

STUDY ON THE USE OF TEACHING RESOURCES BY STUDENTS OF OUR FACULTY FOR EFFECTIVE LEARNING

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Abstract. *Effective learning means to want a successful outcome (at the cognitive, the abilities / skills and attitudes levels) which is the consequence of fulfilling an objective of learning, conscious established, and pursuit of which required active involvement. In order to amplify effective learning outcomes we will resort at: critical reflection on alternatives, persistent action, quality orientation, metacognitive strategies and an appropriate learning environment. In the appropriate learning environment are summarized teaching resources. The present study was done to observe the impact of the 9 kinds of teaching resources, with reflections in 25 features, on improving learning for students of pedagogical study program of the III year.*

Keywords: *Learning, effective learning, teaching resources,*

1. Paper rational

Taking into consideration that today, contemporary context of learning has these important features:

- the knowledge base is rapidly increasing in society, and now doubles every 373 days. Teaching knowledge is an anachronism;
 - a wider range of the population process and generate knowledge. Information is not the possession of a few “experts”;
 - employment prospects relate more to the ability to enhance and transfer learning. The accumulation of qualifications is not enough;
 - the landscape of learning is much wider and richer, involving multiple contexts, modes and sources;
- therefore, learning is no longer the province of special institutions: it is a way of being.

In such a context the goals of learning need to focus less on knowledge acquisition by individuals, and more on knowledge-generation with others. And this approach would lead to the effective learning.

Effective learning will give to the learners the possibility for everyday problem solving and for their personal development. On the other hand, an effective learner is versatile and can actively utilize different strategies and

approaches for different contexts and purposes, for example gaining understanding from texts while alone, creating knowledge with others through a project, actively listening to an exposition, building dialogue with people of different stances, extending social roles with the family, and so on. As it can be seen, in all these situations intervenes, actually, learning environment. Part of the learning environment there are also the teaching resources.

This paper wants to reveal some aspects of our study concerning the impact of 9 teaching resources into the effective learning of our students from the last grade, enrolled in psychopedagogical study program.

2. Paper theoretical foundation and related literature

As confirmed by specialists, *learning is the acquisition, followed by internalization, leading to a change, observable through results.* [1] How they occur has been studied by psychologists and pedagogues, and the results of their research is focused on learning theories such as: Behaviourism, Cognitivism, Constructivism and recently, Conectivism!

But whatever theory, what are the steps that we go through when we learn?

➤ The first phase is the contact with the new information, followed by a processing system until there is understanding. We could call this phase acquisition.

➤ The next stage is the internalization of new knowledge and to integrate them into a personal system, coherent, which is built on previous experiences. We could call this phase internalization.

➤ The third phase involves action for the new acquisitions, which once they are acquired and operational, should be used. This means being aware that we act and that we know something more, and that we know what we use what we have just learned. We could call this phase change. But not any change means transformation and from Mezirow Transformative Learning Theory point of view *“learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience in order to guide future action”*[2]

➤ The final step is to realize the changes and transformations in knowledge, skills and attitudes. We could call this phase result. To reach the results mean to act without forgetting that we have learned something.

Learning is built on previous experiences and it is influenced by the climate in which it is realized. There are internal factors – motivation, intellectual potential, psihoindividual characteristics and age etc. – and external factors of learning – context, learning experiences, learning environments, training events etc. A good comprehension of the learning process leads to the more effective modalities during a lesson/teaching activity, or decision of drafting individual learning programs, for students.

Another important aspect of learning is related to the fact that changes /

transformations must be maintained to be considered real (and effective) learning [3], because it is stable and can be transferred to new situations.

But what is effective learning?

Effective learning means to want a successful outcome (at the cognitive, the abilities / skills and attitudes levels) which is the consequence of fulfilling an objective of learning, conscious established, and pursuit of which required active involvement.

In order to amplify effective learning outcomes we will resort at: critical reflection on alternatives, persistent action, quality orientation, metacognitive strategies and an appropriate learning environment

Effective learning has three important characteristics:

✓ *is active*

Active learning requires conscious involvement and participation in the construction of knowledge. Giving personal significance to learning materials which must be learned, means to transpose them into their own systems of knowledge, to establish permanent links between experience and new, between knowledge and their application, between and within areas of knowledge.

