Development of critical thinking and creativity at student age

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Abstract

In today's modern age, researchers conduct multiple researches and surveys regarding productive teaching in higher education. One of the main aims of such researches is what is the best way to alternate teaching with research, in order to ensure a better preparation of students, so that they are able to cope with their future life challenges. With this in mind, many studies focus on issues regarding the content and method of organization of teaching and researching in university, giving more priority to student's independent work and testing its forms which stimulate critical thinking and creativity. This means that in the new conditions of free movement and integration of society, it has become more than necessary that in our university premises be created a new work and service reality in favor of the most consolidated and pragmatist shaping of students.
Having studied more concretely the development of critical thinking and creativity, our aim is to cover issues such as: are student independent work, encouragement of critical and creative thinking appraised as it should? What is the opinion of lecturers and students themselves regarding independent work? How can the ability to think critically and creatively, and the such, be further developed?

Keywords: development, critical thinking, student age.

Introduction

Referring to the university education activity, the idea that that the main scope of work at university is and should be the encouragement and development of critical thinking and creativity in students is crystalized years ago and it is becoming more prevalent. Whenever critical thinking is mentioned, various scholars agree that thinking critically means to evaluate something, whether it is credible or not and then be coherent to your belief. According to them, during university teaching activity, the ability of critical thinking enables students to assess what has been said or written, by asking the right questions, by producing well-reasoned content and material, by behaving as an able critical thinker (Rey van den Brink-Budgen, 2010). Thus, critical thinking is a well-reasoned and reflective opinion, focused on what to believe and what to do best. What is more, some critical thinking scholars have called it critical analysis of thinking, as though that it is possible to test accuracy of information and news, the value of knowledge available, to analyze decisions, to track logical links through concepts, to apply logical reasoning standards, etc. For this reason, a critical thinker should possess several skills and abilities that may help to interpret, analyze and assess life experiences and information taken or heard from different sources. It

is vital to university teaching level (Mc Peck, John E., 2016). Likewise, another distinct feature of critical thinking, as reasoned opinion, is the readiness to challenge ideas, opinions and convictions of others. Thus, that is the ability not to accept something as true until we are convinced through arguments and reasoning that such opinion or idea is not only clearly expressed by us but also acceptable by the others.

Critical thinking should never be considered as a purpose in itself, but it should be seen as indivisible from creative thinking or creativity. Different from critical thinking, as a controlled process which has also spontaneous aspects, creativity is considered as a highly complicated complex process. Not in vain, scholars emphasize that creative thinking skills are vital to professional progress (Brian Tracy, 2014) and that creativity may be developed with practice through some necessary means, through creation levels, etc. Therefore, creative thinking has been studied from several perspectives. The scholars of this field have defined creation as the ability of the individual to produce something valuable and authentic. This something may be a theory, a discovery or fiction, a more appropriate process or procedure, it may be a history, a symphony or any other thing pertaining to the field of creativity. Surely, it must be noted that in our modern times anyone needs to be a little creative during his/her lifetime. So much the more, this lesson is worthy to young ages, to student age in particular, as it matches its nature and psychology. Not in vain we emphasize this idea and we need to consider critical thinking and creativity to understand the special importance and attention we need to dedicate to their development through university teaching activities.

Currently speaking, the model of cohabitation of research with teaching has been made a model for universities in all the developed countries. In today's modern didactics, it is the student who should be to the center of the education process and teaching in university. In this view, the lecturer's role is perceived not only as a transmitter of knowledge, but also as moderator, and even leader and manager of the teaching and research process, guiding and leader of independent projects or works of students, one who knows how to move their mind or brain and encourages them furthermore. The truth is that many of the activities that the student conduct at university, such as learning, discussion during lectures and seminars, independent works, participation in other projects are not evaluated and organized as they should. This causes, on one side for the pressure on youth and students to be progressively increased through the increase of the requirements from lecturers, whereas on the other side, the work that is done often takes a formal character and is not beneficial for students. Our study is exactly initiated by such an issue which we are of the opinion that it is worth to be studied and analyzed more concretely.

