

ACTIVE TEACHING/LEARNING AT FACULTY OF AGRICULTURE – 10 YEARS OF EXPERIENCE

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Abstract

The course in active teaching/learning (ATL) together with the method of lecture assessment by sequential analysis was developed by a pioneering group of experts from the Institute of Psychology. It was developed further and improved by adding research skills, aspects on quality assessment and examination procedures, relevant drama skills and techniques for interactive e-learning. The modules which we developed and implemented at Faculty of Agriculture several times in last 10 years had an impact on the quality of teaching of teachers as well as positive consequences to the student success.

Key words: *ATL, higher education, Faculty of Agriculture, teachers training*

Development of ATL course for university teachers

Reform of higher education, so-called “Bologna process” at European and Serbian universities has brought a dramatic demand for change in the position of students in the teaching process: students becoming partners and even main actors. New curricula, based on achieving a certain number of learning outcomes (both subject-specific and generic) by precisely-defined student workload as ECTS cannot be successfully accomplished with the old concept of university lecturing. Indeed, the current concept of university lecturing results in students lacking many competences important for their professional life such as creative and critical thinking, decision making, problem solving etc. In addition to that an average time for students to complete their first degrees at Belgrade University is nearly eight years, mainly because students do most of their learning on their own after the lecture courses have finished. Our faculties, therefore, are not places for learning: learning is separated from teaching: both in space and in time! Such model of university teaching was dominant at our universities according to the EUA experts report on Serbian high education. The lack of any training for university teachers on how to work with students has been seen as a major weakness in applying Bologna process at our universities.

A group of lecturers from the Faculty of Agriculture, Belgrade University recognised the need for improving teaching methods that would actively involve students in the teaching process and this led to a purpose-designed course on improving their teaching and other academic skills. This required a change in their concept of teaching and the role of the student: a shift from teaching to learning changing the focus from themselves as lecturers to students as beneficiaries, which is practically the area of psychology of learning. The original concept of the active teaching/learning (ATL) process was developed at the Institute of Psychology, University of Belgrade (Ivić et al., 2002). Starting from above

mentioned idea on shifting focus from teaching to learning this concept is based on supporting, promoting, enhancing monitoring student activities. The major objective of any ATL teaching unit is to activate as many students in as many relevant activities. In addition to the development of techniques of achieving these objectives in planning the class, method for assessing the quality of the teaching/learning process was developed. This technique, called “sequential analysis” is the unique method of an expert peer reviewing of the class and can, also, be a tool for analysing and improving the teaching/learning process.

The course in ATL together with the method of lecture assessment by sequential analysis was, therefore, developed by a pioneering group of experts from the Institute of Psychology led by Prof Ivan Ivić. In addition to ATL modules, the course contained a set of modules in other academic skills, such as good research practices, curriculum development, quality assessment and relevant drama skills. The modules which we developed and implemented at the Faculty of Agriculture were described in a course leaflet and in the publication “The student at the centre of the teaching process” (Ivić et al., 2008).

The course has been held during the whole school year: twice for 50 teachers of the Faculty of Agriculture in 2003/4 and 2004/5 (sponsored by the Fund for an Open Society and a Tempus Project, respectively), once for 30 teachers of Serbian Faculties of Biology in 2007/8 through another Tempus project. During 2009 teaching staff at Faculty of Agriculture had 2 types of trainings for improving their teaching skills: a) 45 teachers and 30 assistants had training in interactive e-learning held by Miloš Bajčetić and b) 20 teachers had training in principles of writing good textbook given by ATL team. In 2014 through CaSA Tempus project 60 teachers of Serbian faculties of Agriculture have participated all modules of the course.

Present structure of the course

The course has evolved during several years of giving it at different faculties and analysing the results achieved. The major improvement of the course is the introduction of the modules on e-learning methods (for presenting the contents, activating students to learn and assessing the learning outcomes) and on curriculum development and QA. The current version of the course consists of the following group of modules:

- 1. Active teaching/learning (ATL)** given by Prof. Ivan Ivić, Dr Ana Pešikan, Mr Slobodanka Antić (Institute of Psychology, University of Belgrade) and Prof. Ratko Jankov (Faculty of Chemistry, University of Belgrade)
- 2. Curriculum development, quality assessment and examination** given by Prof. Sofija Pekić Quarrie, Prof. Vesna Poleksić and Prof. Biljana Vucelić Radović (Faculty of Agriculture, University of Belgrade)
- 3. Drama skills** given by Prof. Paul Murray (Winchester University, UK, based in Belgrade)
- 4. Research skills** developed by Prof. Steve Quarrie (Newcastle University, UK, based in Belgrade)
- 5. Interactive e-learning** developed by Dr Miloš Bajčetić (Faculty of Medicine, University of Belgrade)



