

Tamara Goncharova
Uniwersytet Kazimierza Wielkiego

Yin and Yang in Teaching English: An Overview of Gender-based Techniques

*For the longest time, you couldn't
even say boys and girls were different.
It was taboo in the educational world.*

Jon Scieszka (2015)

Introduction

Nowadays learning a second language is considered a must. By and large, in order to master languages successfully, people try to learn them as soon as possible. There is a great number of internal and external factors that have an influence on language learning, which are, for instance, age, motivation or personality (Gurian and Henley 2011). However, two particularly important variables are gender and learning strategies. The association between them has attracted the attention of researchers interested in language learning (Teese et al. 1995; Bacon and Finneman 1992; Poitzer 1983). However, these studies support an association between gender and learning strategies at a superficial level. This may explain why so many researchers decided to take an interest in this field. Over the past decades, various correlations, such as gender and achievement, gender and cognitive abilities, gender and learning styles or gender and learning strategies, received considerable attention. Many scholars came to the conclusion that the relationship between gender and second language success is affected by a series of factors making boys' and girls' performance different. What is equally important in second language learning is the role of teachers; they are the first to help students to recognize and then apply effective language learning strategies. The goal of the present paper is to highlight some gender differences, which justify the necessity to use different techniques for boys and girls in teaching a foreign language.

1. Cognitive differences between men and women

Gender differences in cognitive abilities has been the subject of extensive scholarly discussion. To begin with, it is important to describe cognitive abilities and define the term *cognitive psychology*. As noted by Caplan (1997: 3), the notion of cognition is related to “all the various modes of knowing – perceiving, imaging, conceiving, judging, reasoning”. Thus, cognitive psychology is concerned with the way people think, learn and remember. These abilities are strictly connected to intelligence as they reflect the level of one’s intellect. Thanks to a large number of tests, researchers have been able to discover that gender differences in cognition do exist, even if they are sometimes regarded as ambiguous or controversial (Caplan 1993). The first thing that must be touched upon is the problem of intelligence and the following question: are women smarter than men? One way to deal with this problem is to investigate the achievements of males and females at school.

There are extensive data which show that girls outdo boys in almost every field of study, but, in general, those differences are not so significant (Halpern 2012: 93). Moreover, the reliability of intelligence tests is highly debatable, because in many situations the overall assessment turns out to be ambiguous. However, Jackson and Rushton (2006; quoted after Halpern 2012: 96) found that men were much better at IQ tests than women. They supported their claim with the scores obtained from Scholastic Assessment Test (SAT). Halpern (2012) seems to be rather skeptical about their results. Apart from methodological issues, he mentions the following problem: when girls outnumber boys in SATs, it becomes clear that Jackson and Rushton’s findings cannot be accurate. Not only Halpern but also other scientists support the opinion that studying sex differences in intelligence turns out to be a very difficult task. Besides, cognitive abilities change in the course of time; infants have fewer abilities in comparison with adolescents, and therefore it is crucial to consider age as an important variable.

Thanks to well-developed cognition humans are capable of processing and using different types of information. Scholars distinguish two types of cognitive processes which are, without doubt, vitally important: perception and attention. As regards perception and the sensory system, women tend to be better than men. For example, they are able to discover faint smells. This capacity, known as “olfactory threshold sensitivity” (Halpern 2012: 106), may account for women’s advantage in many domains of life. Scientists suggest that it can also contribute to a successful performance of females in the domain of verbal tasks. A study that investigated such abilities proved that girls at the age of 4 to 12 were, in contrast to boys, more successful in describing different odours. The final results of the study suggested that males and females do not have the same olfactory sensitivity.

When it comes to the next sensory system, namely vision, it appears that males are able to detect small movements in the visual field better than females. The same advantage that men have over women is found in age-related loss of far eyesight. The question why men outdo women in the visual acuity seems to be of particular im-

portance. Some scholars tried to explain this issue claiming that boys, in contrast to girls, are more likely to improve their skills thanks to different sports games, because they must be very precise there. Moreover, it is widely believed that men see colours differently; one of the studies found that male use a different palette of colours (Halpern 2012).

