

Piaget and Steiner: Science and art in the process of formation¹

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ABSTRACT. This study discusses the contribution of Piaget and Steiner to the process of formation, using their observations about art in cognitive processes as a framework. It is justified in the discussion of an educational process suitable for human development. The definition of art can be comprehended through approaches that are humanist, sociological or from an interaction between these approaches. According to Steiner, in art and science, cognition implies an active process of production of the subject, which implies ascension from casuality to needs. Both art and science seek the infinite. To Steiner, the purpose of art and of science is to overcome the sensorial through the spiritual. Piaget recognizes the cognitive development as an active construction between the subject and his environment. This construction goes through the real actions, representation and operation. It is only at the formal stage that we can mention a determination of the subject by him/herself and in his/her capacity of subordination of the reality to the realm of infinite possibilities. In this process, Piaget refers to the exchange with peers or cooperation as essential to the advent of operation. Although Piaget did not refer specifically to art, all of the process of intelligence development can be understood as a process of creation of the subject. The study was conducted with 32 non-artist adults aged between 21 and 71 years, who had finished higher education and exercised different professions, and were interviewed about their perceptions regarding art and life; works of art who accompanied their life and which would be their definition of art. As results, the relation between art and life is observed, especially comprehended as form of expression of feelings, as expression of the soul; way to handle difficult situations, besides the notion of the relation between life and art as an opportunity for rethinking and learning, a new possibility of comprehension of the world, improving the ways of being, living, acting and understanding. There is a perception of art as a part of life. Very few participants mentioned specific works of art that have accompanied them in different moments of life and, among these, music and visual arts are especially mentioned. Both the contemplation as well as the creation of artworks are mentioned and perceived as fundamental to life. The definition of art to the participants included mainly the expression of feelings, the notion of art as transformation, transcendence, communication, knowledge and integration. These results point to specificities of the Brazilian context, with the emphasis given to music and visual arts as the main artistic activities cited, as well as to aspects found in participants of a similar study developed in Germany, in what regards art as expression of feelings, art as a context of approximation of the subject towards him/herself, as a form of integration with the universal. It is observed, from the participants, a demand around the relation with the language of art in the process of transformation of the subject across life, not only to work with difficult situations, but also in the unleashing of new possibilities of being and acting, to his/her own health. It concludes with the need to review traditional educational practices, integrating, definitively, the artistic activities to the intellectual work developed through science.

Keywords: science; art; Piaget; Steiner; education.

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This study discusses aspects of the theories of Piaget and Steiner on human development, basically his views on the relation between science and art in this process. Includes an empirical study that aims to identify the perception of non-artist adults regarding the relationship between art and life.

One is marked by the continuous discoveries of science and technology – and in such a way that it is difficult to slow down and to direct a more careful glance on the process experienced in frantic evolution. The impression is that although we have more and more advances in scientific knowledge, we are moving more and more away from ourselves. The question is: Do we really understand reality better through science? This study rescues an argument regarding art. Would art not be an essential field for the development of the human being, for non-artists? In what sense? How do non-artist adults realize this importance? Such an approach is justified in the discussion of an educative process appropriate to the human development.

The perspective of Steiner on Goethe and Schiller

The work of Goethe offers relevant contributions to education, as it is aligned with human development. In his criticism to the positivism of the end of the 19th century, Steiner resorts to Goethe (Veiga, 2006; Welburn, 2005).

In the cosmivision of Goethe (2000a; 2000b), everything is related to an evolutionary flow. Nature represents an evolution without participation of man, who flows into the man, who participates of the continuity of evolution. Understanding humankind as moving through states of perfecting on evolution, Goethe observes that man could only remain in nature while he was not conscious of this situation. In realizing that there is a world equivalent to that of Nature in his interior, man begins his process of differentiation and distancing from Nature.

Thus, Goethe proposes that the transcendence of the immediate Nature without the distancing, in regard to his essence. “We do not approach the objective world with through the receptive spirit; he will not unveil itself to us. Without the intuitive capacity of realizing ideas, we have no access to this domain.” (Steiner, 1998, p.18).

