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THE ROLE OF THE REFLECTION JOURNAL IN MAKING EFFICIENT THE LEARNING ACTIVITY WITHIN FORMAL FRAMES

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Abstract: One of the most efficient ways in helping the students improve their academic outcomes is by giving them the time and the instruments they need to develop their metacognitive skills when learning. Journals can help the students identify the strategies they used or the way they may use it and subsequently appraise their efficiency. Building-up a frame via hints and orientation questions, such as „What could you do next?" or „How do the strategies you have chosen work?", may offer the students the structure determining them to think in a metacognitive manner. Many students, especially those with learning difficulties, may beneficiate from an explicit and repetitive training, concerning the metacognitive strategies.

Key words: metacognition, communication, language, reflection journal, making learning efficient.

1. Introduction

The metacognitive skills of the students form and develop in an environment where the real thinking processes represent an important part of the training and of the current conversation in a classroom. In order to create this environment, teachers and students must develop a thinking language they all consistently use. When teachers frequently use notions like strategy, process and metacognition, they communicate the importance of these notions to the students and highlight the important processes for the efficient learning. A special role in knowledge acquirement is played by the language. Whilst the speech is a system of linguistic tools (phonetic, lexical, grammatical) specific to a certain community, the language is an individual manifestation of the speech, the effective application and use of the speech by an individual. The language represents a superior conduct organizing and directing all the other components of the human mental system. This is why the communication deployed within formal frames represents a definitive factor for the quality and efficiency of learning. Reflection on communication may determine the identification of those aspects that make learning defective or beneficial, thus being a significant reference point for both teacher and student.

2. Metacognition and its role in ensuring the academic success

The main component of metacognition is thinking processes awareness. This awareness includes the methods used by the students to approach a task, but also the alternative methods at their disposal. Those who know how to learn are aware of the way they are thinking and are able to make intelligent choices concerning the strategies they are going to use. Notwithstanding, the metacognition includes not only personal knowledge about personal cognitive resources and about their compatibility with the learning mode. Metacognition supposes also knowledge on the predominant type of thinking, memory qualities, linguistic potential, etc., all these representing a real support of the intellectual activity (Adkins, 2005).

As it is well known, the structure of metacognition is represented by: the awareness component, the planning component and the monitoring component.

The awareness component imposes to reflect on the task, to estimate its difficulty and to make an inventory of the available working tools. At this level, a student has an inner dialog concerning what he/she might do and what it would be most efficient thing to do under the given circumstances. If the task is a simple one, it is possible that the interested person not even be aware of the choices he/she

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makes. In the event of a complex task, nonetheless, the metacognitive process is more explicit, and the student considers different options. Examples of questions the student addresses him/herself, awareness-specific: How am I going to approach this task? If I do not understand what I am reading, what will I do then? If I will encounter an issue, how will I react? What shall I consider when trying to learn something?

The planning component of metacognition is responsible for the „identification or activation of specific skills, tactics and processes to be used in order to reach the goal" (Marzano, 1998, p. 60). Examples of planning-specific questions: What information do I need? What are the strategies that will help me? How long will I need to accomplish the task? What is the due order to achieve the requested assignments? Are there persons whom might help me? Who are those persons?

Monitoring verifies the efficiency of a plan and of the strategies used. Continuous monitoring of thinking processed represents a critical component of metacognition. Examples of monitoring-specific questions: Does it work what I am doing? What didn't I understand concerning the task? How may I do it differently? Might I change my working method so it would be more efficient? Are there things I can/cannot control in my working environment? Which would be the best way to solve my task?

The cognitive psychology studies have shown that students learning results may also depend on how they manage their knowledge. The academic failure is said to be due to 2 possible causes: primary ignorance (featuring lack of information due to lack of study effort) and secondary ignorance (featuring the possibility of information doubled, unfortunately, by student's incapacity to manage learning).

Flavell (1979) identifies 2 metacognition levels: metacognition knowledge and mental activity management.

