

Educating to Generate Self-Learning

Georgina del Pilar Delijorge González, Martha Patricia de la Rosa Basurto, Martha Patricia Delijorge Gonzalez, Blanca Gabriela Pulido Cervantes, Luz Patricia Falcón Reyes, Christian S Franco Trejo, José Ricardo Gómez Bañuelos and Jesús Rivas Gutiérrez*

Universidad Autónoma de Zacatecas, México

***Corresponding author:** Jesús Rivas Gutiérrez, Universidad Autónoma de Zacatecas, México

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ABSTRACT

Labor demands are becoming greater and more complicated every day, a situation that at the same time puts at a disadvantage the graduate of higher education institutions that do not have a solid, broad and updated professional training. In this situation the ways in which the student has passed through these schools learning how to appropriate the knowledge and knowledges that are taught there plays a crucial role in this situation, in this regard the correct learning strategies, internalized and well applied, used during their school transit and after graduation will be the tools that will make the difference at the end of the day between being employed in the disciplinary field, being underemployed, or more seriously, being unemployed.

Keywords: Learning Strategies; Employed; Underemployed; Unemployed

Introduction

Universities continue to reject a large number of students who, despite having previously completed the official and necessary school cycles (preschool, primary, secondary and baccalaureate), did not manage to acquire solid and sufficient knowledge in a period of at least sixteen years or more of schooling to pass the evaluations that are applied to them as a requirement to be accepted as new students to higher education. Entering a school becomes, and is seen by the student and society, a mere formality, a matter full of bureaucratic-administrative processes and tasks that take up a lot of time, which at the time is carried out with a superficial character, out of obligation and without conviction or depth, when it should be a procedure for the school authorities, Teachers and parents and the applicants themselves would know their strengths and weaknesses in terms of their knowledge and knowledge and therefore be able to apply themselves to continue strengthening or correct their deficiencies. In addition, learning and consequently the knowledge and knowledge of students

is a variable that is almost always taken into account by employers who demand certain competencies from their future employees. This situation is notorious due to the gap between the competencies certified by the professional degree and the real skills of the university graduate, this difference is a serious problem since it is thought that the graduate is less and less prepared to face the new professional and labor standards that are required. On the other hand, the concerns and complaints of students in this regard are also abundant, for them the educational system does not teach them correctly to solve problems, to make decisions, to think and to learn how to self-learn.

Most teachers are expert information processors, however they are primarily concerned with the results they must achieve, as well as the number of topics they have to cover in tight periods of time and more concerned with teaching than with student learning; To be able to decipher why the teacher, even in these times, continues to think that teaching is more of a priority than learning is very difficult because his thinking and that of the student is a black box, an enig-

ma that is difficult to unravel. The presentation of the contents of a topic in higher education should not depend mainly on the erudition capacity of the teacher, since this situation does not ensure that the group follows it and understands the explanation, these classes can provide in general terms to the group of students congruent, structured and valuable information in general and particular, But there will always be students who are not able to understand and assimilate the information because they do not have the knowledge, nor the level of understanding that the teacher has reached around them, all of which determines that the information presented is not internalized and amalgamated with the information they already have, the information received is dispersed in a series of unconnected data, isolated, fragments of information, unrelated to previous knowledge or situations of daily or professional life. In terms of learning, it is still tied to intuitive practices of common sense, to the old popular affirmations and beliefs about the process of teaching and learning, that it is the obligation of the teacher to teach and the student to learn from him, rigid strategies and tactics are used and formats as old as the rote and arbitrary reception of reading by the student and relying on memory for an evaluation or a In addition, the student trusts in his ability and ability to copy and the teacher in silencing his conscience by making him see nothing, all this and more is in part what irremediably condemns what he has learned to oblivion, although in these cases that is not the important thing, what matters is to obtain a passing grade (Granados López H, et al. [1]).

Self-learning, which, unlike teacher-conditioned learning, can lead the student to move towards academic independence and thus be in the future a better professional who really contributes to the solution not only of the problems of society in general, but also of his, for this the teaching of study strategies in students is a primary factor to achieve better learning based on self-learning and thus facilitate their school transition and increase the chances of academic success.