Art is the dimension where man rises from creature to creator, but it is not removed from nature. It demands a worthy contemplator, and involves maturing. Goethe (2000b) does not separate art and science to reach the essence creator of the things and to become a creator, goes if deepening in the Nature (Günther, 1981). It demands supreme knowledge.

The scientific method of Goethe (2000b) goes through the diversification to be joined in nature. Goethe does not try to be free from experience. The educator has to follow the nature of the object. The separation between subject and object does not provide much advancement. Understanding implies participation, with the subject becoming more and more skilfull in this process of creation, it implies recognition. The steps towards this recognition consider the reduction of the judgments, the formation of the concepts, focusing the perspective, the repetition or seeing the new thing under a new angle and the participation, which is allowed through the exercise of seeing oneself in the object (Günther, 1981). In this sense, Goethe does not want to dominate nature, but to participate in it and thus become able to create. Here there is the intimate relation between knowledge and action. This refers to another form of understanding art. What matters in art is “not the incorporation of something supra-sensorial, but the transformation of the sensorial reality. The reality must not be looked down like a mere way of expression; but, on the contrary, it must be preserved in its full autonomy, yet receiving a new form, a form that satisfies us” (Steiner, 1998, p. 28). Thus, the perfection is “the sensorial reality in its divine garment” (p. 33) or under the form of an idea. “Contemplate *what*, and more, contemplate *how*, as in the *how* lies what really matters. The *what* remains sensorial, but the *how* in its emergence becomes idealized (Steiner, 1998, p.33). The intention of Goethe starts to be the deepening of his relation with the reality of nature, the relationship between intuitive and objectal thinking. Goethe leaves from the discourse to reach a higher level, of an essential understanding of things, which manages to see the whole to which the parts belong. For Goethe, art can be understood as the synthesis of countless aspects. The author understands art as the continuation of nature. It is the third necessary realm, besides senses and reason. It represents evolution.

As a contemporary of Goethe, we find Schiller, who dealt with art and with education (Schiller, 1990). Though departing from Kant, Schiller had disagreements with the kantian philosophy because he did not agree with need for excluding emotion. Man is not only the result of his past, but has potential for evolution. For Schiller, man is dominated by two impulses: the matter impulse and the form impulse.

Beyond the wild, ruled by Nature and his feelings, and of the barbarian, dominated by reason and its principles, freedom is possible by the existence of the impulse of play. It is not the interchange between the matter and the form impulse that represents the balance. The impulse of playing represents a synthesis between the matter impulse and the form impulse, a third state of being driven towards a sensitive reason or a rational sensibility. From the playful impulse, man is again what he was, but in a self-conscious way. This impulse represents a superior naturalness, a cultural evolution that is added to the biological evolution. "It is possible to say that each man carries within the self, in what regards disposition and destination, a pure and ideal man, and the great task of his existence is to agree, in all his modifications, with his unchangeable unity" (Schiller, 1990, p.32).

The basis of the pedagogic conception of Steiner is the concept of freedom. It is on this point that his fundamental work, *The philosophy of freedom* (Steiner, 2000), has been written on. In it he deals with the central characteristic of the human being, human freedom, which encompasses the ability to observe and of understanding and reflecting on his own development. Waldorf Pedagogy provides ways to strengthen and support body development, the development of feelings and of spiritually, the aim being to support and advance the evolution of the human being (Steiner, 1996; 2003; Kiersch, 2006). This education is based on an understanding of the human being in his constitution and potential. It is an education according to basic characteristics of human nature.

Art and science reveal the laws that govern nature, but art expresses and reflects them in matter. In art, according to Goethe, what matters is *how* the artist introduced the idea into matter, not *what* he deals with. "The object must be totally isolated from the casual sphere and transposed for the sphere of necessity. The artistic perfection must not remain anything that is not printed in the spirit of the artist. The *what* must be conquered by the *how*" (Steiner, 2004 a, 112-113). Second Steiner (2004 a), the central characteristic of art and of the science is the penetration of the spiritual into the sensory. Art implements the spirit and sees and expresses the idea in the sensorial; science surpasses the sensorial, translating it into the real of the spirit, looking at the idea through the sensorial. The sources of cognition are perception and thinking. The essence of thinking, nevertheless, is obtained through intuition. An intuition represents the conscious experience of a purely spiritual content.