Metacognition knowledge (the declarative aspect of metacognition) includes the following:

Person-related knowledge (knowledge on the personal thinking and on others thinking habits):

- intraindividual (student's ideas, beliefs about her/himself);
- interindividual (resulted following the comparison made by the student between her/himself and the others);
- universal (information on how the human thinking generally works).

Task-related knowledge (knowing the goals, the difficulty, the effects of the eventual success in accomplishing the due task, the awareness of the fact that various types of tasks impose various cognitive demands);

Strategy-related knowledge (where, when, how learning must be performed in order to improve knowledge and proficiency).

Mental activity management (the procedural aspect of metacognition):

- Planning strategies;
- Control activities (action surveillance during learning, progress appraisal, errors identification, used strategies efficiency appraisal, currents task resources allocation);
- Regulating activities (feedback interventions for strategy change, effort intensification, number of repetitions, selfmotivation etc.).

View that metacognition is cultivated, there is a series of sources for the metacognitive training, especially for older students, teenagers, such as: biographies, journals, letters and other personal writings belonging to certain experts in the field the students are studying (Eyler, Giles & Schmiede, 1996). Exposure to problem solving strategies used by the great thinkers may constitute an information and inspiration source for the students. The resource-journal is a variety of the open-journal where the learner collects punctual information concerning various important events relative to the learning activity, by combining it with his/hers own reflections.

3. Language and metacognition

Communications plays an essential role in the learning process. In order to analyse the communication within school's formal frame, as well as the relation between metacognition and language, one must consider language's general functions. Certainly, in relation to the metacognition, we are primarily interested in the: communication, cognitive, symbolically representative, persuasive, regulatory and dialectic functions.

Communication efficiency depends on how the teacher semantically constructs the content of the message (clarity, concision, grammar rules observance), but also on the conditions this message is perceived by the students (talking loud enough, never turning the back on students, respecting an adequate fluency). It would be best that the informational repertory of the student overlaps, at least partially, that of the teacher, for codes incongruence is often the source of communication distortions, with harmful effects on learning. The message must contain words of high cognitive significance, and the teacher must allow time to the students for them to understand the questions, for some information may not be immediately understood.

Yet, at the same time, it is essential to help the student form a speciality language, as well as the capacity to use the scientific, literary or even artistic language. All these shall determine a greater accuracy of communication and knowledge.

Communication and language regulate the learning activity via specific means, different from those activated by man's common needs, of immediate adaptation to environmental stimuli. Together with the other mental mechanisms of behaviour regulation (attention and will), communication and language respond to the "co-balancing needs with the multitude of social factors and conditions, of socio-cultural products assimilation and of developing certain action of integrative character, mediated by the symbolisation and valorisation principles" (Zlate, 2000, p.184).

Within the instructive-educative process, language brings several essential issues. One of these issues is the relationship between language perception (and comprehension) and its use. The teacher must make sure that any and all conditions under which he/she extends the message will determine its well reception and, furthermore, the teacher must manifest a special care for the semantic construction of the content of the transmitted message, taking into account the logical and grammatical rules, for the message to be clear and concise (Verza, 1987).

4. The role of the reflection journal in making learning efficient

View that the cognitive development during adolescence is marked by the reasoning processes skills, options evaluation, hypothetical reasoning, abstract thinking, as well as the capacity to analyse the personal thinking, the deployed experiment for the use of reflection in making learning efficient supposed the involvement of high-school students into the research activity.

We therefore considered that in making efficient the didactic communication activity and implicitly the learning activity, students themselves, aside the teacher, play an extensive role. The instructive activities deployed within formal frames represent training for life, where students are concerned, and, subsequently, to educate the skill of establishing a good communication is extremely important. For this perspective, teacher's efforts may be combined with reflection and self-reflection exercises of the students in respect to communication and learning within formal frames, by making use of the metacognition.

Moreover, we have estimated the fact that there is a strong possibility of a correlation between the student's grade specialisation and the variety/ multitude of difficulties in communicating/learning, aspect that should be known to the teachers in order to intervene accordingly.

