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Gender Differences: Society, Culture, Language

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Abstract

This paper investigates various aspects of gender differences in the areas of males' and females' functioning in society, culture, language and learning. The research analyses the influence of the Gender Factor on students' social behaviour, implementing language, their preferences in pattern of knowledge in various aspects – cognitive, emotional abilities, their learning styles, and achievements.

Introduction

Investigations of gender differences in proficiencies and skills have a long history, but there is still need for further analyses. There is always a need for information regarding reasons why such differences emerge, how they are developed, how they influence on individual learning style, human cognitive abilities and achievements in different spheres of life.

The aim of the research is to investigate the influence of the Gender factor on a student's learning style and achievements in the process of language learning.

- The Object of the research is a student's language learning.
- The Subject of the research is a student's gender-based learning style.
- The Methods of the research are the analysis of pedagogical, psychological, sociological literature, the empirical study of the data of students' gender differences.

The tendency to dissociate language and gender was mostly introduced in the western intellectual tradition.

One of the most interesting questions is how these two notions - language and gender - are bound with each other. The distinction between *sex* and *gender* is a frequent topic for debates within research and epistemology. A common use of the term *sex* is to restrict it to referring to biological or physiological distinctions between *males* and *females*, while reserving the term *gender* to refer to the psychological features or attributes associated with such categories as *feminine* or *masculine*, that were developed through socialisation (Deaux, 2005; Oakley, 1992).

The usage of the term *gender* is also more accurate for the connection to the *gender system* identified by researchers (Hirdman, 1998; Harding, 2006; Scott, 1999), since it marks the cultural and structural dimension. *Gender* denotes social, psychological, or behavioural characteristics, not biological or anatomical ones. *Gender roles* are culturally prescribed behaviours and traits that dictate how males and females should act.

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The inviolability of human life, individual freedom and integrity, the equal value of all humans, equality between women and men are those values the higher school should form and bring about (Lpo, 2004).

The Gender aspect of cognitive performance is one important part of this goal. The research on human cognitive abilities or intelligence showed the assumption of female intellectual inferiority (e.g. Shields, 1995; Rossiter, 1992; Dijkstra, 2006). But some investigations produced scientific evidence which showed females and males to be equally intellectually capable (Elliot, 1991; Gadwa & Griggs, 1995).

We have to be aware that if gender is a social phenomenon one should be able to find linguistic evidence of it, since language is the primary means by which we create the categories which help our students to learn. Patterns of gender differences are deeply rooted in public media as well as in national belief systems. Many of the beliefs reflected address notions of gender differences in cognitive abilities, proficiencies and achievements.

Francis Galton was the first who claimed the empirical scientific ground for the conclusion that women tend to be inferior to men in all their capacities (Galton, 1907, referred in Shields, 1995). One of many examples from Shields illustrates the logic of that time: 'That men should have greater cerebral variability and therefore more originality, while women have greater stability and therefore more common sense, are facts both consistent with the general theory of sex and verifiable in common experience' (Shields, 1995).

Females, who were seen as the opposite to males by default, were seen as more restricted or even invariable intellectually: "A woman is a rule, typical, but a man is an individual. There is incomparably less variation amongst women than men. If you know one woman, you know them all, with but few exceptions" (Dijkstra, 2006).

It seems particularly important to contrast such ideas with well-founded results of what the socially constructed reality is. These problems are always present when gender differences, their influence on individual learning style and achievements are in focus.

The Essence of Learning Style

Let's return to the title of the paper and analyse how gender differences influence students' learning styles and achievements in language learning.

Learning style is the whole, unique, genetically predetermined complex of characteristic conditions under which an individual functions in his/her conscious intellectual activities - concentrates, perceives, processes, retains, and applies new and difficult information - in the unity of progress in learning and acquisition of learning objectives of curriculum with the help of successful interaction with the learning environment and creative use of one's own potential capacities (Tatarinceva, 2005).

Any student has a characteristic learning style regardless of intelligence or socio-economic status. Psychologists have identified which elements of individual learning

style are biologically imposed, stable, and which can be developed during individual life experiences.