✓ *is targeted to goal*

Orientation towards a goal requires orchestrating efforts towards achieving goals. Objectives are set based on existing weaknesses, which will be converted into training needs and self-instruction. Learning objectives may target acquisition information, skills training, behavior training or learning potential development. Objectives are set before and then are followed by choosing the contents and processes. The design of effective learning activities is performed by goals not by content.

✓ *leads to measurable results*

Measurable results are a stimulus to continue investing effort in learning. The results is materialized in immediate aspects (exams passed, mastered concepts, ideas learned), but there are results that will be demonstrated in longer (successful in the profession, intellectual performance, behavior in real life). Personal development is a continuum, not end with the gaining of an acquisition or obtaining a result. The quality is an important coordinated of the results obtained for effective learning.[1]

Effective learning has also important tools such as:

❖ *critical thinking* and

❖ *metacognitive strategies*. [1]

Critical thinking is a tool of effective learning that helps individuals to orient into the world of possible alternatives and to realize the mechanisms of their own thinking. The most important contribution of critical thinking is to cause action. Any agreement is followed by an action accordingly.

Perseverance in learning leads to the stability of purchases. Reflection capacity and critical self-reflection ability on learning experiences are materialized in the possibility of opting argued, on the basis of valid evidence on the directions of personal development.

Metacognitive strategies naming the monitoring and control aspects of learning as well as the development of learning potential. Self-monitoring the progress and the control of effort invested in learning entail need to acquire techniques of learning. To decide the resources, their quantity, and their time of investing, means to learn intelligent. Learning how to learn means amplification of individual learning ability, in other words effectively accelerate the learning process.

The efficiency appears at the intersection of three coordinates, which are always in equilibrium: *the idea, the action and the result*. The idea means to give learning a personal significance, to pursue a goal. The action means the ability to invest in reaching that goal. The result is the guarantee goal achievement. The focus on ideas and principles leads to a theoretical learning, the focus on action leads to losing sight of the purpose, the focus on results leads to technicization and loss of significance of learning. *The equilibrium of these three components is the key element of the learning efficiency*. Another important aspect of the relationship idea-action-result is *the dynamics of them*. Once an idea has been translated into results through the action, the process begins again by choosing other ideas, other objectives.

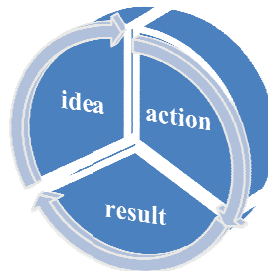


Figure 1. Dynamics of relationship idea-action-result in effective learning

Effective learning supposes its proposal by *effective professors* for *effective learners* who transpose into reality these ideas above. *Effective professor* means the educator who holds „teaching characteristics”: features of curriculum, assessment, and conceptions of teaching. Even when these external aspects are poorly designed, educational institutions can employ effective learning to address them. Curriculum which addresses big ideas and which gives learners the big picture is most engaging. Coherence for the learner and the ability to make connections in different contexts [4] is also supported. In assessment, self-assessment supersedes social comparisons, and enhances learner responsibility. *Effective learners* have gained understanding of the individual and social processes necessary to become

effective learners. This is not just acquisition of particular strategies, but the monitoring and reviewing of learning to see whether strategies are effective. This has been described as “learning how to learn” [5] and “metalearning” [6]. Effective learning includes this extra crucial ingredient “which actively involves the student in metacognitive processes of planning, monitoring and reflecting”. [7] The effective learner:

- is active and strategic,
- is skilled in cooperation, dialogue and creating knowledge with others,
- is able to develop goals and plans,
- monitors her/his own learning and is versatile across contexts.

When professor:	Instruct	→	Guide	→	Facilitate	→	Consult
Learners become:	Dependent	→	Interested	→	Involved	→	Self-directed

Figure 2. Conceptions of teaching focus on the learner – after Watkins, Carnell, Lodge, Wagner and Whalley [8]

Effective learning is promoted by:

- activity, with reflection and sense-making,
- collaboration for learning,
- learner responsibility for learning,
- learning about learning. [8]

Learning cycles for each of these four elements are illustrated in Figure 3 below.

