Tutoring in higher education: concepts and practices

Ana Margarida Veiga Simão

ana.simao@fpce.ul.pt

Faculty of Psychology and Educational Sciences of the University of Lisbon

Maria Assunção Flores

aflores@iep.uminho.pt

Institute of Education and Psychology of the University of Minho

Sandra Fernandes

sandra@dps.uminho.pt

Post-graduate student at Institute of Education and Psychology of the University of Minho

Célia Figueira

cfigueira@fpce.ul.pt

Post-graduate student and GAPE senior officer at the Faculty of Psychology and Educational Sciences of the University of Lisbon

Abstract:

An important topic in itself, tutoring assumes even greater importance in the light of the plans to implement a single academic model throughout the European Union. In this paper we examine some of the tutoring experiments currently being implemented in Portuguese universities, and the framework within which tutoring operates in a higher education context. The various kinds of tutoring — mentoring, curricular tutoring, academic tutoring and training-related tutoring — are implemented by higher educational institutions in their attempts to find a response to the needs diagnosed among students. Due to its scope and the possibilities for intervention it provides, tutoring is characteristically diverse in its manifestations. We go on to conclude that the diverse tutoring programmes and practices have been put together piecemeal as part of the concrete practices of each institution, in accordance with the characteristics of the students and the context, both of which point to the importance of, and recognition of, the need for training on the part of teaching staff, and the need for greater clarification of the role of the tutor.

Key words:

Tutoring, higher education, Bologna Declaration, guidance.

INTRODUCTION

With higher education facing new challenges in the light of commitments undertaken as part of the Bologna Declaration of 1999, increasing importance is being given to new teaching-learning models and to education centred on self-regulated learning (Veiga Simão & Flores, 2006). In a context where change is the only constant, higher education institutions have to be capable of analyzing, monitoring and anticipating major social and economic trends, foreseeing problems, contributing to solutions and influencing policy — and of nurturing "citizens who see themselves as knowledgeable, critically-minded and free, capable of living and working in a society which values critical reflection and liberty" (Simão *et al.*, 2005, p. 27). It is no longer possible nowadays to continue accepting the role of higher education as a mere add-on to acquired theoretical and scientific knowledge. Learning is now conceived of as a process which is active, cognitive, constructive, meaningful, mediated and self-regulated (Beltran, 1996), which means we have to rethink curricular organization models for courses and teaching methodologies (Simão *et al.*, 2002).

It is in this context that tutoring assumes special importance, given the academic model which is to be implemented on a European scale.

Our objective in this paper is to reflect on some of the experiments in tutoring currently underway in Portuguese universities, and to contribute to the construction of a conceptual framework for these experiments within the context of higher education.

TUTORING IN THE UNIVERSITY

Given its scope and its range of intervention, the tutorial function embodies features and characteristics of considerable range and diversity. Boronat, Castaño and Ruiz (2007) mention several dimensions, among which we can highlight: a) *the legal or administrative dimension* provided under current legislation; b*) the teaching or curricular dimension,* which interprets tutoring in terms of the curriculum, with regard to content and the programme followed by curricular units; c) *the academic or educational dimension,* which addresses the assistance given to students in their endeavours to pursue their academic activities with success, while promoting autonomy in their studies; d) *the personalized dimension*, which addresses personal interaction (the tutor provides special help in cases of particular difficulties and offers guidance to students on their educational development) and careers advice (the tutor advises on which curricular options to select and on the possible career outlets associated with the options); e) *the practical dimension,* which, in certain courses (teaching, medicine, nursing etc.), has a long tradition in which university teachers and tutors are involved; f) *the distance tutoring dimension*, characteristic of teaching environments in which teacher and student are physically remote; g) *the awareness of diversity dimension*, since universities now accommodate students with different problems stemming from their personal characteristics and from the social, economic and cultural

characteristics of the modern age; h) *the peer tutoring[1] dimension,* which exists in many foreign universities and in which mentors simultaneously play an intermediate role and act as tutors for the groups of students (or individual student) in their charge.

The multiple possibilities that all these kinds of tutoring present may respond to the perceived need to create and cultivate, among the teachers and students of the university, a culture of guidance and tutoring. But a mere declaration of intentions is not enough. The university teacher-tutor becomes the teacher of reference of the group of students which s/he is in charge of. Lázaro (2002) sees the university teacher-tutor as the guardian of the human and scientific development of the student as an individual, not as an abstraction, who is also responsible for keeping an eye on the student's entire learning process and who seeks to identify the student's strengths and weaknesses. This makes it possible to establish a series of objectives for tutoring action: guiding students in their knowledge of the university to promote their integration in the new university context, informing students on academic and/or career issues, encouraging participation in the different aspects of university life, reflecting on the academic and personal development of students, and evaluating the need for tutoring assistance as an instrument of knowledge and reflection

in the university education process. The emphasis accorded each of these dimensions generates different tutoring models. Carrasco Embuena and Lapeña Pérez (2005) note that we can identify in the different conceptions of university tutoring a set of common characteristics which may be summarized as follows: a) tutoring is a form of guidance which is intended to promote and facilitate the all-round development of students, in the intellectual, emotional, personal and social aspects; b) tutoring is a teaching task which personalizes university education via supervision on an individual level, which enables students to build their knowledge and attitudes and bring them to maturity, helping them plan and develop their academic progress; c) tutoring is an action which enables active integration and preparation of students in the university institution, channelling and dynamizing their relations with the different university services (administrative, teaching, organizational etc.), ensuring the adequate and cost-effective use of the different resources which the institution makes available.