Methodology used

Our survey comprises 664 individuals, who are students of the University of Tirana, "A. Xhuvani" University of Elbasan and "L. Gurakuqi" University of Shkodra. The survey methodology is based on the quantitative and qualitative one. To test the attitude of students regarding the agreement for the transformation of the learning method at university, integration of teaching with research and the like, we have used

a questionnaire, as a research instrument, which contains five questions, as per Likert scale, from "5 – Strongly agree" to "1 – Strongly disagree".

After piloting the questionnaire, whose Cronbah's Alfa resulted to be 0.858, an acceptable value to apply the questionnaire to the students, observation and semi-structured interviews were conducted with the academic staff regarding the independent work of students to see more concretely the methods it is evaluated, what is the concept they have about it, how is teaching integrated with student independent work, what should be supported and what should be corrected to ensure active participation of students to the function of acquiring knowledge.

The provided data were statistically processed with SPSS, version 20, whereas the data taken from the semi-structured interviews with the academic staff were processed through the qualitative descriptions and generalizations. The students' questionnaires and the semi-structured interviews were administered by the scholars preserving their full confidentiality.

Findings and relevant discussion

During the recent years, the efforts to the reformation of the education system in Albania have also affected the university curricula, as well as their organization forms. In this view, appreciating the introduction of novelty in the Albanian university reality, we need to stop and mention some findings of our research, which for the moment do create issues that hinder and complicate student's learning quality. Which are these findings?

Finding 1: Student independent work has its place in education programs, but it is very formal.

Regarding the question about the place that student independent work occupies in university education programs, the agreement scale of students involved in the study, according to the data presented in Graph 1, the largest part of individuals, 70.90% of them agree and strongly agree that independent work occupies its proper place in subject programs, 22.70% are somewhat agree and a small part of them 6.20 % disagree or strongly disagree with the place that independent work occupies in university subject programs.
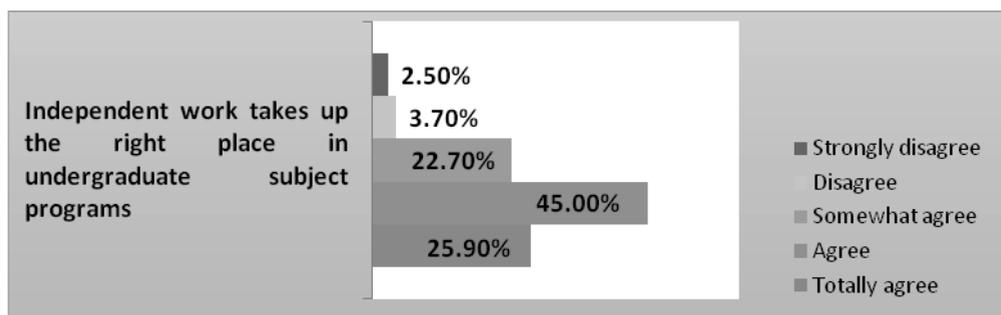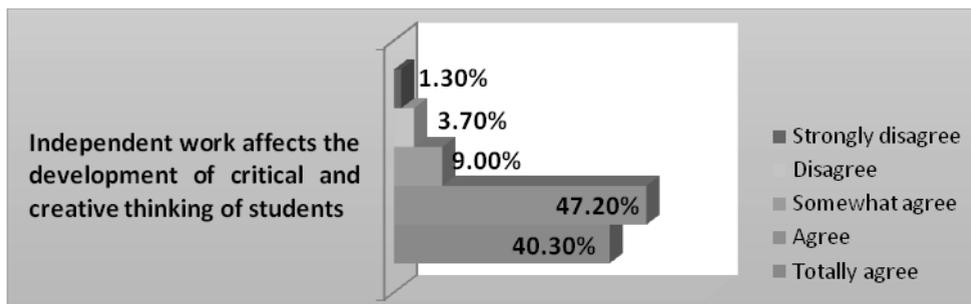

Graph 1. Place occupied by student independent work in education programs.

Even the data gathered by the interviews with the academic staff show that during the recent years, in the university course programs there are introduced a variety of independent work forms for students, both individual and in groups. Such are for example course assignments, projects, essays of different types, personal observations, case studies, evaluation of situations or other events. In our view, this is a fact which should be saluted as it is very appropriate for work in university auditoriums and creates space for alternating teaching and research work. Without doubt, this creates a good basis even for the development of critical thinking and creativity through active participation of students in independent work. Furthermore, in terms of how this work is currently organized and managed, the truth is that it is characterized by a noted formalism. For this, the data show that in university auditoriums, many lecturers impose unnecessary stress to students, they have taxative and imperative requirements, or many times independent work is left to spontaneity, reminding oneself only at the last minute at the end of the semester. This causes for independent work not to be futile and useless to the formation of students.

