



## Correlation Analysis of Art-education and Educative Technology Tools in Early-age Infants in an Educational Institution of Tijuana, Baja California, Mexico

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**Abstract** - The dynamic activities of artistic actions made by educational agents, in educational institutions of the public and private sector, are of great importance in the integral development of boys and girls in the initial age. Based on these activities, the infants of this step can improve their skills and aptitudes, as well as their behavior, and the way of acting in their family and in any place where they make activities with other people. This is relevant to their behavior within the family, with their classmates in early-age schools, and with persons of diverse age in the complex society actually. Currently, children in the initial age have the particularity of learning through dynamic and visual actions, indicating that a lot quantity of them, can reply the things that observe in their family or other places where make activities, where a wide variety of infants at early age have experience with the use of technology as cell phones, computers or tablets. This can support to them to be more capable of acquiring knowledge, as long as parents and caregivers of early-age infants are aware of what children of the topics that use with this technological equipments. In school institutions, educational agents are in charge of use this technology equipments with the appropriate way, to encourage infants in the initial age to the optimal teaching-learning process. With this, educational agents and infants o early-age can take advantage of the educational technology resources and materials, and may be at least with a computer and an interactive screen. In base of this, an investigation was made to evaluate the correlation between the use of the educational technology in an educational institution of early-age with infants of this step, and the elaboration of artistic activities of boys and girls of early-age in a school located in the Tijuana city, in 2022, observing an increase in the integral development of infants of early-age of the educational evaluated, with the use of the educational technology tools as a computer system, utilizing the youtube tool with dances, songs and children's stories.

**Keywords:** Artistic activities, educational institutions, initial stage.

### 1. INTRODUCTION

The use of educational technology in scholar activities of the early-age, is very relevant to the development of artistic actions as dances, songs and children's stories, and also actions of artistic expressions can be carried out, such as painting, drawing and developing crafts (Allen et al, 2020). This was supported in this scientific study to the encouragement of the use of technology, as a section of educational technology by educational agents, in the classrooms of any school, where it is necessary to at least have a computer system, with which they can disseminate educational programs, such as dances, songs and children's stories. In addition, actions of artistic expressions can be carried out, such as painting, drawing and

developing crafts, which help to improve the fine motor skills of infants in the initial stage, and with it their abilities, to elaborate any challenge that they propose (Shonfeld et al, 2015).

### 1.1 Artistic education

The artistic activities in the educational institutions of the initial stage level, are an important part because it promotes the improvement of attitudes and capacities (Allen, 2020). The elaboration of diverse actions in the classrooms with artistic characteristics, indicate that the infants of the initial stage can made the challenges that are instilled in them to elaborate on the part of the educational agents in the educational institutions and on the part of the parents of the family in the homes. For this reason, the need to evaluate this type of activities, where artistic education is involved, the game as a teaching–learning strategy at the level of the initial stage of schools, both in the public and private sectors, where I have had the opportunity to carry out activities to promote the integral development of children in the initial stage, managing to improve the aptitudes, attitudes, capacities and behavior of infants in the initial step (Cook et al, 2016). It should be noted that initial stage students have the particularity of learning visually, because from a young age, they are induced by parents or their caregivers as relatives or acquaintances of parents; to use technology such as cell phones, tablets and computers. This is part of the process of unbalanced learning, which can sometimes lead to inappropriate learning (Miraglia, 2014).

### 1.2 Art strategies in education actions

The educational activities in the early-age are very relevant in the integral development of the infants of this step, where approach the educational technology tools as computer systems and interactive screens (Antonenko, 2015). Educational agents are very interested in the use of the technology in the educational activities to improve the skills of the boys and girls of early-age, utilizing the youtube interactive videos to make dances, listening music and children’s stories, improving the gross and fine motor skills. The artistic exploration is very relevant in the creativity of infants of this step, where can do anything using hand, feet, as is observed in figures 1 and 2, being a support in the motor skills of boys and girls of early-age. In both figures is expressed the liberty of movement of infants and the imagination and creativity (Creswell, 2013).



