# ADAPTATION PROBLEMS OF ROMANIAN STUDENTS TO TECHNICAL HIGHER EDUCATION

## Liliana-Luminiţa TODORESCU\*, Gabriel-Mugurel DRAGOMIR\*, Anca GRECULESCU\*\*

\*Politehnica University Timișoara, \*\*University Politehnica of Bucharest, Romania

Abstract: The current study underlines the main problems students deal with in the first academic year at University POLITEHNICA of Timisoara (UPT) while adjusting to the higher education environment. The adaptation challenges were investigated through 14 panel discussions. The topic assigned was "Students' adaptation problems in Romanian higher education". The target group included students in their first academic year, studying at the Faculty of Computer Science (CS), Electrical Engineering and Power Engineering (EE&PE); Electronics, Telecommunications and Information Technology (ETIT); Industrial Chemistry and Environment Engineering (ICEE); Mechanics (ME); Production Management and Transport (PMT); Architecture and Urbanism (AU), also doing the Psychological and Pedagogical Training Program. Each panel discussion was made up of 20 students, all 14 panel discussions summing up 280 students, out of which 158 female and 122 male students. The outcomes of the research show that students face different adaptation challenges that may result in a poor insertion into the academic system and education dropout. The adaptation problems identified by the students were diverse: accommodation and food; financial problems; school timetables and calendars (seminars, courses, laboratories and other instructional activities); teacher-student relationship; the teaching-learning-evaluation process, location of study; education for students with special needs and disabilities; administration and secretariats. The present study analyses these queries in order to facilitate the smooth insertion of students into the academic environment and increase student retention.

**Keywords:** adaptation problems of students to higher education; challenges of higher education; insertion into higher education; higher education dropout.

## 1. Introduction

The transition from secondary to higher education implies not only a new status for students in their first academic year due to their affiliation to another professional group but also a multitude of challenges and queries. At this moment, students must face a wide range of social, financial, psychological and scientific problems or problems related to their own autonomy and freedom, adaptation, rapport, survival and planning, decision-making, assumption of responsibility, self-motivation, initiative, learning and performance.

It is worth mentioning that throughout their pre-academic education, most schoolchildren live with their parents and benefit from their financial, psychological or moral support and thus, their only obligation is go to school and do their home assignments. Nevertheless, once becoming a student, they move out of their parents' home, they "fly the nest" and, hence, they must face the challenges and meet the requirements of the higher education environment for the first time.

Consequently, students deal with more challenges than schoolchildren. Away from a parental and supporting environment and away from the rigid and compelling atmosphere of the high school or college, students are now facing a new lifestyle on their own, more precisely they must overcome shortcomings and all sorts of predicament, temptations but, at the same time, they must benefit from the opportunities their new status as a student may provide for them. The sheer effort of adaptation to all these simultaneous changes may hamper their smooth transition.

The international and national literature in the field conducted by Chemers, Hu & Garcia, (2001); Willcoxson (2010); Willcoxson, Cotter & Joy (2011); Briggs, Clark & Hall (2012); Bowles et al. (2014); McCulloch (2014); Sava et al. (2014), sustains that the problems students deal with in their first year of studies, such as accommodation, financial, social, psychological and educational drawbacks may bring about demotivation, absenteeism, low grades and school dropout. Moreover, the self-assessment U-Multirank test, carried out by the European Commission, claims Romania is among the top European countries by dropout rate in higher education, almost half of the students enrolled fail to complete higher education (U-Multirank 2014).

It deems fit to grow awareness about the difficulties students must overcome in their first year of studies. Hence, finding solutions may tip the balance in favour of retention among students who manage to adapt to the academic environment and complete their studies.

## 2. Research Methodology

The aim of the current research is to identify the challenges dealt with by students in their first year of study at University Politehnica of Timişoara (UPT). The research was conducted by means of 14 panel discussions, addressing the topic of Adaptation problems of Romanian students in higher education. Each panel discussion included 20 students.

The target group was made up of 280 students, 158 female students and 122 male students, aged between 19 and 22. They were all doing a Psychopedagogical training program and studying Computer Science (CS), Electrical Engineering and Power Engineering (EE&PE); Electronics, Telecommunications and Information Technology (ETIT); Industrial Chemistry and Environment Engineering (ICEE); Mechanics (ME); Production Management and Transport (PMT); Architecture and Urbanism (AU).