Educating to Stop Self-Learning

Experimental studies and achievements in the fields of artificial intelligence and cognitive psychology of learning have made it possible to formulate new perspectives and redefine the laws that regulate human learning, which change the logic of education. When we talk about difficulties at school, we immediately think of bad grades, long and tedious class sessions, failed exams, threats of expulsion, failure, stress, depression, etc., school demands are a fact that we can only accept exist; If the student does not comply in the way that the teacher expects or the institution demands, then other means are resorted to make him work harder, even if the parents, teachers or coordinators and/or those responsible for his education do not seek the remedy directly on what produces the problem. Rather, they act on the causes that originate the problem, with this the students remain subject to the set of obligations established by the educational system, within which studying to learn and know in a more satisfactory and broader way, represents for the student one of the most punitive and most volitional obligations. It would be interesting to ask ourselves about

what educational demands cost the student and how much guilt and responsibility teachers have in the fatigue, instability, anxiety, blockage, deception and repudiation of study originated in the student; This consideration is not only about asking simple and plain questions, without foundation, that provoke reactions of indifference, it is about creating a current situation that gives rise to situations and the establishment of a link between education or teaching and educational research, where the action of students, teachers and parents improve the conceptions that are held in this regard, intending in the end to qualitatively sensitize the student about the importance of learning and knowledge for the achievement of each student's particular life project.

When talking about strategies, techniques and study habits and their effect on learning, it is common to start by rescuing that motivation is an essential factor to achieve academic success as a result of the effort of study strategies and learning as an inherent instrument to achieve the proposed goals, the strengthening of self-esteem and confidence in one's own competence as essential traits to obtain a good school performance and to be able to face the social commitment that the student contracts when being educated, giving society as a professional all the accumulation of knowledge and skills as homogeneous as heterogeneous that were achieved through their course through school institutions. Nowadays it is not enough to learn to read, write and solve simple calculations, it is also important to analyze and address in a timely manner those aspects that determine many of the problems related to high failure rates and low terminal efficiency. It is known that motivation is an essential and necessary factor for satisfactory academic achievement, for the orientation towards success and in the valuation of effort and skills as an inherent instrument to achieve the proposed goals, as well as the strengthening of self-esteem and confidence in one's own competence as essential traits. The quality of education depends, to some extent, on the knowledge and skills it fosters corresponding to what the student requires and what their environment demands, for this it is necessary to strengthen self-learning thanks to study or learning strategies. Study strategies are currently considered as any behavior or thought that facilitates coding in such a way that it improves the integration and retrieval of knowledge; More specifically, these thoughts and behaviors constitute organized plans of action designed to achieve a goal.

From the new cognitive conceptualization of study strategies, new research began to be carried out with a different approach, since previously studies on human learning were dominated by the behaviorist school of thought, this resulted in a total dependence on the effects of external events as determinants of what was learned. With the increase in interest in organizational mental processes and in the transformation of information that takes place within the student, interest was refocused on what was known as the black box of the human mind (Barca Lozano A, et al. [2]). At the end of the 20th century, there was a reassessment of the role of educational systems, investment in human resources, in more and better training of pro-

professionals and citizens has once again been considered a primary and priority objective to promote development and social and individual progress.

These new approaches are due to the fact that in the last thirty years the changes, trends and professional, labor and social demands advance at a dizzying pace, being the most important trends that have had the greatest impact on the educational, professional and labor world the following: The internationalization of the economy that is transforming social relations, the dominant culture and values according to the rules of the market economy; the globalization of communication and information, with increasingly agile and powerful systems displacing traditional media; The information society is already a fact in which progress is made day by day with innumerable consequences in social life, in the advancement of knowledge and in the organization of work; scientific and technological development, which extends to all areas of knowledge and has a decisive influence on the social field, which poses significant challenges to the structure of curricular content and its development; the disappearance of barriers between nations and the attractiveness of developing countries are producing migratory movements with enormous impacts; cultural, religious and ethnic integration, avoiding cultural assimilation, is one of the most important challenges for national education systems; demographic and family changes, among which four main trends can be highlighted: the ageing of the population, the relative ageing of employed workers as the recruitment of young people is reduced, the increase in single-parent families posing new responsibilities for educational establishments that care for children at an early age, and the increasing incorporation of women into the world of work, However, there is still significant gender inequality in the labour market. The diversification of employment where the time of stable and long-term work at the end of studies has ended, the present situation is characterized by the difficulty of finding employment, by part-time work, by the increase in self-employment and by the need for constant changes in work according to new demands. the continuation of unemployment or underemployment, where there is no reasonable prospect that it will fall in the immediate future and where the most affected groups are those who cannot obtain a job due to their limited qualifications or because of the difficulties in accessing the specialization required by the new jobs; the ideological and moral pluralism of society, where the changes that are taking place in society as a whole are separating the consensus around the values to be transmitted; There is a risk that the fragmentation of values will lead only to pragmatic criteria, which will serve as a reference point for human behaviour.

