

THE ART OF TEACHING AND EDUCATION AS AN ART FORM: EXPERIENCES IN MEXICO AND CUBA

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Abstract:

This article aims to highlight the importance and relevance of integrating art and the creative process as essential contributing factors essential to the teaching process involved, from this author's as well as from other scholars' previous research. Through international examples with emphasis on Mexico and Cuba, this article explains how new teaching skills and attitudes are required in order to conceive and impart knowledge from a new perspective where the student, rather than memorize, attains motivation and deploys his creative potential to extrapolate the lessons learned. It also elucidates the proven effects of techniques such as music, leisure activities and freedom of options in promoting the inter-hemispheric development of the learner and increasing the chances of apprehending the acquired knowledge.

Keywords: active teaching, creative formative process, music for education, development and hemispheres

EL ARTE DE EDUCAR Y LA EDUCACIÓN COMO UN ARTE: ALGUNAS EXPERIENCIAS EN MÉXICO Y EN CUBA

Resumen:

El objetivo de este artículo es destacar, a partir de resultados previos de investigaciones de la autora y de otros estudiosos afines, la importancia y la

pertinencia de integrar el arte y el proceso creativo que este implica como coadyuvantes indispensables del proceso de enseñanza. A través de ejemplos internacionales con énfasis en México y en Cuba, señala cómo esto requiere de nuevas habilidades, actitudes y calificaciones en el docente, para poder llevar a cabo esta nueva forma de concebir e impartir los conocimientos, con una concepción donde el alumno, más que memorizar, logre motivarse y desplegar al máximo su potencial creativo, extrapolando lo aprendido. Y el efecto comprobado de técnicas como la música, las actividades lúdicas y la libertad de opciones para fomentar el desarrollo interhemisférico del educando e incrementar así las posibilidades de aprehender lo adquirido

Palabras Clave Enseñanza activa, Proceso de formación creativo, Música para la educación, Desarrollo y hemisferios.

1. Introduction. The art of education: pedagogical teacher training

The Latin root for the verb “educate” implies not only the transmission of information, but also - and above all - the extraction of talent and inner potential of the learner (*educere*) (see Corominas, 1980). Prestigious teachers such as Paul Freire and José Martí (see Hernández & Reinoso, 2012) have respectively stressed that teaching, beyond its relationship to knowledge, involves "creating possibilities for its own production or construction" (Freire, 2004:22) and thus "preparing man for life" (Martí, 1883:282).

However, there are several elements that affect the success of this process. One of them was analyzed by Julio Piña (2010) in twenty-three universities in Mexico, when he encountered an existing dichotomy between what was approved in the curricula and the competency model which was in fact utilized, to train students. The focus of these subjects of study was, ultimately, a variety of procedures designed to modify “problematic” behaviors.

There are currently educational institutions who have already become aware of the need to create new policies and strategies to reduce the gap between the teaching curriculum, the research and the pedagogical practice (Quintero, Munévar & Munévar, 2008), which has led to a critical review of the discipline of education, as it is currently taught by teachers (Murillo, 1985; Olea, 1986; Carr & Kemmis, 1988; Carr, 1996; Escoto, 1989; Enríquez Sedano, 1990; Delgado, 1997; Castellanos, 2004; Hernández & Magaña, 2009; Ramírez, 2010; Vázquez, 2010). As has been pointed out by Castellanos & D'Alessandro (2003), education is an active knowledge building procedure, with a learning-oriented objective. This last aspect requires specialized training on the part of the academic staff (Reyes, 2004) which should be dynamic, multidimensional, integrate a mix of disciplinary as well as theoretical, methodological, epistemological, educational, psychological, social, philosophical and historical aspects, and be carried out on a permanent basis (Chehaybar & Kuri, 2003).

When describing The Situation of Teaching Staff, UNESCO, emphasizes that “it should be recognized that progress in education depends largely on the training and competency of teachers, as well as the human, pedagogical and professional qualities of each educator” (UNESCO, 1966:4).

In the case of México, institutions such as the Secretary of Education (Secretaría de Educación Pública), the National Association of Universities and Institutions of Higher Education (Asociación Nacional de Universidades e Instituciones de Educación Superior) and the National Council of Teacher Training (Consejo Nacional de Formación de Profesores), have invested enormous efforts in creating teacher training programs (Ezcurra, 1995: 11). As a result, the number of teachers at a graduate level has increased and will hopefully also help elevate the quality of education (Zarzar, 1988).