The conclusion withdrawn from the analysis and evaluation of such reality is that it should be changed by applying other advanced forms of work. This means that it is time to reflect seriously on student independent work organization method, which should be turned as a purpose in itself, but should serve to the development of independent, creative and critical thinking of students. We are of the opinion that this is and should be their real aim. Moreover, we stress this as such a request, apart from others, is based on student age psychology and it matches with that age, and that is why it should be taken into consideration and be respected by the university lecturers.

Finding 2: Independent work does not properly develop student critical and creative thinking.

Almost all courses create possibilities and space for active participation of students in independent work. This means that independent works affect the development of critical and creative thinking, but if they are organized and directed with professional competence by the course lecturer, who continuously thinks how to better encourage students to actively participate in independent work. With regards to the agreement scale, whether independent work affects or not the development of student critical thinking and creativity, as per the data under Graph 2, 87.50 % of the individuals who participated in the study, express the attitude that independent work affects the development of critical thinking, 9.00% are somewhat agreeand the other part, in a smaller percentage, at 5.20% expresses that they disagree or strongly disagree that independent work affects the development of critical and creative thinking. It is clear that such an attitude is initiated from the way they are currently directed and organized.

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Graph 2. Influence of independent work in student critical and creative thinking.

Even the data provided by the academic staff show that independent work affects thedevelopment of student critical and creative thinking, but if that is organized and monitored by them based on theclearinstructionsandcriteriatothefunctionofdevelopmentofstudentindependent, critical and creative thinking. Thus, the truth is that currently independent work is part of course programs, but it does not properly affect the development of critical thinking. This is also one of the reasons that a considerable mass of students does not pay the right attention, does not respect the procedure and time limits, but leave this work for the last minute and address to simple and punishable forms, such as plagiarism. In our view, this is a defect of their organization, that is why it has become more than necessary a requirement to change such a reality.

Finding 3: Independent work is not competently guided by course lecturers.
This is a finding which covers mainly the defects of the guiding and organizational procedure of independent works. We think that in the Albanian university reality this is the worst defect, which is related first of all with the responsibility of course lecturers. Referring to this case, the agreement scale of students, whether the course lecturer manages and evaluates seriously student independent work, as per Graph 3, the data show that 53.40% of the individuals involved in the study agree and strongly agree; 34.30% of them are somewhat agree, whereas the rest, 12.10% disagree and strongly disagree.
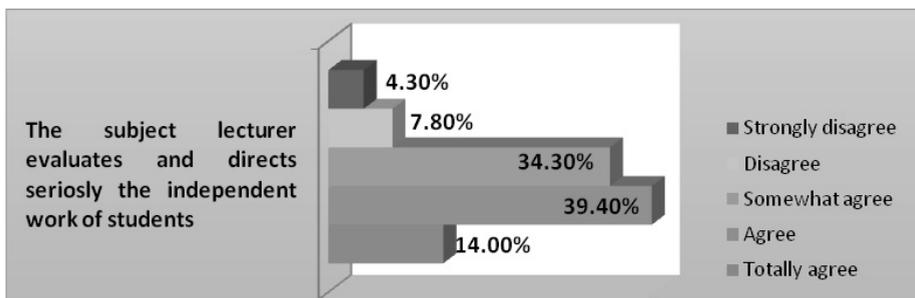
Graph 3. Evaluation and management of student independent work by lecturers.
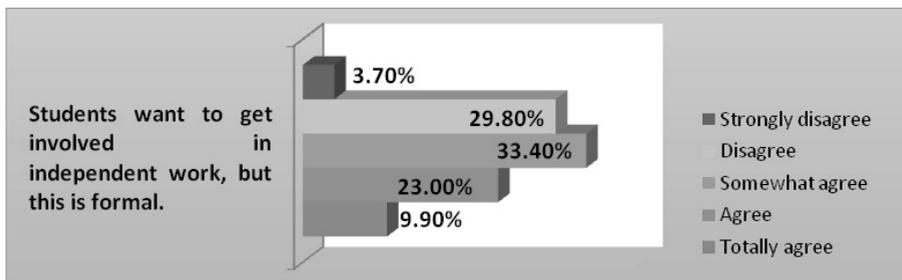
Based on the semi-structured interviews with the lecturers, it is noted that they hold an opposite attitude compared to that of the students. They complain about the laziness the students show and support the idea that it is the student's obligation to engage in independent work and submit his/her work to the lecturer.

