

THE SURVEY OF GENDER DIFFERENCES IN HIGH SCHOOLS OF PALERMO

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INTRODUCTION

The teacher who is inspired by the principles of personalization will do their best to adjust their methods of teaching to the characteristics of each student. With the expression “personalized education” it is intended that the necessity of educational equality to all students is joined to the attention given to the peculiarity of each and every one of them. In concrete, it means to encourage and carryout activities that take into account all that appears to be more suitable for personalizing rapport, the learning process and sentimental aspects of all the students.

The difference that distinguishes males from females especially between the ages of 10 and 14 years are multiple, and the school is one of those principle contexts where these needs are expressed. For this reason teachers often have to take recourse to all those different approaches and didactic modalities that are adequate so as to take into account specific intellectual, social and above all gender differences.

Considering the sexual differences allows teachers to understand better the difficulties that students encounter when studying and to find together with them those strategies that are suitable to help them overcome these problems.

Many Italian teachers specifically those from Palermo affirm that they don't see any differences in the way of learning and in the behavior of their students (both boys and girls). It's only after attentive reflection that they noted the contrary. Many of these teachers while trying to respond in a more effective way to the speed of maturity and to the interests of the students, alternate didactic strategies without being conscious of it. This happens especially when they want to capture the attention and maintain concentration in class, to do this the teachers give different examples, diversify class activities and divide the class into small working groups.

The differences between boys and girls is not only determined by cultural background of a place or by the role played by society, but they are also linked to biological characteristics (Aztori, 2010), neurophysiological, psychological, behavioral, perceptive, acoustic (Sax, 2010). There are studies (Buchmann et al., 2008, Brizendine, 2011, Zündorf et al 2011, Halpern, 2012, Kimura, 2000, Aldridge, 2009, Logan & Johnston, 2010) that demonstrate the differences in the intellectual ability of male and females especially in determinate fields for example the verbal ability which includes grammatical knowledge, the ability to read, the production of analogy, the use of dictionaries, the oral capacity of making oneself understood etc.

Other detailed studies demonstrate the difference between males and females in their way of learning and ways of tackling scientific studies. Thus the need to adapt different ways of intervening when dealing with boys or girls (Cooper, 2009, Sullivan, 2009, Gerstner & Bogner, 2009, You, 2010).

According to some research, females don't demonstrate the ability to do mathematics and express a lot of anxiety towards these types of subjects which is different in the case of males.

The difficulty that females encounter in scientific subjects like math's and physics is determined by the scarce perception of what girls perceive as their ability in a mixed class environment (James, 2009).

DEVELOPMENT REPORT

In the past twenty years, evaluating the effective ability of teachers, the quality of educational services given to schools, the methodologies used to distinguish the cause of scholastic failure, the consequences of how teachers communicate to their students their marks, has caused the organization of activities for mixed classes to be put into discussion.

There are two positions concerning this relationship: those that see a positive educational and didactic modality in differentiating students so that they may be more aware of their peculiar gender uniqueness and thus reducing the stereotypes connected to sexual characteristics; there are those, who, instead see in differentiating students a form of discrimination that favors the difficulties of relating between men and women.

The school and the first sentiments that children experience can consolidate and enrich their minds and their personality but unfortunately it's also possible that it can slow or obstacle their potentials in learning and creativity. What is certain is that it contributes in a significant way in the formation of their sexual identity and the culture of masculine and feminine characteristics which will accompany them and leave a sign in their growth.

From the latest research in the educational sector it has emerged more often that teachers and educators are more aware that in order to maximize the benefits from the scholastic experience of their students and in order to develop their talents, they have to take into consideration not only aspects regarding the intellectual, emotional and the promptness of their students

but also their identity as male and female. For this reason if a teacher wants to guarantee the educational success of their students they have to necessarily change their idea of teaching in a homogeneous way. They should instead lower themselves into a type teaching that aims to recognize and value the differences between male and female.

At times, in fact, teachers don't consider the differences of gender because they demand the same things, in the same way and in the same period of time from both boys and girls. They claim to obtain the same results from both sexes. It's necessary to recognize that boys and girls especially in the first phase of adolescence differ in the way of maturing, in their interests, in their games, in their aspirations, in their ways of socializing, in their ways of manifesting their sentiments, in their ways of tackling difficulties. All these make it evident that in the long run even their way of learning should be different (La Marca, 2007, Zanniello 2010).