However, while recognizing the importance of having an adequate command of the specific subject to be taught to teachers at any given moment (Dunkin & Precians, 1992 cited by Luna, 2002: 72), the challenge being proposed here is that teachers acquire didactic/pedagogical training. With this in mind, in 2009 the author (Arenas

& Fernández ,2009) carried out a research project at the Administrative Sciences School of the Autonomous University of Baja California, in the city of Mexicali, with the objective of determining the influence of teachers' pedagogical training on the students' academic performance. The premise was that it is not enough for a professor to be trained in relation to the specific subject being taught, but that it was essential for the professor to master the educational skills necessary to teach the subject.

After a year it was found that, while there was a positive relation between the level reached by the professor and the students' level of academic performance, the highest performance levels were achieved by who attended other certification courses. In other words, more important than the degree of specialization (Master's or PhD degrees), it was necessary to have acquired the teaching skills as a result of practical experience with teaching techniques in order to transmit knowledge with motivation and art, thereby serving as models to follow. These results coincide with those found in Nicaragua by Soto, Angulo and López (2011), Bartual and Poblet (2009) in Peru, the University of Yucatán (UADY, 2009) in Mexico, and the University of Vigos in Spain (González-Peiteado, 2013), among others.

On the other hand, in 2012 - 2013 an exploratory study was conducted in several universities in Tijuana, Baja California (Fernández & González, 2014) which analyzed the fact that, even though higher education institutions consider the production and transmission of knowledge as its primary function, "they have also been responsible for training human resources with the skills and knowledge required for job related performance (Cabrera, Hickman & Mares, 2010: 2). This article focuses on the practice of Community Social Service from the perspective of its educational function and analyzes the reasons why, despite serving as an indispensable element within the curricula, in the majority of cases it is carried out as a mandatory activity, rather than being perceived as a mobilization opportunity which facilitates the student's fulfillment of their social responsibility. (cfr. Cortez, Heredia, Lascano & Calderón, 2009: 7; Interuniversity Development Center, 2000;

Cano, 2004; Cabrera et al., 2010; Barrientos, Lin & Vázquez, 2011; Viñas & Hernandez, 2012; Nascimento, 2012; Rabinowitz, 2013). This raises an issue regarding the desired connection between university and society; given the fact that job related training linked to community needs is an essential component of educational activity.

After appropriate inquiry, one of the findings was that having teacher's consistently provide appropriate advice, as a model to follow, was also a decisive factor (Fernández & González, 2014). The relevance of the teacher's role as a mentor who promotes the development and practice of teaching competencies, matches earlier findings by Gonczi and Athanasou (1996), Peterson (1997) and Richardson (1990) cited by Macotela (2007) and Hernandez and Magaña (2009). Concepción Cano¹ also insisted on the need for change in teachers' attitudes, given the impact this had on learner's approach and motivation, and she pointed out that: "When the mind and the heart are committed, the whole person commits, and this leads to options that embody concrete actions" (Cano, 2004:5). These expressions consistent with that of researchers Ceberio, Moreno and Des Champs (2011): "a trainer should encourage students to enjoy their professional work, embrace it with passion rather than reducing their conception of it to a mere job that must be carried out daily".

This substantiates the need to promote guidelines conducive to establishing patterns consistent with the required standards which institutions would like to see replicated by the individuals they are educating on society's behalf, and recognize the huge responsibility that the educator plays in this role. As Juárez, Hernández and Escoto point out in a University in Ecatepec, Mexico: "the results would be different if professors would pay more attention to the manner in which the students process and acquire new information" (Juárez, Hernández & Escoto, 2011:11). If we were to assume the fundamental premise (already submitted by L. S. Vygotsky, see Vygotsky, 1978, 1987 & 2002; González, De los Ángeles and Hernández, 2011), that knowledge is socially constructed, the study plans and

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¹ As a result of a similar experience, this time at the Universidad Iberoamericana in Mexico City.

programs would be designed to systematically include social interaction between both teachers and students and between students and the community, there by positioning the students' learning experience in a real and meaningful environment.

Perhaps this would imply switching teaching centered models for learning centered models as affirmed by Gutiérrez:

"The new role of the new professor should be one of creating and coordinating complex learning environments which offer students a set of appropriate activities that support them in understanding the study material [...] A significant transformation should be generated, to the degree that they would no longer fundamentally be mere speakers or presenters, but also mentors, guides who lead individual and group self-learning efforts on behalf of the students, people who induce students to carry out their research or professional practice, and models of commitment to humanistic and social academic values which higher education institutions promote" (Gutiérrez, 2003:2).