An outline of the research method

The research was conducted by means of Panel Discussion Method which involves a limited group of skilled people (5-6 competent and representative students) gathered to tackle an assigned topic in front of an audience. The rest of the students represent the silent audience who can only communicate through written notes handed in by a student playing the role of a "message sender". This method helps students learn to speak in front of an audience, to debate, to consider different points of view, to listen

carefully and attentively as well as to be disciplined throughout the discussions (Dinu & Todorescu, 2007).

#### 3. Results

## Adaptation problems of students in higher education and solutions

All 14 Panel Discussions addressed to students in their first year of study at UPT have identified a wide range of problems they face:

- 1. accommodation and food;
- 2. financial issues:
- 3. daily schedule and school timetable (courses, seminars, laboratories);
- 4. teacher-student relationship;
- 5. teaching-learning-assessment process;
- 6. location of study;
- 7. access to education for students with disabilities and special needs;
- **8.** contact with administration and secretariats.

In the aftermath of the research conducted, a list of solutions and recommendations is proposed below:

(1) Accommodation and food, addressed by students as follows: "accommodation problems in student hostels"; "accommodation is sometimes better, sometimes worse"; "unsatisfactory accommodation"; "student dormitories overcrowded – 5 students in only one room)"; "it's not normal to accommodate 5 students in a 4 student dormitory (e.g.: there are 5 beds in a room, 4 wardrobes, 4 shelves, 4 desks – so, 2 out of 5 students must share the furniture)"; "student hostel rarely or never upgraded"; "outdated furniture"; "broken and unfixed items of furniture"; "nobody replaces the missing furniture items (chairs, shelves)"; "more room cleaning required"; "deparasitation services to be done during off-days, preferably weekends and not during working days when there are many students inside"; "we shouldn't be forced to stay out all day long"; "too busy laundry schedule"; "lack of study rooms in student residences and inappropriately fitted"; "noisy study rooms in the student residence"; "unbearable noise from parties at night"; "misunderstandings and quarrels with the roommates"; "too long a queue at the canteen"; "same food served at the canteen every day"; "few eateries and food serving areas within the faculty premises".

It is worth mentioning the primary problem a student must deal with in October, at the beginning of the academic year, is accommodation in the student residence. After 1990, Romanian higher education has gradually lost its elitist reputation and has become a provider of mass education, thus triggering an increase in the number of students. Although the number of students has soared, the number of student residences and accommodation opportunities have mostly remained stagnant. As a rule, accommodation is provided according to student' educational performance and grades obtained throughout the previous study year. In the case of first year students, accommodation is provided according to their scores obtained in the admission examination (based on assessment of tests) or admission interview (based on assessment of files). Irrespective of the room distribution criteria, more often than not, availability in student residences is scarce and it fails to accommodate all students 'request for rooms. The ones who manage to get a place in a student dormitory must

face roommates, poor amenities, internal regulations and accommodation fees that, more often than not, do not meet the quality standards.

UPT provides places in the student residences for all students who make a request in this sense. In addition, it rents rooms for students at the West University of Timişoara, that is short of student residences and thus 5 students have to be accommodated in a room of 4.

Accustomed to their own lifestyle, room layout and the intimacy of their own living space, students must share the limited space of the dormitory, the kitchen, bathroom, washing machine with other 4-5 or even more roommates. Obviously, it becomes even more difficult for them to share the desk, wardrobe, bookcase and the books. Accommodation and adaptation are rather hard and it may inevitably lead to hot discussions, quarrels and conflicts. The solution for a smoother adaptation and co-living is to establish, by consensus, certain rules and regulations from the very beginning, regarding the cleaning and discipline, rest and study hours, party times, visits etc.

Students who fail to find a place in the residence may rent a flat or find a host, hence, this adds up to the cost of accommodation and this explains the rising property prices, every early September and October, when accommodation fees soar to highest levels as a result of an increasing demand by students.

Another problem is the shortage or insufficient number or inappropriately fitted study rooms in the premises of the student residence. A solution would be the use of the study spaces provided by Politehnica Library, a modern updated library, well fit for individual study.

**(2) Financial issues**, addressed by students as follows: "shortage of money; fees too high"; "rather low scholarship"; "insufficient funds for the merit aid scholarships".

In spite of their surviving efforts, a student, seeking financial independence in a time of economic transition, deals with a series of financial shortcomings regarding accommodation, transport, food, clothing, cosiness, attendance and acquisition of learning materials and bibliography not available at the Library; resources for scientific research, participation fees in various scientific events (conferences, symposiums, workshops, communication sessions); participation in cultural activities (theatre fares, cinema, shows, concerts, exhibitions, dance and drama classes etc.); clubbing and outdoor leisure activities with colleagues in cafes, bars, trips etc.

