



The Intellectual Activation of the Students – Paradigm of University Education. The Theoretical Approach of the Concepts

Dana Jucan *

Babes-Bolyai University, Faculty of Psychology and Educational Sciences, 7 Sindicatelor Street, 400029, Cluj-Napoca, Romania

Abstract

Keywords:

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The present article proposes a theoretical foray into the issues of the intellectual activity of students. We have defined the techniques of intellectual activity as being the instruments with the help of which we accumulate and process the information coming from various areas of knowledge. However, intellectual activity does not imply only the assimilation of such information, but also connecting it to information previously assimilated, and its transfer towards other areas; it implies intellectual restructuring and complex cognitive investments. We have presented several taxonomies of intellectual activity techniques, with short considerations on them. We were also concerned with the study of the style of intellectual activity and we have considered it to be the specific, personal, particular way through which an individual makes use of and develops methods and techniques for intellectual work, perfecting himself in cognitive and metacognitive terms. We have placed a special focus on strategies of intellectual activity as well. Depending on the conditions of the development, we find strategies involved in the activity of the students in a formal context and individual study or intellectual work strategies involved in the activity carried out by students at home or in other contexts that develop a non-formal and informal type of education (individual study).

Out of these strategies we have analyzed following of the teacher's lecture and the taking of notes. We advocate the acquisition of scientifically validated strategies early on, for once acquired they will become productive in the later development of the individual.

Zusammenfassung

Schlüsselworte:

geistige Aktivität;
Stil der intellektuellen Tätigkeit;
Techniken der geistigen Aktivität;
Strategien für geistige Tätigkeit

Dieser Artikel schlägt einen theoretischen Einblick ins Thema der geistigen Aktivität den Studenten. Wir haben die Techniken der geistigen Aktivität als Instrumente, wodurch wir Informationen erhielt aus verschiedenen Bereichen des Wissens sammeln und verarbeiten, definiert. Aber die geistige Aktivität beinhaltet nicht nur Assimilation von diesen Informationen, sondern auch ihre Verbindung mit denen erhielt bisher und ihre Übertragung auf anderen Bereichen, verlangt intellektuellen Umbesetzungen und komplexe kognitive Investitionen. Wir stellten mehrere Taxonomien den Techniken der geistigen Aktivität vor, mit kurzen Überlegungen zu ihnen. Wir waren besorgt auch mit dem Studium von dem Stil der intellektuellen Aktivität und wir betrachteten es als spezifische und bestimmte Art und Weise, durch die eine Einzelperson Methoden und Techniken von geistigen Aktivität verwendet und entwickelt und seine kognitive und metakognitive Fähigkeiten perfektioniert. Besonderer Aufmerksamkeit haben wir den Strategien den geistigen Aktivität gegeben. Je nach Bedingungen der Durchführung finden wir Strategien beteiligten in der Aktivität den Studenten in formalen Kontext und Selbststudium oder Strategien der intellektuellen Arbeit beteiligt in der Aktivität geleistet von den Studenten zu Hause oder in anderen Kontexten, die die informellen Bildung entwickelt (Selbststudium).

Von diesen Strategien haben wir die Verfolgung des Lehrers Darstellung und Notizen nehmen untersucht. Wir plädieren für den Erwerb von validierten wissenschaftlichen Strategien, so früh wie möglich, weil einmal gelernt, diese werden produktiv für die weitere Entwicklung des Individuums.

1. Techniques of intellectual activity

The major changes we are witnessing in the area of university education lead to the necessity of building a coherent university

pedagogy, one strongly anchored in the academic realities. The paradigms in university education focus first on the priority of the formative in relation to the informative within the two types

*Corresponding author

E-mail address: orian_dana@yahoo.com

of complementary activities in the academic community – the teaching activities and those of scientific research. Then it is necessary to crossover from a pedagogy of listening to an education of change and emancipation of the one being educated, to intensify the mutual relations between the university and the community, and, last but not least, **to place the student in the center of the university teaching activities**. This last paradigm has its cornerstone in the intellectual, the emotional-volitional, and the physical activation of the students. The activation must be seen not just as a way to optimize the informative-educative activities, but also as an opportunity for the development of intellectual activity techniques among the students, and our efforts in the present study are focused in this direction. (Ionescu, 2003).