2..Art as a contributing factor in education: Artistic activities in the teaching-learning process

This new perspective makes it necessary to reconsider the methodology with which the transmission of knowledge is planned, if dynamic, motivational and experiential type paradigms are to prevail. Mastering the techniques and very specific resources (Pérez, 1999)² adapted creatively to every reality, implies providing specific training for the teaching staff. It is hardly possible to teach students to be tolerant, independent, creative, and critical of the traditional procedures, based on mere explanations of these concepts and of how to act accordingly. As a result of his research at UNAM and other Mexican campuses Morán (2004), stressed that "The student receives information and accumulates theory, yet he is not capable of using it critically and pertinently, or of thinking on his own and taking a stand in the face of

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² Cfr. Fernández (2013).

reality and of his own knowledge.”

That is why, when faced with the task of developing an educational intervention strategy to implement an anti-violence module for the community of Ensenada, Baja California, based on social cohesion and the introduction of new values, concepts and attitudes, the action oriented research project, "Workshop for social inclusion and self-esteem" (2012), was designed using artistic-educational techniques (film-debates, music therapy, puppets, collages on varied topics, role play, drawings, storytelling and other playful activities) as experiences comparable to reality that lent themselves for creating an atmosphere of trust, cooperation and equity, as described by Yudkin and Pascual (2002: 4). Here, actions were prioritized over words, recognizing different art forms, recreational activities, and the potential for creativity as a core contributing factor in taking ownership of, and being able to transfer knowledge to everyday life, so that it could be understood, felt and expressed.

Three simultaneous groups (children, adolescents and adults – parents and teachers-) participated in this pilot module over a period of 6 months (60 hours of class participation). Because of the focus on issues such as violence (in school, dating and family situations), self-esteem, gender, healthy communication and assertive conflict resolution (among others), it was necessary to design a suitable climate in which they felt comfortable experiencing these situations and able to move forward actively and creatively toward new constructions (Cfr. Fernández, 2012 & Fernández, 2013).

In order to instruct the children participating in this workshop, regarding values and behaviors consistent with a culture of peace and the ownership of their rights, as part of an anti-bullying education process, (Fernández & de Anda, 2013), emphasis was placed on developing a greater sense of responsibility, self-care and improved relations, through empathy and respect for human dignity by informing, training and transforming children into more confident individuals, so they may become more aware and responsible adults.

Once we, as educators, had fully comprehended the importance of the realities and aspirations of this group of students, the aim became to generate creative comprehensive learning, which emerged during the exchange of cultural experiences in a communicative atmosphere. Specially designed playful activities with recognized educational value were deployed to enable understanding and action (especially considering this student group's age) in favor of human rights (Cfr. Morán, 1993; Colazo, Benítez & Knight, 1994; Cascón, 2004 & 2000; Cascón & Beristain, 2004; Faúndez (1999); CDHFFV (2013). Directly linking knowledge with their everyday activities, helped stimulate their independent thinking to a greater degree (Faúndez, 1999).

Both experiences share points in common with Hernández' work (2007) on action-research as a epistemological teaching strategy within a qualitative paradigm, implemented with the aim of building an emerging theoretical model on the basis of comprehensive and creative learning in elementary education. To achieve this, he provided the student with the opportunity of "learning by doing" in the classroom, guiding him toward discovery, reflection and dialogue with the help of a mediator. On the other hand, Cerezo (2008) used this same framework and playful method to develop human potential, personal autonomy, creativity, innovation, teamwork and complex problem solving skills.

Other illustrative work that prioritized the use of creativity is Monroy (2006), from the National Autonomous University of Mexico, who affirmed that contact with knowledge requires imagination, freedom and confidence to choose a path in the vast world of science, without fears or blockages.

And this leads us to Velásquez, Remolina and Calle (2010), who insist on this methodology's capacity to enhance the development of the entire brain. They explain that these activities should be seen, in the teaching-learning process, as

associated with self-creation³, considering that playfulness also lies within the realm of language and re-enforces the cognitive belonging and identity building processes, both of which constitute a means and a source for new thought generation. In addition, this contributes significantly to the development of self-confidence, communication, rule acceptance and teamwork.

