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Evaluation of Supports of Art-science in the Educational Technology of High School Institutions of Mexicali, Baja California, Mexico

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Abstract - The art-science is a relevant factor in the educational activities that develop dynamic actions to improve the teaching-learning process in all levels of educative programs in any place of the world, being an interesting aspect in the school achievement of students, specially of high school, which was dedicated in this investigation. In this investigative analysis was made an evaluation about the art-science factor in the educational technology actions, in a high school of the Mexicali city, where was observed that students of this educative institution, was increased the scholar achievement and was creative and imaginative in his educative works that were related with activities of industrial operations of an electronic industry located in this industrial city. This scientific study was made in 2022, obtaining relevant results in the scholar achievement, when was related the art-science with the educational technology.

Keywords: Art-science, educational technology, high school institution, industry.

1. INTRODUCTION

The art-science is an important aspect in the creative and imaginative actions of any person to develop a lot activities, specially where was made single and complex operations in industrial operations and art-science (Taylor, 2014), and where a lot industrial companies look specialized people to works in the manufacturing and administrative areas of industries and generate high operative yielding to reach the goals and improve every time the productivity and quality levels. As mention a lot experts in the solution of complicated events, creative and imaginative activities, supports a great dimension the easy and fast actions to solve problems (Antal et al, 2016). For this reason, in this investigation, was made an investigate analysis to correlate the use of art-science factor in the evaluation of scholar achievement of students of the high school mentioned, based in the utilization of educational technology as interactive screens, where was reflected the knowledges of any type of scholar subject, being principally in the mathematics, physics and chemistry (Springborg et al,2018). Also, was evaluated the use of the Technologic Information and Communication (TIC), and its impact in the industrial operations, where teachers was promoted the use of TIC adequately to teach to students about the importance of the efficient communication between different areas of industrial companies, to obtain the optimal results in all operative actions with art-science (Antal et al, 2018).

1.1 Art-science factor

Is an important aspect in the improve of abilities and skills of any person, where is obtain new knowledges to create and Imaginate new ideas to apply the continuous improvement or solve any type of critical situations, especially in the industrial operations. This relevant thematic is applied from maternal activities

in educational institutions, where educative agents show the diverse ways to students to make any activity, every time with the creative and imaginative actions that supports to make any activity in the daily life as art-science (Root-Bernstein et al, 2011). This supports with a great dimension to forms students as capacitated and specialized persons in the educational institutions to be persons to help to the complex society actually in any type of activities. Also, can supports to control emotions to avoid critical situations when can solve complicated actions with art-science (Strauß, 2018).

1.2 Educational technology

This relevant technology supports to obtain the efficient abilities and skills of any person to develop optimal actions in industrial operations, and supports to improve the productivity and quality levels of any type of industrial company of the world. In this thematic, can make activities with entrepreneurship to create and innovate new industrial operations and process with art-science (Barnard et al, 2017). Asl, can supports to design and make new industrial equipments or machinery, devices and systems to eject optimal functions to improve the operative yielding of workers and industrial equipments and machinery, and improve the productivity and quality levels, and also, avoid any type of accidents in the manufacturing areas and art (Edwards, 2018).

1.3 High School functions

Is an important step of persons, where can determine the actions that will do in future, as the scholar subjects, which students want to study with more interest, and will be dedicated to any specialized area, to study the educational career in the universities of students (Patterson, 2015). This can support from teachers to improve the abilities and skills of students and wake up the interest of any relevant thematic of daily life as work in industrial operations, health institutions of other type of activities that will be of interest of the students. The high school step of students, help to determine the way that will take any person in his life, and the diverse tools that will be need to develop any actions and to apply the continuous improvement and solve critical situations (Barry et al, 2010).

1.4 Technologic Education

This important tool supports to connect to students to the real life as a relevant aspect in the daily activities, and with this generates the interesting of students in any type of thematic in the educational activities and also in the works activities in the public and private sectors of any place of the world. There are some tools of the technologic education, as is mentioned next (Root-Bernstein et al, 2014; Antal, 2018)):

a) Online learning software. This is an important tool that can be supports to students and teachers to acquire knowledge of any thematic in the educational institutions, where are utilized art-science topics related with any educational thematic. This can make of acquire knowledge from any place of the world with the specialized computer systems of communication as zoom, google meet or team.

b) Virtual platforms. This relevant tool permits to students and teachers acquires knowledge from internet applications of diverse thematic, being an interesting aspect in the improvement of skills and abilities to students and teachers, where can access from educational institutions.

c) Communication and collaboration tools. There are diverse communication tools as the principal, being any type of email, WhatsApp and others communication tools. These communicative tools are knotweed as educational mobile applications, where are utilized as adequate educative tools.

d) Learning Management Systems (LMS). Are utilized to the optimal organization of the educational activities, with the technological information communications tools, mentioned above, where are very used in the majorly of the educational institutions of the world.