The next area that reveals differences between two genders are motor skills. Nicholson and Kimura (1996; after Halpern 2012: 109) pointed out that as for tasks involving the use of motor movements, women outperformed men being significantly faster. But if you take into consideration the speed and accuracy, it turns out that men can also handle such tasks with high efficiency. They even need less time to complete them, but unfortunately, are more likely to make errors. What is more, when it comes to motor tasks, which require a lot of attention and precision and consist in taking aim at moving objects, males tend to be more successful. Such an exercise is defined as “projectile interception” and it has been widely discussed because of its evolutionary context. If it were not for men’s nimble movements, they would not have been skilled hunters in the past. Moreover, it is also possible that differences in motor skills result from being exposed to that kind of life (Halpern 2012: 110).

One of the abilities that is crucial in the process of thinking is attention. There appear to be wide sex discrepancies, which can already be observed in infant boys and girls. Firstly, both boys and girls show their preferences for different toys, with dolls for girls and trucks for boys. At first glance, it may seem that boys and girls watch the two types of toys with equal interest; however, when we look more closely, it proves that girls pay much more attention to the dolls. It can be connected with the complex process of gender socialization (Halpern 2012: 111).

In the history of humankind, there have always been ideas that women excel in memory tasks. Firstly, it is worth mentioning that there are many types of memory. One of them is episodic memory, which is the memory connected with personal events. People use it when they talk about things that happened in the past, for instance, when they refer to their first day at school. Thanks to different studies, we know that females are much better than males in tasks requiring that kind of memory. In the relevant experiments, female participants did not have any difficulty recognizing faces and names. Perhaps this fact can be interpreted as an additional advantage, because women are also very good at recognizing different emotions revealed on people’s faces. In addition, as far as memories from the early childhood are concerned, women again performed better. On average, in contrast to men, they were able to recall more events. Besides, Silverman and Eals (1994; quoted after Halpern 2012: 118) report that females are characterized by amazing memory relating to space. On the basis of the study, in which participants from 40 countries took part, it turned out that more than 85% of women achieved higher scores than men, because they were able to detect exactly where the intended object was situated. This kind of superiority over men is found with no difference in age (Silverman and Eals 1994; quoted after Halpern 2012: 118).

Additionally, according to Hyde and Lynn's research (Hyde, Lynn 1988; after Caplan et al. 1997: 33), some gender differences in verbal abilities have been found. Verbal abilities consist of vocabulary, reading, writing, spelling, word fluency and oral comprehension. Most notably, it seems that although in the course of time men's reading may improve, women handle this task much better. Men are more vulnerable than women to some speech disorders, such as stuttering. The same holds true for aphasia that is an inability to produce speech. As for recovery after the brain injury, Kimura (1983; quoted after Einstein 2007: 535) revealed that, in general, women cope with aphasia more successfully due to the fact that in their brain the area responsible for language is located mostly in the anterior part of the left hemisphere, whereas men's language areas are located in the posterior part of the brain, which is more exposed to some injuries. When compared to girls, boys are also more frequently diagnosed with dyslexia, which can be defined as a learning disability that causes difficulty in reading, spelling and writing.

Besides the fact that girls outperform boys in verbal abilities, another advantage can be observed in their creativity while writing. Thus, they are more likely to create compelling poems. However, when we take a look at many prestigious professions requiring verbal skills, such as politicians or lawyers, it becomes evident that men rule the roost. When it comes to acquiring language skills, without doubt, better results can be seen among girls. In early childhood, at the age of two, females have at their disposal almost 275 words, and boys are likely to use about 197 (Einstein 2007).

Another gender difference is connected with visuospatial abilities. This notion refers to the ability to change and manipulate the relationship between different objects or figures, for example, the ability to imagine how a figure looks while rotating in the air. There are many categories of visuospatial abilities: the first is known as spatial perception, and it consists in locating the object in the horizontal or vertical position. Halpern (2012: 130) introduced readers to the Water-Level Test, in which boys turned out to perform much better than girls. The thing is that, at the beginning, females were not able to predict how the surface of the water might look when the bottle turned over; they had difficulties concerning spatial perception and needed more time than males to complete the task. Numerous studies and experiments on mental rotation have confirmed the above results. Typically, in such experiments participants are supposed to say which objects can be rotated so as to achieve some identical pairs. The results usually show that men outperform women significantly.

What is more, in tasks connected with movement-related exercises, men again surpassed women. Halpern (2012: 136) described one particular example, which consisted in guiding dots towards special directions. It turned out that men were better than women not only in the reaction time but also in frequency. In addition to that, males outperformed females while taking part in tasks in which they were asked to create a visual picture of some geometric figures. Females were able to complete those exercises, but they needed more time to do so. It must be concluded that there is a number of sex differences favouring male participants in such tasks.