3. The use of music in learning as a means of stimulating brain processes⁴

In 2007 Galvis proposed including the creative process as part of teacher training, based on his analysis of different authors' perspectives, such as those of De la Torre, Guilford, Torrance and Perkins, which lead him to believe that it had "the ability to optimize the production of innovative ideas and communicate them" (Galvis, 2007: 86). His proposal presented contextualized, feasibly applicable programs, highlighting strategies and resources that prioritized creative thinking in the learning activities to be incorporated into the curriculum. These ad hoc methods, techniques and content materials, would also contribute to the development of the students' right hemisphere (and not just the left, devoted mainly to activities related to writing and language), by promoting activities that would stimulate all the senses and link content to their surroundings. Among the fundamental activities, he proposed the inclusion of music and play.

Marin and De la Torre (1991: 91-96) also advocated in favor of shaping the educational agenda for training teachers based on the creative process by "conceiving sensor motor activities that heighten awareness of the students surroundings, or activities based on expression, ideation, problem solving, innovation and creative thinking". In this sense, they insisted that "the right hemisphere is needed to produce new ideas, establish direction and formulate statements. Its flexibility and dynamism allows providing a large number of

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³ The creative and musical aspects are preferably located in the right hemisphere in the case of the majority of the population, while reading and writing are found in the left hemisphere, although both are closely linked. (Cfr. Fernández, 1996; Fernández, 2001).

⁴ Cfr. Fernández (2008).

resources that enable logical thinking to make the most suitable choice".

Thereby, one of his proposals was the use of music in the classrooms because it "regulates the creativity of the conscious and subconscious powers, causing inner balance and reducing intellectual tension to the minimum. Music creates environments of peace and tranquility and a predisposition to feel good by stimulating the limbic brain, while decreasing stress, activating the imagination and creativity"(Marin & De la Torre, 1991: 91-96).

In this regard, it is worth mentioning that the French composer Hector Berlioz indicated that the music had, "in addition to its ability to transmit aesthetic values, the possibility of increasing our motor capacity, improving our health, controlling stress [...] and, above all, encouraging our intelligence, since it stimulates the understanding of the abstract" (Berlioz, 2002:12). This important musicologist noted that people who regularly listened to music carefully thought and structured their thinking better than those who did not. While it has been demonstrated that "music needs in the classroom, incentive and exploring the emotional establishing self-knowledge and therefore developing meaningful strategies to face and solve learning problems", it is also true that it needs to be adapted to the characteristics and needs of the study group (Albornoz, 2009: 67).

Therefore, in this case, the music utilized was taken from the work developed in 1983 by Ostrander and Schroeder Ostrander (1983), who presented a set of instructions to follow for the selection of musical fragments that activated the intellectual processes, while helping the person maintain a proper state of relaxation and concentration. Their objectives were oriented toward the so-called "super-learning" or accelerated learning, applied by a group of researchers at the Karl Marx University in Leipzig with successful results. Some authors, like Schwartz and Schewpe (2002), point to Georgi Lozanov as the founder of accelerated learning, also known as "suggestopedia" since it uses this type of music as subliminal cognitive stimulation to substantially improve the teaching process.

According to the parameters studied by Ostrander et al. (1983), "pro intellectual" music consists of selections from Baroque music featuring 60 cycles per minute and binary or tertiary compass, fragments not longer than four minutes, preferably with strings instruments, a duration time of 30 minutes and ending with an allegro. Astudillo, Aguirre and Astudillo (1989: 98) commented how this rhythm favored concentration by regulating the pace of brain waves and breathing, which caused biochemical changes resulting in states of relaxed, mental alertness. In this regard, they pointed out that "Baroque music tends to have a very slow bass, which beats like a slowed human pulse, and seemingly, when listened to, makes the body tend to want to keep up with that pace. It is suggested that the harmony and rhythm, [as well] as the particular sound of this music can, by itself, induce a physical, bodily and mental relaxation without any special effects other than the act of listening".

With the general aim of empirically verifying the role that a musical selection, with the characteristics described above, can have in activating the cortical tone, research was carried out in Havana, Cuba (cfr. Fernández, Pérez-Lache and Cádiz., 1998), using the estesiometric method, created in 1985 by the Cuban neurophysiologist and neuropsychologist Néstor Pérez Lache for the functional study of the cerebral cortex (cfr. Perez-Lache1992). The sample consisted of a total of 58 neurologically and psychologically healthy subjects, with an educational level between the sixth grade and college-level, distributed in one control group (16 persons) and one pilot group (42) with the use of a music program according to the required parameters.