1.5 Relation of TIC and art-science and education activities

The majorly of the TIC tools are related with the art-science actions, applied in the educative activities, where are elaborated a lot dynamic actions as educative works in classrooms and specialized laboratories with TIC tools as technological areas of schools (Belfiore et al, 2017). This supports with a great dimension to students and teachers to improve in a short time its skills and abilities, where are applied in the work activities in the industrial, commercial and governmental activities with art-science (Antal, 2020). The activities of art-science in students and teachers improve the creativity and imagination to realize continuous improvements and solve easy and fast some critical situations in any time of his life and in his work activities of public of private sectors and art-science (Taylor et al, 2014).

1.6 Numerical analysis

Is a relevant used in the evaluation of numerical data obtained of diverse activities that are evaluated in any type of investigation, as was occurred in this scientific study. In this investigation was utilized the Excel numerical program, which was evaluated the numerical data in the educational institution that was made this scientific study, obtaining relevant results that are presented in the next sections (Schnugg, 2018).

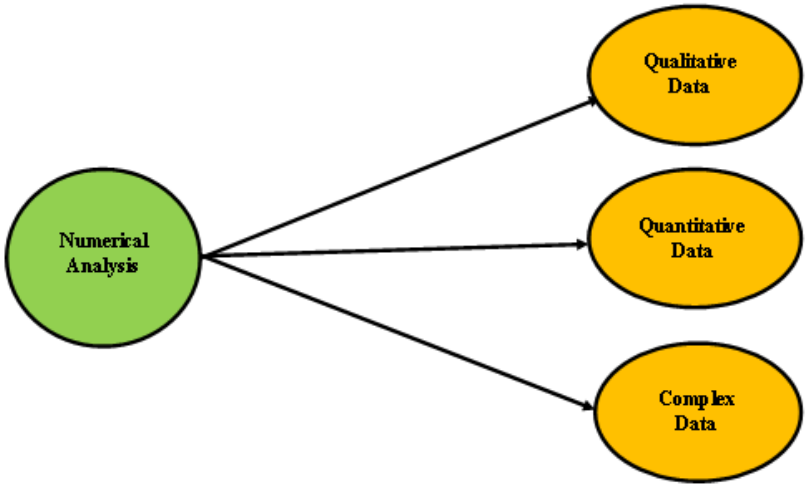

Fig -1: Type of numerical data of the investigation.
Source Analysis of the investigation.

Figure 1 shows the different numerical data that are used in the art-science, mathematics and technology as TIC, where is showed the three principal numerical data, as is illustrated in figure.

2. METHODOLOGY

In this investigation was observed interesting data, which illustrates the relation of art-science with the technologic education factor, where was made two relevant activities as are mentioned next:

a) Evaluation of knowledge of art-science. The part of the investigation was made to determine the level of knowledge of art-science thematic, which is very important in any thematic to develop mental ideas to take decisions to make fast and easy the continuous improvements and solve critical situations in any

place or time of life of the students and teachers of the educational institution where was made this scientific study.

b) Correlation analysis of the use of art-science and TIC. This was to determine the grade of relation of these important aspects, to know if the art-science have a positive effect in the improvement of skills and abilities to use the TIC as efficient actions, and increase the goals of students and teachers of the educational institution where was made this investigation.

3. RESULTS

The results were relevant to determine the necessity of the art-science in the use of TIC, which are very important in the daily life of students and teachers, in this modern age, where a lot persons have electronic equipments as cellular phones, tablets of computers; to make daily operations. The results are showed in the next sections.

3.1 Evaluation use of art-science factor

In this section was made an analysis of the knowledge of students and teachers about the art-science topic, where was observed that from 0% to 20% in figure 2, was presented the less level of knowledge about the art-science thematic of the teachers and students of the educational institution where was made this scientific study. Also, from 21% to 65% was presented the indices with an improvement about the knowledge of art-science and finally was represented the percentages of 66% to 100%, indicating that in the period of this study was increased the interest of know about the art-science in the students and teachers of the educational institution evaluated. This means that this scientific study was supported to improve about it, and with this scholar people (students and teachers), of this school and was generates more creative and imaginative actions to generates the continuous improvements and solve any type of daily problems and world activities. With these strategic actions was improved the mental action of students and teachers, which are more creative in these dynamic activities in the classrooms and in the homework that was and with this in the work activities and can solve and support to other persons in the daily life and jobs.