Based on the analysis of our data, it results that currently student independent work is not professionally and competently organized and managed by the lecturer during classes. Generally speaking, it is considered more as an obligation of the course program and lacks sufficient counselling. Furthermore, according to our data, it is noted that there are not clear cut criteria for the method of designing and structuring independent work, for its presentation and the like. Likewise, it is noted that there are no guiding and clear criteria based on which student work will be evaluated by the course lecturer in terms of indicators such as *enriched data, concepts used, depth of analysis, relation of concepts and meaning of phenomena treated, credibility of proposals and conclusions of analysis; use of technology in presentation, richness, accuracy and clarity of language used and the like.*

In our view, it is an obligation and responsibility of the course lecturer to teach to students theprocedure of how to carry out an independent work, determining beforehand the goal and its objectives, how to guide students to different sources of information, how to find and use instruments for gathering sufficient data, how to process such data and draw conclusions, how to present findings and discuss about them.

Finding 4: Students are not sufficiently motivated for an active participation in independent work.

As underlined above, the method of organization, management and evaluation of independent work is related even with the ability of the course lecturer to rightly motivate students for independent work, disclosing to them its value and futility, by making them aware and stimulating students for the work they perform, encouraging them to be involved in it and show personal abilities which bring about a contribute and novelty in the solution of different situations. According to the data showed in Graph 4, the agreement scale related to the wish of the students to be more involved and activated in independent work shows that only 32.90% of the entities involved in the study state that they agree and strongly agree; 33.40% of them are somewhat agree, 29.80% disagree and 3.70% of them state that they strongly disagree.


Graph 4. Inclusion of students in independent work.

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Based on the view of the pedagogic staff it is underlined the fact that the level of student independent work is low and they are not seriously carried out by them, there is a lack of motivation because the importance of such works is not properly understood.

The truth is that students may be involved more in independent work, if the responsible course lecturer arouses their interest, when their importance is emphasized, when students are guided and motivated to do such independent work, when their work is properly respected and evaluated, when the students know how to manage their available time, if during their presentation arise discussions for particular issues, when the students know how to argue their opinions, ideas and proposals and the like.

Finding 5: Method of organization and assessment of student independent work is not effective.

The aim of the last question of the questionnaire was to obtain data from students in the form of recommendations regarding their agreement whether the method of organization, management and assessment of independent work should be changed by the relevant course lecturers. In this light, based on the agreement scale related to the alternatives in Graph 5, it is noted that 25.00% of the individuals involved in the study strongly agree that it should change, 20.60% of them agree, 30.40% somewhat agree, 19.70% disagree 4.20% strongly disagree. Based on our data it results that the highest percentage of participators in the survey support the option "Somewhat agree". This means that it has become more than necessary a requirement for a somewhat different way of remodelling independent work in order to be functional to the development of student critical and creative thinking.
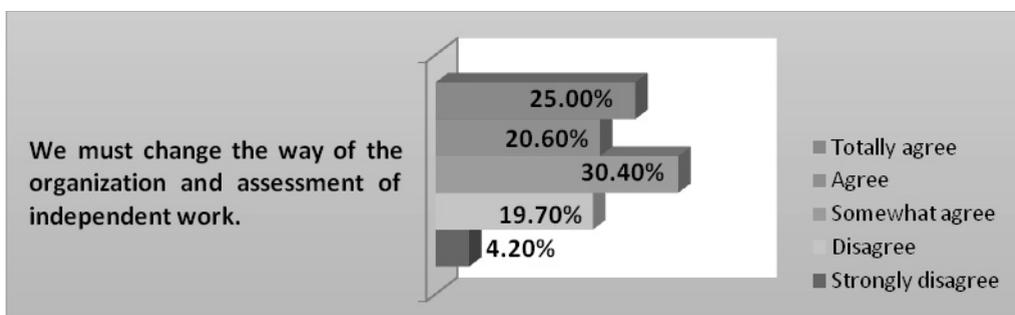
Graph 5. Change of method of organization and assessment of student independent work.

