Motivational study on learning religion in Basic Education using ICT

Estudio motivacional sobre el aprendizaje de la religión en Educación Básica mediante las TIC

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Abstract

Motivation is an aspect that serves as a motor to awaken interest in assimilating a particular curricular unit. This research aims to determine the causes that cause demotivation in the students of Basic General Education (EGB) of a model religious educational institution and its influence on the interest in learning about religion, in order to incorporate ICT as a motivational teaching strategy. Methodologically, it is an investigation under the positivist paradigm of a non-experimental, ex post facto and transversal nature, of a descriptive and causal nature, with a documentary and field design. The type and depth level of the study is descriptive and explanatory-correlational with the participation of a sample of 268 students and eight religion teachers. Two types of questionnaires were designed, one aimed at students and the other at teachers. The hypothesis consisted in verifying if greater motivation and satisfaction of the students, greater learning of religion in Basic Education. The results show the presence of a low level of motivation and satisfaction in the student body due to deficiencies in the learning environment, as well as the use of traditional teaching methodologies that limit the active participation of the student. The need to apply alternative methodologies that incorporate ICT to increase student motivation and, therefore, academic performance is highlighted.

Keywords: Religion, education, technology, information, communication, motivation.

Resumen

La motivación es un aspecto que sirve de motor para despertar el interés en asimilar una unidad curricular en particular. Esta investigación tiene como objetivo determinar las causas que provocan desmotivación en el estudiantado de Educación General Básica (EGB) de una institución educativa religiosa modelo y su influencia en el interés por aprender sobre religión, con el fin de incorporar las TIC como estrategia motivacional de enseñanza. Metodológicamente, se trata de una investigación bajo el paradigma positivista de carácter no experimental, ex post facto y transversal, de naturaleza descriptiva y causal, con un diseño documental y de campo. El tipo y nivel de profundidad del estudio es descriptivo y explicativo-correlacional con la participación de una muestra de 268 estudiantes y ocho docentes de religión. Se diseñaron dos tipos de cuestionarios, uno dirigido al estudiantado y otro a las docentes. La hipótesis consistió en verificar si a mayor motivación y satisfacción del estudiantado, mayor aprendizaje de la religión en Educación Básica. Los resultados evidenciaban la presencia de un bajo nivel de motivación y satisfacción en el estudiantado debido a deficiencias en el ambiente de aprendizaje, así como al uso de metodologías de enseñanza tradicionales que limitan la participación activa del estudiantado. Se resalta la necesidad de aplicar metodologías alternativas que incorporen las TIC para incrementar la motivación estudiantil y, por ende, el rendimiento académico.

Descriptores: Religión, educación, tecnología, información, comunicación, motivación.

1. Introduction and state-of-the-art

According to Arévalo-Tapia (2016), there is evidence in Ecuador of a poor motivation of students regarding their desire to learn the subject of religion, even more so in Catholic educational institutions whose subject is a compulsory part of its academic program, although for the State it becomes an optional subject. In this regard, Núñez-Soler and Lourdes-González (2017) consider that lack of motivation and disinterest lead to poor academic results, so it is appropriate to know the causes that provoke it and the impact on learning. Holmes-Coto (2018) highlights that Ecuador is currently undergoing a process of change, curriculum updates, evaluations of educational institutions and ongoing training of teachers; however, there are still some shortcomings in the teaching-learning process due to traditionalism in teaching, where the student does not have significant learning.

Therefore, the aim of the research is to determine the causes that provoke demotivation in Elementary School (GBS) students of a model religious educational institution and its influence on the interest in learning about religion. In order to incorporate Information and Communication Technologies (ICT) as a motivational teaching strategy.

1.1. Religion in Ecuador

Following a study conducted by the National Institute of Statistics and Censuses in 2012, it is reported that 91.95% of the population in Ecuador claim to have a religion, of which 80.4% correspond to people practicing Catholicism (Ecuador en cifras, 2012), therefore, research is relevant when analyzing what is pedagogically preventing students from having an interest in learning religion and how the situation could be improved.

