

Enhancing adolescent learning: An approach from school motivation and academic development

Potenciando el aprendizaje adolescente: Un enfoque desde la motivación escolar y desarrollo académico

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Abstract

Adolescence, a period of growth between childhood and adulthood (from 13 to 18 years old), is revealed as a critical stage, characterized by profound physiological and psychological transformations. In the scope of this research, we worked with a sample of 60 students from Secondary School No. 8, both in the morning shift and in the afternoon shift. An instrument was designed with 45 variables measured from 0 to 100 where 0 is the absence of the attribute and 100 its maximum presence, where 5 of them are significant such as age, sex, average of the previous school year, participation in extracurricular activities and change. Among the main conclusions, it was found that the student who expresses a genuine need to learn is capable of developing various academic skills, influenced by factors such as motivation, which improves their academic performance. As an intervention proposal, the creation of a model aimed at training teachers in motivation methods in the classroom is suggested. In addition, it is proposed to hold conferences for parents and teachers on the importance of motivation in adolescents and the factors that affect academic performance.

Motivation, Academic Performance, Learning

Resumen

La adolescencia, es el período de crecimiento comprendido entre la niñez y la edad adulta (13 a 18 años), se revela como una etapa crítica, caracterizada por profundas transformaciones tanto fisiológicas como psicológicas. En el ámbito de esta investigación, se trabajó con una muestra de 60 alumnos de la Escuela Secundaria No. 8, tanto en el turno matutino como vespertino. Se diseñó un instrumento con 45 variables medidas de 0 a 100 donde 0 es la ausencia de atributo y 100 su máxima presencia, en donde 5 de ellas son señalíticas como edad, género, promedio del ciclo escolar anterior, participación en actividades extracurriculares y turno. Entre las principales conclusiones se encontró que el estudiante que manifiesta una necesidad genuina de aprender, es capaz de desarrollar diversas habilidades académicas, influido por factores como la motivación, lo que mejora su desempeño escolar. Como propuesta de intervención, se sugiere la creación de un modelo orientado a la capacitación de los docentes en métodos de motivación en el aula. Además, se plantea la realización de conferencias dirigidas a padres de familia y docentes sobre la importancia de la motivación en los adolescentes y los factores que inciden en el rendimiento académico.

Motivación, Rendimiento Académico, Aprendizaje

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Introduction

Adolescence is a period of significant physiological and psychological changes between childhood and adulthood. In this context, the central question of her research is: How is motivation related to academic performance in third grade adolescents at Escuela Secundaria General No. 8 Adolfo López Mateos, both in the morning and afternoon shifts?

Adolescence represents not only a stage of biological and emotional changes, but also a crucial period for identity formation, where young people begin to make significant decisions that will shape their future. Choices related to family, friends, studies and emotions become cornerstones in this phase of development.

Likewise the adolescent stage is a good time for the student to develop global competences (GC) the maturing cognitive ability, brings with it a more abstract and critical thinking (Galván, 2021 cited by Jang *et al.*, 2023), the search for identity challenges adolescents to think about themselves in relation to society at large (Erikson, 1968). In this scenario, motivation emerges as an essential driving force guiding adolescents' actions.

From Santrock's (2002) perspective, motivation is not only a fundamental component in everyday life, but also plays a crucial role in the educational setting by orienting students towards concrete goals. Leggett (1988) emphasises that motivation directly influences students' behaviour by channelling their energy towards the achievement of specific goals.

Gaeta *et al.* (2015) Academic goals are important variables from a motivational point of view to understand the reasons why students engage in learning activities.

On the other hand, academic performance is positioned as a key indicator of students' learning progress. Erazo (2012) defines academic performance as a system that measures achievements and knowledge constructions through qualitative and quantitative methods. This measure not only reflects mastery of the subject matter, but also evaluates various variables that have an impact on the educational process.

In this research, we propose to explore the relationship between motivation and academic achievement in the specific environment of Escuela Secundaria General No. 8 Adolfo López Mateos. In addition, it seeks to understand how the school context influences the motivation and academic performance of third grade students in both shifts.