Subsequently, we have drafted a reflection journal with a subject aiming to the quality of communication within formal frames and the actions taken to improve learning. The structure of this journal may be observed in figure 1:

Reflection journal

Grade:

Teaching subject:

Student's code:

Supervised period:

The difficulty manifested in the didactic communication	The probable cause of the registered communication difficulties	Effects of the communication difficulties on the learning schedule	Intervention means for the purpose of eliminating the communication difficulties and of making efficient the learning process	
			Achieved by the teachers	Achieved by the students

Figure 1. The structure of the reflection journal

The supervised period included 3-4 observation weeks for each journal, according to the following scheme:

For the 10th grade (major in Mathematics-Computers Science) – teaching subjects Psychology and Mathematics (E1); for the 11th grade (major in Social Sciences) – teaching subjects Romanian Language and Mathematics (E2); for the 12th grade (major in Kindergarten-primary school teachers) – teaching subjects Romanian Language and Pedagogy (E3). The experimental group included, per total, 91 subjects.

According to the hereinabove mentions, the reflection journals used as information collecting tools from the students of the grades included in the experimental group were periodically appraised, at 3-4 weeks interval, consequently the outcome was an initial appraisal, 2 intermediary appraisals and one final appraisal of the data thus obtained. Due to the fact that the periodical analysis of the reflection journals proved the fact that there are great similarities within student's observations, we shall continue with a synthesis of the research relevant data from all experimental groups, with the clarification of the specificity elements encountered in different grades or teaching subjects.

Subsequently, following the appraisals of the reflection journals, we observed that in relation to the psycho-pedagogical teaching subjects (Psychology 10th grade and Pedagogy 12th grade) the most frequent communication difficulties in the didactic activity mentioned were, as follows: difficult comprehension of the transmitted contents; lesson insufficient structuring; the fear to get bad results; lack of interest and bore of certain students; lack of self-esteem due to difficultly sizeable knowledge; deterioration of teacher-student relationship; lack of study motivation; feeling that the teacher favours certain students.

We have to bring up the fact that most of the mentioned difficulties were noticed by the experimental group E1, representing the 10th grade, major in Mathematics-Computer Science. This group encountered difficulties in students involvement/active participation during lessons, for they seemed less interested by the teaching subject Psychology. Where the E3 group is concerned, represented by a 12th grade class, major in Kindergarten-primary school teachers, the aspects related to students discipline and interest were less obvious, but issues and obstacles were heavily noticed in relation to understanding/decoding the transmitted informational message. The fear of getting bad results and the lack of self-esteem due to the difficulty of the knowledge to assimilate, these were aspects especially noticed with the E3 group, whilst the last mentioned issues were especially found with the E1 group of students. A possible explanation hereof might be that the students major in pedagogical sciences are

more interested in their academic results at the teaching subject Pedagogy, (a speciality subject), whilst the students major in Mathematics-Computer Science show a certain lack of interest towards Psychology.

The reasons most frequently identified (for both E1 and E3 groups) for the herein above presented difficulties were: the difficult speciality terminology, insufficiently explained; a near dead-line and a high volume of information; student's lack of focus; student's fatigue, due to the long hours and the fact that their Psychology course is very late in the schedule; the feeble involvement of students in the instructive-educative act.

As effects of the difficulties manifested in the didactic communication hereinabove mentioned, the following were enumerated: difficulties or impossibility to correctly perform the applications at the end of the lessons; insufficient knowledge demonstrated in appraisal context; deficient interaction with the teacher; lack of logical comprehension of lesson's content; deficient confinement of student's attention; student's agitation and lack of patience during lessons.

The intervention means applied by the teacher with the purpose of eliminating the difficulties from the didactic communication and of supporting students in their learning process focused, mainly, on: the reiteration of the transmitted informational content; insisting on a more explicit presentation of the difficult information, adaptation to students capacity to understand; supplementary exercises; capturing students attention by using some attractive and active work methods; increasing students involvement in all lesson sequences; manifesting greater sympathy towards students learning difficulties; encouraging students concerning their information assimilation skills and tasks efficient solving manners; identifying some methods to increase students learning motivation.