Cognitive psychologists discovered also that men and women differ in mathematical abilities described as quantitative skills. Gender discrepancies in math were examined by Guiso, Monte, Sapienza and Zingales (2006). Their study revealed that girls achieved considerably worse results than boys. In addition to that, in entrance exams, especially those with increasing task difficulty, boys again outperformed girls. Age is here a vitally important factor and must be put under the microscope. It was proved by Spelke (2005; quoted after Halpern 2012: 149) that in young children, at the age of 4–8, quantitative skills are at a similar level. Of particular importance is the fact that females seem to be quite good at algebra. Women's better results in tasks connected with algebra can result from the fact that this part of mathematics is strictly connected to speaking, for it resembles language structures.

Are there any gender differences in learning styles? In order to answer this question, people have to bear in mind the fact that boys and girls prefer different styles of reasoning. As for males, they are more likely to be deductive in their thinking, which means that, at the beginning, they take a general principle, then put it into use, and finally come to a conclusion. In contrast to men, women tend to use inductive reasoning; they are likely to begin with a specific example, and then they reach a broader generalization. Hence, many scholars argue that boys and girls demonstrate different learning patterns (Gurian 2011: 44).

To sum up, there are many cognitive differences between the two sexes, but one must remember that some of them are not of great consequence and can be regarded as moderate. After looking at those differences, it becomes clear that they correlate with certain biological factors and discrepancies in information processing by male and female brains.

2. The influence of gender on learning styles

Before presenting some specific gender-based teaching techniques, it is important to emphasize the main differences in learning styles between genders. A selection of them as based on Gurian and Henley (2011) is provided below.

Deductive and inductive reasoning

Boys tend to be deductive in their conceptualizations, starting their reasoning process frequently from a general principle and applying it, or ancillary principles, to individual cases. They also show a tendency to employ deductive reasoning more quickly than girls (Gurian, Henley 2011: 44). This suggests that boys tend to be better than girls at multiple-choice tests due to their ability to make quick decisions. As far as girls are concerned, they rely on their inductive thinking, which helps them to be more specific and give concrete examples, mainly in writing and speaking tasks (Gurian, Henley 2011: 44-45).

Logic and evidence

Sax (2005: 4) points out that from the anatomical point of view, girls are better at hearing things and often find it distracting when a teacher speaks loudly. On the other hand, boys need a teacher to speak loudly because of their worse hearing and shorter attention span. This statement is supported by Gurian and Henley (2011):

Girls are generally better listeners than boys, hear more of what is said, and are more receptive to the plethora of details in a lesson or conversation. This gives them great security in the complex flow of conversation, and thus less need to control conversation with dominance behavior or logical rules. In the case of boys, they frequently need some evidence to the statement said by a teacher or peers. Their logic is governed by evidence. They ask questions to somehow visualize some abstract concepts. (2011: 46)

The likelihood of boredom

It is common knowledge that boys are more likely to get bored during a lesson than girls. It is again connected with their brain functions and a shorter attention span. As Gurian and Henley (2011) point out, males need a lot of stimulants in order to stay active. Females, on the other hand, are able to do better at self-discipline and management of boredom. As a consequence, children who get bored during a class are more likely to stop having fun and interrupt a teacher or other peers. Boredom may unfortunately contribute to some behavioural problems.

Movement

Movement is one of the aspects that play a key role in the process of learning. In order to keep pupils, boys in particular, interested in a lesson, educators should provide them with various activities involving movement. Boys are energized and motivated by movement. Teaching styles that encourage the experiential/kinesthetic learning modality support boys' natural biochemistry, helping them to stay engaged and focused. According to Gurian and Henley, movement contributes to better stimulation of the male brain and it may decrease the rate of impulsive behaviour. What is more, "movement is also natural to boys in closed space, thanks to their lower serotonin and higher metabolism, which creates fidgeting behavior" (Gurian, Henley 2011: 47). Fuller supports this view and states that boys learn better while in motion. He recommends the following:

Use visuals and animations as often as you can. [...] boys love targeting. If you have ever watched boys place rubbish into the bins, you will see that they don't place it, they take a shot. For this reason movement and aiming to achieve a set target are powerful strategies with boys. (2014: 2)

Educators should be aware of the fact that short breaks and physical activities are beneficial for young learners and undoubtedly optimize their process of learning.