On one hand, students usually manage to overcome these financial drawbacks with the help of their families and, on the other hand, by landing menial jobs: private lessons for different school subjects, translations, editing, marketing campaigns for various products, part-time jobs in their own field of activity or in different work areas.

Another solution for students to deal with financial problems is to earn a study scholarship. Depending on the student's low income social background and educational performance, it can be a social, merit or performance aid scholarship. Nevertheless, these scholarships seem to be insufficient and low and only few are granted.

(3) Daily schedule and school timetable (courses, seminars, laboratories) addressed by students as follows: "reading the timetable in the first year"; "in high school, we had a regular 8-14 timetable"; "I have hardly adjusted to a hectic schedule, tiring and overloaded, some days we had classes from 8-20 with a 2 hour break"; "poorly planned schedule"; "overloaded timetable"; "timetable overloaded to a maximum"; "busy and puzzling timetable, breaks at inappropriate hours"; "the 8 o'clock classes are very tiring";

"weird timetable that keeps you stuck at school from 8 to 20 and hectic breaks"; "uncertainty and disorientation ( we don't know whom and what to ask)"; "the timetable is being changed too often in the first weeks"; "the academic quarter is overlooked; too many courses, no lunch breaks"; "lack of time for a meal"; "no time to relax"; "breaks are more often than not missed"; "too short a break between courses"; "very short breaks"; "very short relocation time for courses from one building to another"; "shift from high school to student life"; "communication problems with the other students"; "shift from classes to courses, seminars and laboratories"; "difficulty in taking notes during courses".

Another vital problem at the beginning of the academic year is reading the timetable for the first semester and sticking to it. For any novice student, the timetable raises problems of "reading, uncertainty and disorientation", often considered puzzling, "confusing and hectic" and "overloaded". Students complain because the timetable is "tiring, loaded to a maximum", "with breaks at inappropriate times", or "very few breaks between courses", even "lack of breaks" and, consequently they do not have enough time for a meal or relaxation.

In higher education, students assume responsibility for their own education, especially the scientific training, since the scientific standards are much higher and the focus is on the learning student rather than on the teaching teacher. As a result, adaptation seems difficult to achieve, as long as there are also problems concerning the "transition from high school to student life", "communication problems with the other students", "shift from classes to courses, seminars and laboratories"; "difficulty in taking notes during courses".

As far as UPT is concerned, a solution would be for the dean/tutor to assist students in reading the timetable and in clarifying the educational activities conducted in the first week, known as the introductory week or induction period. The aim is to help students read the timetable and distinguish between the type of educational activities: courses, seminars, laboratories, to find their bearings in the campus and premises and get familiar with the regulations, colleagues, teaching staff and the town etc.

Another possible solution is student counselling carried out by the experts of the Centre for Career and Professional Development at UPT. The aim is to offer them assistance in adapting successfully to the pace of the academic life and prevent school dropout. Students obtain better results when they feel the university takes good deal of interest in them and they are provided support (counselling, professional development, special courses for academic adaptation).

A perceptive insight into Educational Psychology is a solution to draft an efficient timetable. The literature in the field states that the best learning performance is achieved in the morning, between 9.00-11.00 since the cognitive capacity is growing. The same mental phenomenon occurs in the afternoon, between 17.30-19.30. The students' timetable must be fixed during these time intervals, to avoid the tiring and demanding periods. Apart from these time intervals and especially between 13.00-15.00, the intellectual performance is very low. The interval between 13.00-15.00 should be allocated to the lunch break and, if not possible, to activities that require a low amount of intellectual effort. Maximum performance is achieved on Wednesdays and Thursdays and low performance is registered on Mondays and Fridays. In order to prevent fatigue and physiological and intellectual strain, it is important to stick to breaks after every 40-

50 minutes of activity, lunch times, a balanced lifestyle, healthy food and sleeping hours (approximately 7-8 hours/night) (Todorescu & Mitroi, 2003).

A solution likely to teach students how to learn and take notes correctly and write a scientific paper, an essay, a report, a graduation paper, a review (extremely useful information in higher education) etc. could be a compulsory course on *Techniques and learning abilities and academic writing* that will provide students in their first year with the necessary know-how.