Additionally, Salinas (2016) points out that Catholic educational institutions have a high acceptance by parents who want an integral education for their kids that is not only constituted through a high-level formal education, rather, their personal education shows the development of a set of values and a well-defined moral awareness. At present, it is noted that these institutions have not internalized the importance of religion in the student. Hence, the research will show the causes of such an event and the possible solutions to increase motivation in students.

Considering that the causes are methodological in the teaching of the School Religion (ERE) and teacher-student relations, Salinas (2016, p. 594) states that “we need to study further the subject of the contents and methods of religious education within the possibilities offered by the school framework, so that it can develop as a school subject with all its consequences”, in other words, the existence of disadvantages in the teaching process that interferes with meaningful learning, and thus with the school motivation for the purpose of assimilating religious education in order to foster values in the personality of the learner has been predicted.

1.2. Learning as a process to assimilate the school religion

There are different paradigms that focus learning differently depending on the premise that is defended; in this regard, it is noted that throughout educational history and evolution, the behavioral and constructivist paradigm have appeared and remain in force. These are described below:

1.2.1. Behavioral Paradigm

Its predecessor, John Broadus Watson (1878-1958), was the creator of the behavioral school, considering that psychology should be responsible for the study of observable processes of human behavior; with this definition on the subject of psychology, he placed it in the positivist current and excluded everything that was not
observable, measurable and verifiable (Morales-López & Irigoyen-Coria, 2016).

During his stage as an assistant professor, he was influenced by Ivan Pavlov in which he agrees that neither the mind nor the conscience can receive a purely objective treatment (Garello, 2019). Regarding the contributions that behaviorism provides to pedagogy, Salas (2002) notes that “the purpose of behaviorism is to shape behavior through intentional manipulation of the environment” (p. 3). It also expresses that, under the behavioral paradigm, the teaching methodology is framed in the establishment of objectives whose results can be measurable by showing a quantitative approach with progressive development in the academic performance of the student. On the other hand, Sánchez (2012) confirms that “the pedagogy in the theory of behavioral learning focuses on a didactic that supports the behavior of the student, using the design of the curriculum by objectives and where the quantitative evaluation of academic performance predominates” (p. 74).

At the time, he made great contributions to the educational process; however, later failures and criticisms of his teaching results and methods began to be found. For example, Burrus Frederick Skinner, who also declared himself as a behaviorist, made other contributions in which he pointed out that traditional teaching was covered by a cluster of deficiencies that hampered the student’s learning process (González, 2004).

1.2.2. Constructivist paradigm

Mainly, it is based on Jean Piaget’s ideas regarding cognitive progress in learning. This author focused on two main aspects, the first related to the development of thought in being; and the second to the morphological development he experiences. It focused on biological models by extrapolating it to the above-mentioned disciplines, applying it to the development of the intellect and to the psychology of the students (Saldarriaga et al., 2016).

The problem of constructivism is the construction of knowledge. Its epistemological foundations are constructivism, interactionism and relativism; constructivism because it comes from the assumption that the subject is active in the environment, taking from it the elements that are significant to him; interactionism, because the subject interacts with his environment in order to solve the problems that are presented to him, and relativism because it depends on the environment and the needs of the subject; the processes of knowledge are developed, generating specific results, for specific situations (Morales-López & Irigoyen-Coria, 2016).

According to Regader (2020), Jean Piaget was involved in the psychological development of information and in the constructivist theory approach of intelligence development, established by authors such as Lev Vygotsky or David Ausubel, to create Piaget's Theory of Learning, in which he explains that a reorganization of the cognitive structures that exist at each moment must be carried out in the learning process; from new experiences and qualitative jumps the learner internalizes new knowledge.

From the pedagogical perspective, constructivism has generated many expectations in education and with great contributions and results; in fact, it is considered one of the most recognized by general psychology (Navarrete et al., 2020).