The development of the knowledge according to Piaget

This study incorporates the contributions of the theory of Piaget because of his careful description of the construction of knowledge in the human being since the birth through interaction with reality. Piaget considers the necessary interaction between the process of construction of reality and the process of construction of intelligence (Piaget, 1983; 1936; 1937; Garcia, 2002). While building reality, the human being builds his structures of knowledge. This is equivalent to saying that the fundamental aspect is action, physical and mental, and that man builds through it his perception of reality and itself. (Piaget, 1977; Garcia, 2002; Vonèche; Stoltz, 2007). The developments of affection and morality are implicated in this process of construction (Piaget, 1977; 1954; Stoltz, 2006; 2007; 2008). Piaget wrote about a virtual, abstract subject considered in his best means: the epistemic subject. The real subject, who resolves problems in reality, can show a functioning that is very inferior to what is expected, especially in areas in which he does not practice his reflexive capacity (Piaget, 1970). This is the psychological subject. Piaget (1977; 1972; 1973) emphasizes the exchange with peers for the advent of operative thinking and the development of morality and affection. The process of cognitive development can be understood as a creation of the subject (Piaget, 1981 a; Stoltz, 2001).

Operation is the essence of knowledge for Piaget. To operate with knowledge implies to dominate

the process of transformation, returning to the starting point that originated the process (Piaget, 1964). Operation implies mental reversibility and capacity of conservation, both of which are developed from the stage of concrete operations. Conservation concerns the capacity of considering certain elements as constants, despite changes in form. It is essential for identity development and for the understanding of a concept (Piaget; Szeminska, 1941).

In Piagetian terms, the cognitive development of the subject happens towards decentration and expanding his autonomous consciousness, which entails an increase in the capacity of establishing relations and in a more and more expanded understanding that guides action (Piaget, 1975; 1977; 1973). The possibility to understand and resolve problems of reality that are identified by the subject become larger and larger, in the sense that it advances the construction of his structures of knowledge. Thus, along these possibilities, there are always necessary constructions. Possibilities and necessities interact from the sensorimotor stage, enabling the expansion of the resources of the subject to deal with his reality (Piaget, 1981; 1983). The grasps of consciousness of the subject, on its turn, begin with simply knowing how to cultivate understanding, in the sense that only in the operatory-formal there are larger possibilities for action that are guided by understanding (Piaget, 1974 a; 1974b; 1977 a; 1977b). In what refers to Steiner's referential, this know-how, corresponding to a preoperative (Piaget, 1978) and to the concrete operatory from Piaget, corresponds to the stage of imitation and imagination from Steiner.

The capacity of relating logically and, thus, of conservation and of mental reversibility, is the most salient characteristic of the concrete operatory of Piaget (1964; 1975). It is possible to say that it can also be seen as an aspect that is present in the activities initiated in the stage of imagination and fantasy for Steiner, but these are not the relations stimulated in the pedagogy of Steiner, and much more the need of the person to develop a language in his relationship with the world. The development departing from a rational knowledge is a characteristic of the third septennium only, encompassing the period of adolescence in Waldorf Pedagogy. The role of the teacher as someone, who enables the appearance of individuality through observation and understanding, as well as providing a set of techniques to facilitate this process, is not treated by Piaget. A teacher who adopts a Piagetian posture should incite and provoke the pupil to promote the construction of rational knowledge, challenging it with experiences and contents to favor his cognitive development (Piaget, 2000; 2003; 1972; Stoltz; Parrat-Dayana, 2007; Stoltz, 2005; 2008).