It is possible that a new society has been taking shape for some time, a society saturated with information and knowledge, impregnated with science and technology, open to the world, a society characterized by the situation of the various individual situations, marked by the variety of their rhythms, a society eager for capacities in perpetual renewal, a society that could also be called a society of education or training, and for this new society it is necessary to The

emergence of a new educational system based on self-learning and meta-learning, where students are taught the importance and value of knowledge and the impact that educational convictions and study strategies can have on success or failure, not only at school, but also professionally. If the purpose is for the student to learn how to learn, to be able to generate his own style of self-learning, that is, to be the manager of his own learning, to be active, participatory, dynamic expository, creative, innovative and transformative of his own reality, it is necessary that he be taught, guided and educated how to get there, and for that obviously a competitive teaching staff is required. active, participatory, dynamic, expository, creative, innovative and transformative of their own reality. Undoubtedly, if it is necessary to really have a student who becomes a student, it is necessary to teach him how to be one and for this the strategies are vast and diverse, both to be used by the teacher and by the student.

The use of strategies in students is handled as a constructivist conception of learning, where the arguments that support the way of teaching are illustrated, in this regard it can be said that it is the idea that the individual maintains in cognitive and social aspects of behavior, as well as in affective aspects where it is not the product of the environment or the results of his internal dispositions. rather, it refers to the reconstruction that takes place day by day (Castillo Claire Víctor, et al. [3]). The human being builds his own knowledge where he uses the schemes he already has, to then relate it to the new knowledge that at a certain moment provokes a conflict to then establish a balance; In order for the construction process to be developed, it is necessary to point out two fundamental aspects: What previous knowledge the student has regarding the new information or the activity or task to be solved and what external activities or activities are carried out. must be carried out by the student. Constructivism in school learning seeks the idea of fulfilling the purpose of the education provided by the school, that of promoting the processes of personal growth of the learner. The characteristics of students' prior knowledge differ from one subject to another, some knowledge is more conceptual and others more procedural; some are more descriptive, others more explanatory; some more general, others more specific, etc., the student must be provided with general knowledge to help him modify his previous ideas, it is necessary that the presentation of school knowledge is based on situations of daily life, this so that the student takes more interest in the effort made in the school (Diaz Barriga Arceo F, et al.[4]).

Influence of the Cognitive Approach

The main interest of the cognitive approach has been focused on describing and analyzing various processes, such as perception, attention, comprehension, thinking, knowledge representation, memory, problem solving, among others, based on the human information processing approach, which currently constitutes the central current of thought in both psychology and education. The emphasis is located on the study of mental processes and on the examination of the structures of knowledge that can be deduced from the different and varied

forms of human behavior, this current of thought has tried to explain some aspects that were not studied by associationist approaches, such as the effects of the characteristics of the learner on learning, its role as a processing organism, the ways of thinking at a high level, what it processes during a learning situation, the consequences of certain forms of processing, and the way learning outcomes are measured. Consequently, it can be said that the cognitive approach has influenced the theory and research on human learning in a significant way, regarding this approach the following can be said: It conceives learning as an active and constructive process, emphasizes the presence of high-level processes in learning, points out that learning is a cumulative process in which prior knowledge plays a fundamental role. In other words, learning is a process that consists of the accumulation of information which is organized in our cognitive structures or schemas in such a way that they are enriched and structured until they reach levels of refinement that are characteristic of expert subjects, this approach tries to determine the way or ways in which knowledge is represented and organized in memory. Some say that representation is in the form of images, but others say that it is in the form of verbal propositions or statements and point out that the organization is hierarchical and others that it is in the form of networks (Serrano González Tejero J M, et al. [5]).

Learn to Build

Learning contributes to development to the extent that learning is not copying or reproducing reality; For the constructivist conception, learning occurs when one is able to elaborate a personal representation about an object of reality or content that one intends to learn. This elaboration implies approaching the object or content in order to apprehend it; It is not an empty approach, from nothing, but of the previous experiences, interests and knowledge that one has, we could say that with the meanings that have been constructed one comes into contact with a new aspect that only sometimes seems new, but that in reality can be interpreted perfectly with the meanings that one already possesses. while at other times it will be a challenge to which an attempt will be made to respond by modifying the meanings already provided in such a way as to account for the new content, phenomenon or situation. In this process, not only is the known modified, but the new is also interpreted in a peculiar way, so that it is registered and made one's own; when this process occurs, it is said that one learns meaningfully, constructing one's own personal meaning for an object of knowledge that objectively exists (Érausquin C, et al. [6]).