In this sense, Piaget shows that each student (subject) is able to build his own cognitive process (scheme) according to his way of thinking and knowing, as a result of interaction with the environment (objects of reality). In this way, he incorporates the adaptive nature of intelligence from two key concepts of his theory that are binding, assimilation and accommodation, seeking to balance the subject with objects (Piaget, 2009). With regard to assimilation, Piaget conceptualizes it as that “action of the organism on the objects that surround it, whereas this action depends on previous behaviors referring to the same objects or other analogues” (Piaget, 2009, p. 18).
Piaget (2009) demonstrates the active (rather than passive) character the being has to assimilate, adapt and respond to the facts that arise in the environment.

However, another of the outstanding precursors in the constructivist paradigm is Lev Vygotsky, who based his contributions to the socio-cognitive development in the early childhood of the person; the appearance of language and communication; the construction of written language; and other learning-related aspects (Carrera & Mazzarella, 2001). In his works, Vygotsky presents two main concepts in his proposal, which are related to instruments and symbols as a means of understanding social processes; here, symbols or signs are understood as those instruments that serve as mediators for the development of behavior. There are conceptual differences between Piaget and Vygotsky; Piaget observes the signs from a semiotic functional vision; Vygotsky perceives it as a semiotic mediation (Vergel, 2014).

Regarding the research, it is observed that motivation represents symbology; while teaching methodology represents the instrument by which the social changes that arise in the classroom and outside it can be provoked and understood, seeking meaningful learning of the subject of religion.

For this reason, Vygotsky's theories focus on thought, language, memory and games in educational processes and student mental development (Atlantic International University, 2008). By virtue of the social conceptions that Lev Vygotsky attributes to the education process, the approach of social constructivism is established, where the person is considered as the result of a historical and social process, and language plays a relevant role in his cognitive development, stating that knowledge is based on the interaction process of the person with the environment, emphasizing social and cultural aspects, and not just physical aspects (Payer, 2005). In other words, Lev Vygotsky emphasizes the importance of social and cultural factors in the appropriation of knowledge, and especially in the development of the different mental activities of the student, and that they can be assimilated on their own or with the help of another person (Bolaños et al., 2011).

Finally, establishing similarities between Piaget and Vygotsky, both agree on opposing associative or exclusively to experimental learning (Severo, 2012), by including the concept of meaningful learning as a way to assimilate by activating previous experiences and knowledge with which the new knowledge relates and integrates into a process that involves meanings or understanding of knowledge (Rivas, 2015).

The theory of meaningful learning was a contribution to the educational field presented in 1963 by David Paul Ausubel (1918-2008), at a historical time when the behavioral current was prevalent. In this regard, he proposed as an alternative "a discovery-based teaching-learning model, which favored activism and postulated learning discovered" (Rodríguez, 2011, p. 30).

Given its proposal, it offered it as an ideal form of human learning, which allows assimilating knowledge and remains in time, i.e., the so-called significant receptive with application in the classroom and in daily basis (Ausubel, 2002).

According to Rodríguez (2011), the significant learning process is an essential axis in teaching, where the same student has an active participation by assimilating and retaining the information and content taught through the assimilation of concepts according to the knowledge and experiences that make up their cognitive structure, allowing them to learn in a non-arbitrary and significant way. In short, it is based on the condition that the students learn, based on the importance and significance of the content, and on what they already know.

To conclude, the use of learning theory allows to search for and show the conditions and properties for assimilation, which relate to effective ways of reflexive cognitive modifications with stability and are prone to offer a meaning of its own from the environment.
1.3. Motivation as an engine of interest in the meaningful learning of the school religion

Valenzuela et al. (2014) say that motivation results from the expectations that the student has on successfully carry out the works assigned by teachers and the value of importance, usefulness and interest that he gives them; involving the student into an emotion that is worth the effort to carry out that activity and learn. García (2014) assures that motivation refers to a specific need or desire that activates the organism and directs the behavior to the objective or goal.

On the other hand, according to Valenzuela et al. (2015), motivation is a force that encourages the student to do homework that the teacher assigns as a learning reinforcement about the curricular contents, but this does not mean that it ends with the completion of the task.