The intervention means applied by the students for the purpose of eliminating the difficulties from the didactic communication and of enforcing their own learning process focused, mainly, on: addressing questions in order to better understand the informational content; participating actively to the teacher-imposed tasks, both in the classroom and at home; greater involvement in the lesson process; ensuring work peace and discipline; courageously expressing their personal opinions; manifesting an increased interest towards learning as effect of teachers motivation by stimulating each student to participate to a wider range of activities; openness towards the teacher.

We hereby mention that, during the time periods assigned for the filling-up of the reflection journals, the students manifested various and multiple opinions and observations, but, towards the end, a slight decrease of the formal frame difficulties manifestation was recorded, and the students involved in this experiment noticed less and less obstacles; but we shall resume this aspect later on, when we will present a final analysis of the appraised journals.

On the topic of the observations concerning the teaching subject Mathematics (for the experimental grades E1 and E2), amongst the more frequent difficulties manifested in the didactic communication, the following were mentioned: a high exigency from the teacher; failure to comprehend the transmitted information ; low interest for learning and minimum contribution of the student in lesson deployment; insufficient organization of the lesson; favouring students with profound mathematical knowledge; teacher's intolerance towards the students lacking Mathematical skills; appraisal and grades make the students nervous; lack of a good relationship teacher-student; fear of punishment (most grades are bad because students fail to comply with the requirements or they have low skills in solving problems and students are often blamed before the principle and/or the parents); lack of self-esteem and trust in their personal intellectual potential.

We hereby mention that, by comparison with the data obtained following the appraisal of the reflection journals from the psychopedagogical and Romanian Language subjects, we have noticed that where the subject Mathematics is concerned, several and various difficulties of the didactic communication were encountered, regardless of students speciality, some of these difficulties showing pretty severe effects both on the relationship teacher-student and on students academic success.

When it comes to the causes determining the difficulties hereinabove mentioned, students noted the following: much too high expectancies from the teacher based on the fact that students must already possess several information from the previous years of study; the lesson is structured in a theoretical

manner, rather than a practical one; too much homework; lack of knowledge necessary to solve exercises/problems; difficulty of the informational content of the lesson.

Whereas the hereinabove issues are concerned, we would like to note the fact that the E2 students, 11th grade, major in social sciences, particularly mentioned as difficult the complicated contents of the lessons and the lack of practical training in solving mathematical exercises, whilst the E1 group, major in Mathematics-Computer Science, mentioned as communication barriers the fact that there was too much homework and this was doubled by the difficulty of the contents. The E2 group, besides the already mentioned causes, highlighted the fact that teacher's expectations were much too high in relation to student's knowledge and the fact that the content of the teaching subjects were exaggeratedly theoretical in stead of being much more practical and applicative.

The most frequent effects of the difficulties in didactic communication were stated, as follows: learning focused on mechanical memorizing; too much time spent on verifying, correcting and completing the homework; low attention, bore; non-satisfactory results; lack of a logical comprehension of exercises/problems solving.

The measures taken by the teacher in view of eliminating the current difficulties, due to the impression of favours or persecution and supporting the students were, as follows: focusing on the practical-applicative character of the lessons; providing supplementary explanations; repeating the lesion, when appropriate; trying to adapt exigencies according to the possibilities of the students who do not have skills for exact sciences; application of several individualisation and differentiation techniques concerning teaching and appraisal; avoiding conflicts with students.

The students also mentioned their own ways to eliminate didactic communication difficulties and to support their individual learning processes: increase of home applications and preparations; getting the homework done, even if partially, according to personal skills; attention and focus on the lesson; extra hours (brought-up by the E1 students, major in Mathematics-Computer Science); to improve the relationship with the teacher, based on mutual respect and politesse; free discussions with the teacher in order to explain the difficulties encountered by the student.

Thus, analysing the entire observations of the students, we noticed that, when it comes to the teaching subject Mathematics, we have to remark that, regardless of the specialization, many obstacles intervene in the didactic communication, some of them even representing a major issue for the academic success of many students, and, therefore, a rapid intervention is needed in order to prevent learning failure.