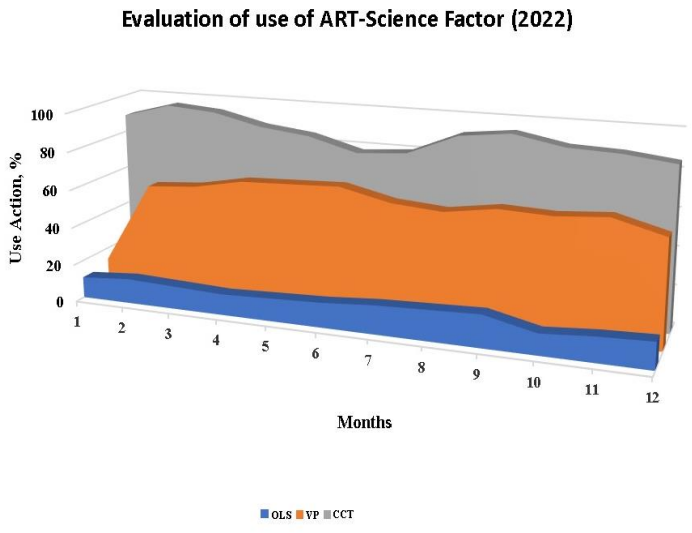

Fig -2:Evaluation of the knowledge of Art-Science aspect

OLS. Online learning software; VP. Virtual platforms CCT. Communication and collaboration tools.

3.2 Correlation analysis of art-science and TIC

With the evaluation made in the last section, was determined that as some teachers and students, were increased its mental actions, where was improved its abilities, qualifications, attitude and discipline. This was better in the educational institution evaluated. In the figure 3, was observed that from 0% to 15% was detected a low correlation analysis, followed by a percentage range of 15% to 40%, where was detected that the relation of art-science and TIC, which was utilized as adequate form, indicated that increased the utilization of the TIC in based of the use of art-science topic, and improving the inters of students and teachers to utilize the technological education tools adequately. This can generate more knowledge and capacitation or specialized persons to elaborate continuous improvements easy and fast, and avoid the presence of bad moments of some persons. Also, was represented in the graphic the percentages from 46% to 95%, where was indicated that the elaboration of this scientific study supports to obtain major operative yielding of students and teachers.

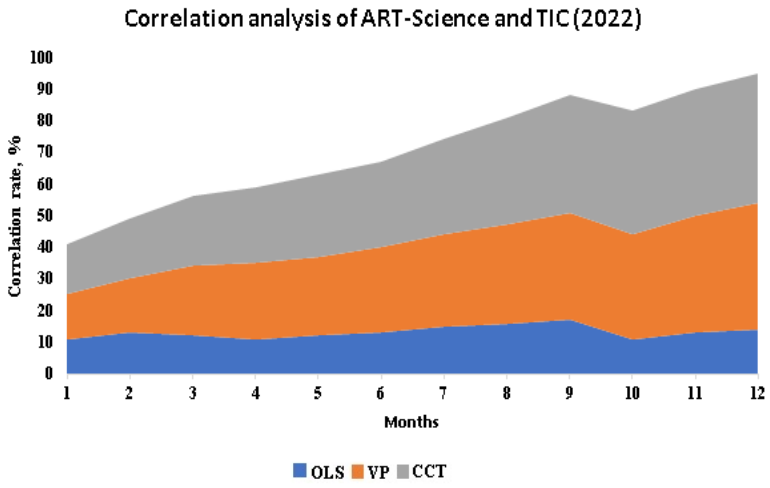

Fig -3:Correlation analysis of the Art-Science and TIC

OLS. Online learning software; VP. Virtual platforms CCT. Communication and collaboration tools.

4. CONCLUSIONS

In this investigation was made some tests to determine that the adequate relation of the art-science thematic with the use adequately of the TIC, can improve the abilities, capacities and attitude as a positive effect. This represented an advance in the presence of works with a great creativity and imagination in the students and teachers where was made this scientific study. With the elaboration of this investigation was detected the principal failures in the teaching-learning process, were more creative and imaginative students, being specialized persons to work in industrial, commercial and governmental activities.

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