In summary, the perspective of Steiner bears in mind a subject infinitely more complex than the one of Piaget. Piaget tends to reduce the construction of the subject of knowledge to human development of his rationality, though the Piagetian description represents one of the most complete descriptions of the development of human rationality regarding the development of morality. Both theories focus on human development, and present a preoccupation with an adequate formation of this human development (Ginsburg, 1982). From Piaget's point of view, the objective of education is the development of moral and intellectual autonomy (Piaget, 2000; 1977). For Steiner (2000), the objective of education is the development of an ethical individualism. The privilege of rationality led us to discredit nature in such a way that we have difficulty in recognizing us in her. Steiner tries to comprise the subject in its whole, working much more towards the development of individuality, beyond rationalism (Weger, 2007; 2008). The integrated work between body, soul and spirit, in the perspective of Steiner, is aimed at an integration of knowledge and action. Piaget, prioritizing the scientific explanation based on rationality as the most advanced one, as well as pointing to the need to integration between sciences, thus leads the subject nearer to the possibility of developing a rational criticism, but also removes it from what cannot be obtained by this explanation. Steiner, seeking to integrate art and science, allows a greater self-approximation of the subject, but removes it, in a certain way, from a more critical reading of reality, based on a materialistic perspective. The advancement seems to involve the need for understanding the whole subject of Steiner, without disregard for the need of developing the rationality of Piaget. This perspective would aim at the direct experience of thinking and development of a sensitive rationality, which allows to go beyond the assistentialism and leads to construction of a more wholesome society. Considering that Steiner refers to the need during the whole educative process to integrate art and science while Piaget does not observe this aspect, we asked, in this study, how non-artist adults understand the relationship between art and life.

Method

This inquiry is a part of a study carried out together between the Federal University of the Paraná, in Brazil, and Alanus University in Germany. It aims to identify the perception of non-artist adults regarding the relationship between art and life. It is a qualitative study, with an exploratory nature. Participants were 32 non-artist adults who were interviewed, aged between 21 and 71 years, residents of the city of Curitiba, Paraná, Brazil. The interviews were semi-structured and participants were asked about their possible meetings with the artistic domain; their understanding of what is art; of the extent to which art is realized in his/her own life and how it is expressed; and about works of art that accompanied them through life. The sample was a convenience-sample, considering different levels of formation and of profession, requiring that participants are at least 21 years old of not being artists by profession. Each interview had an average duration of 30 minutes.

Results

The first thing that draws attention in terms of the results is the passionate form in which the participants refer to art. Though they were performing professions that were quite distant from the artistic domain, the majority mentions this domain as being pleasant, creating opportunities for discovering themselves and others.

“...art is a creation of the human being, art is important and central for the life of a person because people can change through art, people can find inside themselves creativity, people can take a different perspective on the world and can prepare distinct codes of interactivity” (Odete, 61 years, teacher)

“It is how if it was a redemption of a delicate essential one that people come through the observation...” (Flávia, 34 years, pedagogic coordinator).

Regarding the definition of what art is, most subjects (19) present a definition related to the expression of feelings, state of the soul, state of mind and of beauty.

“Art is the form of expression of what it is more intimate, more yours and what cannot be spoken. It is reflection that makes me grow” (Márcia, 48 years, psychologist).

“Art is the sublime form of expression. It is necessary for the individual to be in a primarily spiritual state to understand it or to execute it.” (Miriam, 42 years, dentist).

Besides the notion of expression of feelings, other definitions point to art as language and as a form of communication (04).

“Art is a communication, it is always in relation with a context, with other persons and with an experience itself of the life that transcends my body, my being”. (Paul, 26 years, student).

For some (04), the definition of art can include any field.

“Art is everything that encompasses beauty, harmony, feelings, balance. It is what gives meaning to life, because life is made of art, depending on the glance from each one in his knowledge, imaginations, creativity” (Carla, 40 years, school counselor).

The participants of the study also identify art as the creation and construction of objects or the creation of a being in itself (05).

“Art is a creation of the human being. It is important and basic for the life of people. People can change, and can find creativity within themselves, a different perspective about the world” (Odete, 61 years, teacher).