Usán and Salavera (2018), conducted a research where they analysed the relationship between school motivation, academic performance and emotional intelligence in a sample of 3512 adolescent students. The Educational Motivation Scale (EME-S) and the Traid Meta-Mood Scale-24 (TMMS-24) were applied and academic performance was quantified through the average grade of the students. The results showed significant relationships between intrinsic school motivation and emotional intelligence.

Development

Throughout the ages it has been visualised how the human being is a complex being, and this requires certain needs to be met, in order to develop in an integral way; a factor that is the means for this process to be achieved effectively is motivation.

In the research carried out by Formento *et al.* (2023), the connection between motivation and academic performance in adolescents was explored in depth. The results of their study showed a moderate positive correlation between motivation and academic performance in secondary school students. This finding underlines the importance of understanding how students' intrinsic drive and interest directly influence their academic performance. However, it is relevant to note that, despite this positive correlation, there are additional nuances and factors that may influence these complex dynamics, prompting us to further explore the underlying mechanisms in order to develop effective support and motivation strategies in the educational environment.

Motivation is a fundamental aspect of life, including education and work, as it guides actions and thus becomes a central element that drives what a person does and towards what goals he or she is aiming for.

According to (Santrock, 2002). In other words, motivation is a fundamental factor in everyday life; it is of great importance as it is the impulse that drives and helps every human being to achieve clear goals.

Etymologically, the term motivation comes from the Latin *motus*, which is related to that which mobilises a person to carry out an activity. Thus, motivation is the process by which the subject sets an objective, uses the appropriate resources and maintains a certain behaviour, with the purpose of achieving a goal (Naranjo, 2009). According to the author, motivation is that factor that is in constant movement, it does not allow to be in a static state, the one who has a correct motive, will achieve action.

Thus, motivation is that which will drive us to achieve a goal, whether in the short, medium or long term; it is the action or incentive that will produce mobility in life. Such motivation requires sufficient activation and energy, as well as the ability and willingness to maintain it. According to (Maslow, 1943) and Maslow's Pyramid theory, he states that within every human being there is a hierarchy of the following five needs to be fulfilled. These include: physiological: including hunger, thirst, shelter, sex and other bodily needs, security: including safety and protection from physical and emotional harm, social (affiliation): including affection, a sense of belonging, acceptance and friendship.

Recognition: includes internal factors of esteem, such as self-respect, autonomy and achievement; and external factors such as status and attention, (here is motivation) and finally self-actualisation: the drive to be what one is capable of being; it includes growth, reaching one's potential and self-satisfaction. The sources of Motivation refer to the origin of the stimuli that cause an individual to become active. Motivation is also an internal state or condition that activates, directs and maintains behaviour.

Motivation causes learners to act or behave in certain ways (Leggett, 1988). To motivate the learner is to guide him/her in a direction and to ensure that the necessary steps are taken to achieve the goal(s). Motivation has arguably been a central issue in the field of psychology, given that it lies at the heart of biological, cognitive, and social regulation.

Perhaps even more importantly, in the real world, motivation is highly valued because of its consequences: motivation produces. Rayan and Deci (2000). Motivation is necessary for any goal to be achieved.

School motivation is a relevant factor that leads to success in any area, "motivation (Tapia, 1991) who states that: wanting to learn and knowing are the basic personal conditions that enable the acquisition of new knowledge and the application of what has been learned effectively when needed. According to Tapia, the willingness and interest of the student is necessary to obtain learning, without neglecting the role of the teacher through stimulation of the actions achieved by the student, so that later the interest is sown in the student and the motivation of the teacher is effective in the student.

Motivation is the lever that moves all behaviour, which allows us to bring about changes both at school and in life in general. Motivation in the learning process helps to increase classroom performance.

On the other hand, academic performance is an important factor as it helps to measure the development of learning in the student, as well as to evaluate the different variables that comprise it. Academic performance according to (Erazo, 2012) is the system that measures the achievements, as well as the knowledge constructions of students through qualitative and quantitative methods in a subject.