	Active learning	Collaborative Learning	Learner responsibility	Learning about learning
Do ↓	Tasks are designed for learner activity, not teacher activity	Tasks in small groups connect to create a larger whole (by roles or by parts)	Learners exercise choice and plan their approach	Learners are encouraged to notice aspects of their learning as they engage in tasks
Review ↓	Learners stop to notice what happened, what was important, how it felt, etc.	Learners bring ideas together and review how the group has operated	Learners monitor their progress and review their plan	Learners describe what they notice and review their learning (goals, strategies, feelings, outcomes, context)
Learn ↓	New insights and understandings	Explanations of topic and of how the group	Factors influencing progress are	Richer conceptions of learning are

	are made explicit	functioned are voiced across the group	identified and new strategies devised	voiced and further reflective inquiry is encouraged
Apply	Future action is planned in light of new understanding. Transfer to other situations is examined	Future possibilities for group and community learning are considered	Plans are revised to accommodate recent learning	Learners plan to notice more and to experiment with their approach to learning

Figure 3. A framework for planning and reviewing the teaching-learning cycle for effective learning.

The objective of every professor is therefore to produce effective learning, taking, if it's possible, all above concepts and more.

More could be, for example, the contribution of the learning environment, concretely the impact of teaching resources into the learning process for become effective one.

3. Methodology

In our present study we proposed to observe the opinion of the students about the impact of teaching resources in their learning, using 9 kinds of pedagogical tools and 25 characteristics of learning process which can be reached by these means.

We can define the type and characteristics of this study as an anticipatory action for configuration of the future learning activities.

Along these lines we established:

- the sample of respondents,
- the objectives of our study,
- the hypothesis,
- the instrument for data collecting,

and we passed to

- the application of the instrument to students from the sample,
- the collection and processing of data collected,
- the interpretation and appreciation of the data.

The sample: 105 students of pedagogical study program of the III year.

The objectives of the study:

- a. Creating a questionnaire to track the impact of 9 teaching resources, with reflections in 25 features on improving learning for students of pedagogical study program of the III year.
- b. Applying the questionnaire on sample of students, data collection and processing, interpretation and the issue of value judgments on the results obtained.
- c. Using those teaching resources in learning activities that were most

frequently mentioned by students, in the completed questionnaire, for observing if they make learning effective.

The hypothesis: If these 9 teaching resources are properly used, then they will favor effective learning.

The instrument:

Questionnaire for students

SELECTION OF TEACHING RESOURCES FOR EFFECTIVE LEARNING

In table's columns below (under one of the 9 abbreviations), tick the teaching resource that you think that it will bring the maximum contribution for the effective / authentic learning for each feature described in the left (in the first column).

RO – *real objects* (models, layouts, replicas),

PT – *printed texts* (worksheets, books, brochures, guides)

B – *blackboard* (black, green, white)

SB – *smart board*

S – *slides* (PowerPoint or Prezi)

V – *video* (video tape, DVD, TV, YouTube)

G – *graphism* (maps, diagrams, charts)

A – *audio* (cassettes, CDs)

SW – *software* (educational, office, statistics or for design, etc)

Learning will be enhanced with the resources on the right, because:	R O	P T	B	S B	S	V	G	A	SW
Allows to see and touch real objects									
Allows taking materials from the aula / seminar room									
It can be used after the course / seminar as a reference, guide or aid in work									
It allows multiple participants to respond simultaneously									
Can be easily deleted or changed									
Require minimal costs									
Allows to write keywords during the course / seminar									
Is suitable for groups of 25 students									
Can be used in fully lighting space									
Uses visual elements easy to prepare									
Presents keywords, indices of words or a sketch of activity									
Offers portability									
Offers visual effects									
Allows easy change order of materials									
It allows the user to control stimulating participants' or to resume some part of the presentation									

They are appropriate to students who have trouble reading or understood notions										
Reproduces sound exactly										
It is easily used for professor or student										
It has a high quality image										
It can be used independent of professor										
Demonstrates movement, including sequential motion										
Allows observation of hazardous processes or real reconstructions										
Provides discovery of learning environment										
Shows the problem solving situations that induce discussions in group										
Forms personal and social attitudes										
TOTAL										

4. Results

After the application of the questionnaire on students from the sample, the collection, processing and the interpretation of data collected, there resulted the following:

A. From the sample set at the beginning of the academic year, responded only 92 (87,62%) of the students, but we believe that the data collected are enough.

B. From data processing resulted from collecting questionnaires, it was revealed that students think that the use of *slides* in the teaching-learning have the greatest impact in effective learning. Curiously enough, because *video resources*, as teaching sources that contribute to a better, easier and real learning, came out only on second place as the number of students' votes. And amazingly, during the digital era, *printed texts* as learning resources is ranking in third position of preferences of students polled. Only on the fourth place is the *software* (educational, office, statistics or for design), then follows the *real objects* (models, layouts, replicas), *audio resources*, *smart board*, *blackboard* and *graphism* (maps, diagrams, charts).