Boys are more inclined to be better in mathematics while girls are superior in alertness and in verbal memory which includes remembering words, images and any other material that can be easily identified (Becker et al. 2008). Girls prefer to work in a collaborative way, they sustain each other in class discussions and in resolving problems (Hoff Sommers, 2007). Schoolgirls naturally look for the teachers help, follow the instructions and do the tasks given.

Schoolboys on the other hand look for the teachers help only at the last minute, and are less prompt to study a subject if they find it boring (Sax, 2006, 180). Boys are more impulsive and restless, they are less orderly, they concentrate less, they are more audacious, girls instead tend to be more reflexive. Boys have more difficulties in being autonomous in study and are more embarrassed when unsuccessful.

The diversity that distinguishes male from females especially between the age of 10 and 14 demand different approaches, adequate didactic methods that take into consideration specif-

ic intellectual characteristics like sentiments, which should be diversely recognized and orientated.

Numerous researches, especially in the psychological field demonstrate that the process of intellectual maturity is different for boys and girls (Del Giudice et al. 2012, Enkvist, 2007, Bolher, 2010, Cable & Spradlin, 2008). The first difference in terms of intellectual maturity between boys and girls emerge clearly in the attitude that is assumed in class. The girls are more orderly and are disposed in a listening position. Boys on the other hand are less orderly and take more time to settle down and concentrate. At school we come across other differences for example boys normally lag behind and are repeaters, while girls have higher results in their short term and long term exams.

The consideration of gender differences helps the teacher to understand better the difficulties that students encounter especially at school and to find together with them suitable strategies that can help overcome these short comings.

With the intention of finding out if high school teachers know and use the principles of personalized didactic and in particular if they pay attention to the different ways of learning and the different behaviors of their students (both boys and girls), a research was done in 18 schools of Palermo. 156 teachers took part, 156 interviews were done and 156 didactic activities collected. The sample chosen was known to those teachers who claimed to personalize their teaching and to pay attention to gender differences.

The results of this research confirms the existence of some differences between boys and girls. This outcome was possible from the results and answers that were collected from the interviews and the didactic activities analyzed. The didactic activities used in this research should not be considered as the exclusive models for projecting school work, this is because exists many and different models which have simply the aim of being examples and proof of the attention that teachers

unconsciously pay, especially those who don't want to recognize the difference of gender.

The research was carried out in two phases. Before beginning the first phase it was essential to interview the teachers who were involved in the research with the intension of personally getting to know them and creating good rapport. Another reason was to find out if the educators normally use personalized teaching, in which way they project and put into effect their proposals of personalized didactic and if in their personal way of teaching they consider the uniqueness of their students as boys and girls in a conscious or unconscious way.

The questions of the interview were eight: four regarding personalized education in general and four regarding gender differences of students. From the results of the last four questions it emerged that 78% of the teachers affirmed that:

- *“they recognized in each and every student the peculiar characteristics that identify them as male or female”*. (For example the difference of intellectual maturity, the approach of studying and doing the tasks);

- *“they alternated different activities in a lesson to create interest in both boys and girls”* (for example referring to protagonists and plots of films that interest males and females);

- *“they use different approaches when dealing with boys and girls both in and outside the classroom”* (for example using a firm and determined tone of voice when speaking to boys and a calm tone when talking to girls).

In the second phase the 156 didactic activities organized by the teachers involved in the research was analyzed. It resulted difficult for a teacher to explain in concrete what personalized didactic meant not only when it concerns an activity done but also when teaching a lesson. They were supposed to sustain with accuracy the types of attitudes, activities, length of time, examples given etc.

The role of a teacher is above all that of reflecting on the experience (Schön, 2006). It's certain that the teachers encountered difficulties in putting into words such a reflection, which

at times is considered as an impossible effort in trying to put into words and at the same time be explicit about what has actually been done, or what had been contemplated and to make all this worth sharing with the others.

With the aim of helping the teachers to reflect on the aspects of personalized educational intervention and to explain step by step teaching activities with the same aim, paying particular attention on gender differences; an effective guide line to follow was elaborated and approved by the 156 teachers of the secondary schools.

