META-COMPONENTS OF INTELLECTUAL AUTONOMY AS HIGHER EDUCATION TEACHING QUALITY INDICATORS

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Abstract

The paper presents findings of an explorative research (non-probable sample, N-147), aiming at considering the level of development of meta-components of learning autonomy, (metacognitive abilities, learning strategies and critical thinking), as indicators of higher education teaching quality, which were involved as components of the European qualification framework. Theoretical grounds of the paper are contemporary didactical concepts of emancipatory learning, implying intellectual autonomy as outcome of didactic approach to learning in teaching, meaning that those who learn "manage themselves"during learning so that they gradually take responsibility for their own learning.

Basic finding refers to the following: there is a small number of students with developed metacognitive abilities, expected levels of critical thinking and efficient learning strategies, implying poor reaches of higher education teaching in view of meta-components of intellectual autonomy, anticipated as components of European qualification framework. Furthermore, this implies that more attention in teaching is paid to self-organized and self-determined learning, so that the greatest change introduced by realization of learning autonomy and anticipated by European qualification framework is the change of didactic approach to learning in teaching, arising out of contemporary didactic concepts of emancipatory learning, according to which teaching and learning lead in the direction opposite to the one which existed before, meaning that those who learn manage themselves during learning so that they could gradually take responsibility for their own learning.

JEL Classification: I21, I23, I25, I28

Keywords: intellectual autonomy, higher education teaching quality, emancipatory didactics.

Introduction

European educational policy has been focusing on higher education quality, especially now when education is being reflected upon once again, having in mind that the new wave of changes on the world scene of economy and social relations expects new competencies of an individual, conditioning the need to make new moves within reform of education. European qualification framework has also paid attention to this, emphasizing the notion of "competence", aiming at encouraging not only knowledge, but also other complex abilities development – if there are appropriate training procedures. However, many authors like e.g. O. Kruse (2011) consider that what is being emphasized by the document is nothing new, but only a continuation of certain ideas that used to exist back in Humboldt's tradition. In other words, competence oriented teaching saw studies as a field of training and education of intellectual and methodological abilities long ago and to much greater extent that it has been done today within the Bologna reform. The very term "competence" is, as it was noted by the author, new and drives more intense didactisation of academic learning. Apart from the mentioned standpoint, there are other assessments which can be heard nowadays in Serbia, according to which the new approach to learning within the Bologna process, i.e. didactisation of learning, leads to losing of what used in Humboldt's view, to be essential for university studies: for students to be seen as partners in collaborative process of learning and research. Students have become an object of didactics and they have disappeared as actors and personalities in learning arrangement. Briefly, quality of studies has been more and more characterized by instrumentalized knowledge, utility, since knowledge is seen as goods created to be sold. In other words, European qualification framework views quality of university studies through complex abilities, i.e. competences. The aim of the present research is to consider the level to which certain of those qualities have been developed as indicators of higher education teaching quality. Therefore the text below deals with notional determination and theoretical frame, followed by research findings.

Notional Determinations and Theoretical Framework

What has also been emphasized by the reform of studies in regard to education quality, apart from competencies, are standards of education (Klieme et al, 2007, as cited by O. Kruse, op. cit), which have, as current approaches to educational quality, introduced the culture of verification grounded on external control of the outcomes based on mechanicistic-technicistic oriented values and actions, normative philosophy and pedagogy, and finally, logics of economy. Therefore numerous authors (Klieme et al, 2007, as cited by O. Kruse, op. cit) advocate for creation of a different concept of "quality" which has to be contextualized, implying that all the actors create mutual understanding of quality and search for more adequate ways of reaching it; such a standpoint is complementary to the views given in the introductory part of the paper.

Argumentation of alternative understanding, defending various attitudes, is in favour of the fact that learning autonomy cannot be standardized, that unrepeatable differences of individuals do cannot be subjected to achievement criteria, at least not in such a defined way. What is today expected from a new competence oriented viewpoint, refers to less ambiguous explanation of abilities which are to be acquired and it might be positively considered from the angle of didactical contribution to encouragement of intellectual autonomy of learning, but this is annulated by the narrowing of the field of autonomy in the process of studying. Training of competence of survival has been emphasized due to instrumentally oriented factography of examination demands, putting critical and independent thinking into second place (O. Kruse, op. cit), together with other abilities underlying it, like e.g. meta-cognition and learning strategies. While real developments in the field of higher education head towards scolarisation, critical thinking is considered a central point within European policy of development. Through formulation of system of descriptors educational a frame has been created, supposed to define the demands for quality in the whole Europe (www.jointquality.org). In the last step of defining of qualification framework for life long learning (European Council, 2008), descriptors are divided in eight levels, out of which the levels 6 – 8 related to study cycles 1 – 3 within the field of higher education. They describe learning outcomes in the headings knowledge, competences and professional qualifications. First two categories are compared in Table 1.

