THE CHANGING ROLE OF UNIVERSITIES IN THE 21ST CENTURY – TEACHERS' AND LEARNERS' NEEDS

Dr Kálmán, A.
Associate Professor
Budapest University of Technology and Economics
Budapest, Hungary

Conference Topic: Curriculum Development

1   INTRODUCTION

1. 1 Research into the reasons of student dropout

At the meeting of the Faculty Council on 3 February, 2010, the material presenting the experience of bachelor's programmes included data according to which 25% of the students had failed to complete the programmes running at the Faculty in previous years. This dropout rate gave the idea of the research project launched jointly by the Department of Ergonomics and Psychology and the Faculty Body of Student Representatives.

The research team on psychological issues in higher education of the Department of Ergonomics and Psychology[1] and the delegated members of the Body of Student Representatives participated in the project.

Although the question posed concerned the reasons for student dropout, it was reformulated in the preparation phase of the project in relation to literature search and material collection so that the subject of research became student success. Thus, those factors were searched for which contribute to the successful completion of studies by the students and work against dropout.

The concept of student success was defined as follows:

- Completion of studies and earning a degree (within or nearly within the time frame recommended in the sample curriculum)
- Proper study results
- Commitment and attachment to the specific major/institution
- Student's study progress and personal development
- Successful entry into the world of work (this is a more remote objective, the present research cannot undertake to investigate it).

The specific research question was the following:

In the students' opinion, what factors contribute to the successful completion of university studies? (Our further questions were: Are there any differences in the opinions of male and female students? Are there any differences in the opinions of students of different majors, and in what aspects? In what aspects are there differences in the views of students in bachelor and master programmes? However, this presentation is not going into details concerning these factors.)

1. 2 Research methods

In the preliminary phase, *depth interviews* were made with students and lecturers, and the impressions and experience of graduating students gathered during their university studies were

---

[1] Dr Ildikó Takács associate professor, Dr Mónika Perger senior lecturer, Szandra Szőke and Fruzsina Vass MA students in psychology

revealed in half-structured depth interviews (Perger, Takács, Szőke, Vass, 2011). The major topics of the interviews included the following: (a) history of career choice/career orientation, (b) experience during university studies: difficulties and positive experience, assistance used, factors necessary for the successful completion of studies, recommendations for fellow students and proposals for the leadership of the university (c) professional plans for the future.

The *questionnaire* applied in quantitative investigation was elaborated on the basis of the results of the interviews. The questionnaire included 54 statements formulated on the basis of the experience of the interviews. The specific statements were pre-tested with the graduating students being interviewed, and their formulations were modified on the basis of their opinions and suggestions.

The instruction in the questionnaire was the following: 'We are interested in your experience of university studies. Please, assess to what extent you think the following factors contribute to the successful completion of university studies. It is easier to answer this question if you first decide whether the given factor plays an important role or does not play an important role in the successful completion of university studies. Then, you may further qualify your opinion.'

The students assessed the importance in the successful completion of studies of the listed factors on a 6-grade Likert scale (assessment ranged from 1- not important at all to 6-definitely important).

The questionnaire also asked for the students' personal details such as sex, age, major and programme level.

As a supplementary investigation, the students' and instructors' opinions about successfulness were also surveyed with another set of statements with Q methodology. The essence of Q methodology is that comparisons are made about opinions concerning particular situations on a relatively small sample, where subjects rank statements with forced choice.

The investigation was carried out in the spring semester in 2011.

1. 3 The sample

478 day students of the Faculty of Economics and Social Sciences of Budapest Technical University took part in the online questionnaire survey on a voluntary basis. The members of the Faculty Body of Student Representatives gave help in the advertising of the internet accessibility of the questionnaire. As regards sex distribution, 41.8% of the participants were males and 58.2% were females. Average age was 22 years (with the youngest student being 18 and the oldest 36 years old). Of the sample investigated, 69.5% attended bachelor's programmes, 24.9% master's programmes and 4.2% were in the old undivided programme at the time of filling the questionnaire. The remaining 1.4% was made up of PhD students or currently graduating ones.

