

# **The study of learning styles in middle school monolingual and bilingual students and its relationship with educational achievement and gender**

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## **Abstract**

**The purpose of doing the research which is the basis for writing this article, was the study and comparison of learning styles in bilingual students (Turkish and Kurdish) and those students who speak one language only (Farsi), and research into whether there exists a relationship between methods of learning and educational advancement elements and the gender among these students. Due to this fact, Felder-Solomon Learning-style questionnaire was put to work for 720 students in grade 6, 7, and 8 of public schools in 2001-2002 academic year. The students were consisted of 240 bilingual Kurdish female and male students, 240 bilingual Turkish female and male students, and 240 one-language speaking (Farsi) female and male students, respectively in cities of Sanandaj, Tabriz, and Tehran. The outcomes were analyzed with the help of multivariate analysis of**

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**variance and the correlational method. This research showed that:**

**a) There is difference between the learning style of bilingual (Turk and Kurd speaking) students and students who speak only one language (Farsi), in the way that the one-language speaking students have an intuitional-visual learning style in comparison with the bilingual students. The bilingual students have a sensational-verbal learning style compared to the one-language speaking students.**

**b) There is no significant relationship between the learning style and the student's educational advancement.**

**c) There is a difference between the learning methods of female and male students; in the way that boys' learning style is of the visual-holistic type, while the girls' learning style is of the verbal-consecutive type.**

**Key Words: Learning styles, middle school, bilingual students, educational achievement, learning methods**

## **Introduction**

Researching about learning styles<sup>1</sup> is derived from studies that are related to psycho-cognitive, social, and physiological aspects of the education (amuzesh) process. Recognition and understanding of models related to learning styles is one of the fundamental advancements of the twentieth century. Learning style is the learner's fixed method for responding to and working with existing stimulus in learning circumstances (Pham, 2000). Today, all theory-makers believe that individuals understand, organize, analyze, and process information and experiences in different ways despite all the different theories and models available in the field of learning styles.

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1- Herb Thelan, Pham, Felder & Silverman, Meyers – Briggs, Kolb, Montgomery & Groat

If we are to provide a summary of some of the more important studies conducted in the world in our discussion subject, we can refer to following points:

- Felder & Silverman (1988) offered a model for learning styles, which is consisted of five aspects. Each aspect represents two opposing learning styles. Two of these aspects are adapted from Meyers- Briggs' suggested model and that of Kolb. The perception aspect (sensing – intuitive) is similar to the perception aspects in models by Meyers-Briggs and Kolb. And the processing aspect (active – reflective) which exists in Kolb's model. Besides this, the Felder & Silverman aspects include three other aspects of input [check] (daroon-daad) (visual-verbal), organizing (lakjsldj-scaling inductive-deductive), and understanding or apperception (sequential - global (According to Montgomery & Groat, 1998).

- Learning styles are influenced by culture, gender, and ethnicity background. For example every society or culture considers the development of certain talents valuable and encourages them and pays small attention to other talents or completely ignores them (Delon, 1983; Tanenbaum, 1986). Besides these, various causes such as culture, ethnicity, gender, and the birth arrangement characteristics influence learning styles (Sternberg, 1997; Marifield, 1996; Ryde, 1987).

- There are some differences between one-language and bilingual individuals' learning styles. For example in the context dependent and independent learning style the bilingual individuals are more dependent to the background. The African-American bilingual individuals have a more holistic-viewer and kinesthetic (jonbeshi) style. Some studies show that the main reason for this difference is the language the black use. (Coper, 1981).

- Learning styles are also different between the two sexes. For example, men have scored higher on Kolb's learning-style questionnaire in the objective experience aspect in comparison with women. There is evidence that shows women's learning style stresses more on sympathy, collaboration, and careful listening (Grasha (graashaa), 1996)

- Learning styles have significant impact on students' educational achievement (Sternberg and Grigorenko, 1997).
- As the studies show, most emphasis is at schools in on passive perception and processing and the majority of the teachers use it as well (Kolb, 1983). It is possible that this is the reason for students' difference in educational achievement (Knowels, 1980; Grasha, 1996; Belenky and colleagues, 1986; Felder, 1993).

## Research Methodology

Considering the importance of learning difficulties of that Iranian group of students whose mother-tongue language is other than Farsi, and by noting the conducted researches about the one-language and bilingual students, the current research is a comparison of learning styles. This learning style comparison is between one group of students with one language only (Farsi) with two groups of bilingual students (Turkish and Kurdish). The research also investigates the relationship between learning styles and students' educational achievement and their gender.

The research questions of this research are:

1. Is there difference between the bilingual students' and one-language students' learning styles?
2. Is there difference between the mentioned students' learning styles and their gender?
3. Do learning styles impact these students' educational advancement?