Use of visual symbols

According to Gurian and Henley (2011), it is boys who mostly rely on diagrams, picture cards, flashcards and symbolic pictures. In comparison to girls, who seem to enjoy written texts more, boys prefer learning through the usage of pictures and other symbols. This all happens because of their well-developed right hemisphere, which is stimulated by visuals (Gurian, Henley 2011: 49). As noted by Schneider (2013), “spatial-visual tools (pictures/graphics) assist with boys’ neurological needs in achieving literacy”. That is why it is so crucial to support children’s learning process through various kinds of visuals and let them imagine things.

Use of learning teams

It is widely known that boys and girls can learn efficiently not only through individual work but also through group work. Social interactions are extremely important in education and have an influence on children’s process of learning. As Gurian and Henley point out, males tend to form teams, which are structured and organized, whereas girls create loose formations. What is more, “Boys spend less time than girls managing team process, picking leaders quickly, and focusing right away on goal orientation” (2011: 49). Gurian et al. claim that the brain learns better when it is challenged and powered by social interactions:

In collaboration with one another, students solve problems, present and consider differing points of view, review prior knowledge, develop new strategies, share ideas, “think out loud” as they work through issues, brainstorm, debate, organize their thinking, develop empathy, shift points-of-view, hone questioning skills, and expand their understanding of the world. (2008: 86)

It is visible that young learners enjoy working in teams because they can be more active, they can interact with peers, talk more freely without thinking that they might disturb a teacher and, most importantly, because they have a great fun. All these aspects are significant for constantly developing brains of young, elementary school learners (Gurian et al. 2008: 86).

3. Selected techniques and strategies optimizing boys’ learning process

As argued above, gender has an impact on how girls and boys acquire knowledge, and this is associated with innate differences between their brains. In order to optimize the process of learning in both males and females, it is essential for teachers to know useful

strategies and techniques. It is said that educators should try to create an ultimate classroom and adjust their techniques regardless of gender differences; however, some of those techniques will be more effective for boys or girls, respectively.

Techniques based on movement

Gurian et al. (2008) point out that children should not spend too much time only sitting and listening to a teacher, as prolonged periods of sedentary learning are not conducive to children's development. Their bodies are designed to run, crouch, skip, touch and move around to explore the world. Even though movement is beneficial for both females and males, it is particularly crucial for boys, whose learning process relies heavily on physical engagement. On the other hand, there are some parts of the lesson, such as listening or writing tasks, which demand focus; they definitely require sitting and being quiet. Many children, notably boys, struggle to learn effectively without incorporating movement into the educational process. As noted by Gurian et al., "Some children can't learn well without becoming a part of the learning process through movement. Many of these children are boys. Their bodies and brains are not wired to sit still as much as we might wish" (2008: 15).

Furthermore, according to Gurian et al. (2008: 15), movement not only aids learning but also enhances boys' self-control. It is often observed that boys face disciplinary issues in classrooms due to impulse control challenges. Physical activity serves to stimulate a boy's brain and assists in regulating the behaviour; without ample space boys' aggression may manifest in undesirable ways (Bonomo 2010: 263).

An additional benefit of movement in the classroom is its positive impact on the development of the corpus callosum, which is a neural structure responsible for inter-hemispheric communication. McBride (2009) claims that movement fosters healthier connections within the corpus callosum, thereby facilitating learning. Moreover, it stimulates curiosity and improves attention span, which is particularly noticeable in boys. The release of dopamine (a neurotransmitter creating pleasurable feelings) during physical activity enhances cognitive functions, such as listening, memory retention and note-taking. Additionally, sustained physical activity promotes better blood circulation and oxygenation, which also improves attention spans and problem-solving abilities (Gurian et al. 2008: 17).

Last but not least, physical activity increases the child's ability to maintain attentional focus upon a task for a longer period of time, as well as their ability to process information and find solutions to various problems (Gurian et al. 2008: 17). This happens thanks to better circulation of blood and higher rates of oxygen. The authors explain that phenomenon as follows: "Whereas the female brain naturally has a higher rate of blood flow in the brain, movement can help many boys to get their blood moving at an increased rate" (Gurian et al. 2008: 17-18). As a result, their attention span is longer.

Techniques based on visuals

It is common knowledge that using visuals while teaching may help pupils, especially boys, with better comprehension of a foreign language. Gurian et al. note that “our classrooms rely on words to make sense” (2008: 35). However, teaching young learners should not be based on words and oral instructions only. If educators rely mainly on words, some pupils find it difficult to understand verbal instructions, when they are not accompanied with some images or graphics. As a result, pupils get bored very quickly and do not acquire knowledge as fast as they could. In order to develop understanding or speaking skills, it is essential to equip the classroom with spatial-visual stuff (2008: 35). This will be beneficial mainly for boys, as girls are generally better at expressing themselves verbally and do not need visual aids as much as boys do.