At the end of the experience, it was demonstrated that this particular selection of Baroque music with the described characteristics, did exert an activating influence on the cerebral cortical neuro dynamics, although it required further follow-up on certain parameters, among which the most important one was the fact that the music should be accompanied by a creative intellectual activity (such as preparing for an exam, for example), because otherwise, it produced only a physiological relaxation and a numbing effect (for whose purposes it had already been used

before by the Bulgarian Lozanov with athletes: cfr. Astudillo, Aguirre & Astudillo, 1989), so that the subject would be intellectually engaged while he was listening.

Thanks to the openness of Cuban authorities in regard to education, committed to applying the research results and stimulating its advancement (Velázquez y González, 2010: 14), the author elaborated several experimental pilots in different elementary schools in Havana, Cuba, playing the music at a very low volume during various class sessions and without having expressly alerted the students. Although there is no published record of these results and the necessary follow-up did not take place, the author can assert that, in all cases, a greater effect of calm between teachers was clearly perceived, which contributed to an atmosphere of greater harmony and clarity during the teaching of the different subjects. This selection has also been used as background music in several school libraries around the country.

On the other hand, Don Campbell, founder of the Institute of Music, Health and Education in the United States, pointed out that, to the extent possible, the properties of this music should be used as a powerful tool for developing memory and intellect, not to mention the virtues of practicing an instrument or participating in the school's music program, which had "broadly positive effects on learning, motivation and behavior" (Campbell, 1998: 179). He cited examples of achieving higher scores in the oral part of aptitude tests, and math, reading, chemistry, and biology exams among students with experience in music performance, as a result of listening. He also referred to having succeeded in reducing misbehavior in children in a school bus.

In addition to the already proven cortical stimulation produced by this type of music, currently a similar effect has been known to occur when listening to the great majority of the works composed by Mozart, which the educator and musician Don Campbell named the "Mozart effect", described as a strengthening of the mind and revitalization of creativity, among other aspects (Campbell, 1998), attributable to this composer's tones and rhythms. In the early 1990s, research conducted by the Center of Neurobiology, Learning and Memory at the University of California at

Irvine revealed surprising results about the effects of Mozart's music in children and university students. In this regard, Salgado said:

"Their multiple experiences include improved results in spatial intelligence tests, after listening to the Sonata for Two Pianos in D Major (k. 448). In search for a mechanism that would explain this effect, the scientists suggested that listening to Mozart organized neural activity in the cerebral cortex, reinforcing especially, the right hemisphere's creative processes, related to spatial-temporal reasoning and the improvement of memory, concentration and the intuitive abilities, as a result of listening to it. This music heightens attention without causing excitement, thereby favoring both depth and calmness of insight.[...]. All its constructs reveal a sense of harmony and greatness woven effortlessly, as it happens with the best architecture." (Salgado, 1999: 60-61).

The above indicates the relevance of using appropriate musical selections as another tool to stimulate the intellectual and creative ability in the teacher training process.

4. Conclusions

The need to take into account the creative processes as a fundamental link in the current teaching- learning process based on the premise that "making education available is not enough, unless it is good education" (Terremocha, 2010: 291), in order to shape truly autonomous students (Osses y Jaramillo, 2008), is not exclusive of Latin countries, as described in the cases taken from Mexico and Cuba. On the contrary, as Robina Shaheen (2010: 168), has pointed out, literature has already documented this need among Europeans, Americans, Australians and Asians, to the point of asserting itself as a "key to economic competitiveness in advanced economies".

Furthermore, it has also been crucial to take into account the importance of developing artistic abilities, such as music, from an early age, which aside from

enhancing self-esteem (DES, 2003), may promote a person's psychophysical activity and expand the activity of both of the brain's hemispheres (Verlee, 1986). This implies a new conception of study programs, teacher training and the dynamics used to structure classes, recognizing the arts, playfulness and students' potential as core elements that allow transferring knowledge to everyday life. This will lead to a transformation of the obsolete *notion of the educator* (Cuello & Vizcaya, 2002; Pérez & Leganés, 2012:139) into that of a trained mediator, capable of enhancing personal autonomy, interpersonal skills, teamwork and problem solving skill development, so that the learner can learn to learn.

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