The distribution of the students filling the questionnaire according to their major is given in *Table 1*.

Major	Number of students	%
Economics and Management	124	25.9
Technical Manager	110	23
International Economics	97	20.3
Communication and Media Studies	53	11.1
Applied Economics	21	4.4
Other	73	15.3

Table 1. Distribution of students participating in the survey according to major

The sample of the investigation carried out with Q methodology consisted of 16 people.

1. 4 Research results

Statistical analyses were done on the online questionnaire data. As a result, in this survey, the answers made up eight factors:

Factor 1: (α: 0.805) It includes 11 items, and was given the name 'practice-oriented training'. Such statements were included in this factor which were related to the organisation of training, the importance of notification and the instructors' work. A lot of statements referred to the necessity of training being more practice-oriented, that was why the above name was given to this scale.

Specific examples are the following:

'instructors should be professionally well-prepared',

'instructors should also possess practical experience in their respective fields',

'training should be balanced between theory and practice'

'instructors should deliver appropriately high level lectures',

'training should be more practice-oriented',

'the list of topics of the particular subjects should be tailored to the given major',

'students should participate in external professional practice',

'the seminars and practical classes should be held in small groups'.

Factor 2: (α: 0.787) it was given the name 'social relations'. It consists of 9 items. The statements that were put in this group underline the importance of the social relations that students may rely on in a university environment.

Specific examples are the following:

'the student should establish contact with upper-year students',

'the student should go to the freshman's camp',

'the student should make use of the help of student mentors',

'the student should participate in the work of student organisations',

'the student should study together with his/her peers',

'the student should sign up for the mail list of the students in the same year',

'the student should spend some time studying abroad during his/her studies'.

Factor 3: (α: 0.711) it was given the name 'student's learning habits'. It consists of altogether 8 items. Here, there are statements concerning the students' learning habits fitted to university requirements.

Specific examples are the following:

'the student should use lecture materials posted on the internet',

'the student should use his/her time well', 'the student should handle the freedom offered by university education properly',

'the student should learn how to select the important parts of the learning material',

'the student should be able to make his/her own decisions in study matters',

'the student should ask for help in time if he/she cannot cope with something',

'the student should find the balance between learning and entertainment'.

Factor 4: (α: 0.709) it was given the name 'the role of university (lecturers)'. It consists of 6 items. These are statements related to the role of the university and primarily to the role of instructors.

This scale was made up of the following statements:

'lecturers should test students on the material they have provided for them',

'lecturers should publish requirements in time',

'the slides of lectures should be available',

'the Central Registry Office should give students assistance in finding relevant information',

'the university should provide students with traineeship placement'.

Factor 5: (α: 0.678) it was given the name**'the student's responsible approach'.** It consists of 5 items altogether. These statements are all concerned with the fact that the student should take responsibility for his/her own studies and professional matters.

Some examples: 'the student should join university research projects',

'the student should study regularly',

'the student should pass his/her exams according to the sample curriculum'

'the student should be hard-working',

'the student should make use of the consultation opportunities advertised by the instructors'.

Factor 6: (α: 0.717) the scale of **'family support'** includes 4 items focussing on the factors related to the forms of psychological and financial support provided by people close to the student, by his/her family members and friends.

Specific statements were the following:

'friends should give psychological support',

'family should give emotional support'

'family should provide a safe financial background'

Factor 7: (α: 0.705) the scale of **'conscious career choice'** includes 3 items, all of which are related to conscious career choice.

This scale was made up of the following statements: 'the student should choose a major he/she is interested in',

'the student should choose a major that he/she has clear ideas about',

'the student should choose the appropriate career for him/her'.

Factor 8: (α: 0.617) it was given the name '**support provided by the university**'. It consists of 3 items.

Specific statements were:

'the university should provide remedial courses'

'instructors should provide coaching',

'there should be partnership between lecturers and students'.