The voices that are indicated in the following scheme are the results of past study carried out on the characteristics of personalized education¹ and valuing the peculiarity of male and female at school (Chadwell, 2010b, Ibanez, 2011, Gurian et al., 2008b, Gurian, 2009, Reichert&Hawley, 2010, Elliott-Johns & Booth, 2009).

From the 156 documents gathered, which for obvious reasons cannot be included in this article, it is possible to note a series of aspects that confirm the aim and reason for the research. The teacher's reports that described their action were meticulous and complete; through the compilation of all the parts indicated in the scheme a different way of organizing the activities to respond better to the needs of all their students was demonstrated.

The scheme contained questions to enable the teacher to explain in a simple way the activities. These were divided in three sections denominated in the following ways:

- *The Information section*, in relation to all the general information about the activity of the teacher (date, hour, class, number of students, the subject, the title of the unit, general and specific objectives, pre-requisitions, the tasks proposed,

¹ Si veda García Hoz, V. (2005). *L'educazione personalizzata*, La Scuola, Brescia, trad. it. dell'ottava edizione spagnola del 1988 di *Educación personalizada* e Zanniello, G. (2010). L'educazione personalizzata nella scuola, in A.A.V.V. (Ed.), *Persona e educazione studi in onore di Sira Serenella Macchiotti*, Armando, Roma, pp. 427-43.

phase of application of the lesson, length of time required, sequence of the lessons;

- *Method used* (cooperative learning, role playing, team games, individual competition);

- The place where the lesson would be done (class, laboratory, gym, playground)

- *Instruments used* (interactive white board, other software)

- *descriptive section of teachers action*, this is in relation to all the activities that the teacher actually did, step by step with particular attention to those elements that they used to create interest and concentration of all the students both boys and girls.

From a general analysis of the 156 data collected, emerged a profound reflection of the teachers, on the principle characteristics that distinguish male and female students. Thanks to the first interview carried out each teacher had the possibility to focus and recognize all those specific characteristics that differentiate male from female, which they unconsciously take into consideration when teaching. Because of this reason, from the analysis of the data collected it emerged that the activities that the teachers used were those that they sustained would be more effective for the success of both male and female students.

Each and every part of the scheme that was handed to the teachers was completed in all sections. The section that talked about the activities that the teachers carried out was rich of many details and demonstrated the educative intension of the teachers to personalize their work so as to value the peculiarity of their students.

CONCLUSIONS OF THE REPORT

Reflecting on the difference of gender gave teachers involved in the research the possibility to observe the different

ways of communicating, knowing and transferring information of both genders.

The awareness of the teachers of the differences of gender in the educational process becomes not only precious but also essential for a school that wants to contribute also in teaching our children how to embark on personal, authentic, social, civil and democratic relationships.

The reflection of the teachers and their 156 didactic activities demonstrate, at most, that the teachers have it clear that their students are different, the performance obtained in the different activities were better because these corresponded better to their natural inclination.

The diversity of gender is the first and immediate of all differences. From the capacity to have positive rapport, optimizing the distinctive role of the masculine and feminine world, one can measure also the capacity of the society's growth.

The universe of the school and that of formation have a fundamental role and are thus called to introduce a precise prospective of gender in their educational practice. A specific reflection on gender difference would enable the teacher to plan the didactic activities of their students keeping in mind the importance of personalizing education and so guaranteeing its success.

The time has come when gender difference has to be recognized and the scholastic process of learning made more pleasant and productive not only for boys but also for girls.

BIBLIOGRAFIA

- E. Aldridge, (2009). "A Comparison of Students in Single-Sex Classes and Coeducational Classes in High Poverty Public Elementary Schools in Mathematics and Reading Achievement", (University of Tennessee, Chattanooga, TN), 3-238.