In three participants we see the definition of art as something that enables reflection; two participants these art life itself; in two others as a medicine and energy for the spirit and for the soul - like knowledge enabling fulfillment, a definition that was found in two subjects. Two other subjects cited a definition of art as medicine and as a mean of integration with the purity of nature. Two examples follow:

“Art is a medicine, energy for the spirit and the soul. (...) It allows returning to the natural state of integration

with pure nature “. (Júlia, 37 years, social worker).

“Perhaps we can only manage to become individuals in the sense of having our individuality respected. It is a form, it is a way of the human being to be able to be, to be able to understand better the world that exists around him and to count on others like him to survive this world and, perhaps, in this way he manages to transform himself and to transform others and we thereby have a way to modify the world “ (Marize, 45 years, teacher).

In the definition of art yet, one mention was made for art as cultural demonstration of the spirit; as transcendence; as a projection; as a demonstration of talent; as an activity developed by knowledge, like a form of joining skills, talent, knowledge and feelings.

“Art is transcendence. It is the field that I report with what there is of more universal, essential“ (Paul, 26 years, student).

“They are cultural demonstrations of the spirit. I cannot say exactly, but I think that. To play, for me, is the communion with the universe“. (Moacir, 47 years, dentist).

The definitions found in non-artist adults are surprising. They are people who, for different motives, come in touch with the artistic activity and developed a deepened knowledge of themselves. They establish a specific contribution from art to their lives and understand it as a necessity. It is noticed that the definition of art for the participants of the study includes principally the expression of feelings, the notion of art as transformation, transcendence, communication, knowledge and integration.

The considered definitions bring our participants closer to the role of art in their cognitive development, in the sense of the integration of man as creator in the nature, following the referential system of Goethe, Schiller and Steiner. They point to the necessity of surviving life aesthetically. Our existence itself is an artistic process, which contains a cultural inheritance and evolution (Schiller, 1990). Freedom will only be reached through an integrated work between art and science (Steiner, 2004 a; 2000). The definition of art while being an expression of feelings, also points to the necessity of man, in his evolutionary process, to mark with his language his interaction with the world, just like the description of the way of Goethe (2000a). The need of integration also could be evident in some subjects and perceptions made possible through art. The results suggest that the intuitive is accessed through art, much before the discourse. When Piaget (1981a) expresses that the origin of creativity is a mystery and that, first, it must allow the scientist to accept any idea, no matter how absurd they are, without exercising judgments on them, and only then to work on them through the rationality, it is suggesting the existence of something preceding rationality, yet enabling new scientific creations. In principle, nevertheless, this creation is intuitive. In his first literary work, the novel *Recherche*, Piaget (1918) presented the central core of his theory in an artistic creation, much before developing his theory of equilibration.

The definitions of art indicate, above all, an essentialist and humanist view of art, emphasizing the role of the subject while creator and author. For most of the participants, the process of creation was central to the character of art.

All participants point to a relation between art and their lives. Art was understood principally as a form of working positively with difficult situations in life, of being expressive and to be rescued (19 participants mention this aspect). Other frequently quoted aspects include the fact that art is a part of life (13); being tied to the pleasure of doing, to happiness itself (11), making possible reflections for apprenticeship and transformation (10); becoming part of the cosmos and enabling the transcendence of time, of the body (04). In one subject, we find the relation between art and life being explained in terms of maintaining health and, in another participant, we find the mentioning of the development of discipline from art (01). In this context, the words of the participants regarding the relation between art and life are presented.

“When I am sad I like to sit by the piano and play. I get calmer. In the beginning, the music is stronger, but soon it calms me” (Carla, 40 years, school counselor).

“Yes. Redemption of the self. Redemption of the essence in life, identity” (Flávia, 34 years, pedagogic coordinator).

“The art of taking care, educating, preparing environments that are comfortable makes me feel calm and safe” (Clarice, 40 years, nurse)

“I realize that I feel very happy and content while assisting or while promoting art” (Evelyn, 27 years, student).