Another interesting aspect associated with using visuals in the classroom is that they support boys in their writing. Gurian et al. wonder why some of the pupils do better than others at writing a piece full of sensory details. As suggested by them,

There can be many reasons for this, of course, one of which is quite simply that some brains store and process sensory details better than others – especially when those details are linked to words. Other brains need more spatial stimulation to remember and then write about the details. (2008: 37)

Females are generally better at writing a descriptive piece, which is full of sensory details as “the female brain excels in more acute, detailed perception of sight, sound, and touch” (Gurian et al. 2008: 37). However, this does not mean that males do not manage to write a good, descriptive piece of writing. “Stimulating them in visual-spatial ways helps them to access more sensory and emotive words and experiences” (Gurian et al. 2008: 37). This point of view is supported by Schneider who states that “Spatial-visual tools (pictures/graphics) assist with boys’ neurological needs in achieving literacy. Storyboards depicting images a boy is envisioning can assist with translating story into words” (2013).

In order to increase boys’ ability to write effectively and descriptively, it is advisable to ask them to draw some pictures or charts before they start writing. It helps them to collect main ideas and concepts that they will later use. Coloured charts, storyboards, graphic organizers or simple doodles may turn out to be useful in increasing boys’ literacy skills.

Techniques based on technology

As is widely known, technology plays an important role in the process of second language acquisition and in the world of education in general. Most teachers view it as a great asset, indispensable in primary teaching. Some of the benefits that technology can give us are mentioned by Gordon:

Specifically, technology benefits young learners by enhancing their physical abilities such as hand-eye coordination and fine motor skills. It can also improve children's understanding of the world around them, develop their flexibility and ingenuity, enrich their worldview and expand their openness of mind. (2007: 179)

A group of learners who enjoy technology the most are undeniably boys. It is claimed that the incorporation of computers in classrooms "has been shown to help increase boys' achievement in school, especially in boys with low achievement" (Bangert-Drowns et al. 1985; quoted after Sokal, Katz 2008: 83). Moreover, the authors state that computers have an impact on boys' positive attitude, and it is bigger than in girls (Sokal, Katz 2008: 84). On the other hand, there are exceptions to this norm, and one can observe that many females enjoy using technology to a comparable extent.

One of excellent ideas related to technology is using the interactive whiteboard. This piece of classroom equipment allows children to practice all of the skills vital in second language acquisition, such as speaking, comprehension, vocabulary, grammar, writing and listening, in attractive ways. . Thanks to the Internet, which is full of authentic resources such as songs, stories and English games, children are exposed to the native pronunciation and have fun at the same time. As noted by Motteram:

The Internet can be a rich source of authentic oral models via recorded songs, talking electronic books, podcasts and video clips that help learners with pronunciation as well as acquisition and reinforcement of new vocabulary. (2013: 22)

All of the resources can be downloaded and displayed on the interactive whiteboard, which is a "must have" in today's education, especially with young learners. For boys, who need visual aids much more than girls, the interactive whiteboard is an extremely useful tool. They enjoy watching digital stories and short animations as they treat them as cartoons. Immersing in stories develops their comprehension skills and expands their vocabulary.

What is more, the interactive whiteboard allows boys to play games which can be a nice way to acquire a language. The games may be used to practice grammar, vocabulary or listening skills, and the Internet provides educators with a large amount of free resources ready to be used in the classroom. Male students do like competitive games and they find them extremely challenging. While focusing on winning, they practice some language skills without much consciousness. Furthermore, games may be useful to improve the rate of motivation in boys. According to Fuller, "Boys' attraction to competition will override almost any disadvantage and loss of motivation" (2014: 1). To sum up, each educator should be aware of advantages of technology and they should use it as frequently as possible to make lessons more interesting and challenging.