Kazarián (2017) considers that motivation is the set of various psychic factors that guide people’s behavior related to a need; it is directed, intense and sustained. Therefore, motivation can be understood as an impulse due to a need for a person to start or stop a process during which a goal is set, essential resources are used and a certain behavior is maintained due to an internal state that activates, directs and maintains it with the aim of achieving a goal.

In this sense, it can be said that there is a close relationship between motivation and performance; therefore, “as motivation is a dynamic variable, it is subjected to changes in the intensity of its relationship with performance when it interacts with certain conditions and stimuli of the environment” (Rivera, 2014, q. 27).

Consequently, as Garcia and Betoret (2000) mention, teachers are essential for the motivational process of students to achieve quality in the teaching-learning process, and as such, they can take advantage of a set of indicators to measure motivation as mentioned by Del Campo (2017), serving as a tool for observing whether students are actually motivated or not in the learning process. These indicators are: quickness of response; perseverance; selection among the various and possible ways of doing the work assigned; intensity with which the student performs the work; and reflection of the emotion shown in the face or body when doing the work.

According to the literature, there are two types of motivation, intrinsic and extrinsic, which are discussed below.

1.3.1. Intrinsic motivation

According to Rivera (2014), intrinsic motivation occurs when the source of motivation lies in the individual and the task; in other words, there is motivation without the need for extrinsic reward, i.e., the student does not depend on other external factors or circumstances, but just studies because he likes it; in this case, it becomes solid learning, since it improves student performance. This type of motivation affects the self-determination of the student; these are some of the characteristics common to the student who are intrinsically motivated: (A) they do their work on their own initiative; b) they investigate something more than what was taught in class; c) they learn things in a reasoned way and not by heart; (d) they do not give up in the face of failure; and, e) they are enthusiastic about finding the results and having a high performance.

In short, in order for students to be motivated and obtain good academic results, they must necessarily have their own will to continue researching, this means that they act with curiosity, competence and self-determination, resulting in positive emotions such as satisfaction. It is very common that the human being is constantly striving to understand and assimilate his environment, allowing to survive the constant changes faced daily.

1.3.2. Extrinsic Motivation

Extrinsic motivation occurs when incentives and sanctions are required to perform actions or tasks, i.e., the student depends on external
factors to carry out his or her learning. This type of motivation has been used throughout history, but the expected stimulus is not always achieved, so there is the opposite effect, the discouragement.

In this context, in order to avoid demotivation in the student, a set of actions should be generated in which Ibáñez (2016) suggests: (A) to avoid negative comments in the attempts to participate; (b) to avoid conducting the teaching activity with excessive authority; c) to incorporate collaborative work into planning; d) to value positively the attempts to learn from the student; e) to highlight successes rather than failures; (f) to know the causes of success or failure; (g) teaching must be relevant and related to the real life of the student; (h) content must be clear and affordable to the student’s ability; (i) be attentive to low-level motivational manifestations; j) to encourage participation with decision-making; and, k) to implement alternative methodology that includes topics and resources of impact during the class, avoiding extreme situations of maximum anxiety or boredom, such as ICT.

1.4. ICTs as a motivational resource for meaningful learning of the school religion

Several authors have addressed information and communication technologies from different areas, including Aznar-Díaz et al. (2018) with virtual reality and Cabero-Almenara & Valencia-Ortiz (2019) with inclusion.

However, in order to conceptualize ICT as a discipline associated with computer science, it is understood as a means of communication mediated by information and communication technologies that generate innovation in education processes, work and interpersonal relationships (Moreno-López et al., 2017).

Maldonado-Berea et al. (2019) consider that (ICT) intervene directly in the culture of a country as a moderating agent and influence national identities, because they modify interpersonal relationships, the production of meaning, cultural identification, ethics and every sphere of human life. Their access requires the participation of citizens (...) to strengthen education services.

Because of the latter, the teacher has a fundamental role in promoting and motivating the best use of these to promote teaching-learning in a significant way; in the case of this research, it is aimed at the studies of religion in the students of the GBS. Regarding the importance of ICT, Arévalo-Tapia (2016), Vallejos-Briceño (2017) and Goor-Ramirez et al. (2019) agree.