“To see differently the things when any world sees them in the same way. I learn creating and recreating.” (Rosimeri, 39 years, teacher)

“Transposition of mine to feel, of the intimacy, is something that transcends, a reflex of my feelings, of my emotion, of thinking, to speak, to act. Experience of transformation.” (Júlia, 37 years, social worker)

“Art has a relation with me essentially connected with the health in so far as health, for me, means to transcend myself. (...) I manage to relate with art from outside towards the inside when I am well; when I am not well I produce art from the inside out” (Paul, 26 years, student).

“Very often I felt incompetent in terms of carrying out some tasks and learn what is necessary to have discipline. (...) Appreciation of the art contributes with my apprenticeship, sharpening my sensibility, a better person makes me.” (Miriam, 42 years, dentist)

The fact that most of the participants emphasized in their words the need for restoration in their balance through art, making possible to deal with difficult situations in a satisfactory way, besides references to the pleasure provided by art, possibility of learning, of transformation and of transcendence allowing to emphasize an educative process that disregards art is not in harmony with the necessities of the human being.

As for the question whether there are works of art that accompany the life of the participants, a great majority (24), with the exception of two, which quote a band of music and a movie, they do not indicate names of works of art, sculptures, theatrical pieces or musical works. However, the participants describe, with precision, activities of artistic creation that accompanied them and accompany them in life. They quote works and objects that enabled writing, singing, painting, drawing, touching; participating in a choir, in music classes, painting, ballet, and dance. For them, the artistic creation that they carried out and they carry out that represents histories, moments that they were surviving, or it represents a way of exceeding the situations of crisis and, still, the construction of the identity itself.

“I do not look like myself very well, but the music had a great influence during moments of personal conflicts in my adolescence. (...) The participation that I had in the preparation of the site from a choral, developed in 1999, contributed to the choice of my profession. (...) Art participated and it participates of my personal growth. A very important moment was in adolescence. Art helped to open my eyes for the perfection of life” (Helen, 27 years, publicist).

In the same question 21 subjects quoted the contemplation of objects and works of art, wrapping hearing, seeing and feeling movies, pictures, music. The contemplation also helps surpassing difficult moments according to the participants of the study, like the artistic creation. The participants express that in the contemplation of the work of art the artist passes his emotion and wakes it in the viewer. For some subjects, the contemplation explains life itself because of inciting to openness, to freedom and spontaneity.

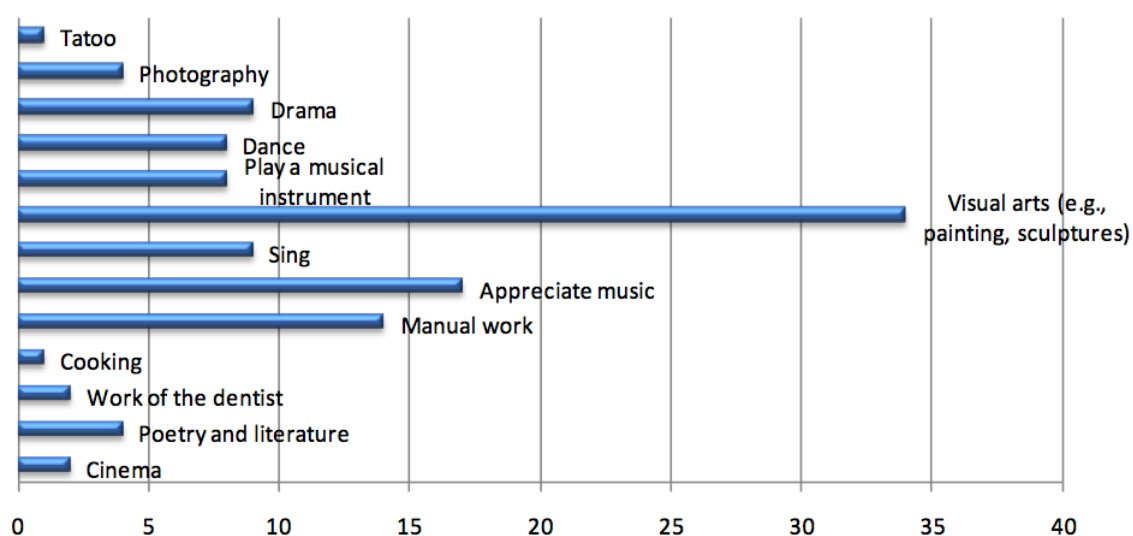
“ ... I remind of myself around 25 years ago, when I came across the first abstract picture that I saw, and that marked my identity. I still have this picture and it always takes me to think about what I can do the next day. It does not give me a final point, it leaves me in an open tunnel so that I arrive or so that I consider where I want to arrive in my work, in my relations; I would say that I live until today this experience.” (Liliane, 46 years, teacher).