The research statistical sample included 720 male and female students with one-language (Farsi) and bilingual (Turkish and Kurdish) background who were studying in the public middle schools of cities of Tehran, Tabriz, and Sanandaj. From each of the language groups 240 cases were selected equally from grades six, seven, and eight in the middle schools. The student's age range was between 11 and 16.

The research tool was the “Index of Learning Styles (I.L.S.)”, which is designed based on the learning styles model by Silverman (1988). This questionnaire consists of 44 questions. The questions do not have cultural dependency and are selected keeping simplicity for responding in mind. This questionnaire is able to assess the four aspects of learning, consisting of eight learning styles as follows:

1. Perception aspect: intuitive-feeling learning styles
2. Input aspect: Visual-Verbal learning styles
3. Processing aspect: Active-reflective learning styles
4. Understanding aspect: sequential-global learning styles

The process of answering the questionnaire was done as a group. The students were informed about how to answer the questions on the questionnaire and they were asked to answer all questions carefully.

## Results

The outcomes were analyzed with the help of multivariate analysis of variance and the correlational method. The statistical analyzes for answering the first and the second research question (meaning the relationship between learning styles and variables of language and gender) showed that learning styles have correlation significant relationship with both variables of language and gender. The results also showed that there is difference between One-language Farsi students' intuitive learning styles and that of the bilingual Kurdish students; such that the one-language Farsi students have a more intuitive learning style. On top of this, there is difference between visual and verbal learning styles of one-language Farsi students with that of the bilingual Turkish and Kurdish students; such that the One-language Farsi students have more visual learning style compared to the bilingual Kurdish and Turkish students, while the bilingual Turkish and Kurdish students have more verbal learning style compared with the one-language Farsi students.

The results of our research showed that there is also difference between the learning style of the female and the male; such that the visual, verbal, sequential, and global learning styles of the girls and boys are different. The boys possess visual learning style compared to girls and girls have verbal learning style compared to the boys. As well, the boys have global learning style compared with the girls while the girls have sequential learning style in comparison with the boys.

We found the response to the third question of the research (meaning the relationship between learning styles and educational achievement). The statistical analysis results show that the answer to the question of whether there is relationship between learning styles and educational achievement is negative, meaning that there is no significant relationship between learning styles and educational achievement.

## **Discussion and Conclusion**

In order to justify the bilingual students' higher verbal strength, Seegwan and McKay (Translated by Vaghedi and colleagues 1990) consider bilingualism a big source for the child and believe the bilingual child is more aware of different languages and is in a better stance in learning new languages. In their opinion, language is a tool both for establishing relation with others and cognitive activity since thinking is mostly verbal. Therefore, they believe that since the bilingual individual is taking advantage of two languages, he has two cognitive tools and this bilingualism increases his potential abilities.

The point that needs being mentioned here is that (according to Apple and Muysken the results of the tests by Benziue also showed that in the circumstances where home-work required cognitive stability or divertive thinking and is directly related to verbal worthiness, the testable of the bilingual are stronger than the one-language individuals. The reason why the bilinguals are stronger in doing the work that needs cognition stability is probably due to the fact that they are familiar with the language grammar of two

systems and have more knowledge compared to one-language individuals. This fact, in Hakuta's and Dias' opinion shows more stability in retouching verbal and non-verbal symbols.

With regards to gender differences, the results driven from the research matches the results outputted from other researches for male and female learning style differences. Some of these researches include those by Kroege and Thuesen (1988), Philbin (1995), and Brenner (1997).

We can establish the differences between the verbal and visual learning styles by the female and the male according to the collected evidence in the field of available differences in the visual-environment (didaari-fazaayee) and verbal abilities.

As Gross (1992) writes, the results of the researches show that the girls have better vocational (kalaami) ability compared to the boys. The girls have better ability in tests related to language perception and production and work related to deduction, understanding the content of difficult writing items and creative writing, spelling and fluency of words.

Golombog and Fivash (Translated by Shahr-aaraay, 1999) also state that in most researches, girls are strong in language and literature abilities compared to boys. Girls start reading earlier than boys, have less problem in reading, and respond easier to reading teachings. Gross (1992) states that the boys are stronger in understanding visual shapes and things in space and finding the relationship between them. These differences become more stable especially during the teenage years and adulthood.

The current research results show that there is no significant relationship between the learning styles and educational advancement. This result is different from the results of other researches, which show relationship between learning styles and educational advancement. O'brien and colleagues (1998) showed that in investigating the relationship between learning styles by Meyers-Brigs and educational advancement, there is relationship between sensational-intuitive aspect and educational advancement. This was the only relationship from all four aspects of personality

by Meyers-Brigz. The research results match those of some of the other researches such as Bleg and Zuanenberg which show that there is no relationship between learning styles and educational advancement.

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