2. Methodology

Research has been developed under the positivist paradigm of a non-experimental, *ex post facto* and transverse character, descriptive and causal nature, in which what happens in the natural state is observed and analyzed. A cross-sectional design is used as data is collected in more than one group at a time through surveys conducted and submitted using a technology platform called SurveyMonkey, in which a series of variables are investigated that aim to measure and discover the negative causes that influence the motivation of the student in the virtual sessions of the subject of religion.

The design of the research is documentary and field. First, studies developed by other researchers are used through a process of collecting, selecting, analyzing, criticizing and interpreting them. On the other hand, according to Arias (2012), it is considered field research, since the study subjects are treated using data collection in order to know and interpret the behavior of the study categories and their relationships without manipulating the variables or context.

However, regarding the type and level of depth of the study, it is descriptive and explanatory-correlational; first, because it seeks to characterize the behavior of the categories of analysis as reported by the study subjects, and, second, the aim is to explain the reasons for the
causes and effects by means of a hypothesis test
with a correlational study in order to achieve a
sufficiently deep level that shows the results and
conclusions that determine the behavior of the
categories of analysis and the subjects of study
(Arias, 2012).

In relation to the population, the eight
religious teachers are included, representing
100% and 876 students from EGB between
the 8th grade and the 3rd year of High school
from a model institution in the city of Quito,
in the school year 2020-2021. The selection of
the sample was made according to the formula
for finite populations, since the number of stu-
dents who study at the model institution for the
selected grades and years is known, obtaining a
sample of 268 students with 95% confidence, a
sample error of 5% and an expected proportion
of 50%. While, in the case of teachers, the census
is applied since the eight professors selected are
surveyed.

The questionnaires submitted by Moos et
al. (1995), were considered as the basis for data
collection tools, for which it was necessary to
make adjustments to address the questions to the
field of religion, in order to describe and under-
stand the causes-effects that affect motivation in
the student. Based on the instrument proposed
by Moos et al. (1995), two questionnaires were
adapted for students and teachers, which include
aspects related to:

- Personal and social factors (age, gender,
course, family and cultural social environ-
ment).
- Academic factors (teacher-student rela-
tionship, teaching method, school environ-
ment).
- Level of student motivation.
- Social demographic data of the teacher.
- Level of use of technology according to
student and teacher.
- Level of readiness of the student and teach-
er in the use of technology.
- Level of satisfaction and motivation of stu-
dents in learning and teachers in teaching.

In fact, a questionnaire was designed for
the student and another for teachers, and both
were submitted to construct validation by fac-
torial analysis using the IBM® SPSS® statistical
package version 24. To do this, the main compo-
nent extraction method was applied to generate
the correlation matrix for each of the established
categories. In this way, those factors with val-
ues higher than 1 were extracted. Descriptive
statistics are used; the arithmetic mean (x) was
used as a measure of central tendency to know
the impact of the learning environment and the
teaching method of the subject of religion on
the motivation of the student; level of motivation
and satisfaction of the student in learning.

A correlational analysis, using Spearman’s
Rho coefficient is also shown for each of the
analysis categories.

To develop the above, the hypothesis is
that the greater motivation and satisfaction of
the student, the greater the learning of religion
in Elementary School.

In this sense, it is proposed as an alterna-
tive hypothesis (H1) to verify whether there is
a relationship between the motivation of the
student and his satisfaction with the teaching
methodology of the subject of religion, and as a
null hypothesis (H0) the non-existence of a rela-
tionship between the motivation of the student
and his satisfaction with the teaching methodol-
ogy of the subject of religion.

3. Results

From the data collected in the research process,
it was noted that:

- Positive and negative results that influence
the student’s motivation, with average val-
ues higher than 3.50, include:
  - They feel like important members of
the group.
• They work together in virtual applications.
• Sometimes they are blamed by the teacher.
• The outstanding student is given more attention and motivation.