For the teaching subject Romanian Language (11th and 12th grade), the main obstacles manifested in the didactic communication were: lack on interest and attention of some of the students; failure to assimilate the transmitted contents; divergence of opinions (both between teacher and student and between the students themselves); underlining the difference of statute between teacher and student; lack of empathy from colleagues but also from the teacher; becoming aware of the lack of knowledge; fear of failure; lack of self-esteem; isolation of some of the students.

The most frequently identified causes (both E1 and E3 groups) for the hereinabove presented difficulties were: the difficulty of certain contents of the teaching subjects; presence of some uninteresting subjects; too much information to be assimilated in a short while; student's poor vocabulary; non-attractive teaching methods; teacher's lack of experience and lack of pedagogical tact; student's lack of concern towards his/hers individual training and lack of interest.

The effects of the manifested didactic difficulties hereinabove mentioned were: difficulties in comprehending and assimilating information; accumulation of knowledge gaps; mechanical learning; insufficient didactic communication and distortions of the transmitted message; poor results; perturbation of the lesson process, distraction of student's attention; poor relationship teacher-student; student's whom do not even come to school.

All the above determines the observation of a pretty high number of causes and reasons for didactic communication difficulties and their effects on communication, especially where the E3 group is concerned, a 12th grade group, major in Pedagogy, whom seem to encounter communication obstacles starting with their absence from school and from the Romanian Language classes, this being their way

to „sanction" the poor didactic experience of the teacher – they prefer to study at home (this seem to be a current behaviour of the students in superior grades – near to graduation) and, also, the lack of personal interest for the lesson process.

The intervention means adopted by the teacher in view of eliminating the current difficulties and to support students in their learning process focused, mainly, on: teacher trying to get close to the students; deepening the study of the subject by focusing on the baccalaureate curricula (especially where the E3 group is concerned); modern work methods and increase of interest; students involvement in lesson deployment; use of a more rich and diversified didactic material; encouraging student to succeed in their learning activities; developing student's interest for communication/exchange of information; a closer teacher-student relationship.

The intervention means applied by the students in order to eliminate the didactic communication difficulties and to support their personal learning focused on: presence in class; increasing the interest towards the lessons; intensifying the participation degree in lesson-related communication; trying to get additional information (self-education and self-training); requesting teacher's help/support in view of learning obstacles surpassing; optimization of the relationship with the teacher and the colleagues; objective self-appreciation and self-evaluation, according to the personal qualities/defects.

As a conclusion to the observations signalled by E2 and E3 groups of students, for the teaching subject Romanian Language we may remark the fact that, even if in the beginning there were various obstacles in the didactic communication, many of those obstacles by student's fault, in time, by become aware of those obstacles and by establishing a way to overcome them (for the benefit of the teacher, but especially for the benefit of the student), due to the controlled interventions, their frequency decreased.

The periodic analysis of the reflection journals allowed that, during the deployment of the experiment, interventions be possible for the purpose of correcting those situations favouring the apparition of the didactic communication issues, by adopting certain measures depending on the specificity of each situation and of each experimental grade. Hence, the teachers involved in this experiment were regularly informed, as the reflection journals were appraised, concerning student's observations on the difficulties they encountered in the context of various lessons and different stages. Teacher had, thus, the chance to adapt their work style according to the needs, the interests or the possibilities of the students, by taking into account the objectivity of their observations. Although some changes in experimental grades appraisal style appeared on the way, students were not informed on the periodical harmonization of the instructive-educative actions of the teachers, for the very reason of keeping valid the appraisal means and to be able to evaluate the correlation between the type of obstacles, their effects and the effective intervention ways.

View that the outcome of the 4 teaching subjects selected for the deployment of the experiment were pretty similar, the figure 2 presents, in a synthetic manner, as an example, the results of the evaluation chart processing for the reflection journals filled-up for the teaching subject Mathematics, by both experimental groups, from the point of view of the total number of mentions reported to charts variable, the particular types of each variable being much too numerous and various to be presented in this context.