Mastering the methods and techniques of intellectual activity is the prerequisite that provides the individual with a better adaptation to the transformations that take place in the contemporary society. The role of the school is, par excellence, to ensure the integral development of the personalities of the students, with an accent on the intellectual component. Its structure contains precisely the intellectual activity, namely certain techniques that are indispensable to its evolution. The familiarization of the students with these techniques involves teaching them how exactly to learn. ‘Learning how to learn’ is not only a matter of technique, of formation of skills for the assimilation and organization of knowledge, but also a matter of internal tension, of organization of studies, of channeling these towards the area of interest for each individual.

It is necessary that we first clarify the concepts that we will discuss. The Explanatory Dictionary of the Romanian Language gives the following definitions for the concepts addressed: techniques are an array of procedures and skills used in a field of activity, in our case the intellectual one. Methods are procedures or an array of procedures used in the achievement of a purpose. Intellectual activity is the activity that belongs to the intellect, to the mind, a work that is oriented towards a certain purpose. Thus we can consider that the methods and techniques of intellectual work are an array of procedures used in intellectual activity.

From the definitions found in the scientific literature we note that the intellectual work is ‘an array of prescriptions regarding the hygiene, the organization, and the methodology of intellectual work, developed with the purpose of reducing the effort and increasing the efficiency of this work’ (Lăzărescu, 1973, p.37). These prescriptions are rules that can be applied in the case of the organization and the methodology of intellectual work, but we consider that the intellectual activity is a particularly complex activity that involves stages, actions, and

that cannot be reduced to the aspects in the abovementioned definition.

The technique of intellectual work includes thinking, with its entire cognitive, affective and motivational wealth, includes reason, as a restriction in the endless freedom of thought, and the intellect, with its logical and analytical power. We note the aesthetic approach to the definition, as well as the emergence of the keywords: thinking, reason, intellect.

‘Intellectual work implies certain actional-instrumental techniques that are indispensable to its functioning at a high level efficiency’ (Nicola, 1994, p. 132). In the definition of I. Nicola, we appreciate the fact that the accent in intellectual work is placed on techniques seen not only as some instruments, but also as intellectual activities, as possibilities of taking action with the purpose of enhancing its efficiency.

Intellectual work is the activity of producing, creating or maintaining of the facets pertaining to the intellectual or knowledge area: culture, science, education etc.’ (Bernat, 2003, p.133). We note from the definition the fact that intellectual activity is an activity which involves cognitive effort and determines the development of imagination and creativity.

The instruments of intellectual work are reading and writing.

The definition that we will be working with in our endeavour is the following: **the techniques of intellectual activity as being the instruments with the help of which we accumulate and process the information coming from various areas of knowledge. However, intellectual activity does not imply only the assimilation of such information, but also connecting it to information previously assimilated, and its transfer towards other areas; it implies intellectual restructuring and complex cognitive investments. As such, we consider that we are entitled to rather talk about strategies of intellectual work in the activity of pupils and students.**

The acquirement of intellectual activity techniques cannot be reduced to the mere memorization of some rules of intellectual and practical activity (the two aspects being correlated). Intellectual activity requires certain operations undertaken systematically, successively, that is to say it requires the formation of certain abilities. We note that these abilities for intellectual work must be acquired/formed as soon as possible, even starting with the curricular cycle of fundamental acquisitions or with the curricular cycle of development. Research notes that, for example, most of the subjects (students of the VIth grade) of a study carried out do not know how exactly to learn, how to approach a study material, regardless of its nature (prose or poetry), regardless of the subject they are studying for. They stated that in the Ist grade the teacher indicated

that they should ‘read the poem at home as many times as it takes to be able to recite it with the book closed’. Is this an efficient intellectual work technique?