(4) Teacher-student relationship, addressed by students as follows: "eachercentred system"; "teachers' lack of empathy"; "what hurts me most is the teacher's lack of empathy"; "teachers more boring than a stone, who are very stiff but unprepared"; "a great deal of teachers who are bored and do their job because they have to"; "teachers who stay glued to the desk, do nothing, sit like a lemur with the mouth shut"; "some teachers prove they haven't done any psycho-pedagogical training or don't they need to?"; "no communication with the teachers"; "there's no relationship between teachers and students".

The transition from secondary to tertiary education is also about changing teachers and thus students face difficulties in creating rapport with them. Although higher education should focus more on the learning students and less on the teaching teacher as required by the student cantered education, students embrace a different perception and they talk about "a teacher centred system", "bored teachers"; "boring teachers"; "lack of communication and rapport with the teachers"; "teachers with no psycho-pedagogical training" etc.

Such a poor relationship with the teachers may be the result of tertiary education that force students to assume responsibility for their own professional development, commitment, perseverance and dedication, no longer supported by high school teachers always ready to motivate and boost their confidence, to offer constant feedback through periodical examinations and assignments.

Nevertheless, the teaching staff in higher education should understand that pedagogical efficiency is mostly determined by the already existing relationships between teachers and the educable. Teaching is construed as a psychological, social and pedagogical rapport established between teachers and the educable (schoolchildren and students). Furthermore, it is construed as a vital aspect of the educational process.

It is noteworthy to mention that the teacher-student relationship may have a positive or negative impact on the optimization of teaching and learning. Many learning barriers are the consequence of a poor relationship between teachers and students.

In addition, teachers can display a silent, contactless and stiff attitude towards students, one based on lack of communication and empathy or they are beginners in this field or they may have not done a psycho-pedagogical training program yet.

The solution would be the psycho-pedagogical training as a prerequisite for all teachers who seek a career in higher education before being hired or applying for the job. Therefore, every year, at UPT, the newly hired teachers or Ph. D candidates who are in the pursuit of a permanent job in higher education and willing to continue as assistant teachers, must attend the psychological and pedagogical training, organized as a postgraduate program so as to acquire the necessary teaching skills and competences.

(5) Problems regarding the teaching-learning-evaluation process, addressed by students as follows: "inappropriate teaching methods": "teachers' little interest in providing information and attractive materials"; "teachers who are unable to provide clear explanations and assume we know what they know after the Ph.D. program"; "teachers who are keen on us solving problems their way (no creativity allowed from our part)"; "teachers who cram slides with text and exercises and do nothing else but read the slides"; "we lose interest while reading the slides"; "boring courses when teachers read slides"; "unattractive slides that will get us disinterested"; "teachers who lecture by reading notes; "some teachers go off on a tangent during courses and laboratories"; "teachers making no pauses during dictation"; "disinterested teachers who will get students also disinterested in the subject"; "teachers who expect 100% attendance"; "full compulsory attendance to elective courses should not be a requirement"; "teachers who expect students to have full attendance although they do nothing but repeat the information on the slides"; "lab assistants who come only to read the lab guide and give no explanations"; "some teachers have proved stiff and insensitive"; "teachers are demanding and don't overlook a beginner's mistakes that are normal for an adjusting student"; "during seminars, teachers should solve problems step by step rather than write schemes"; "some courses must be updated so that students would learn about the new technologies"; "we are encouraged to ask for clarifications and then teachers seem hostile and look down on us"; "overload of information"; "overload of content, inappropriately delivered"; "courses not updated"; "no examples provided"; "too much theory, less practice"; "lack of correlation between theory and practice; less time allocated for applications; no call for action likely to get the student involved in applications": "ack of didactic support and materials": "lack of learning materials": "few books available at the library on a particular subject"; "too much focus on additional subjects with no relation with the field"; "too many tests and examinations (e.g. this week I had 3 tests on Wednesday and 3 more on Friday)"; "10 tests in one week"; "favouritism shown to some students"; "teachers giving grades as they please"; "there are teachers who give unfair grades, depending on the mood"; "sometimes examination papers are marked unfairly"; "results announced on very short notice, just before the next assignment (the evening before)"; "moody teachers who change the evaluation method and forgets to let us know"; "teachers are keen on failing us"; "we had no tutorials on algebra and geometry to prepare for the examination"; "stressful examination period".

The teaching-learning and evaluation process is perceived as problematic by students due to: inappropriate methods, mainly based on teaching by means of Power Point Presentations and the reading of slides; unattractive and outdated information; overload of information, theory not put into practice, teachers who change the evaluation method overnight and forget to notify students; too many tests and examinations in a very short time, unfair and biased assessment; lack of tutorials for exam preparation.