The purpose of school or academic performance is to achieve an educational goal, learning (Lamas, 2015). Performance varies according to the circumstances, conditions and environments that determine aptitudes and experiences. In other words, the entire context surrounding the student is part of the positive or negative results that he or she will obtain. In other words, according to the author, it involves the achievement of an educational purpose and this will be achieved through adequate motivation. It can be mentioned that when the standard of academic performance is not met, academic underachievement arises and in adolescents it represents a reason for consultation in family therapy, as it is a source of concern for parents since it affects the development of the adolescent.

School failure is a serious human, moral and social problem, according to (Delors, 1996), which often generates exclusions that will mark young people for the rest of their lives. People who doubt their abilities may believe that things are more difficult than they really are, a belief that generates tension, depression and a narrow view of problem solving (Schunk, 2001).

Learners who have a learning orientation have a greater desire to improve their competence and increase their knowledge through continuous learning effort and greater perseverance in study. In this sense, in the school context, teachers value effort more than ability. In other words, while a student expects to be recognised for his or her ability (which is important for his or her esteem), in the classroom his or her effort is recognised.

The issue of grades is not something new, as a measure is generally assigned to the work that has been done, but according to the author, I agree that having a high school grade does not mean that the teaching and learning received were of quality; that is why teachers need to take care of the importance of the teaching-learning process, to be meaningful and not just assign a number to each student for covering the guidelines that are requested.

According to Díaz (2010), he mentions that the measurement of school performance has been the focus of constant criticism, questioning whether the grade obtained in an assessment shows the true measure of the learning obtained by students. Other factors (family, society, teacher's teaching-learning activity) are of greater relevance in the optimal educational development of students.

One of the variables considered to influence academic performance is self-esteem, which according to (Vázquez and Manassero, 1995) self-esteem is responsible for many academic successes and failures. Therefore, it is important to know the level of self-esteem in the study population and its relationship with academic performance in order to implement solutions to improve students' self-esteem, if necessary. According to (Silva and Mejía 2015), self-esteem has a great impact on processes related to the school life of adolescents, influencing their academic motivation and the development of a favourable emotional state.

Thus, motivation and academic performance are very important factors that can be measured in the adolescent period in order to achieve significant changes in the lives of adolescents and to find strategies for the benefit of adolescents and society in general. These directly and indirectly affect the teaching-learning process.

In order to better understand the axes of motivation and academic performance, it will be observed how these factors have an impact during the adolescent stage. Adolescence is the period of growth between childhood and adulthood.

This period of development, from 13 to 18 years of age, is usually presented as critical, due to profound physiological and psychological changes. It is a developmental process that drives young people to make their own decisions about how to think, feel and act.

According to Gambara González, the most important and difficult decisions to make in their lives are firstly those related to family matters, followed by those related to friendships, studies and feelings. (González, 2005).

The present research was based on adolescents between 14 and 15 years of age, who are in the basic education sector, which is secondary school. Secondary education is the third level of basic education. It is a three-year course in which adolescents are expected to acquire the tools for lifelong learning through the development of competencies related to affective, social, natural and democratic life.

The following variables were derived: Significant variables: age, gender, average of the previous cycle, extracurricular activity and shift. Motivational variables: behaviour, objective, will, interest, goals, satisfaction, need, direction, rewards, punishment, perseverance, expectation, results, achievement, power, self-sufficiency, affection, economic stability, coexistence, school rejection and family problems. And academic performance variables: knowledge, student, teacher, contents, organisation, didactic resources, evaluation, infrastructure, measurement, learning, skills, grades, capacities, teaching, repeating a course, responsibility, family, school, accrediting subjects, study strategies, missing classes and grades.

Methodology to be developed

This is a descriptive, observational, cross-sectional research, with a non-probabilistic accidental sampling.

The main question is whether there is a relationship between motivation and academic performance in the specific environment of the General Secondary School No. 8 Adolfo López Mateos, both in the morning and afternoon shifts. The total number of variables is 45 measured on a scale from 0 to 100:

Results**Frequencies and percentages**

The table above shows that 49% are female, while 52% are male.

The table above shows that 69% of the respondents are aged 14 years, 30% are aged 15 years and 2% are aged 16 years. It can be inferred that 14 year olds are the largest population group from which the information can be extrapolated.