**Fig -1:** Artistic expression of infants of early-age.

<https://www.miprimerainfancia.com/el-arte-en-la-educacion-inicial/>



**Fig -2:** Artistic action as paint of infants of early age, improving his creativity  
<https://www.miprimerainfancia.com/el-arte-en-la-educacion-inicial/>

### 1.3 Development of environments in artistic education

The learning environments in the subject of artistic education are developed worldwide and in the Mexican Republic with the necessary specifications. The main elements for an optimal learning environment are efficient lighting and ventilation with a climatic environment considering the adequate levels of temperature and humidity, as the two most important climatic factors for climate comfort both for the educational agent for the children and early-age (Skinner et al, 2012). In addition, the space in which individual and collective dynamic activities take place must be considered, being closed areas (classrooms) of at least four-square meters and outdoor areas for outdoor activities with infants in the initial stage. Always contemplating hygiene and health actions. On the other hand, technology systems such as interactive screens and other types of computer systems for conducting classes, viewing interactive videos of songs and children's stories is of great support for the teaching-learning process. These actions greatly support the comprehensive development of early-age infants (Zimmerman, 2013). It is also important to consider the economic, social, cultural, psychological and emotional aspects for the interaction with infants at this stage. Experts on this subject, consider that art activities in schools of initial stage level, support to a great extent to improve creativity, imagination and interaction between peers as part of socialization and efficiently develop self-confidence and autonomy of children. infants at this step (Barak, 2018). Educational agents use specialized strategies to develop significant learning with an efficient learning environment in artistic education activities, developing dynamic activities in groups with interactive games, interaction between infants in their initial stage and with didactic materials. These contain dynamic artistic figures, which have greatly supported the comprehensive development of children in the initial stage, where they are complemented with dance actions with children's music that promote gross and fine motor skills. With this, actions can be developed such as storytelling that promote affective support, oral language and the action of sharing that support the imagination and creativity of infants, in addition to interactive screens that would be very useful to improve efficiency in the classroom. comprehensive development of infants at this stage. With these strategies in the initial stage, specialized methods are contemplated to favor the way of acquiring knowledge in educational institutions of initial level, with dynamic individual and collective activities with the boys and girls of this step (Alrasheedi et al, 2015), to promote gross motor skills. and fine, balance, imagination and creativity. In addition, the socialization, behavior and shared family upbringing of infants in this stage can be considered, to promote the safety and autonomy of children in the initial stage.



#### **1.4 Education technology factor**

Is a relevant aspect in the teaching–learning process of any type of education level, where are used some tools considered to improve the strategies of the educational activities. Educational agents, which are experts in this topic, approach the educational technology tools to have a dynamic activity in the classrooms, where contemplated actions with interactive videos that boys and girls of early–age know and with the educational agents and their classmates do a lot educational activity (Al-Sakkaf et al, 2019).

#### **1.5 The digital age and the complicated situation of the teaching–learning process in the early–age. Case of the artistic education**

At present, a large part of the infants of the initial stage have been introduced to the digital age by a mistaken thought of the fathers and mothers, with technology systems such as the use of cell phones, tablets and computers (Barak, 2018). This is carried out, by a large number of parents, in order to have rest periods and not dedicate time to their children in the initial stage, considering that it is an excellent opportunity to obtain knowledge with information or games. digital, without knowing that they are harming their children in their initial stage (Andrew et al, 2015). Due to this, it is observed that it does not benefit them in their coexistence process, nor with their relatives, schoolmates, neighbors or with society, considering that fathers and mothers fulfill every whim that children of the initial stage wish. But when parents, caregivers and educational agents develop the appropriate strategies, digital technology is of great support in the teaching–learning process, especially in the artistic actions mentioned above (Antonenko, 2015).

#### **1.6 Statistical analysis**

Are utilized in a lot cases of scientific studies, where had been great relevance in the discussion of the results, with the strategic methods and techniques of evaluation of numerical data as a quantitative and qualitative analysis (MacKay et al, 2020). Exists some computer programs to analyze the numerical data, being the most used the Excel, SPSS, MatLab, Minitab, Mathcad; and other with less level of use. In this investigation was used the Excel computer program to analyze the numerical obtained of interviews to directive personnel and surveys to teachers and family parents about the relation of the educational technology tools, which supports to the art–education in educative institution of the Tijuana city.