4. Selected techniques and strategies optimizing girls' learning process

It is time to focus on girls and techniques they prefer when acquiring a second language. First, let us recall some of the traits that distinguish females from males and have an impact on their learning. As Gurian and Stevens claim in their book titled *With Boys and Girls in Mind*, the corpus callosum in a female brain is bigger than in a male one. This organ is a kind of signal “sender”, or transmitter, between the right and left hemispheres, enabling the so-called “cross talk”. As a result, a bigger size of the corpus callosum in girls makes them better at multitasking. Also, girls have fewer problems with self-discipline and their attention span is longer than in boys. In addition, their neural connectors, which are stronger than boys', make them better at listening, sensory-detailed writing and speaking tasks (2004). Sax supports this point of view adding:

Because girls have more cortical areas devoted to verbal functioning, they are better at sensory memory, sitting still, listening, tonality, and the complexities of reading and writing (the skills and behaviors that tend to be rewarded in school). (Sax 2006: 192; quoted after Bonomo 2010: 258)

As a result, it seems that girls are more able to adjust to almost any teaching technique provided by a teacher. In comparison to boys, they may have some problems with spatial thinking, measuring and abstractions, but teaching girls is generally less demanding than teaching boys. They seem to be more organized and diligent. However, there are some techniques that are preferred by girls and this is associated with their brain differences.

Techniques based on art

It is well known that girls do like various forms of arts, starting from singing, painting, role playing, storytelling, etc. They have an innate capacity to do all these things, because they are better at verbal skills than boys. It is easier for them to express themselves and take part in various activities based on art. Before presenting some practical ideas ready to be used in the classroom environment, it is essential to point out some major benefits that the use of art in education can offer. As noted by Jensen in his book *Arts with the Brain in Mind*:

The arts enhance the process of learning. The systems they nourish, which include our integrated sensory, attentional, cognitive, emotional and motor capacities are, in fact, the driving forces behind all other learning. (2001; quoted after Gurian et al. 2008: 119)

Gurian et al. add that the arts help to develop human brain and make it more mature.

Maturation of cortical areas linked to reading, counting, speaking and problem solving is enhanced through performance opportunities. Specifically, involvement in the

performing arts stimulates the vestibular system through movement and helps children think creatively, gain mastery, change points of view, and practice social skills. (2008: 120)

Furthermore, using simple activities in the classroom, such as dancing or theater games, may support the development of a stronger and more energized brain. Besides, arts help to foster social interactions, enabling pupils to practice “reading facial expressions and body language, as well as encouraging self-expression and self-confidence” (Gurian et al. 2008: 121). Performing any kind of arts may also prove to be an effective way to get rid of stress and worries. Thanks to visual arts, pupils are able to express themselves even without using words. It may serve as a kind of therapy to release tension (Gurian et al. 2008: 121). The application of techniques based on art when teaching young learners enables them not only to develop language skills in a funny way, but also to “experience and identify different emotions based on the mood of music” (Gurian et al. 2008: 121).

Last but not least, Gurian et al. write that art also has an impact on memory:

Memory systems are activated through improved listening, attention, concentration, and recall. When children respond to music, a series of neurotransmitters are released in the brain, and when that music is connected to a positive emotional experience, it triggers positive responses far into the future, sometimes throughout life. Emotional experiences caused by or associated with music result in more detailed recall of events. (2008: 123)

As we can see, employing arts gives both educators and young language learners a lot of benefits. Their various forms can be used in the classroom and they are mostly appreciated by girls, who simply excel in such activities.

Techniques based on group work

From the methodological point of view, it is extremely important to allow pupils to work in groups or teams. According to Gurian et al. (2008: 86), social interactions help pupils in:

- increased achievement;
- reduction in risk behaviors;
- positive school culture committed to learning;
- less social isolation of students;
- increased creativity and problem solving;
- decreased level of stress;
- increased resilience.

All these aspects contribute to more efficient development of language skills and have an impact on the child's learning process in general. As Gurian et al. point out:

This occurs because social connections provide the learning brain with the kind of stimulation that translates into intrinsic motivation for engagement. Learning independently can of course be a powerful way to learn [...], but for the developing brains of elementary school children, being social generally involves getting more active, getting out of one's seat, interacting with others and, in the minds of students, having more fun. (2008: 86)

As a result, arranging pupils in groups allows them to develop their communication skills, improves their social interactions, as well as it makes them feel more responsible for completing the task. As recommended by Fuller:

Girls thrive with group work when the teacher selects who is in each group and assigns roles to each girl. Give each member of the group the responsibility of completing a task and set a time limit. (2014: 1)

A task assigned to a girl makes her feel important; she tries to do her best to complete it correctly.

As far as differences between boys and girls learning in groups are concerned, Gurian et al. state that girls feel better in smaller groups in comparison to boys. "By this we mean they will tend to move to a small group learning experience by self-motivation, whereas boys will tend to have to be directed toward it" (2008: 88). What is more, girls find it easier to decide who will be the leader (Gurian et al. 2008: 88). For boys, such a decision is extremely important as they have the innate desire to lead the group and feel responsible for it.