Effective Study and Learning Strategies

Studying is a process that consists mainly of activities carried out by students in order to prepare themselves to take tests, exams or other types of tasks, with the purpose of passing academic courses in educational institutions. Many students finish their high school studies with no or very few study strategies, so universities and other higher education institutions have found it necessary to offer training pro-

grams in this type of strategy, with a remedial or compensatory perspective. The area of study strategies was once known as study habits. This name was mainly due to the preponderance of associationist and behaviorist models of learning, which pointed out that in order to learn something it was necessary to internalize it, through repetition and practice creating habits. It could be pointed out, then, that such positions promoted study habits related mainly to external aspects of the student such as: organizing and establishing a study schedule, choosing a place to study, among others; With the change of orientation in the approach to learning processes from an associationist and/or behaviorist perspective to a cognitive perspective, study began to be conceived as a set of internal and external processes carried out by students to acquire knowledge and develop skills and abilities that allow them to pass academic courses in the educational institutions of the educational system. It is important, in order to understand the difference between habit and strategy, to distinguish between studying and other forms of learning, depending on the purposes and context, learning is not the same as studying; Learning can be the result of a set of processes that can occur anywhere, we can learn in the street, watching television, reading a book, visiting a museum or exercising in a gym, but we also learn in educational institutions called schools, being that the difference between one type of learning and another is that in schools it is academic learning and in other places it is everyday learning.

Carrying out one or more study strategies implies the performance of a set of explicit or implicit operations that students perform during the study process, it basically refers to all those activities that allow them to learn the information contained in materials or texts in the form of prose; To do this, the strategies can be diverse, such as copying the material, taking notes, underlining or highlighting the important parts of the material and summarizing the information, among others. The purpose of study strategies is to help the student pay attention to the important aspects of the study material, to make sure to transfer the material to the working memory because as we know if this information is elaborated, that is, worked, we can store it in our permanent memory system or else it will be lost. The influence that these strategies can have on the study can be as follows:

They direct the student's attention to certain relevant parts of the information contained in the text, limit the amount of attention the student pays to the information in the text, stimulate the condition by allowing the reader to add information to the information already stored in his or her memory system, allow the establishment of internal relationships, forcing the student to construct an outline or give a coherent organization to the material, and allow the construction of information in the text. external relations, encouraging the student to add his/her comments or reactions to the information contained in the text (Mauri T, et al [7]).

Classification of Strategies

There are general strategies, such as broad activities related to reasoning and thinking, and mediation strategies, which are the spe-

cific skills or resources we use when performing a task. On the other hand, there are strategies of repetition, elaboration, organization, regulation and affective, considering each of them in basic learning tasks and in complex learning tasks. Most of them can be considered as micro or macro learning strategies; Micro strategies are more specific to each task, are more related to specific knowledge and skills and can be taught, macro learning strategies aim at the knowledge and understanding of the subject's own learning mechanisms, have a high degree of transfer and are difficult to teach.

Micro Strategies

- A) Repetition strategies (require a minimum degree of cognitive control), operate on the memorization of data and aim to select and acquire units of information for transfer to working memory. Repetition strategies in complex learning tasks help students to pay attention to the most valuable aspects of a lesson and transfer that material to working memory for later study: we could cite recording practices, copying, repetition, etc.
- B) Elaboration strategies (they favor the connections between the knowledge previously learned by the student and the new contents, the level of cognitive control would still be low).
- Elaboration strategies in basic learning tasks which intervene in the coding processes for the construction of associations in the materials to be learned.
 - Elaboration strategies in complex learning tasks serve to complete previous knowledge with new information. This group would include note-taking and notes, diagrams and summaries, concept maps, etc.

Macro Strategies

- A) Organizational strategies (they look for an internal structure or organization in the learning material that gives it a meaning of its own). Hierarchy and classification would be clear examples of organizational strategies, but also thinking and problem-solving skills could be included in this category. Cognitive control is superior:
- Organizational strategies for basic learning tasks, which help the student to organize the materials in such a way as to facilitate further learning, require the student to be able to group or categorize the contents.
 - Organizational strategies for complex learning tasks, these strategies would be responsible for the selection of information to be transferred to working memory and the construction of relationships between ideas in that memory.