#### **1.7 Tijuana city as a modern region of the northwest of Mexico**

This city is an industrial, which have a lot educational institutions of diverse levels, where is utilized the technology tools in a lot schools, industries, government institutions commercial activities. This region of the Mexican Republic is a border zone with the California State of the United States of America (USA) (SEP–Baja California, 2022). In this modern city are located a lot educational institutions as considered as early–step level and care groups as schools of special care of boys and girls of early–age and special cases of some infants with healthy symptoms, which need special attention to improve their motor skills or movements of some parts of his body.

## **2. METHODOLOGY**

In this investigation was made an evaluation to obtain a correlation analysis of the adequate use of the educational technology tools in the realization of artistic activities, considering two types of analysis, which are described now and observed the results in the next sections:

- a) An evaluation of the use of the educational technology tools and the effect of the experience of the educational agents to improve the integral development of boys and girls of early-age in the case of artistic actions in the educational institution located in the Tijuana city.
- b) A correlation analysis of the integral development of early-age infants and the optimal use of the educational technology tools (ETT), utilizing specialized strategies of educational agents and observing the educational yielding about the capacities, skills, attitude and conduct of ten infants of early-age evaluated in this scientific study.

### 3. RESULTS

In this scientific study was obtained interesting information as quantitative and qualitative aspects, where was correlated the use of the educational technology tools and the integral development factor, considering the experience and creativity of the educational agent that was working with the ten boys and girls of early-age and analyzing the educational yielding of the infantes of this step.

#### 3.1 Evaluation of the use of the educational technology tools

In this part of this investigation was made an evaluation of the way to use the educational technology of family parents and educational agents, elaborating surveys in the school where was made this scientific study. The figure 3 shows the numerical data of the results of the surveys, where the majorly of the family parents and educational agents had a brief description of the educational technology tools, being the most common the Facebook, youtube and WhatsApp tools.

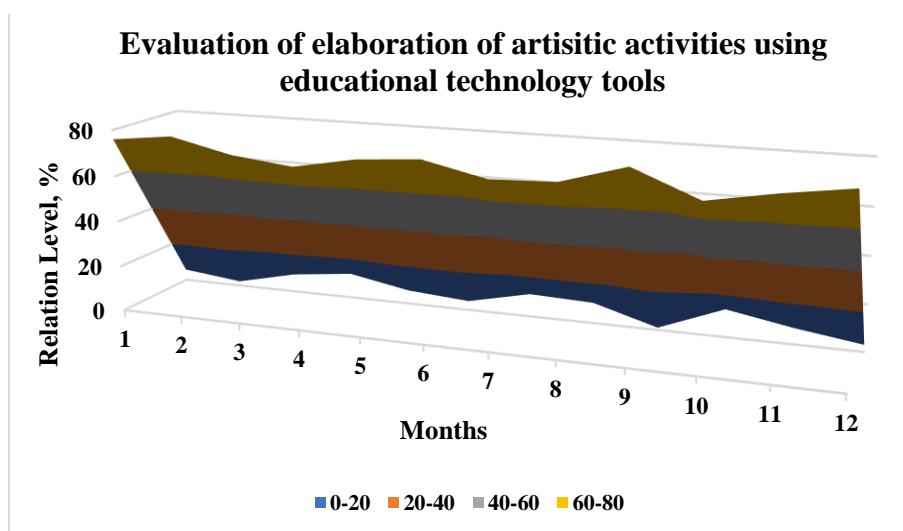


Fig -3: Analysis of the educational technology tools of family parents and educational agents

The surveys were made to 50 family parents and 10 educational agents, and being represented about the family parents in figure 3 and in a table 1 the operative yielding of educational agents, using the artistic



education topic. In this figure is showed the relation level with four colors, being the first the dark blue color from the 0% to 20%, indicating that few family parents not know about the educational technology tools. Then was appeared the orange color from 21% to 40%, representing more percentage level of the relation of the utilization of educational technology tools of family parents, following the gray color, with the 41% to 60% levels, indicating that more family parents have great knowledge about the educational technology tools mentioned above and finally the yellow color, presenting the relation of the majorly of family parents evaluated with the knowledge of educational technology tools, in this scientific study was made in the scholar institution of the Tijuana city. This indicate that the adequate use of the educational technology in this educational institution evaluated, was relevant in the improvement of the integral development of boys and girls of the early-age analyzed. Next is presented in table 1 the operative yielding of the educational agents.