- C. Atzori, 2010, "Il binario indifferente. Uomo e donna o GL-BTQ?", Sugarco, (Milano), 9-152.
- J. B. Becker, 2008. "Sex difference in the brain. From gene to behavior." Oxford University Press, New York. 3-465.
- S. Bolher, 2012, *Fille-Garçon: Un Cerveau Différent. Construire les émotions sociales des adolescents*, Pour la Science.fr
- L. Brizendine, 2011, "Il cervello delle donne". Rizzoli, (Milano), 4-308.
- C. Buchmann, T. A., DiPrete, e A. McDaniel, 2008. Gender inequalities in education. *Annual Review of Sociology*, 34: 319–337.
- K. E. Cable & T. E. Spradlin, 2008, Single-Sex Education in the 21st Century. Center for evaluation&Educaion policy, 6: 1-12.
- D. W. Chadwell, 2010, "A gendered choice: Designing and implementing single-sex programs and schools", Corwin, (Thousand Oaks), 1-170.*
- S. Cooper, 2009. "Good pedagogical practices in single-sex education." In A. La Marca (Ed.) "L'educazione differenziata per le ragazze e i ragazzi. Un modello di scuola per il XXI secolo." Armando, (Roma), 101-109.
- M. Del Giudice, T. Booth & P. Irwing, 2012, The Distance Between Mars and Venus: Measuring Global Sex Differences in Personality. *Plos one*, 7.
- S. E. Elliott-Johns & D. Booth, 2009, Current Research and Classroom Practice: Toward More Inclusive Approaches to Literacy Development in Schools, *Brock Education*, 19: 49-72.
- I. Enkvist, 2007, "Igualdad y diversidad en el proceso educativo. El tratamiento del Género en la escuela." In "I Congreso Internacional sobre educación diferenciada" EASSE, (Barcelona), 87-116.
- S. Gerstner & F. Bogner, 2009. Concept Map Structure, Gender and Teaching Methods: An Investigation of Students' Science Learning, *Educational Research*, 51:425- 438.

- M. Gurian, 2009, "Successful single-sex classrooms: A practical guide to teaching boys and girls separately." Jossey-Bass, (San Francisco), 3-280.
- M. Gurian, K. Stevens & K. King, 2008, "Strategies for teaching boys and girls, secondary level: A workbook for educators". Jossey-Bass, (San Francisco), 3-284.
- D. F. Halpern, 2012, "Sex Differences in Cognitive Abilities. Fourth edition", Psychology Press, (New York), 4-480.
- C. Hoff Sommers, 2007, "La educación de chicos y chicas en el siglo XXI". In J. Camps-E. Vidal (Eds.), "Familia, Educación y Género". IESF, (Barcelona), 201-214.
- N. Ibanez, 2011, Best Practices in single-sex education. Department of Research and Evaluation. Austin independent school district. DRE Report, 1-9.
- A. N. James, 2009, "Teaching the female brain: How girls learn math and science", Corwin, (Thousand Oaks), 3-205.
- D. Kimura, 2000, "Sex and cognition", MIT Press, (Cambridge), 3-216.
- A. La Marca, 2007, "L'educazione alla scelta. Una didattica differenziata per le alunne e per gli alunni". In A. La Marca (Ed.), "La valorizzazione delle specificità femminili e maschili" Armando, (Roma), 31-55.
- S. Logan & R. Johnston, 2010, Investigating Gender Differences in Reading. Educational Review, 62: 175-187.
- M. Reichert, & R. Hawley, 2010, "Reaching boys, teaching boys: students and teachers reveal what works –and why", Jossey-Bass, (San Francisco), 5-250.
- L. Sax, 2006, "Por qué el género importa. Lo que los padres y profesores deberían saber acerca de la ciencia emergente de la diferencia de sexos". In E. VIDAL (Ed.), "Diferentes, Iguales, Juntos? Educación Diferenciada" Ariel, (Barcelona), 179-188.
- L. Sax, 2010. Sex Differences in Hearing. Implications for best practice in the classroom. Advances in Gender and Education, 2:13-21.

- D. A. Schön, 2006, “Formare il professionista riflessivo. Per una nuova prospettiva della formazione e dell’apprendimento nelle professioni”. Franco Angeli, (Milano) 4-358.
- A. Sullivan, 2009, Academic Self-Concept, Gender and Single-Sex Schooling. *British Educational Research Journal*, 35:259-288.
- Z. You, 2010, Gender Differences in Mathematics Learning. *School Science and Mathematics*, 110:115-117.
- G. Zanniello, 2010, “Insegnare ad apprendere al maschile”. In L. D’Alonzo – G. Mari (Ed.), “Identità e diversità nell’orizzonte educativo. Studi in onore di Giuseppe Vico”, Vita e Pensiero (Milano), 355-374.
- I.C Zündorf, H.O. Karnath, & J. Lowald, 2011, Male advantage in sound localization at cocktail parties. *Cortex*, 47: 741-749.