As far as the benefits of group works are concerned, Gurian et al. (2008: 89) focus on three advantages:

- **Perseverance** – there is always a possibility of failing and pupils should never give up. Failure should be treated as a motivation to try harder next time and do one's best.
- **Rules** – it is essential to familiarize pupils with the rules and the consequences if the rules are not obeyed. "Whether the rules are for a game or for expected behaviors, they must be set up to promote respect, responsibility, and safety" (2008: 89). However, they should allow pupils to be creative and open for experiments.
- **Social development** – group work enables the teacher to observe how pupils manage to work together. They should focus on cooperation and "try to complete the task at hand" (2008: 89), but not necessarily as quickly as possible.

Conclusion

Males and females prefer various learning styles and strategies, and as a result, they are likely to engage in lesson activities differently. Male students are more interested in games and exercises that involve the use of flashcards; they pay attention to the visual context, and simultaneously make use of their tactile preferences. Males' reasoning seems to be more general and deductive. Therefore, they find it difficult to concentrate on one task that is too long, especially while reading or writing. They often employ memory strategies connected with physical response. Moving around in the classroom helps boys to learn, for it stimulates their brains. Boys have an advantage over girls in creating semantic maps and grouping words spatially; they make up a set of vocabulary at a faster pace than female students. However, when they are asked to complete some tasks working in groups, it is difficult for them to get involved in cooperation with other participants. They prefer to work on their own and to finish the task as soon as possible. When it comes to cognitive strategies used when reading, boys generally do not read carefully, because they scan the text and look for some details.

As for female students, they are very keen to participate in the lesson with a song or a role play, in which they have a chance to practice their skills. Research findings indicate that girls prefer inductive reasoning, in which they use a great number of examples. Also, they pay much attention to almost every task they are supposed to complete. Female students enhance their learning by means of some cognitive strategies like colourful highlighting or taking notes in an appropriate way. In contrast to boys, they hardly ever use physical movement while learning. In addition to that, girls outperform boys in the use of metacognitive techniques, especially when reading. As a result, they ask far more questions for clarification. Most of them are very eager to cooperate with other students and help each other. Female students are said to be more patient, focused on the task, and they turn out to be better listeners than boys are.

What is of course vitally important is the role of the teacher as they can make their classroom equally productive for boys and girls. When teachers are familiar with the number of difficulties their students may encounter, they are able to equip them with effective strategies. Thanks to the fact that teachers are becoming more and more attentive to gender problems, every student in the classroom may have more opportunities to succeed in second language learning.

Bibliography

- BACON, S. M., FINNEMANN, M. D., 1992, *Sex Differences in Self-Reported Beliefs about Foreign-Language Learning and Authentic Oral and Written Input*, <https://doi.org/10.1111/j.1467-1770.1992.tb01041.x>.
- BANGERT-DROWNS, R. L., KULIK, J. A., & KULIK, C., 1985, *Effectiveness of computer-based education in secondary schools*, "Journal of Computer-Based Instruction", 12(3), p. 59–68.