Table -1: Evaluation of operative yielding of educational agents (2022)

Factors	OYEAWTET, %	OYEAWET, %	Factors	OYEAWTET, %	OYEAWET, %
Months			Months		
January	73	88	July	76	95
February	70	90	August	78	93
March	75	89	September	77	90
April	72	87	October	79	92
May	70	92	November	80	94
June	71	91	December	79	93

Operative Yielding of Educational Agents without Educational Technology Tools (OYEAWTET)  
Operative Yielding of Educational Agents with Educational Technology Tools (OYEAWET)

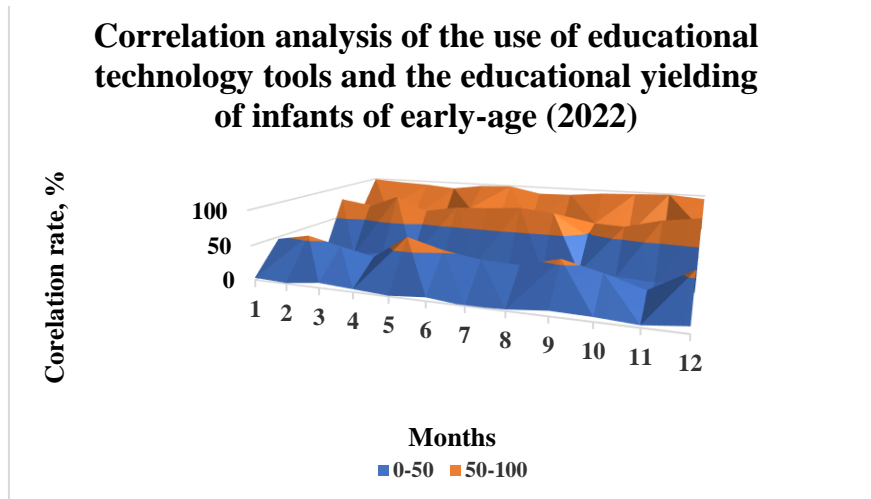
Table 1 shows an increasing of the percentage level of the operative yielding of educational agents, which of the ten evaluated, five were analyzed without the utilization of the educational technology tools and other five educational agents that participated in this investigation to correlate the necessity of use the ETT in this step of the teaching-learning process. Conforms increase the curse of this scientific study was detected the necessity of use the ETT in this level of the education and in the school evaluated.

### 3.2 Correlation analysis of use educational technology and educational yielding

Once the evaluation of the previous factor was elaborated, the correlation analysis was elaborated, indicated in figure 4, where it is observed that according to correlation rate (CR) level, was appeared five types of colors, indicating in the first color the dark blue color with the 0% to 20% level that el use of the ETT was necessary in the educational yielding of the boys and girls of early-age of the educational institution analyzed. Then was appeared the orange color with the 21% to 40%, representing a bit increase in the CR, and observing that the use of the ETT was improved in the integral development of the infants of this step evaluated. Then, was illustrated the gray color with the 41% to 60% range, indicating that the use of ETT was improved the skills of the boys and girls that was participated in this scientific study regulated by the Secretaria de Educacion Publica (SEP-Mexico) and with the authorization of family parents. In the figure 4,



the followed section was the yellow color from 61% to 80% and finally the light blue color, indicating the great necessity of use this relevant ETT to improve every day the integral development of infants evaluated and be an optimal person in his future life.



**Fig -4:** Correlation analysis of the use of ETT and educational yielding of infants of early-age (2022)

#### 4. CONCLUSIONS

The use of ETT and the experience of the educational agents in this scientific study was relevant in the improvement of the integral development of boys and girls that were participated in this investigation, being very important to improve skills, conduct, attitude of the infants of this step evaluated. This was made to the case of artistic actions in the educational institution located in the Tijuana city. This investigation was presented to the SEP–Mexico authorities, and was projected to support to this educational institution with computer systems and interactive screens in a short future time and some persons that supports to the educational activities in this modern city and was concerned by the improvement of skills of the students from early-age to university levels, will supports in a few days. The projection with this support actions, will improve the integral development of infants of this step and will be better persons in this complex society of this city and in all place of the world.

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