C. This hierarchy of teaching resources was shaped at the end of vertical columns of questionnaire but having correspondence with 25 argumentations/features, on horizontal lines (rows).

D. From the horizontal rows, the feature that has obtained the most votes for all 9 teaching resources was „*is suitable for groups of 25 students*”. Most votes received by this feature are, in descending order: *slides*, then *video*, *graphism*, *smart board* and *printed text*. The second feature which is apparent on horizontal lines „*it can be used after the course / seminar as a reference, guide or aid in work*”. The biggest contribution for this feature have the *printed texts* followed by *slides*, *video* and *audio*. At a tie came the feature „*offers visual effects*”, where *video*, obviously, has brought major contribution, then *slides* and finally *software*. A third feature voted by the

respondents is „*allow taking materials from the aula / seminar room*”, to which major contribution has had *printed texts* and much less *real objects, video, graphism* and *audio*. These features are followed by „*allow to see and touch real objects*” by the major contribution of *real objects* and then *printed texts*, and, on the same place, the feature „*there are appropriate to students who have trouble reading or understood notions*” to which contributed *audio, video, slides* and *real objects*. Another feature that we can mention, that emerged from respondents vote it is „*offers portability*”, to which have contributed the following teaching resources: *audio, software, graphism, video* and *printed text*. At the opposite pole are the features: „*require minimal costs*” – although it is strange, students do not consider efficiency as important criteria for the use of teaching resources – feature due to *printed texts* and *blackboard* ; „*uses visual elements easy to prepare*” as intake of *slides, video* and *software*; „*allow observation of hazardous processes or real reconstructions*” due to the *video, software* and *graphism*; „*it allows multiple participants to respond simultaneously*” with the contribution of *smart board, software* and *slides*.

E. The other features have received an average score after linking the votes of the students for teaching resources with them. For example: „*form personal and social attitudes*”, „*provides discovery of learning environment*”, „*shows the problem solving situations that induce discussions in group*”, „*it allows the user to control stimulating participants' or to resume some part of the presentation*”

F. After this phase, we started using, in courses and seminars, the teaching resources most often selected by students – slides, video, printed text - for observing if they really believe that those tools can help their understanding!

5. Conclusions

Although our intention was to incite students to be responsible for their own training, considering the contribution of the teaching resources they will use in future teaching profession, it seems they are not very aware of their value in effective and efficiency learning. It is quite surprising the choice of our students, from the third year of the program of pedagogical studies, as in 2016, slides, video and especially printed texts are in their first preferences and no software or smart board like pedagogical tools! We can put this on account of several factors:

- Non-use of such means in other courses or seminars, from where can be ignorance or fear of using them;
- Low interest towards training and personal development in the future profession;
- Misunderstanding and unawareness of interrelations between the

pedagogical tool and the benefits to learning they can bring;

- Superficiality in completing questionnaire column;

We still consider positive the fact that for the experimental sample an important feature of teaching resource, *is suitable for groups of 25 students* which means that they consider cooperative learning as a part of effective learning! On the other hand, the feature *it can be used after the course / seminar as a reference, guide or aid in work or allow taking materials from the aula / seminar room* could be interpreted as awareness for individual study! Given that the current generation is also a visual one, we are not surprised that the feature *offers visual effects* came on the second place probably because their learning is mainly visually.

From outlining only these ideas we conclude that our students are committed to an effective learning in terms of *active learning* and *collaborative learning* but not so much *inlearner responsibility* or *learning about learning* and we have a lot of things to do together for obtaining a real cycle of effective learning: *do – review – learn – apply!*

At the time of the study we find that our student are partially effective learner because he/she is:

- more or less active but not strategic,
- somewhat skilled in cooperation, dialogue and creating knowledge with others,
- more or less able to develop goals and plans,
- not in totality able to monitor her/his own learning and is less versatile across contexts.

After two month of learning activities in which we applied above mentioned teaching resources, selected by the students from sample, we can say that few seeds of the effective learning are observed. But there is time for us (almost two months) until the end of the semestre, to guide our students towards a more effective learning with help of an interactive methodology where are presences modern pedagogical tools!

Thus we will be able to complete the current study with the results of the students from ongoing and final evaluation of this semester for more accurate conclusion about the existance of effective learning to our students.

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