- BONOMO, V., 2010, *Gender Matters in Elementary Education. Research-Based Strategies to Meet the Distinctive Learning Needs of Boys and Girls*, "Educational Horizons", 4, p. 257-264.
- CAPLAN, P.J. et al., 1997, *Gender Differences in Human Cognition*. Oxford: Oxford University Press.
- EINSTEIN, G., 2007, *Dimorphisms and cognition* [in:] Einstein, G. (ed.), *Sex and the Brain*. Massachusetts Institute of Technology.
- FULLER, A., 2014, *Teaching Boys*, <http://andrewfuller.com.au/wp-content/uploads/2014/08/Teaching-Boys.pdf>.
- FULLER, A., 2014, *Teaching Girls*, <http://andrewfuller.com.au/wp-content/uploads/2014/08/Teaching-Girls.pdf>.
- GORDON, T., 2007, *Teaching Young Children a Second Language*. Westport: Preager Publisher.
- GUIISO, L., SAPIENZA, P. and ZINGALES, L., 2006, *Does Culture Affect Economic Outcomes?* "The Journal of Economic Perspectives", 20 (2), p. 23–48.
- GURIAN, M., STEVENS, K., 2004, *With boys and girls in mind*. "Educational Leadership", 62, p. 21-26.
- GURIAN, M., STEVENS, K., KING, K., 2008, *Strategies for Teaching Boys and Girls – Elementary Level*. San Francisco: Jossey–Bass.
- GURIAN, M., HANLEY, P., 2011, *Boys and Girls Learn Differently: A Guide for Teachers and Parents*. San Francisco, CA: Jossey–Bass.
- HALPERN, D.F., 2012, *Sex Differences in Cognitive Abilities*. New York: Psychology Press.
- HYDE, J. S., 2005, *The gender similarities hypothesis*, "American Psychologist", 60 (6), p. 581–592, <https://doi.org/10.1037/0003-066X.60.6.581>.
- JACKSON, D.N., RUSHTON, J.P., 2008, *Males have greater g: Sex differences in general mental ability from 100,000 17- to 18-year-olds on the Scholastic Assessment Test*, "Intelligence", 34(5), p. 479-486.
- JENSEN, E., 2001, *Arts with the brain in mind*. Alexandria, VA: Association for the Supervision of Curriculum Development.
- KIMURA, M., 2012, *The neutral theory of molecular evolution*. Cambridge: Cambridge University Press.
- MAYO, M., LECUMBERRI, M., 2004, *Age and the Acquisition of English as a Foreign Language*. Clevedon: Multilingual Matters.
- MCBRIDE, B., 2009, *Girls will be Girls and Boys will be Boys. Teaching to Gender Differences*, <http://crr.math.arizona.edu/GenderKeynote.pdf>.
- MOTTERAM, G., 2013, *Developing and extending our understanding of language learning and technology. Innovations in learning technologies for English language teaching*. London: British Council.
- NICHOLSON, K. G., KIMURA, D., 1996, *Sex differences for speech and manual skill*. "Perceptual and Motor Skills", 82 (1), p. 3–13, <https://doi.org/10.2466/pms.1996.82.1.3>.
- POLITZER, R., 1983, *An Exploratory Study of Self Reported Language Learning Behaviors and Their Relation to Achievement*. "Studies in Second Language Acquisition", 6, p. 54-68.
- SAX, L., 2005, *Why gender matters: What parents and teachers need to know about the emerging science of sex differences*. New York: Doubleday.

-
- SCHNEIDER, A., 2013, *How Boys' Learning Styles Differ (and How We Can Support Them)*, <http://www.goodtherapy.org/blog/how-boys-learning-styles-differ-0211134>.
- SILVERMAN, I. & EALS, M., 1992, *Sex differences in spatial abilities: Evolutionary theory and data* [in:] Barkow, J. H., Cosmides, L., and Tooby, J. (eds.), *The adapted mind: Evolutionary psychology and the generation of culture*, p. 533–549. Oxford: Oxford University Press.
- SOKAL, L. & KATZ, H., 2008, *Effects of Technology and Male Teachers on Boys' Reading*. "Australian Journal of Education", 52, p. 81-94.
- SPELKE, S., 2013, *Sex differences in intrinsic aptitude for mathematics and science?: a critical review*. "American psychologist", 60 (9), p. 950-958.
- TEESE, R., 1995, *Who wins at school? Boys and Girls in Australian Secondary Education*. Melbourne: The University of Melbourne.

Yin and Yang in Teaching English: An Overview of Gender-based Techniques

Abstract: The aim of the paper is to highlight some gender differences, which justify the necessity to use different techniques for boys and girls in teaching a foreign language. Over the past decades, various correlations, such as gender and achievement, gender and cognitive abilities, gender and learning styles or gender and techniques, received considerable attention. Many scholars came to the conclusion that the relationship between gender and second language success is affected by a series of factors making boys' and girls' performance different. Male students are more interested in games and exercises that involve the use of flashcards; they pay attention to the visual context, and simultaneously make use of their tactile preferences. Males' reasoning seems to be more general and deductive. They often employ memory strategies connected with physical response. As for female students, they are very keen to participate in the lesson with a song or a role play, in which they have a chance to practice their skills. Research findings indicate that girls prefer inductive reasoning, in which they use a great number of examples. When teachers are familiar with the number of difficulties their students may encounter, they are able to teach them effective strategies. Thanks to the fact that teachers are becoming more and more attentive to gender problems, every student in the classroom may have more opportunities to succeed in second language learning.

Keywords: gender, gender-based techniques, learning strategies, deductive reasoning, inductive reasoning

DOI: 10.34864/heteroglossia.issn.2084-1302.nr19.art3