In our view, it is an obligation and responsibility of any lecturer to think for more appropriate and productive forms of organization, management and assessment of independent work of his/her students. Such idea is also supported by the interviewed academic staff, but for a qualitative increase of work it is needed that the academic

teaching staff at university be continuously trained and qualified.

Limitations of the study

The data and findings of this study refer mostly to the entities of the category of students attending university studies in social and human sciences. The present research and its findings would have been fuller if it were possible to refer even to the category of students attending natural or exact sciences. We are convinced that the findings in such surveys would have been richer and clearer, and this remains for future research.

Conclusions

o   *Alternation of teaching with research in university education activity is becoming a more than necessary requirement.*For all of us nowadays it is clear that university life and activity has two aspects which cannot be separated from each other: **teaching and research**. This is a requirement of the time we are living and which is initiated by the "humboldtian principle", which has more than 200 years that is being applied with priority in the European countries universities and which during the recent years is being implemented even in many Eastern Europe universities. Thus, traditionally, teaching and research belonged to "*the intellectual elite*". In this view, the art of teaching as per the "*teaching-research*" principle is based on interests and talents of the entities, it requires talent, internal affinity and is accompanied even by emotional experience. The truth is that without this psychological basis, this principle can'tbe realized in universities.

According to scholars, educators should guide students to be abler to negotiate the quantity and quality of information they receive from different sources, as in our days this issue is becoming more and more vitally important for the work with students in universities. The major reason is related to the fact that, in the modern world of information technology, the most important thing is not finding information, but its assessment and selection. During work in auditorium the students are given assignments of different forms: *to write essays, literature review, conduct research, use research instruments* and the like. All this work requires high mental skills and operations, encourages or stimulates students to win the agility to conduct analysis, synthesis and personal assessments.

o   Currently, *the need for the development of critical and creative thinking should be understood as an existential issue.* We emphasized this, as the pressure for the future and career of the new generation is increasing. On one hand, the youth studying in the university today have more possibilities to progress in the field of knowledge when compared to the previous generations, they have much better working conditions and advanced technology, that is why it is expected much more from them. On the other hand, youth today is somewhat not concentrated, bur more in danger. They experience more insecurities regarding future employment and perspectives. Such fact lowers their motivation for quality independent work.

o   Without critical and creative thinking a good, accurate and consolidated formation of students cannot be provided. Acquisition of courses requires students

to have personal attitudes during their learning, to continuously pose questions and hypothesis, to take decisions and the like. This means that *critical and creative thinking go hand and in hand*, that is why, currently for the young generations the development of such quality is vital for the progress during learning at university, but also for their professional future. The development of such skill at student age requires that students during the lesson position themselves in the researcher's role, perceive and understand better the reality, discuss and reflect about what is learnt. The truth is that even in university many individuals, because they do not know and do not properly use their possibilities and energies for being creative, get discouraged in this respect, as they believe that they really lack the skills for independent work, for being creative and authentic in their work.

o   The critical and creative thinking skill is developed and educated continuously. In this respect, our higher education has deficiencies, that is why it is necessary to understand the deficiencies of this working system in the university education reality, so that it can be corrected and it may better respond to the needs and formation of youth for their life. In this respect, first of all, students should be motivated to use their critical thinking skills, that is why it is an obligation even of the education specialists to suggest specific techniques and strategies through which critical and creative thinking may be encouraged during the education sessions in the auditorium and outside it. Such forms should stimulate participation of the students, engaging them in independent work, in projects, encouraging debate, free discussions and creativity during learning.

o   At conclusion of this study we may say that today new requirements are set forth for strengthening independent work, for increasing the quality of critical thinking in students, for the continuous stimulation of creativity in youth, as this is a request and a need of the time and for the times to come. In this view, it is recommended that *even the pedagogic staff of universities should be under a continuous training*, as most of them are assistants and young lecturers, without sufficient experience in teaching. Likewise, the other recommendation refers to the measures to be taken for the improvement of education infrastructure, in order to create normal working conditions and support for the students.

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