The following elements of individual learning style are genetically predetermined: the type of information processing (the dominance of the left/right hemisphere of human brain), and perceptual strengths (the level of the development of auditory, visual, tactile, kinaesthetic sensory canals) (Milgram, 2000; Dunn, 1998; Griggs, 1991).

Learning style is a reasonably stable characteristic, only some elements of it such as motivation, responsibility for learning and social preferences can be changed as a result of maturation and strong personal efforts. At least three-fifths of learning style is genetically predetermined, and this biological component of individual learning style works for an individual's whole lifetime (Karpova, 1994; Milgram, 2000; Griggs, 1991). Individuals' responses to sound, light, seating arrangements, intake, the optimal time of day for learning, closely connected with the process of information processing, are also biologically predetermined (Anastasi, 1988; Dunn, 1998; Restak, 1999; Thies, 1999). Such factors as age, achievement level, gender and culture can influence on individual learning style and his/her achievements of learning (Ebel, 1999; Milgram & Price, 2003; Cavanaugh, 2002; Grebb, 1999).

Let's analyse the influence of the Gender factor on a student's learning style and his/her achievements in learning more in detail.

The Influence of the Gender Factor on a Student's Learning Style and Achievements in the Process of Foreign Language Learning

Males and females learn differently from each other (Grebb, 1999; Ebel, 1999; Dunn, 1992). Males tend to be more kinaesthetic, tactual, visual, need more mobility in a more informal environment, are more nonconforming and peer motivated than females. Females tend to be auditory, self- and authority-motivated, need significantly more quiet atmosphere while learning, and are more conforming than males (Marcus, 1999; Pizzo, 2000). There are fundamental differences among male and female ways of communicating (Thomson, 1995). She believes that a male's learning focuses on competitions, status and independence. On the contrary, a female's world focuses on intimacy, consensus, and sometimes independence. Social preferences of males and females are also different in the process of learning.

Male students prefer learning tasks connected with competitions in hierarchical groups, while female students learn by collaboration in small groups in which mutual liking is important (Dorval, 2000).

Males feel more comfortable in a lecturer's role, which is a demonstration of expertise and status; females prefer a listener's role, as a desire to collaborate, be liked by products of a world of connections, not status (Aries, 1996, Fox, 1999). Females prefer to share their expertise with others, rather than rivalling with them. Ong (1999) suggests that females prefer to keep peace, they see the orders that males give them as provocative and challenging while male students see suggestions that females make as infuriating and bossy (Cavanaugh, 2002).

Male and female students show clear differences in their approaches to learning tasks connected with problem solving. Males produce masses of short spurts of speech; females produce big blocks of talk. Male students prefer to get learning tasks which give them the possibility to talk more in public settings, females prefer to talk more in private settings, they see conversation as an important way of maintaining relationships (Dorval, 2000, Tannen, 1992).

Females exceed in language tasks requiring perceptual speed, males do better on general information tasks. Females prefer tasks connected with remembering verbal information, faces, names, object locations, landmarks along a route, and have better episodic memory; males implement better travel directions tasks (Colley, 2001; Ong, 1999).

Females have advantages on measures of verbal fluency, vocabulary and quality of speech, males are better on writing but they often have difficulties in tasks connecting with perception of speech, experience reading disability but do better on tasks connected with logic and solving problem situations (McMahan, 2002; Petrovsky, 1999, Feingold, 1999).

Male students dismiss problems of others or change a subject. Females listen to, confront problems, and reinforce other people. These two approaches to language learning problems are poles apart. Male and female students have different approaches to reading tasks. Consistent females' advantages were found in Expository and Narrative item types (Bress, 2000, Rosen, 2005). Students' approach to document reading is based on a psychometric theory of cognitive abilities according to which, differences in performance in any cognitive task are caused by differences in several underlying abilities based on the gender factor (Gustafsson & Elley, 2004),

Females don't have much advantage in document tasks because written words often involve a numerical and spatial content; males excel at these reading tasks (Carrol, 2003). Reading belongs to the verbal domain, though reading is a key skill in almost any cognitive task. A student's reading proficiency has been interpreted as a reflection of several certain cognitive abilities depending on the nature of the reading material used for the language study and individual differences in cognitive abilities and perception, that is learning style. The visual search in documents demands students' attention and perceptual skills, requires a reader to follow directions and connect different pieces of information in order to integrate and compare. Documents often involve the requirement of processing numbers. Numbers have a strong negative emotional loading for some students. This factor is connected much more with females, and it may affect their performance (Thompson, 2005).