Level	Knowledge	Competence
6	Advanced knowledge of a field of work or study, involving a **critical understanding** of theories and principles	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for **original thinking and/or research;** **Critical awareness** of knowledge issues in a field and at the interface between different fields	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

Table 1: European qualification framework: knowledge and competences in the levels 6 – 8 Bachelor-Master- and postgraduate level
(www.jointquality European Coucnil 2008)

The comments on European qualification framework and defining of complexity of the levels are in favour of the statements that they have reanimated pre-established aims, compatible with Humboldt's traditions; on the other hand, it has also been noticed that the conditions of studies, created by the Bologna process are not in harmony with the aims of qualification framework.

Didactics of Metacognition, Critical Thinking and Intellectual Autonomy

It is beyond dispute that what has been stressed by the Table above and defined by the European qualification framework for the higher education level implies complex abilities, so that critical thinking is not a unique competence, it is not mastering of a technique, and as such it cannot be taught or trained in teaching. Critical thinking essentially means stepping beyond common currents of thinking and learning how to re-examine something which has already become generally accepted knowledge (Facione, P. A., 2000). At the same time, this does not refer solely to competence formation; it rather refers to development of personality, i.e.

a person who can have critical attitude in learning about reality, who can critically think and consider from a number of standpoints, value according to more aspects, search for other solutions, verify… (O. Kruse, op. cit). In order to reach this, it is necessary to have in mind long developmental perspective. As a consequence, didactics of critical thinking is not only a matter of designing of a course, it is also a matter of designing of a curriculum, or, it might even be said, a number of supporting curricula (Halpern, D. F., 1998). If a curriculum does not involve critical thinking as an explicit goal, it is highly likely that we can reach nothing more but incoherent "patches" of learning contents and teaching events, even though curricula creators might think that it transfers inter-correlated knowledge. European qualification framework has provided legitimacy for curricula to become explicitly oriented to education of critical thinking. However, it does not guarantee that it will be developed, having in mind that in order to nurture critical thinking it is necessary to have didactic support suitable for encouragement of intellectual autonomy of students. On the other had, autonomy concept implies that a student is focused on a process, rather than the product, stressing the need to encourage a student develop one's own learning needs and see learning as a life long process. Consequently, only those students are autonomous who understand why they learn about certain topics, who bear responsibility for their own learning, take initiative in planning and realization (Lalovic, Z., et al, 2011); this also implicitly involves readiness to responsibly evaluate one's own learning (Little, D., 2000). First step in autonomy development is seen by Dam, L (1995) in the acceptance of responsibility for one's own learning, which is a matter of full awareness and intentions, implying that a student has a space to develop autonomy. This can be done only if a student is provided with a possibility to participate in formulation of learning aims, realization of tasks and activities, individually or as a team member, to apply self-evaluation and think about one's own experiences in learning process. Autonomy implies development of skills of reflection and analysis, i.e. meta-cognitive abilities, so that a student could plan, monitor and finally evaluate his/her own progress; this is manifested in such a way that accepting responsibility for one's own learning becomes a matter of commitment, leading to development of metacognition, reflective management in learning, while success drives intrinsic motivation. Leni Dam (op. cit) defines learning environment as one where students can be conscientiously involved in their own learning, so that through their active engagement they can become aware of various elements in learning process. Group activities have very important role to play in this process, having in mind that a student could get to know learning strategies much faster when he/she cooperates with

colleges, rather than with a teacher exclusively (Jacobs and Farrell, 2001). Thus it could be concluded that the greatest change implied by realization of learning autonomy and encompassed by European qualification framework refers to a change of didactic approach to learning in teaching, resulting from contemporary didactic concepts of emancipatory learning, according to which teaching and learning lead in the direction opposite to the one which existed before, meaning that those who learn manage themselves during learning so that they gradually take responsibility for their own learning.

Methodological Framework

The aim of the he above outlines of changes in understanding of the function of higher education was to make a framework in which knowledge acquisition has a different sense, different purpose, emphasizing abilities implied in the complexity of the notion of competence, involving autonomy, which cannot exist without developed metacognition, reflective management in learning and efficient learning strategies, as well as success which drives intrinsic motivation. This is actually a framework in which the question underlying the text was created, referring to the following: what is the extent to which the indicators of education quality, such as metacognition, critical thinking and learning strategies, are developed. It was a starting point for making further conclusions on autonomy of learning of students, as essential element of quality of studies.