Correlation

With regard to the variable Objective it is observed that Satisfaction ($r=0.39$) in the student, as well as having Economic Stability ($r=0.31$), helps the acquisition of new Learning ($r=0.45$) and the development of Skills ($r=0.31$). It can be inferred that setting goals in life helps personal, financial and professional well-being. With respect to the variable Will, it is observed that there is a sample of Interest ($r=0.46$) in the student to learn on their own, in addition to setting Goals ($r=0.34$) having Expectations ($r=0.34$) and thus achieving positive Results ($r=0.50$). It is inferred that the student who has a high desire of Will to carry out certain actions, will set goals and will be able to achieve effective school and work purposes in the future.

Comparison

Comparison behaviour of the variable Goals. In the comparison reading, one of the dependent variables that represents a significant difference in the means is the variable Goals between the two populations, morning and afternoon shifts at Adolfo López Mateos Secondary School.

In the table of the T student Test for Independent Samples we read that the variable Goals presents a difference of means with respect to the other 40 variables (Morning= 8.10) (Afternoon= 6.93). It can be inferred that the morning shift shows a greater tendency to plan goals in order to achieve school purposes than the afternoon shift. This will be reflected in academic performance.

Comparison behaviour of the dependent variable Power. In the comparison reading, one of the dependent variables that represents a significant difference in the means is the Power variable between the two populations, morning and afternoon shifts at Adolfo López Mateos Secondary School. In the table of the Student's T-test for Independent Samples we read that the variable Power presents a difference of means with respect to the other 40 variables (Morning shift $x=6.14$) (Afternoon shift $x=4.40$). It is inferred that the students of the morning shift show greater security and are the ones who have greater authority inside the classroom in contrast to the afternoon shift.

Integrational

Factor 1 school skills is related to the following variables: objective= 0.60, goals= 0.28, satisfaction=0.42, rewards=0.29, perseverance=0.35, knowledge= 0.32, teacher= 0.67, contents=0.69, organisation=0.85, didactics=0.71, evaluation=0.48, infrastructure=0.37, stress= -0.38, learning=0.40, family= 0-31 and school= 0.41; it is observed that the factor school skills shows a factorial load of 4.390103.

It is read that the student who sets clear objectives is the one who obtained the greatest amount of prior knowledge in the teaching process, through an organised manner with the help of the necessary didactic resources. It is inferred that the most effective teaching process is carried out through the use of concrete information and this has to be in a systematic way and with the use of the necessary tools within the classroom the student's learning will be enhanced.

Factor 2 Purposes is related to the following variables: will= 0.29 interest=0.27, perseverance= 0.29, expectations=0.28, results= 0.31, achievement=0.37, power= 0.75, self-sufficiency= 0.84= coexistence= -0.38, rejection= 0.29, rejection= 0.29, content= 0.27, stress= 0.27 and study strategies= 0.62 with a factor loading of 3.195477. It is read that the student who has willingness to learn and shows interest in class with constancy and having high expectations. It is inferred that the student who shows greater security in the classroom is the one who will have a better school performance and therefore will be reflected in his grades.

Conclusions

- It is concluded that the majority of the population is male, the most characterised in the study phenomenon.
- It is concluded that 14 year old adolescents are the largest population group where the information can be extrapolated.
- It is concluded that setting goals in life helps personal, financial and professional well-being.
- It is concluded that the student who has a high desire of Will to carry out certain actions, will set goals and will be able to achieve effective school and work purposes in the future.
- It is concluded that the morning shift shows a greater tendency to plan objectives in order to achieve school goals than the afternoon shift. This will be reflected in academic performance.
- It is concluded that students in the morning shift show greater confidence and are the ones who have more authority in the classroom as opposed to the afternoon shift.
- It is concluded that the most effective teaching process is carried out through the use of concrete information and this has to be in a systematic way and with the use of the necessary tools within the classroom the student's learning will be enhanced.

- It is concluded that the student who shows more confidence in the classroom is the one who will have a better school performance, which will be reflected in his or her grades.

Proposals

- Generate an intervention model for training teachers on methods of motivation in the classroom.
- Lectures on the importance of adolescent motivation and the factors involved in improving academic performance. To be given to teachers and parents.
- Publicity on the importance of school motivation in adolescents, how it intervenes at home and at school and how it influences academic results.

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