the way they learn best, their teaching will highly benefit from this. Therefore, the aim of this study is to investigate the learning styles of prospective teachers in different Departments in the Faculty of Education such as Turkish Language Teaching, Guidance and Psychological Counselling, Pre-school Teacher Education, and Computer and Instructional Technology Teacher Education at Eastern Mediterranean University during the Academic Year 2009-2010 Spring Semester. Prospective teachers have been asked to complete a Learning Styles Inventory. The data was analysed by using SPSS Statistical Program. It is found that there were differences in the learning styles of prospective teachers according to their Departmental choices and students from Departments with similar subjects have similar dominant styles.

Introduction

It has been accepted as a valid truth that understanding the ways students learn is the key element for a better education (Collinson, 2000). All people vary in how they perceive and acquire information, conceptualize, form ideas, process and memorize, form value judgments, and how they behave (Hickinson and Baltimore, 1996). The effects of individual differences in learning styles has been investigated in the education field since the way students learn is has a very important role on the academic achievement of students.

There have been various information-processing models that have been developed throughout the history until today. One of these is the model developed by David Kolb. Kolb's Learning Cycle is based on John Dewey's notion that learning must be grounded in experience, Kurt Lewin's ideas of the importance of active learning, and Jean Piaget's emphasis on the interaction between person and environment on intelligence (Teixeira, 2001). Therefore, his theory developed from the learning theory 'experiential learning'. In this theory, learning is a process where knowledge is created through the transformation of experience.

In the Experiential Learning Theory of Kolb, learning is conceived in a four-stage cycle. Kolb claims that people learn through experience and as they learn, they move through this four-stage cycle (Kolb, 1985). The four distinct learning styles are based on the four-stage cycle as he points out that the cycle is the essential element of his experiential learning theory.

Kolb's four-stage cycle:

❖ *Concrete Experience - (CE)*: This stage focuses on personal involvement with people in everyday situations. In this stage, people rely on their feelings more rather than considering problems and situations in a

systematic way. The abilities to be open-minded and flexible for changes are important while learning. In short, this is the stage that learning is achieved by feeling.

❖ *Reflective Observation - (RO)*: In this stage, people understand ideas and situations from different perspectives. People have a tendency on patience, objectivity, and careful judgement but they do not prefer to take any actions. While forming opinions thoughts and feelings are considered. In short, this is the stage that learning is achieved by watching and listening.

❖ *Abstract Conceptualization - (AC)*: Learning involves using logic and ideas rather than feelings while understanding situations and solving problems. Systematic planning and developing theories and ideas for the solutions of problems are considered in this stage. In short, this is the stage that learning is achieved by thinking.

❖ *Active Experimentation - (AE)*: Learners start being active in this stage. There is a practical approach that what really works is important, instead of watching situations only. In short, this is the stage that learning is achieved by doing (Kolb, 1985).

Kolb states that most people go through these stages in the order of concrete experiences, reflective observation, abstract conceptualization and active experimentation. This means that learns have a concrete experience, then observe and reflect it from different perspectives, then form abstract concepts and generalizations in theories and finally actively experience these theories and test what they have learned in complex situations. He also developed Learning Style Inventory to measure learning styles of learners according to the theory of experiential learning. The scores of individuals from this inventory describe their learning styles as one of the four different types (Atkinson, 1991).

Kolb's four types of learning styles:

❖ Converger: Those with highest scores in Abstract Conceptualization (AC) and Active Experimentation (AE). Convergers greatest strength is the practical application of ideas. They are very good when there is a single correct answer or solution to a question or problem and can focus on specific problems or situations. Research on this style of learning shows that Convergers are relatively unemotional, preferring to deal with things rather than people.

❖ Diverger: Those with highest scores in Concrete Experience (CE) and Reflective Observation (RO). Divergers have the characteristics opposite from convergers. Their greatest strengths lie in creativity and imaginative ability. They are able to view concrete situations from many perspectives and generate many ideas. Research shows that Divergers are interested in people and tend to be imaginative and emotional.

❖ Assimilator: Those with highest scores in Abstract Conceptualization (AC) and Reflective Observation (RO). Assimilators are able to understand and create theories. They are good at inductive reasoning and synthesizing various ideas and observations into an integrated whole. Like convergers, they are less interested in people and more concerned with abstract concepts, but are less concerned with the practical use of theories. For them it is more important that the theory be logically sound and precise; in a situation where a theory or plan does not fit the facts.

❖ Accommodator: Those with highest scores in Concrete Experience (CE) and Active Experimentation (AE). Accommodators are polar opposites form Assimilators. They are good at carrying out plans and experiments and involving themselves in new experiences. They are risk-takers and excel in those situations requiring quick decisions and adaptations. They often solve problems in an intuitive trial and error manner, relying heavily on other people for information. Accommodators are at ease with people but may be seen as impatient and pushy (Kolb, 1985).

Studies have proven that when teachers are aware of the learning styles of their students and the way they learn best, the success rate of students tend to be much higher as their teaching will highly benefit from this. Therefore, the aim of this study is to investigate the learning styles of prospective teachers in different Departments in the Faculty of Education such as Turkish Language Teaching, Guidance and Psychological Counselling, Pre-school Teacher Education, and Computer and Instructional Technology Teacher Education at Eastern Mediterranean University.

The Study

The study is a descriptive study as we would like to learn our students' learning styles without influencing their styles.