An attempt to have a glimpse into the mentioned elements of quality of higher education refers to the intention to consider metacognitive abilities of students, strategies they use in learning and level of development of their critical thinking through an explorative empirical research. In other words, we wanted to test the thesis on the level of meta-components of intellectual autonomy development as indicators of higher education quality. This can further lead to reflections on the utility function of knowledge and role of education – liberating in Aristotelian sense – creation of free people with high aims and open spirit, which are essential elements of the components of European qualification framework. The problem could be explicated in a number of ways. What is significant to us in this context is that research (Gojkov, G., et. al., 2013; Gojkov, G., and A. Stojanović, 2011; O. Kruse, 2011) have shown that there is decreasing number of students with developed meta-cognitive abilities, expected level of critical thinking and efficient learning strategies, indicating that the reaches of higher education teaching are poor in view of meta-components of intellectual autonomy (Ibid).

The findings presented in the paper are a part of a broader explorative research conducted according to the method of systematic non-experimental observation. Manipulation of variables, in order to intentionally change them, was not carried out. However, statistical replacements were done according to statistical analyses with the purpose of their experimental control. Apart from empirical method, efforts have been made to transform quantity into quality, in order to find the correlation between the obtained data and theoretical framework. Thus, systematic approach was in a sense used through the synthesis of data in research. Basic argument for such a choice lies in the examined phenomenon itself, i.e. in the complexity of education and the relation among the observed meta-components of learning autonomy, and even broader, in philosophy of upbringing and conceptual changes in pedagogy. It was used as a starting point in considerations of importance of all this for empowerment of empancipatory potential and personal autonomy in the process of learning as social context – it is possible to reach emancipation only through critical self-reflection.

The data for observation of the assumed relations among meta-components of intellectual autonomy were collected according to the questionnaires MUS1 – metacognitive abilities, SUS1 – learning strategies, construed for the purpose of the present research. The sample is non-probable, including 147 students of Teacher Training Faculty, Belgrade University – Teaching Department in Vrsac and Preschool Teacher Training College "Mihailo Palov" in Vrsac.

Findings and Interpretation

The correlation between the set of variables referring to learning strategies and the set of variables referring to critical thinking and metacognitive abilities was examined according to canonical correlation analysis. Table 1.1 shows that 7 pairs of canonical variables were identified. Furthermore, the correlations in the case of first three pairs of canonical variables are of moderate values.

Table 1.1 Canonical correlations

1	.573
2	.424
3	.373
4	.295
5	.215
6	.155
7	.049

Table 1.2 Significance tests of canonical correlations

	Wilks' lambda	Chi-square	DF	p
1	.402	111.256	70.000	.001
2	.599	62.623	54.000	.197
3	.730	38.405	40.000	.542
4	.848	20.155	28.000	.859
5	.929	9.047	18.000	.959
6	.973	3.279	10.000	.974
7	.998	.298	4.000	.990

Table 1.2 shows that only the first pair of canonical varaibles is in statistically significant correlation.

Table 1.3 Canonical loads for learning strategies

	1	2	3	4	5	6	7
VAR00002	**.499**	-.347	.340	-.498	.350	-.344	-.083
VAR00003	.227	-.483	.278	-.258	.213	-.480	.365
VAR00004	**.516**	-.311	.302	-.142	-.147	-.369	.498
VAR00005	**.852**	-.085	.017	-.005	.033	-.304	.336
VAR00006	**.678**	-.488	.201	.344	.236	-.022	-.014
VAR00007	**.667**	.167	.171	-.261	.027	-.458	.134
VAR00008	**.745**	-.113	.432	-.180	-.094	.002	.108
VAR00009	.403	-.479	.238	.289	-.285	-.545	-.176
VAR00010	.417	-.537	-.117	-.510	-.163	-.012	.138
VAR00011	**.478**	-.486	.188	.025	-.236	.034	.063

Table 1.3 shows that the **first canonical variable**, as a set of variables referring to learning strategies is defined, before all, by: *success in the following: text interpretation, making analogies, giving subtitles to parts of the text* (see a list of variables in the footnote).[1]

[1] VAR 2 – level of success in identifying the main notions in the given text; VAR 3 – level of success in identifying the main ideas in the given text; VAR 4 – level of success in making abstracts of the text; VAR 5 – *level of success in text interpretation*; VAR 6 – level of success in content reconstruction; VAR 7 – *level of success in giving subtitles to parts of the text*; VAR 8 – *level of success in making analogies*; VAR 9 – level of success in application of ideas offered in the given text; VAR 10 – level

It can be seen that students have different characteristics manifested in their learning strategies and it seems that they are inclined to learning through memorization (making notes and learning them), while the characteristics we could classify within self-reflective critical thinking (manifestation of networked, complex, or systematic thinking; manifestation of sceptical thinking; complex or systematic thinking, raising critical questions, making relations between ideas, etc) are rarely present.