Factors	N	Average	Deviation	Minimum	Maximum
role of university (instructors)	478	5.22	.589	2	6

student's learning habits	478	5.17	.489	3	6
conscious career choice	478	5.06	.790	2	6
practice-oriented training	478	4.92	.628	2	6
family supports	478	4.78	.790	2	6
assistance provided by university	478	4.23	.888	2	6
responsible student attitude	478	3.89	.791	2	6
social relations	478	3.75	.811	2	6

Table 2. Factors playing a role in the successful completion of studies

1. 5 Summary of research and recommendations

In the students' opinion, the three most important factors in student success are: the university, and within it, the instructors, followed by students' learning habits and conscious career choice. The practice-orientedness of the training, supports from the family and assistance provided by the university also play a decisive role. On the other hand, in the students' opinion, a responsible attitude and social relations play a less important role in the successful completion of university studies.

There were, however, significant differences in the survey conducted with Q methodology. Emphasis was on different factors in the choice of instructors and students. Instructors consider taking responsibility, the good organisation of studies, and the factors of motivation and interest to be decisive. This view is significantly different from students' opinions.

Our research question concerns student success but its objective is to find the factors that contribute to study success and work against dropout. Thus, the analysis of the results helps with the elaboration of the forms and possibilities of intervention.

For this, those university programmes have been studied which aim at the prevention of dropout and the return of students. On the basis of this, three subprogrammes are considered to have decisive importance:

1. Conscious development of career plans (e.g. preparation for the choice of concentration and for the master's programme)
2. Development of learning skills and abilities, elaboration of study schedules (e.g. development of learning techniques tailored to the particular subjects, formal remedial tutorials, remedial courses, avoidance of postponing)
3. Development of self-knowledge (e.g. exploration of strengths and areas to be developed)

A sample programme has been found at Simon Fraser University, Canada, where students can make use of the service for a fee subject to a contract concluded with the university.

This programme has significantly improved student retention rate in the training so that 80% of programme participants have completed their studies successfully.

2. 1 RESEARCH INTO THE TRAINING OF TRAINERS

In 2006, a MELLearN survey was completed on the topic 'Appearance of adult educator competencies in higher education'. [1] Between 2009 and 2011, the project entitled 'Training of trainers in the

teaching staff of Budapest University of Technology and Economics (No. TÁMOP – 4.1.2-08/2/C/KMR-2009-0005) (term: 1 September, 2009 – 28 February, 2011) was implemented, the general objective of which was to contribute to the reduction of the number of trainer competencies missing for the fulfilment of requirements arising from the Bologna process, the European Qualifications Framework and LLL strategy. [2]

The training programmes were based on the needs and possibilities explored according to the preliminarily surveyed institutional needs at Budapest University of Technology. Internal surveys served the purpose of the exploration of any relevant training demand among instructors so that in the knowledge of the results, directions of programme development that might be implemented in the project might be determined as well as the range of those who would participate in both pilot and future projects. On the one hand, the tender proposal was elaborated and, on the other hand, the range of expected participants in project implementation was determined on the basis of the results of the surveys and interviews made with faculty representatives.

2. 2 Results of the research of MELLearN Higher Education Network

The survey was done in two phases. In autumn 2012, as the first step in the setting up of a databank of trainings, the institutional representatives of the association examined the current internal supply of trainings of the different institutions. With the online questionnaire survey in spring 2013, the training needs of employees and instructors were also explored. A modified version of the questionnaire used in the tender entitled 'Training of trainers' formed the basis of the questionnaire surveying needs. The questionnaire was made available in online form for the employees of the members of MELLearN Higher Education Network between January and March, 2013. [3]

The questionnaire comprised three thematic units:

- Respondent's general data: age, sex, job, duration and area of employment.
- Frequency of use of teaching and training organisation methods with respondents.
- Investigation of respondents' training needs with the help of open sentences and by choosing from methodological options and other training possibilities.

The online questionnaire was filled by 734 people from 17 member institutions. Sex distribution was 54 % females, 38 % males (for 8 %, this piece of information was missing). According to age, more than half of the respondents were between 30 and 50 years of age (N= 429). According to their jobs, 76 % of those who took part in the investigation were instructors, 4 % were research fellows and 20% were administrative officials. According to the type of subjects taught, it was most typical of respondents that they taught theoretical subjects. This was followed by giving practical classes and seminars with the fewest respondents giving laboratory classes. As for teaching practice, more than half of the respondents had a teaching experience longer than 11 years and 32% shorter than that.