For these reasons we advocate the acquisition of scientifically validated strategies early on, for once acquired they will become productive in the later development of the individual.

2. The style of intellectual work

The employment of intellectual work strategies leads to the outlining of **the personal/individual style of intellectual activity**.

We define **the style of intellectual activity as being the specific, personal, particular way through which an individual makes use of and develops methods and techniques for intellectual work, perfecting himself in cognitive and metacognitive terms**. The style of intellectual work is influenced by the educational paradigms capitalized on in a certain historical era.

Generally speaking, in a style of intellectual work an amalgamation of various methods and techniques of intellectual work is predominant, and that is why we talk about **strategies of intellectual work**. The literature discusses a habitual style of intellectual work (operates with a certain type of reasoning, a known one) or a creative/original one (experiments with different ways or strategies of solving the tasks). There is a discussion about a style of intellectual work focused on a single manner of approaching the study material and a style in which there is a concurrence of varied methods and techniques of intellectual work. We encounter persons with an intellectual work style that develops permanent learning and that is characterized through the tendency of always learning, considering the acquired knowledge to be insufficient. We are also talking about general styles of intellectual work (common to several subject areas and several situations) and particular styles (specific to a subject or certain situations).

In the circumstances of contemporary society, we opt for, especially in the case of students, a prospective (anticipative, foreshadowing), proactive intellectual work style that will employ modern, fast, and efficient methods and techniques of intellectual work, based on the personality profile, in order to successfully answer the opportunities that emerge on the path of personal development.

3. The classification of intellectual activity techniques

The bibliography read (Dumitru, 2000) offers us a large array of taxonomies of the ‘techniques of intellectual work’, based on their purpose: namely, that of information, of observation, of research, of processing, and of creation; based on curricular areas: there are general techniques, applicable regardless of the type of intellectual activity undertaken, and specific ones, adapted to a subject or object of learning.

It is known that the diversity of methods and techniques of intellectual work encompass: heuristic techniques, algorithmic techniques, which once acquired can be perfected; starting from techniques specific to the action of unmediated exploration or unmediated knowledge of reality, to the actual transformation of it, techniques of implementation in the actional component, from techniques of administering and managing of the information, to those of conveying or expressing ideas, from techniques of creative capitalizing of the information into personal, original products, to those of evaluation and auto-evaluation, from techniques of individual (independent) work to those of interdependent work (group work, teamwork), from methods imposed by the particularities of a formal education to those particular to an informal education. (P. Muresan, 1990)

The most significant methods and techniques of intellectual work in the general category would be the following (according to I. Nicola, 1994):

- The usage of special learning processes, based on the content and complexity of the task and the particularities of the person studying;
- The usage of auxiliary instruments for the purpose of solving learning tasks: dictionaries, encyclopaedias, internet, mass-media;
- The development of abilities for efficient usage of the documentary research sources and for the elaboration of outlines, worksheets, abstracts, summaries, papers, essays, portfolios;
- The familiarization with the particularities and requirements of the observation and experimentation technique, with the ability to observe and investigate the phenomena of reality;
- The creation of correlations between the knowledge assimilated through the various learning subjects; we are talking about intra-disciplinary, inter-disciplinary, trans-disciplinary correlations;
- The permanent employment of strategies for developing the creativity in solving learning tasks.

Considering some of the abovementioned techniques as being valid, we cannot fail to highlight the fact that some of the statements of I. Nicola are sufficiently general to be able to function as definitions of the concept at hand.

A different taxonomy is that realized by L. Țopa (coord., 1979):

- The development of the ability to organize a daily routine;
- Learning various methods of reading;
- Gaining knowledge through the concrete-abstract-concrete cycle;
- The methods that support the learning and self-learning process;
- Promoting learning through discovery and research.

We note a lack of unity concerning the terminology used in the abovementioned taxonomy; the techniques of intellectual work are not explicitly worded, having apparently a general character: methods, learning, development of abilities, etc.