The participants of the study were the students of various Departments of the Faculty of Education at Eastern Mediterranean University. In total there were 153 students who have participated in this study; 15 of them were from Department of Computer and Instructional Technology and Teacher Education, 11 of them were from Department of Turkish Language and Literature Teacher Education, 2 of them were from Department of Science Teacher Education, 10 of them were from Department of Middle School Mathematics Teacher Education, 3 of them were from Department of Music Teaching, 68 of them were from Department of Psychological Counselling and Guidance, 6 of them were from Department of Social Sciences Teacher Education, 19 of them were from Department of Turkish Language Teaching and 19 of them were from Department of English Language Teaching.

There were two sections in the instrument of the study. In the first section there were 5 questions aimed to get some demographic information about the participants. In the second section the Turkish version of Kolb's Learning Styles Inventory was used. The Turkish version of the inventory was taken from the unpublished Ph.D. dissertation of Güven (2004). In this section there were 12 items and the participants were asked to rank order each statement that best described them from most descriptive, 4, to least descriptive, 1.

As the Turkish version of the 'Kolb's Learning Styles Inventory' was used with a different population, first of all reliability analysis was conducted to find out the reliability values of the subscales of the inventory and to compare these results with other results done before. Table 1 reliability results (cronbach alpha values) of the study. For three subscales cronbach alpha values (ά) are equal to or higher than .70 and this value is acceptable for social sciences and consistent with the other studies (Guven, 2004). When the results are examined it is possible to say that the subscales of the inventory have acceptable consistency.

Table 1 Reliability analysis

Subscales	ά
Concrete Experience	.72
Reflective Observation	.59
Abstract Conceptualization	.71
Active Experimentation	.70

The inventories were given to the participants during their course hour. With the help of the course instructors, necessary explanations were given to the participants in advance. After the collection of the data, it was analysed by using SPSS 14.00. Then, the learning style of each participant was identified for finding out the frequencies of the learning styles as a whole and for each group.

Findings

The study aimed to answer two research questions which were: 1) What are the general learning styles which are dominant among the prospective teachers in various Departments? 2) How do the learning styles of participants in Departments vary? Consequently, the results were as follows for the mentioned research questions.

What are the general learning styles which are dominant among the prospective teachers in various Departments?

Table 2 shows the distribution of learning styles in general for the prospective teachers who study in various Departments of Faculty of Education, Eastern Mediterranean University. When Table 2 is examined carefully, it can be said that the learning styles of the participants in different

Departments of the Education Faculty at EMU were almost equally distributed. Nearly 25% of each style was preferred by nearly the same amount of participants. It can easily be seen that the percentages of different learning styles were very close to each other.

Table 2 Frequency Distribution of the Prospective Teachers' Learning Styles in General

	Frequency	Percentage
Converger	33	21.6
Diverger	47	30.7
Assimilator	31	20.3
Accelerator	42	27.5

How do the learning styles of participants in different Departments vary?

In this section the learning styles of the participants were analyzed and the results were given in Table 3. There were nine different Departments and the numbers of participants in each Department vary, therefore, instead of numbers of the participants, the percentages were used to show the differences more clearly.

As it can be noticeably seen from Table 3, the learning styles of the participants vary from Department to Department. The results are as follows:

- For the Department of Computer and Instructional Technology Teacher Education the majority of the students in this Department use converger (33.3%) and diverger (26.7%) learning styles.
- In the Department of Turkish Language and Literature Teacher Education, participants mainly use converger (45.5%) style and accelerator (27.3%) style mainly.
- For Science Teacher Education Department unfortunately the researchers could manage to reach only two students where one of them (50%) stated that he/she use converger and the other one (50%) assimilator learning style.
- For Middle School Mathematics Teacher Education Department again there was a uniform distribution of the learning styles among the students. Around 25% of each style was used by 25% of the students.
- Again the researchers could reach only three students of the Department of Music Teacher Education and one of them (33.3%) claimed that he/she used diverger and the other two (66.7%) used accelerator learning styles.
- In Guidance and Psychological Counselling Department, mainly the participants use diverger (32.4%), accelerator (26.5%) and assimilator (25%) learning styles.
- In Social Sciences Teacher Education Department, the majority of the students (50%) use diverger learning styles.
- In Turkish Language Teaching Department again the majority of the students (47.4%) use diverger learning styles when they learn something.
- For English Language Teaching Department it is evident that participants mainly use accelerator (36.8%) and converger (31.6%) learning styles.

Table 3 Learning Styles of Participants According to their Departments

	Converger	Diverger	Assimilator	Accelerator
Computer and Instructional Technology Teacher Education	33.3	26.7	20	20
Turkish Language and Literature Teacher Education	45.5	18.2	9.1	27.3
Science Teacher Education	50	--	50	--
Middle School Mathematics Teacher Education	20	20	30	30
Music Teacher Education	--	33.3	--	66.7
Psychological Counselling and Guidance	16.2	32.4	25	26.5
Social Sciences Teacher Education	16.7	50	16.7	16.7
Turkish Language Teaching	10.5	47.4	15.8	26.3
English Language Teaching	31.6	21.1	10.5	36.8

Conclusions

When participants were examined in general, it can be said that the learning styles of them varied. As the participants of the study have been studying in different departments, they have different interests and abilities so these results can be acceptable and predictable. On the other hand, their learning styles were examined according to their departments and differences among departments were identified. For some departments converger learning style was dominant, for some others diverger was dominant and for others accelerator learning style was dominant. When the results were analyzed closer, it can be said that students from departments with similar subjects have similar dominant learning styles.

For further study students who study in similar departments can be examined in more detail to find out what makes the students in these departments use the same or similar kind of learning styles. In this study, requirements of the different departments can be taken into consideration in order to find out if the learning styles of the students match with the requirements of their departments.

Also, student's learning styles can be correlated with their success rates and identify if there is a correlation between their learning styles and their success rates. Moreover, it can be suggested that students with specific learning styles are more successful than the others who have different learning styles.

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