The instructors filling the questionnaire were asked about the individual use of the teaching and education organisation methods that were most frequently used according to a previous survey. As regards frequency of use, giving lectures was a decisively typical method among respondents. Within it, giving micro lectures and instructor explanation were most frequent. In addition, respondents were characterised by an average frequent use of individual work, presentations and discussions.

Average use is medium frequent (average above 2,5) with the following methods: consultation, written testing, demonstration, presentation (experiment), groupwork, practicising, oral testing, research, delivering lectures for 50-200 people, giving reports and home essays. Other methods are known and used by fewer instructors in their teaching work.

The higher the position, the higher the frequency of the use of lectures, macro lectures, ideation, research, masterpiece and project work is while the use of games is less typical. With other methods, such correlation is less perceivable.

2. 3 Training needs

Most respondents (29.1%) mentioned technical problems as something that caused difficulty to them in the classes, that is, if there was no proper technological equipment, the room was not really suitable

for instructional purposes or the necessary equipment was not available in a practical class. This was followed by remarks about the unmotivatedness of students (20.9%). The third difficulty was constituted by the lack of balance between the amount of study material and course duration, that is, by shortage of time (12.2%). The next category included statements referring to the difficulties instructors faced in how to motivate their students, how to arouse their interest in their subject and how to assess students (11%). There was a nearly identical proportion of responses (5-6%) referring to large groups, the heterogeneous composition of classes as well as the difficulty of professional development and the transfer of content. These were followed by responses (3%) focussing on the overburdening of instructors, unmotivatedness, lack of knowledge on the part of students and the difficulties of keeping discipline.

According to instructors, the greatest problem in relation to students was presented by unmotivatedness. 35.4% of the respondents indicated this problem. The following three categories were represented at about the same level (between 9.7% and 9,2%). These concerned unpreparedness, heterogeneity and problems with the students. According to the instructors, the students came to classes unprepared, and their different level of preparation presented a problem just like their lacking independence and divergent interests.

About 8% of the statements referred to a lack of knowledge on the part of the students and discipline-related remarks: e.g. that students came late to classes, they ate in class and paid no attention. They were followed by statements referring to a lack of cooperation on the part of the students: they did not answer, they did not ask questions, did not cooperate and were not interactive. (7%)

Around 4% was the proportion of statements concerning students' deficiencies in learning, concentration and other cognitive abilities or the fact that their interest lay elsewhere. Finally, about 3% was the rate of statements mentioning the large number of students as a difficulty.

Most answers indicated a need for methodological training followed by a need for trainings in IT technologies, motivation and the operation of education technological devices. On the next level, a need was revealed for e-learning and language trainings as well as for trainings supporting interactivity. Following a demand for trainings in presentation techniques and in the handling of students with mental and/or physical handicaps, a need was expressed for professional and presentation trainings. Finally, there was a need for trainings aimed at more efficient instruction and providing better support for the digital generation.

2. 4 Summary of survey

Summarising the results of content analysis, one comes to the conclusion that the feedback of every institution was that teaching staff would require trainings in methodology and IT as well as the development of presentation and lecturing skills.

Next, the demand for and willingness to participate in different trainings was investigated with a questionnaire in two groups. On the one hand, the different methodological and other trainings were separately examined. In the compilation of the list of trainings offered, the former survey concerning internal trainings was also taken into account. In addition, respondents were given the possibility of indicating other training needs, as well.

The frequency of choice indicated the 'popularity' of *methodological trainings*. 40% of those filling the questionnaire would require preparation for teaching courses in foreign languages and training in e-learning curriculum development. In addition, more than one fifth of the respondents indicated a wish for development in the fields of problem-based learning, adult education methodology, talent development, measurement of student achievement and the application of information and communication technology devices. There was also a high need for trainings in cooperative and project methods and learning methodology.