Females have advantages in three measures of reading: *speed, reading vocabulary, and level of comprehension*. Different students' achievements based on the Gender Factor are the functions of the themes for reading tasks. Females achieve better on narrative texts, where themes are connected with human beings, romantic love, strong feelings, and human activities. This study supported the hypothesis that the topic for a reading task is important for a student's achievement as well as for understanding gender differences in students' learning styles (Gates, 2001, Taube & Munsk, 1996).

Possible Biological Explanations of Gender Differences in Students' Learning Styles

At least three-fifths of learning style is genetically stable; the cognitive abilities of information processing and perception are biologically predetermined. Human behaviour is mostly influenced by hormones related with gender activities; the hormone that seems to have the greatest impact is *testosterone*. Prenatal hormones contribute much to the development of the human brain and sensitise certain parts of the brain, namely the *hypothalamus*, regulating the level of human activity. Males and females get different amounts of prenatal hormones, which may lead to differences in males' and females' brains. Prenatal hormones significantly shape cognitive abilities (Luria, 1975, Sperry, 1989).

Some researchers have looked for gender differences in overall size of the brain (Springer & Deutsch, 1997; Rogers, 2000; Fausto-Sterling, 2000); others have concentrated on the specific parts of the brain. One area that has been the focus of much study is the area of the brain called the *corpus callosum*. Some research shows that a portion of this bundle of nerve fibres towards the back of the brain (the *splenium*) is larger and more rounded in females' than males' brains.

The function of this part of the *corpus callosum* links together parts of the left and right hemispheres that control speech and spatial perception. The larger *splenium* may be related to females' advantage in some measures of speech production and comprehension. The organisation of males' brains may give them advantages in visual-spatial tasks (Allen & Gorski, 1990; Halpern, 1992; Wood, 2003).

Some investigations suggest that both hemispheres of a female's brain may be active during certain tasks, while only one hemisphere of a male's brain is active during the same tasks. A part of the band of fibres connecting the two hemispheres is thicker in a female's brain, which allows the greater interaction of the hemispheres. It could explain why males excel on visual-spatial tasks and females have advantages in verbal tasks (Rider, 2005, Fausto-Sterling, 2000).

The right hemisphere of the brain is developed faster than the left hemisphere, that is why the left hemisphere is more vulnerable to the relatively high level of prenatal testosterone that male foetuses are exposed to (Halpern, 2000, Geschwind & Galaburda, 1999). As a result, the right hemisphere of a male's brain is thought to be stronger; it assumes more control than the left hemisphere.

Females, on the other hand, have more balanced left and right hemispheres in terms of control. That is why males do worse on tasks associated with more left hemisphere activities and better on tasks associated with more right hemisphere activities. Many verbal tasks are associated with greater left hemisphere activities, whereas solving spatial tasks and some logical tasks are associated with greater right hemisphere activities. As a result, males perform better on spatial and logical tasks, but females implement better tasks more connected with the humanities and music.

In sum, the research suggests that hormones, especially testosterone, has a great impact on cognitive abilities, but much more research needs to be done before we can make any clear conclusions about hormones, gender differences in performance and cognitive abilities in general.

The Empirical Study of Students' Gender Differences in Cognitive Abilities in Latvian Higher Schools

The questionnaires, including 64 questions connected with students' learning preferences were given to the students of different high schools of Latvia during the 2007 academic year. They were 192 students aged from 18-33. We had 66 male students and 79 female students. Thus, the percentage of male students is 46% whereas the percentage of female students is 54%. The statistical significance of gender differences was checked with the help of the test 'The Angular Transformer of Fisher' for all samples.