This graphic bring us to the conclusion that there is a certain non-specific difference between the number of mentions within the first two journals, so that, in general, there are less variables in the first document compared to the second one. This is explained by the fact that on the occasion of the first journal, students did not have the reflection and self-reflection exercise, but this aspect change for the better during the entire process.

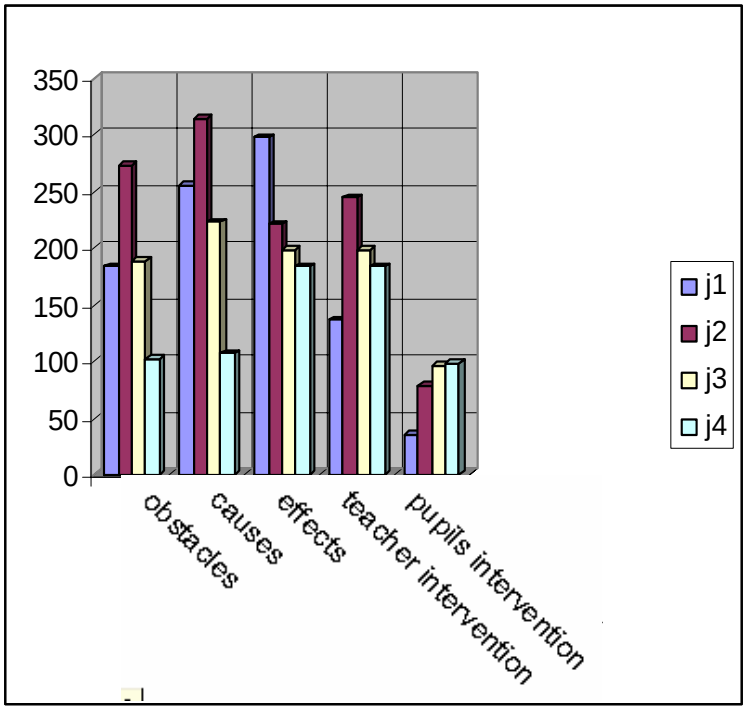

Figure.2. Total number of mentions of the reflection journals variables during the four stages of evaluation

Starting with the second journal, we noticed that, after an increased mentioning of the number of occurrences and manifestation of the considered variables, their frequency decreased; this aspect may be explained by the effects that the self-reflexive training produced on the improvement of communication and learning within formal frames.

In order to evaluate the reflection journals, we also drafted an evolution chart illustrating the filling-up of the four journals by the students, for each of the two subjects assigned to the experimental groups, thus monitoring the degree in which, once the filing-up stages are achieved, students are capable to become aware and to better analyse the situation of the didactic communication for the subjects submitted to observation. The evolution chart focused on transforming a certain number of mentions of the journal variables in points, thus monitoring their increase or decrease over time (for example, 10 mentions = 1 point). We have, thus, effectively monitored student's evolution in correctly identifying the communication difficulties, in establishing a logical relationship between the type of obstacle, its determining causes and its effects on learning. At the same time, we focused on acknowledging the measures teachers adopt when they notice certain obstacles in communication, but also student's involvement in their overcoming. As it resulted from the analysis of these working tools, towards the end of the experiment, we recorded an increase of student's responsibility degree, proved by the great number of personal interventions in view of overcoming the communication difficulties and of making learning efficient.

5. Conclusion

The recorded data show a gradual increase in the value of the score obtained by the students from stage to stage in filing-up the journals. This fact allows us to determine that, as they accumulate experience in analysing and reflecting on the didactic communication process, students succeed much more easily in getting involved in the objective and correct filling-up of the journals, and an increased contribution from their part is also noticed when they adopt intervention measures in order to correct the issues perceived as obstacles of the didactic communication.

The analysis of the results obtained throughout this experiment allows us to confirm the fact that educating the reflection and self-reflection capacity of students may certainly influence the overall didactic process, thus contributing to the improvement of the learning outcome. Students are more than capable, via the metacognition, to bring a significant contribution to the enhancement of their personal actions to acquire knowledge and to regulate the learning activity, along the way.

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