All these aspects require, once again, psychological and pedagogical competences. Hence, to enhance the didactic activity and develop a better teacher-student relationship, full tenured professors must do specialized psychopedagogical courses, likely to assist them in keeping updated with knowledge in higher education.

Nevertheless, there is a growing need for teachers to become aware of the students' learning problems so that they would properly guide them in the study process. Teachers must be mindful of students' low level of academic knowledge acquired in high school

and of their little competence in managing the workload, self-study and the responsibility for their own learning. Adaptation to the student life also consists of the rapport established with the teachers, the quality of education and fairness of assessment.

(6) Location of study, addressed by students as follows: "labs insufficiently equipped"; "lab unsuitably equipped"; "very few labs for applications"; "the lab is equipped with outdated computers that work very slowly, it's not normal to be like this in the faculty of Computer Science"; "lack of equipment in the labs to do the academic assignments"; "insufficient number of classrooms, unfitted"; "very small labs to accommodate a big group of students"; "inappropriate facilities in the labs"; "very small classrooms"; "no air-conditioning in the classrooms"; "it gets very cold in some classrooms"; "there's no central heating in some classrooms"; "inappropriate furniture"; "old classrooms, unfit for the present needs"; "you never find markers in the amphitheatres"; "old markers, you can't see a thing on the whiteboard if seated in the back".

The study environment, location and climate, is another problem students in higher education must cope with. They are of the opinion that some study spaces are: "old", "unsuitable", "too small for a big group of students", "unfit for present purpose and needs", "inappropriately furnished" or, as far as amenities are concerned, there is "no air conditioning"; "it is cold"; "no central heating in some classrooms".

It is well known that the study climate affects learning and fosters performance provided there is a personal study space for each and every student, it is airy, there are no disturbing factors (noises, other events taking place nearby etc.), good lighting (25-40 watts/m2), preferably natural light coming from the left side, cosy temperature (18-20°, in winter, 20-22° in summer), humidity 30-70%, air currents inside 0,1-0,3 m/s, space chromaticity (preferably light matte colours to block shadows), ergonomic posture while studying (backbone in upright position, 35-45 cm eye-book distance) etc. Learning efficiency and motivation as well as the power of concentration can be positively influenced on the grounds these requirements are met. However, the likelihood is that these study requirements be met at home, still, they should also be observed at university in order to ensure the quality of education. Despite huge efforts to upgrade the locations of study at UPT, there are still buildings not yet refurbished or upgraded for decades. (Todorescu & Mitroi, 2003).

Students also complain about lack of equipment in the labs so much needed for their academic tasks. In order to overcome this drawback, UPT changes the existing equipment every year and strives to replace the old one in order to ensure the quality of the learning process for the students. Unfortunately, the university cannot keep up the pace financially with the fast advancement of technology.

(7) Access to education for students with disabilities and special needs, addressed by students as follows: "lack of wheelchair access and ramps for students with disabilities"; "elevators out of order most of the time"; "no elevators in many story buildings"; "I cannot attend some courses because they are located in buildings with stairs and no ramps and I can't go up the stairs in a wheelchair".

The issue of disabled students is also identified by students and considered a barrier since: "there are no ramps available for students in a wheelchair"; "elevators are out of order most of the time"; "there are no elevators in buildings with many storeys". In

accordance with the European regulations, any building with stairs must be fitted with a ramp and elevators that allow access for people with disabilities.

It is worth mentioning that, in the past few years, UPT has taken measures to meet these requirements and has fitted ramps in some study buildings to ensure access for the disabled.

However, not all the buildings have been upgraded accordingly. Moreover, students complain that in some of the buildings, the elevators break down more often than not and they are unable to go up the stairs in a wheelchair. Hence, their access to the building is denied and so is their access to education. Their fundamental right to education and equal chances is obviously violated.

All in all, in the future, UPT should keep upgrading the buildings of study and fit them for purpose and special needs.

**(8) Access to administration and secretariats**, addressed by students as follows: "short working program"; "too much waiting time"; "secretariate door closed most of the time"; "unkind personnel".

Another problem identified by the students is related to administration and the personnel. Students complain about the short working schedule of the administration staff, about waiting time, poor services and unkind personnel.