In relation to *other trainings*, over one third of the respondents required language trainings. Similarly popular was the need for trainings in presentation skills, tender application writing and special language skills. Over 20 % of the respondents would be willing to take part in trainings in the use of electronic information sources. Also high was the popularity of trainings concerning the development of training programmes, stress and conflict management and negotiation techniques.

The popularity of trainings in financial and study affairs administration was similarly high as almost every fourth respondent required such training.

To the question *'Would you be willing to take part in an internal training?'*, 83.2% of those filling the questionnaire answered yes, and only 10.4% gave a negative answer. In the open-ended questions, some of the latter justified this refusal by referring to age and in the first place, to a lack of time /6.5 % gave no answer to this question./

So it can be seen that there was a high, articulated demand for trainings among respondents. Five fields can be selected as ones that were mentioned the most frequently, by more than one third of those filling the questionnaire:

- preparation for teaching courses in foreign languages

- e-learning and distance learning curriculum development

- language courses

- development of presentation skills

- tender application writing.

Trends that can be identified in the needs include:

- Teaching and research in foreign languages
- Range of students: differentiated according to age and ability
    - Young people > new techniques
    - Adults > andragogy, distance learning
    - Talents > talent development, distance learning
- Instructors
    - Development, innovation: tenders, programme development
    - Stress and conflict management
    - Negotiation techniques

3 CONCLUSION

Now that the quotas under state financing are reduced or eliminated in several subjects, it is even more important that those students that we admit should stay in the programmes and graduate.

For the retention of students, we recommend that lecturers should take part in further training concerning both methodological and attitude development. There are existing programmes for this, for example the Training of Trainers courses launched by the Department of Technical Pedagogy, in which instructors may acquire pedagogical, psychological and methodological knowledge alike.

REFERENCES

[1] MELLearN Egyesület és az Eötvös Loránd Tudományegyetem felmérése „Felnőttoktatói kompetenciák megjelenése a felsőoktatásban" címmel (2006). ['Survey of MELLearN Association and Eötvös Loránd University of Arts and Sciences entitled 'Appearance of adult educator competencies in higher education']

[2] Project entitled 'Training of trainers in the teaching staff of Budapest University of Technology and Economics' (No. TÁMOP – 4.1.2-08/2/C/KMR-2009-0005) (term: 1 September, 2009 – 28 February, 2011)

[3] Implementation was greatly determined by NETTLE: Network of European Tertiary Level Educators' research (2004-2008). In compliance with the principles in the Bologna Declaration, the project promoted the academic and professional development of tertiary level educators with the objective to provide an academic framework for this in a European perspective. The project started with the leadership of Southampton University within the framework of Socrates-Erasmus III. Thematic Network Programme, and as a product, the volume entitled 'Case Studies in the Development and Qualification of University Teachers in Europe' was published in 2008..

[4] ELŐTERJESZTÉS A KARI TANÁCS 2013. február 6-i ülésére Az egyetemi tanulmányok sikeres befejezésében szerepet játszó tényezők vizsgálata. A Gazdaság- és Társadalomtudományi Kar hallgatóinak véleménye. ['PROPOSAL for the meeting of FACULTY COUNCIL on 6 February, 2013: Investigation of the factors contributing to the successful completion of university studies. Opinion of the students of the Faculty of Economics and Social Sciences.']

[5] Kálmán, A. (2012): Training of Trainers: Sustainable Quality Higher Education. In: The Role of Hungarian Higher Education in Achieving the Knowledge Triangle (education-research-innovation). The Europe 2020 and the Education-Training 2020 Strategies, MELLearN 7th Hungarian National and International Lifelong Learning Conference Proceedings, 21-22 April 2011, University of Pannonia, Veszprém, 558 pages (Hungarian/ English), ISBN 978-963-88878-3-2, MELLearN, Debrecen. pp. 107-120, 121-134. (CD)]

[6] Kálmán, A. (2006): Teacher's Roles – Learning Styles (The Process of Adult Learning), ISBN 963 8088 16 8, ISSN 1588-9572, 120 pages, OKKER, Budapest