Some of the results are the following:

- The percentage of left handed female students is 28% and male students is 23% respectively.
- 28% of female and 24% male students have better developed auditory skills, but 19 % of female and 18% male students have better developed visual perceptual skills.
- 64% of male and 61% of female students prefer learning in the evenings, 19% of female and 23% of male students prefer learning in the afternoon and later, 20% of female and 14% of male students prefer learning in the morning hours.
- There are 42% of female and 33% of male students who never complete learning tasks in comparison to those female (25%) and male (30%) students who always complete their learning tasks, 35% of male and 33% of female students sometimes complete their learning tasks.
- 39% of female and 48% of male students prefer to get unstructured learning tasks,
- 39% female as well as 39% of male students prefer partly structured tasks, 22% female as well as 12% male students prefer clear structured tasks.
- 30% of female and 24% of male students prefer to learn independently, 28% of female and 33% of male students prefer learning in groups. 29% of female and 27% of male students prefer learning in silence, 37% of female students and 39% of male students prefer learning with a sound background.
- 43% of female and 26% male students prefer bright light, but 35% male as well as 35% of female students prefer dim light while learning.
- 14% of female and 12% of male students prefer formal design, but 59% female and 58% of male students prefer informal design.
- 47% of male and 38% of female students prefer listening, but 14% of male as well as 14% of female students prefer speaking in discussions while learning.
- 59% of female as well as 38% of male students prefer to get the main idea at first, after they come to details, 25% of female and 41% of male students prefer to get details at first, after that they come to the main conception.

- 54% of female students as well as 42% of male students have a good sense of time, but 8% of female and 6% of male students don't have a good sense of time.
- 38% of female and 36% of male students prefer drawing conclusions on the base of facts whereas 18% of female and 17% of male students prefer drawing their conclusions on the base of intuition.
- It is more easily to find similarities for 38% of female and 29% of male students, whereas it is more easily to find differences for 34% of male and 28% of female students.
- 23% of male as well as 11% of female students always solve a learning problem, 68% of female and 62% of male students sometimes solve a problem.
- 48% of female as well as 45% of male students always find several solutions of a learning problem, whereas 16% of female as well as 12% of male student prefer to find the only solution .
- 71% of female as well as 55% of male students are always ready for changes, whereas 11% of male as well as 18 % of female student are never ready for changes.
- 44% of female as well as 32% of male students are always ready for life-long learning, whereas 35% male as well as 14% female students are never ready for life-long learning.
- 53% of female as well as 20% of male prefer work with illustrations while learning whereas 26% of male as well as 16% of male students prefer to use figures. The most part of male students prefer the mix type of work while learning.
- 51% female as well as 30% male students never use the Internet while learning.
- 43% of female students as well as 23% of male students prefer to learn languages.
- 42% male as well as 35% female students prefer to study subjects connected with logics, whereas 14% of female as well as 11% of male students don't prefer to study subjects connected with logics.

Conclusion

According to the data obtained through the questionnaires given to students of different Latvian higher schools we can identify students' gender differences in 25 various aspects in their learning, social, emotional, cognitive abilities and learning styles. Students can learn effectively, if her/his learning needs and goals are appropriately diagnosed and prescribed.

A student's development occurs in the areas of cognitive and affective domains if a learning task, instructions, methods, variative learning programs and a mode of presentation of new and difficult information corresponds to a student's gender-based learning style and his/her cognitive level, and if a student has a possibility to choose completely his/her own way of accomplishment of the learning task.

According to the Dual Coding Theory (Pavio, 1986), if new information is introduced through the primary sensory canal, then is deliberately reinforced through the secondary sensory canal, it will be acquired significantly better. Thus, we can considerably improve students' achievements in learning by taking into account their factors of gender, approaches to learning, preferences to the certain type of tasks, peculiarities and the development of sensory canals, the type of information processing, and the level of the development of emotional and social components of students' learning styles.

The more we know about our students, their needs, goals, learning styles, cognitive and emotional gender-based differences, the more we can help them to improve learning achievements.

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