The main responsibility of the faculty administration is to deal with the students' study papers, scholarships, financial aids and deductions, application forms and advice and thus the relationship with them is very important. A 2-hour working schedule a day is considered insufficient by students, not enough to manage to sort their problems. Furthermore, the unkind and inattentive personnel has a negative impact on the relationship with the students. It deems fit to underline the importance of this particular rapport with the students. Unfortunately, somewhere along the way, the very reason these secretariates have been created has got lost – to be the interface between the student and the institution.

The solutions would be to extend the working schedule and conduct a better recruitment of the administration staff who work with the students.

### 4. Conclusions

In conclusion, students must deal with the following challenging situations and problems:

- (1) problems regarding accommodation, overcrowded student dormitories. There is an increase in the number of students as a result of changes in higher education in the last decades. More precisely, the shift from an elitist higher education system to a mass education system. "Flying the nest" brings about additional challenges of individual management of resources;
- (2) financial problems, typical of any age, still more stressful at the beginning of a career. Hence, the need to land a job rather early, in their first years of study;
- (3) problems of adaptation to various educational activities that differ from high school or psychological and pedagogical gaps between teachers in high school and the academic teaching staff;
- (4) teacher-student relationship different from the paternalistic type of rapport established in high school;

(5) assessment problems as a result of differences from high school evaluations students were accustomed to.

All these problems concerning student adaptation to the academic lifestyle remain a challenge for teachers, students and university alike. The factors that trigger students' inadaptation to the academic background require the implementation of an academic counselling program that will nevertheless address adaptation, integration and learning support, based on prevention – continuous process, recovery – intervention and optimization – valorisation process.

By way of conclusion, as Vinţanu, N. (2001, p. 4.) stated: "Higher education is the land of experience, of human existence. It continuously puts us on trial, succumbing to temptations of knowledge, assimilation, eternal values and personal original action models. At the end of these trials, each bearing its own dynamics and insights, satisfactions and dissatisfactions, we reunite with our own selves, with our own being."

#### References

- 1. Briggs A.R.J., Clark, J. & Hall, I. 2012. "Building Bridges: Understanding Student Transition to University" in *Quality in Higher Education*, 18(1): 3-21.
- Bowles A., Fisher R., McPhail R., Rosenstreich D. & Dobson A. 2014. "Staying the Distance: Students' Perceptions of Enablers of Transition to Higher Education" in *Higher Education Research & Development*, 33(2): 212-225, DOI: 10.1080/07294360.2013.832157.
- Chemers, M. M., Hu, L.-t., & Garcia, B. F. 2001. "Academic Self-efficacy and First Year College Student Performance and Adjustment" in *Journal of Educational Psychology*, 93(1): 55-64. DOI: 10.1037/0022-0663.93.1.55.
- Dinu, A. I. & Todorescu L.L. 2007. Ghid de bune practici pentru învăţământul superior tehnic. Lucrul cu grupurile educaţionale în activitatea de predare. Timişoara: Editura Politehnica
- 4. McCulloch A. 2014. Learning from Futuretrack: Dropout from Higher Education. University of Warwick: Department for Business Innovation and Skills.
- 5. Sava S., Bunoiu M., Malita L, Isvoran A. 2014. "From Highschool to University. Coping with Students' Indecision in Choosing their Studies" at *International Bologna Process Researchers Conference: The Future of Higher Education*, 2426 nov. Bucuresti. <a href="http://fohe-bprc.forhe.ro/papers/">http://fohe-bprc.forhe.ro/papers/</a>.
- Todorescu, L.L. & Mitroi, M.M. 2003. "Consideraţii privind relizarea unui studiu individual eficiente" în Revista de Ştiinţe ale Educaţiei a Universităţii de Vest din Timişoara, anul V, 1-2(8-9): 37-45, Timişoara: Editura Universităţii de Vest.
- U-Multirank. 2014. "Compare Universities from all around the world". European Comision.www.umultirank.org
- 8. Vinţanu, N. 2001. Educaţia Universitară. Bucureşti: Editura Aramis Print.
- Willcoxson L. 2010. "Factors Affecting Intention to Leave in the First, Second and Third Year of University Studies: a Semester-by-semester Investigation" in *Higher Education Research & Development*, 29(6): 623-639, DOI: 10.1080/07294360.2010.501071
- Willcoxson L., Cotter J. & Joy S. 2011. "Beyond the First-Year Experience: the Impact on Attrition of Student Experiences Throughout Undergraduate Degree Studies in Six Diverse Universities" in Studies in Higher Education, 36(3):331-352, DOI: 10.1080/03075070903581533.