P. Mureșan (1990) considers as part of the techniques of intellectual work the following:

- Techniques of reading, identifying and cataloguing information;
- Strategies for analysing, ordering, classification, combination, interpretation and development of information;
- Comparative and multiple-criteria analysis of points of view, of perspectives, of approaches, of types of organizing the information;
- Methods of research, analysis of alternative languages;
- The usage of interactive systems and computers, etc. and proposes the following taxonomy:

1. Methods and techniques of informing, researching, processing, storing of information and knowledge

1.1 Exploration and fast identification of information sources

1.2 Selection and multiple-criteria structuring of information

1.3 Techniques for simple, selective or fast reading

1.4 Techniques for consulting dictionaries, handouts, encyclopaedias and for efficiently working with them

1.5 Selection and codification of information

1.6 Analysis, synthesis, structuring and essentializing of information into concepts, models, hypothetical structures, schemes, logical plans, etc.

1.7 Usage of programming languages, of the Internet, creation of data entries and electronic databases

2. Methods and techniques of learning

2.1 Understanding, structuring and assimilation of knowledge

2.2 Operating with new knowledge and making associations and transfers

2.3 The realization of abstracts, summaries, essays, reviews, research plans, portfolios, etc.

3. Methods and techniques of researching (exploration, investigation), experimentation and development of knowledge

3.1 Personal investigation

3.2 Techniques of observation and experimentation

3.3 Developing hypothesis

3.4 Questioning

3.5 Task solving

3.6 Organizing experiments

3.7 Estimating options and alternatives

3.8 Issuing predictions and weighing chances

3.9 Building of hypothetical reasoning and strategies of probabilistic thinking

3.10 Techniques of analysing, processing, validation and statistical interpretation of data

4. Methods, techniques and procedures of creativity

4.1 Brainstorming

4.2 SINELG - The interactive system of note-taking for the streamlining of reading and thinking

4.3 Synectics

4.4 Philips 6/6

4.5 Clustering

4.6 Panel discussion

4.7 Problematization

4.8 Know/ Want to know/ Learned

4.9 Cubing

4.10 Jigsaw

4.11 Gallery walk

The taxonomy put forth by Pavel Mureșan is somewhat more complex, probably due to its proximity, chronologically speaking, to present times, and thus adapted to the transformations that have taken place meanwhile in the field.

We will opt for a dichotomy of strategies of intellectual work **based on the conditions in which the event takes place: strategies involved in the activity of the students in a formal context and individual study or intellectual work strategies involved in the activity carried out by students at home or in other contexts that develop a non-formal and informal type of education (individual study).**

4. Strategies of intellectual activity in a formal context

In what follows, we will elaborate on the strategies of intellectual work involved in the activity of students in a formal context.

In a formal context, the intellectual activity of the student is especially complex and involves:

Following the teacher's lecture. The teacher's lecture involves verbal and nonverbal communication, namely the interaction between teacher and student, and at the same time the transmission and exchange of messages between them. Following the teacher's lecture involves self-preparation for its reception. It is known that the activities take place consecutively, in a logical manner, building together a unit of information, of knowledge, of skills, of abilities, the lack of one of these interrupting the creation process of the entire unit and making its understanding impossible going forward. It is indispensable that the student be present for each sequence with the previous structures having been very well assimilated and integrated in his own cognitive system. To the intellectual self-preparation, an emotional/psychological self-preparation is added. The knowledge of previous sequences creates a state of psychic comfort, an emotional equilibrium and, together with internal tensions caused by problematization, they lead to the establishment of a motivational framework optimal to personal development, especially from an intellectual perspective. (Linksman, 1996)

At this point in time, focusing the student's attention becomes absolutely necessary. The fact that during a lecture focusing becomes an effort for anyone is a truism. The ability of rationally distributing attention to the essential points of a lecture must be cultivated from early on.