A conclusion could be made that most often students have expressed the style of learning characterised by reading until memorizing; they repeat aloud what they have read from their notes, learn parts, some of them even by heart. There is a small number of students whose learning styles characteristics are: reading the text as a whole, raising questions after reading the text, making syntheses, comparing with other ideas, positioning new knowledge in the context – finding examples, search for the better ways of presenting contents, regroupings of ideas, questions referring to the ways of easier ways to solve a problem, acquire new knowledge, critically reconsider contents, evaluate one's own learning strategies. This means that majority of students have poorly developed metacognitive components, or that they do not pay sufficient attention to them in learning: they learn from notes, abstracts, thesis and in some case even by heart, aiming at memorizing drafts; understanding, connecting, comparisons, synthesis and other learning styles are rarely met. What is also easily noticed is that there is a small number of students who have manifested ability to elaborate and awareness on the ways to use prior knowledge, while the lack of resourcefulness is evident in contents structuring, organizing, paying attention to main ideas, etc. This is an indicator of inadequacy in monitoring and managing one's own work, due to the lack of raising new questions, meaningful organizing of material, reconsideration of other possibilities, questions on the importance of revealing meaning and fitting what has been noticed into existing knowledge.

In the text step canonical loads of critical thinking and metacognitive components were considered, showing that there is poor manifestation of critical thinking *(VAR00013**-.891**-level to which sceptical thinking is expressed and VAR00017**-.571**-level to which networked, complex or systematic thinking is manifested.* In other words, according to Table 1.4 it is evident that the components opposite to critical think-

of success in making questions related to the text; VAR 11 – level of success in making network of notions and ideas given in the text.

ing are expressed, without scepticism, complex consideration of relations between ideas and notions, etc.

Table 1.4 Canonical loads for critical thinking and metacognitive abilities2

	1	2	3	4	5	6	7
VAR00012	-.017	.790	-.443	.100	.175	-.196	-.317
VAR00013	**-.891**	.172	.291	.106	-.039	-.175	.222
VAR00014	-.423	-.403	-.206	-.249	-.292	.350	-.588
VAR00015	-.107	-.195	.077	.295	.656	.653	.004
VAR00016	.059	-.160	-.436	-.660	.445	.103	.370
VAR00017	**-.571**	-.239	-.301	.382	.327	-.385	-.354
VAR00018	-.413	.114	-.546	.534	-.274	.126	.377

Table 1.4 shows that the **first canonical variable** including the set of variables referring to critical thinking and metacognitition is defined, before all, by thinking which is opposite to skeptical and networked, complex thinking.

In an attempt to summarize the previous findings we could say that there is moderately expressed tendency that the greater success in text interpretation, making analogies and establishing a network of notions, less skeptical, networked complex thinking is. This means that majority of students have poorly developed metacognitive components, so that they are insufficiently consciously immersed into problem understanding and question analysis, so that they do not manifest ability to elaborate and dwell on the ways to use prior knowledge, while the lack of resourcefulness is evident in contents structuring, organizing, paying attention to main ideas, etc. This is an indicator of inadequacy in monitoring and managing one's own work, due to the lack of raising new questions, meaningful organizing of material, reconsideration of other possibilities, questions on the importance of revealing meaning and fitting what has been noticed into existing knowledge.

[2] VAR 12 – the level of logical thinking; VAR 13 – *the level of sceptical thinking*; VAR 14 – the level of independent thinking; VAR 15 – the level of natural-scientific thinking; VAR 16 – the level of systematic, methodological thinking; VAR 17 – *the level to which networked, complex or systematic thinking is manifested;* VAR 18 – the level of self-reflective and metacognitive thinking.