Regulatory Strategies

They are applied by the student when he sets goals in his learning and assesses the degree to which he has achieved those goals. It would encompass the use of metacognitive skills: meta attention,

meta comprehension and meta memory (Meza A, et al. [8]).

Meta-Cognition

Regarding meta-cognition, since 1976 it has been defined and described as the knowledge of oneself and concerning one's own cognitive processes and products to everything related to it. Metacognition indicates, among other things, the active examination and consequent regulation and organization of these processes in relation to the cognitive objects they deal with, usually in the service of some specific end or object. Within meta-cognition there are affect-motivational strategies which are related to the control that the student exercises over his or her learning environment, they are strategic used consciously it is a personal style of learning, these strategies demand a high level of control. Macro strategies based on meta-knowledge are responsible for re-establishing the parameters of a task, locating errors, determining the most appropriate intervention techniques and methods, controlling their application and making decisions based on the results obtained, although the direct resolution of the task corresponds to micro strategies through specific operations or procedures. They are classified into four broad types of basic or primary strategies for learning: acquisition, retention, recovery, and support. There are so-called support strategies that favor study and are precisely those that should be taught to the student; Among them is the planning of study time, attitude in class, how to develop a topic, study conditions, differentiated study by subjects, methods, etc. All strategies involve a lot of information at different levels, so there are also different types of classifications, for example: Linguistic strategies that are those that involve superficial structures such as texts or sentences with their underlying semantic representations; cognitive strategies that involve the use of knowledge about the world and other types of episodic and cognitive information such as attitudes, beliefs, aspirations, etc.

All strategies are flexible, operate at different levels of analysis at the same time, operate with different types of input data, can be executed even when the information processed is incomplete and can combine data-driven processes, are context-sensitive depending on the student's interest, attention, goals, beliefs, and attitudes, are non-deterministic, and tend to produce a large number of options that vary in plausibility. There are hierarchical relationships between strategies, where some dominate the others, those that work with global information act as top-down processing strategies in the understanding of local information; there may be local-level strategies, which place constraints on subsequent meanings, as well as retroactive strategies, which explain the meaning of expressions to which only a partial interpretation has been assigned; There are those to use knowledge, such as retrieval and interpretation, which allow us to obtain the relevant information in each state or point, leaving the more general information at the level of a general control scheme. There are preoperative strategies, even before having read or heard the learning material, they are communicative and contextualizing; they specify purposes, tasks, difficulties in materials, etc., determining the subsequent choice of more local or global strategies, they are

anticipatory and have a determining role in learning (Bonilla Traña M, et al. [9]). A cognitive strategy is also the set of procedures that a learner can use to acquire, retain, and retrieve different kinds of performance and knowledge, these cognitive strategies include the learner's ability to represent (drawing, writing, imagining), selection ability (attention and intention), and self-direction ability (self-programming and self-monitoring).

With this conception, it is assumed that the composition of a cognitive strategy is a guiding cognitive task (a method for inducing the student to perform certain kinds of operations) and a capacity for selection, representation and self-direction. On other occasions, it is necessary to provide a specific guiding task to induce the use of the relevant learning strategies, as would be the case of elaboration strategies that add color to a given representation, which improves its recall, or organizational strategies that undress the representation of any external referent but that structure the information to be learned. in such a way that they integrate its various components, improving their comprehension and memorability. According to this point of view, an instructional sequence is designed to help students develop and organize internal mediation processes, it is about teaching them, in addition to the assistance of cognitive strategies, an appropriate use of them, so it would facilitate the acquisition, retention, integration and recovery of what has been learned (Córdoba Urbano D L, et al. [10]).

Conclusion

The simple transit through higher education schools in an inertial, passive way, with disinterest and without intrinsic and extrinsic motivations does not guarantee professional, economic and social success, on the contrary it practically condemns the student during his stay in these institutions to an endless number of problematic situations, stress, sanctions and even delay in graduation or desertion and for those who manage to graduate practically condemn themselves to underemployment or unemployment. accompanied by frustrations and waste of time. That is why it is important that from the first ed-

ucational levels the student begins to be taught the importance of studying, what study strategies are and what they are for, so that they have the basic foundations in this regard and that they are gradually strengthened and enriched as they advance in the educational levels, until they achieve self-learning and metacognition.

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Jesús Rivas Gutiérrez. Biomed J Sci & Tech Res



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