During the teacher's oral lecture, the student **receives, selects, decodes and recodes the information presented. He also tries to understand, structure and assimilate information, to**

transform it into concepts, models, hypothetical structures, schemes, logical plans, subsequently operating with new knowledge and making associations and transfers, integrating them, in a flexible manner, in his own cognitive schemes.

Taking notes based on the teacher's lecture is a skill of intellectual activity and represents not only an indispensable requirement of ulterior individual study, but also an efficient procedure of focusing the attention. (Carter, Bishop, & Lyman, 1998).

The taking of notes is the activity through which we recall information when we are listening to a speaker. The notes taken represent an important alternative source for studying, along with the textbook and the relevant bibliography. The functions of note-taking are multiple:

- It represents an external method for storing information. Information cannot be completely memorized after a presentation or a group discussion, but once written down, it can always be accessed and reviewed. (Băban, 2001)
- It facilitates the decoding and updating of the material.
- It allows the basic structuring of the material while it is being taught.

Thus, note-taking is an ability that involves the employment of external methods of storing information which enables the encoding and updating of the material and permits a structuring of it right as it is being taught. (Golu, 1983).

The effectiveness of notes depends on their type. The most useful are the notes that are a relatively complete and comprehensive depiction of the presented material, containing summaries of the main ideas and that provide details and personal elaborations based on the given material.

Notes can be taken in various ways, but generally two options are used: A first possibility implies a two-step procedure: recording and processing. A second possibility refers to the concurrent recording and processing of the information. **A couple of rules that can be of use in streamlining the recording are: abbreviations, schemes, numbering, highlighting key words, highlighting the content with the use of the layout, using colours, plans, graphs, examples, etc.**

Research shows that over 60% of students meet with difficulties when reading their own notes. It often happens that this activity, which is essential to the effectiveness of learning, gets transformed into an exercise of massive and tiring mechanical recording that is unselective and uncritical, non-evaluative and unsystematic. Research has concluded that most of the students only succeed in recording 50% of the essential

problems and ideas presented to them, instead recording over 60% of the more or less significant details.

We distinguish, generally speaking, between several types of notes: summarizing, reproducing, enumerating, schematic, through paraphrasing, graphic organizers, etc. (Fischbein, 1973).

Experience shows that when it comes to the issue of note-taking it is absolutely necessary to master if not a system then at least a practical method for a correct and essentialized recording of the material heard or read, a method appropriate for the subject area broached. In any activity of note-taking the basis can be a simple, unified, and legible record, with classifications and systematizations or special differentiations of the primary and secondary ideas, of the different types of content.

Within the activities there are various **situations/learning contexts in which the student processes information**, or there are moments of **personal reflection**: during the assessment of fellow students, in moments of reinforcement and recapitulation, etc. What is important is that these situations be properly exploited by the student.

The moments of the activities offer students the opportunity of **first acquiring and then practising and developing various reading techniques**.

Furthermore, during the sequences of transmission and acquirement of knowledge, **the students familiarize themselves with the particularities and requirements of the observation and experimentation technique, with the ability to observe and investigate the phenomena of reality, subsequently actually undergoing activities of research, realizing experiments, etc.** The intellectual activity during these experiments generally entails the following strategy: confronting students with a problem, issuing hypotheses, developing a research plan, implementing the research plan, performing the experiment, recording the data and the results of the experiment,

drawing up conclusions and comparing them to the hypotheses in order to establish whether it has been confirmed or not.

The intellectual activity that takes place in a formal context specifically implies **the employment of strategies of analysis, of sorting, of classification, of combination, of interpretation, and of development of information and knowledge, the permanent employment of creative strategies in solving learning tasks**.

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Authors note:

Dana Jucan is a Lecturer, Ph.D., in the Educational Sciences Department of the Faculty of Psychology and Educational Sciences of the Babeș-Bolyai University, Cluj-Napoca. Out of the topics of personal research the following stand out: didactic communication, the individual study of students, academic efficacy and self-efficacy, intellectual activity, strategies of intellectual activity, note-taking techniques, the ergonomics of learning, etc.