Concluding Considerations

Previous findings clearly point to confirmation of the assumption on shortcomings of the outlined changes in understanding of function of reformed higher education, since knowledge acquisition has not get its expected sense, i.e. purpose, through the Bologna process. Furthermore, the emphasis of abilities implied in the complexity of the term of competence, involving autonomy, has still, at least in the presented explorative research, not gained characteristics which would indicate the expected levels of development of intellectual autonomy. Such an autonomy is tacitly involved in previously sketched competences of European qualification framework: knowledge and competence in the levels 6 – 8: bachelor – master – postgraduate degree (www.jointquality.org, European Council, 2008), and these are, before all: critical thinking, innovative approaches to thinking in research, critical awareness, in order to manifest successful solving of complex, unpredictable problems in special working or learning fields. This is not possible to achieve without developed metacognition, reflective management in learning and efficient learning strategies, i.e. without developed indicators of quality of education, like, e.g. meta-cognition, critical thinking and efficient learning strategies, which, as it was found by the research, are not at the expected level. Expectations of European qualification framework that knowledge and competence will be in the function of education of intellectual and methodological abilities, i.e. autonomy of education, are not realistic. If we further made a conclusion on students' autonomy of learning, as an essential element of quality of studies, it could be said that these findings lead to thinking about utility function of knowledge - in Aristotelian sense liberating – creation of free people with high aims and open spirit, which are essential elements of the components of European qualification framework, as it had already been stated in the theoretical part of the paper. The findings indicatively indicate that there is a need for different didactic approaches to learning at the levels prior to higher education, so that knowledge acquisition should be oriented towards higher levels, synthesis and evaluation in solving of significant problems in the field of science and/or innovations and in broadening of newly defined existing insights or professional practices. This further requires didactic models of learning according to which learning with the characteristic of critical thinking, i.e. critical awareness will find its place.

Finally, it seems that the findings have also confirmed the standpoints frequently heard in the academic circles in Serbia, according to which the new approaches to learning within the Bologna process, i.e. didactisation of learning, have led to a sit-

uation in which students have become an object of didactics, disappearing as actors and personalities in learning arrangement. As a consequence, quality of studies has been more and more characterized by instrumentalized knowledge with utilitarian value, while complex abilities, i.e. competencies expected by European qualification framework have not been found in quality indicators to desirable extent. The findings could also lead to a conclusion that current approaches to educational quality, grounded on the culture of verification relying on external control of the outcomes based on mechanicistic-technicistic oriented values and actions, normative philosophy and pedagogy, and finally, logics of economy is not a concept ensuring the expected outcomes of quality, so that we should advocate for creation of a different concept of "quality" which has to be contextualized, implying that all the actors create mutual understanding of quality and search for more adequate ways of reaching it. It is clear that the emphasis on instrumentally oriented factography of examination demands puts critical thinking and other abilities, like, e.g. metacognition and learning strategies, into second place; as a consequence, current trends in higher education teaching are heading towards scolarization, which resulted in positioning critical thinking into the limelight within European policy of development. Formulation of the system of descriptors has created educational framework which defines quality demands in this sense in the whole Europe. What seems necessary now is for higher education didactics to enter the scene and encompass critical thinking in curricula as an explicit aim, in order to get to incoherent parts of learning contents and teaching events which are suitable for encouragement of intellectual autonomy of students. This means that a student is focused on the process, rather than the product, stressing the need to encourage students to develop their own learning needs and see learning as life long process, understanding why they learn certain topics, bear responsibility for their own learning, take initiative in planning and realization (Lalovic, Z., et al, 2011), to take responsibility to evaluate their own learning (Little, D., 2000). This is how the first step in autonomy development will become visible, as it was proposed by Dam, L (1995), i.e. the students will accept responsibility for their own learning, which is a matter of full awareness and intentions, implying that a student has a space to develop autonomy. This can be done only if a student is provided with a possibility to participate in formulation of learning aims, realization of tasks and activities, individually or as a team member, to apply self-evaluation and think about one's own experiences in learning process, and this was found only in a small number of students (around 30%). In such a way autonomy will imply development of skills of reflection and

analysis, i.e. meta-cognitive abilities, so that a student could plan, monitor and finally evaluate his/her own progress; this will be manifested in such a way that accepting responsibility for one's own learning becomes a matter of commitment, leading to development of metacognition, reflective management in learning, while success drives intrinsic motivation.

Having said all the above, it might be concluded for current practice that the greatest changed introduced by realization of learning autonomy, implied by European qualification framework is the change of didactic approach to learning in teaching, resulting from contemporary didactic concepts of emancipatory learning, according to which teaching and learning lead in the direction opposite to the one which existed before, meaning that those who learn manage themselves during learning so that they could gradually take responsibility for their own learning.

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