Picture 1. *ATL training (photo S. Quarrie)*



Pictures 2 and 3. *Drama skills training and Research skills training (photo S. Quarrie)*

Results of implementation of ATL

After several years of implementation of interactive teaching/learning methods at Faculty of Agriculture, it was obvious that improved teachers' competences (Poleksić et al., 2004) resulted in improvement of the student exam performances (Pekić et al., 2005) and student professional competences such as decision making (Pešikan et al., 2005 and 2006) as well as giving them valuable generic skills, for example: how to learn efficiently, how to present knowledge (orally and in writing), how to become critical, how to argue and discuss with others on a specific topic and how to evaluate the teaching process (Pešikan, 2005 and 2006).

It was a challenge to explore the possibility of giving students a chance to experience an assessment of their own learning outcomes by introducing student self-assessment exercises (Pekić Quarrie, 2007). Peer review classes were organised to test their ability to evaluate each other's tests, as well as to evaluate their own tests. Analysis of these evaluations showed a very close association between the teacher's marks and students' marks. After three successful peer review classes we decided to give students a chance to "do the real thing", i.e. to examine each other at the end of the Botany course during the first exam occasion in June 2006 when 10 students took part in the "interactive exam". The large majority of student marks (77%) were the same as the professor's, and the large majority of those marks that were not the same were *lower* than the professor's. Similar results were obtained after the exam in June 2007 with 30 students, indicating a high level of student objectiveness and their critical approach to the evaluation. On both occasions these exams involved only the best/most motivated students as they were held immediately after the course during the first exam occasion and this inevitably required a lot of preparative work during the course. After positive experiences in testing the capacity of good students for peer-reviewing in previous years, we applied similar methodology to all students, especially those with poor knowledge. Three exam exercises, done at the end of 2007/8, has shown their capacity for evaluation and self-evaluation and to analyse their evaluation capacity according to their knowledge, previously evaluated by the professor as illustrated on Fig 1 (Pekić Quarrie et al., 2008).

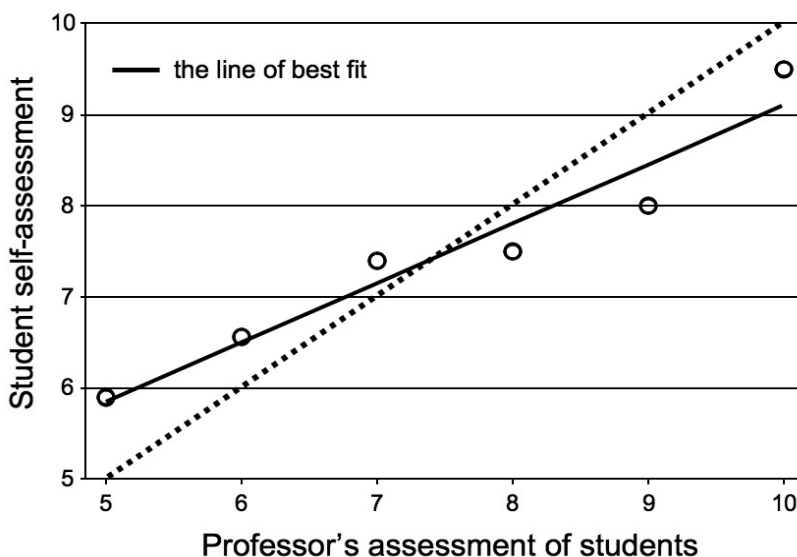


Figure 1. Student self-assessments as means for each score according to the professor's assessment of each student. The best-fitted line is shown. The dotted line shows equivalence between professor and student scores (from Pekić et al., 2008)

Results of several years of implementation of the ATL approach have been presented at several conferences on higher education, published in several papers and thus have achieved recognition within both scientific and higher education communities. A research project in ATL at university has recently been accepted for financing by the Ministry of Science and Technological Development, and this will result in further improvement of its methodology.

Conclusion

Based upon all this we strongly believe that courses in the ATL approach together with other academic skills necessary for the development of young university teachers should become a compulsory component of their career development. Such courses will improve all their academic skills, which in turn will result in improved student competences and, consequently, lead to the improvements in the efficiency of the university as a whole. Such lecturer training courses are common place and compulsory in a large number of European Universities. For this to become a sustainable concept in Serbia, we propose the creation of a CENTRE FOR IMPROVING ACADEMIC SKILLS. Such an institution could provide regular training for our academic staff on a long-term basis.

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