• Related to the teaching method employed by teachers and identified by the student in the formation process of religion, the development of skills in students has an average of 4.36 and the use of the traditional methodology of content dictation 4.27.
• In relation to aspects related to mood, concentration; participation; desire to be a better student; freedom of expression; among others, it should be noted that few items show a high level of motivation; on the contrary, the averages tend to 1 which represents the category of strongly disagree or somewhat disagree.
• The level of satisfaction that students report in terms of the enjoyment of learning religion shows that the average values above 4 are considered not fun to receive religion classes and to be bored, only the average or average value of 1.99 enjoy religion classes.
• 66.4% of the students say that the use of technological tools in the subject of religion is important or very important; one quarter is indifferent and 5.6% gives little importance to its use.
• 75% of teachers consider the use of technological tools important in the subject of religion and 25% do not care.

4. Discussion and conclusions

According to the results obtained from the central trend analysis with the use of the mean with the learning environment variable, the data indicate that this variable effectively influences the student’s motivation, noting that most items point to the somewhat agreed category and totally agreed. Likewise, as for the variable teaching method most of the students say that the average aims to ensure that teachers are in the search to develop a set of skills and abilities that allow them to be applied in the virtual sessions. However, they also identify almost entirely that teachers do not allow active participation of the student, since they are dedicated to present content of the subject, this is confirmed by teachers when they point out that they use the traditional method of master classes and content dictation; likewise, the positive aspects of education that promote an active-participatory approach tend to 1, i.e., little disagree and totally disagree. Therefore, another type of teaching methodology must be established to motivate the student to learn religion. Criteria to which Zaninelli (2019) agrees when considering necessary for teachers to employ strategies of different organizational methodologies to achieve motivation of the student (…).

Regarding the motivation category, it should be noted that few items show a high motivation level; on the contrary, the averages tend to 1, representing the scale of strongly disagree or somewhat disagree. In view of this fact, the situations with the most motivational disadvantages refer to the absence of help and support among students to understand religion. Similarly, there is no motivation in the student to actively participate or to have an interest in relating to teachers or to each other in the training process and they do not feel free to give their opinion and participate in the virtual sessions.

Related to this, Kazarian (2017) highlights the role that motivation plays in the student’s learning process, where the role of the teacher is important in the selection of tasks and activities that offer challenges to intelligence, the imagination and the communicative needs of the student, and provide the enjoyment of the learning process.

As for the correlational analysis through the Spearman Rho coefficient, since the p value is higher than 0.05 for each of the analysis categories it is concluded that the alternative hypot-
thesis is accepted, in other words, it is confirmed that there is an association between each of the research variables, particularly between motivation and teaching methodology.

In short, the results obtained from the student show that there is indeed a high demotivation level for learning religion, since students experience disinterest; boredom; apathy; upset and feel they waste time because they do not find a sense of personal or spiritual benefit. Also, there are some negative aspects regarding the behavior of the teacher and the way of teaching the subject by leaning toward exclusion behaviors between the student and differentiation with clearly demonstrated preferences. Finally, there is willingness by students to use ICT in the teaching-learning process given the perceived importance, including as a motivational means to attract attention and dedication to the subject of religion, a criterion that is reaffirmed in research (Vallejos-Briceno, 2017; Flores-Cuevas, 2018).

From the analysis, it can be summarized that:

• Teachers favor the existence of student demotivation in the learning of religion with the teaching environment, given the presence of behaviors that cause disadvantages in the teacher-student relationship.
• The traditional teaching methodology applied by teachers does not promote the active participation of students by causing passivity and disinterest in learning the subject.
• Apart from the fact that teachers are very motivated with their professional career in the field of education, it is necessary to extend this motivation to the student with different methodological activities and strategies and an inclusive behavior of the student.
• The results obtained confirm and justify the research carried out, since the aim is to address with optimal solutions the factors that affect the demotivation of the students for learning religion in the GBS. To this end, the need to apply alternative methodologies that incorporate ICT to increase student motivation, and thus academic performance is concluded, which allows to expand possibilities to extend the line of research in aspects related to learning environments and teaching methods to motivate students.

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