It is observed that in the quotation of the works of art that accompany their lives, both creation and contemplation are recognized as fundamental. They allow, basically, the overcoming of conflicts, the existence of a reality that transcends the subject itself and the integration in a larger whole, besides learning and the possibility of transformation of the reality itself. It is not so much what it is shown, but what the process of contemplation evokes in the subject and what he survives during the process of creation. “The great works of art that Goethe saw in Italy seemed to him an immediate expression of the necessary element that man realizes in nature. For him, therefore, art also is a demonstration of natural hidden laws. (...) In the work of art, everything depends on how the artist introduced the idea into matter. The important thing is not what he negotiates, but how he does it.” (Steiner, 2004 a, p.112). Art might be understood as a science devoted to action, as suggested by Goethe. Contact with the culture, in its different demonstrations, is necessary for the processes of contemplation and artistic creation.

The type of art quoted by the participants of the study presents great variety going from popular art to the most classic. As suggested by Zoelberg (2006), almost everything can be considered as art today, in intimate interaction with the culture. These results begin to appear as specificities within the Brazilian context, like the emphasis given to music and to the plastic arts in the artistic activities that were mentioned.

The priority given to the visual arts (34) and to music (34), in the form of appreciation, touching and singing, provides evidence of how much these forms of art are appreciated in the Brazilian context. Zoelberg (2006) notices that Brazil is between the countries that lead the process of revision of an orthodox vision of what art is. Another distinction highlights the importance of manual work, also characteristic of the Brazilian culture. With a quotation it has the activity to cook (01) and the work of the dentist in the preparation of prosthesis being indicated as art (02). This consideration leads to the affirmation of Schiller (1990) as for the aesthetic education, when it expresses that it is, above all, facing life aesthetically, recognizing the life itself like a craft and artistic process.

Activities Considered as art



Conclusion

A demand is observed from the participants, regarding the relationship with the language of art in the process of transformation of the subject during life, not only to deal with difficult situations, but also for the development of new possibilities to be and to live integrated with a reality that transcends the subject. In this sense, the paper of the intuition is a basic starting point as well as a point of arrival (Veiga, 2008). Art and creation represent excellent channels of activation for intuition, of approximation with what we really are (Schieren, 2010; Ferreira, 2010; Stoltz, 2010; Gidley, 2010). In a similar study developed in Germany, similar results were found in what it refers to art as an expression of feelings, art as a context of approximation of the subject and even as a form of integration with the universal.

Piaget's ideas about the development of rationality are fundamental to the process of differentiation of man, in self-recognition as creator. The integration proposed in the Piagetian theory around an open system of knowledge of the subject can be expanded in the consideration of a broader whole (Gidley, 2007). As important elements in this expansion that are found in the present study: a consideration of intuition and observation, the subject's contact with the culture and the arts and their own creative process in development, not only in relation to intellectual but with respect to the body and feelings. The study results show it as absolutely necessary.

“The reason is purified from the illusions of the senses and the deceptive sophisms, and philosophy itself, which at first made us rebel against nature, draws us back to its heart with a strong and urgent voice – where

resides, thus, the cause for us to be still barbarians? (...) It is not enough, therefore, say that any illustration of understanding only deserves respect when it recedes into the character, her part too, in a sense of character, since the way for the intellect to be open for the heart. The formation of the sensitivity is therefore the most urgent need of the time, not only because it becomes a means of making the improved knowledge effective for life, but also because it awakens to the improvement of knowledge itself." (Schiller, 1990, p.50-51).

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