An analysis of the various tutoring programmes and practices implemented in higher education institutions, such as the tutoring programme in Lisbon's Instituto Superior Técnico,[2] the tutorial action in the university of Alicante,[3] the AIA programme at the Instituto Politécnico of Castelo Branco[4],

TABLE 1

SOME ESSENTIAL ASPECTS OF TUTORING SYSTEMS

CATEGORY	INDICATORS
Dimensions / modes	Administrative, curricular, academic, personalized, etc.
Objectives	Promoting the acquisition of skills, consolidating learning across different disciplines, promoting and facilitating the integral development of students, reflecting on the academic and personal development of students, etc.
Content	Learning strategies, social skills, communication skills, etc.
Target groups	Course groups, school year groups, class groups, students considered individually, ERASMUS students etc.
Types	Presence, distance; compulsory, optional
Timetables	Included / not included in the academic timetable, etc.
Nature	Formal encounters — classes, meetings; informal encounters etc.
Characteristics	Smaller classes, additional number of tutoring hours etc.
Tutor	Teacher from curricular unit, course teacher, final year student etc.
Assessment	Positive results (bringing teachers and students closer together, improved student integration); constraints (tiredness and reduced performance due to excessive timetable burden) etc.

and the PANA fresher assistance programme in the faculty of psychology and educational science at the university of Lisbon, reveals significant diversity in the way these practices and programmes are implemented, as shown in Table 1 on the previous page.

The various tutoring programmes and practices have taken form in the specific context of their host institutions, in accordance with the characteristics of the students and the educational milieu.

EXPERIMENTS IN TUTORING

The need to provide guidance and support to university students is nowadays acknowledged by higher educational institutions, which seek to provide ways of responding to this need. Tutoring, mentoring[5] and curricular tutoring are some of the solutions developed by these institutions in their attempt to respond to the support and guidance needs of their students. Below we take a closer look at two of these experiments.

THE PANA FRESHER ASSISTANCE PROGRAMME AND THE PAEE MENTORING PROGRAMME FOR ERASMUS STUDENTS AT FPCE-UL

As part of the reception it extends to its new students, the psychopedagogic student support service (GAPE) at FPCE-UL implements two student assistance programmes[6]. Both programmes are structured according to the precepts of peer mentoring[7]. They place emphasis on mutual assistance among peers and attach importance to close ties, with modelling behaviour (Bandura, 1969) which can facilitate the promotion of efficient integration of new students on their entry into university or college (Welling, 1997). The motto is to help instead of direct — taking into account emotions and opinions, exploring and striking compromises (Wallace & Gravells, 2005).

Each of the two programmes implemented by GAPE at FPCEUL is directed at different target groups: the PAEE assistance programme for foreign students attending the university as part of the ERASMUS scheme (academic years 2006/2007 and 2007/2008); and the PANA freshers assistance pro-

gramme for students entering the university in the 2007-2008 academic year.

In general terms, the principal objectives of a mentoring programme directed at higher education students are to integrate new students in their new learning environment and to promote their personal and interpersonal development, with a view to promoting their well-being: helping students get to know their university, how it works, its geographic context, creating a "safety net" to prevent social isolation, defining the academic objectives of students and helping them attain these objectives and gain acquaintance with the skills required for the course they are following.

In the specific case of assistance for foreign students, these students are considered as newcomers in a strange country and a strange university, but not as freshers — it is assumed that they are already integrated into the higher education system of their countries of origin and that they are already familiar with the content of the course they are following.

Some of these students spend only one term at the host university, which means the assistance they receive has to address more immediate objectives such as rapid integration and adaptation to the new study milieu.

This assistance is based on the premise that the needs of foreign students are essentially related with the expectations of teachers and fellow students with regard to their integration and academic performance, the clarification of the objectives inherent to their study programmes, communication with their fellow students, and practical issues such as administrative, financial and logistic requirements, as well as the problems encountered when living in an "alien" culture.

To respond to all of these potential needs, the students who liaise with these incoming students — the mentors — are expected themselves to have participated in the ERASMUS scheme, so that they can draw on their own experiences of the difficulties they faced and the solutions they encountered when helping and meeting the needs of the new arrivals.

Mentoring programmes are implemented over five phases:

1. Identification and recruitment of mentors: in May/June, the ERASMUS coordinator of the

FPCE is asked to get in touch with students who studied abroad in the previous or present (in the case of PAEE) academic year; the programme is disclosed in its general outlines, with an appeal for students to come forward as volunteers, via in-class recruitment drives which aim to assemble a group of around 40 volunteers (in the case of PANA); also with PANA, mentors are appointed in pairs, comprising wherever possible one 2nd-year student and one student from a higher year. This system allows *protégés* to draw on the more immediate experience of their 2nd-year colleague while also benefiting from the longer-term input of the mentor from a higher year;

2. Dissemination of the programme among assisted students (the *protégés*): in the case of PAEE, in June/July the ERASMUS coordinator responsible for the reception of the foreign students is asked to provide the e-mail addresses of the students, so that they can be contacted and invited to participate in the PAEE programme; s/he is also asked to provide, where possible, information on the dates and times of arrival of the students, so that their mentor(s) can meet them on their arrival at the airport;[8] in the case of PANA, during matriculation week the mentors (who by now have been organized into pairs) meet the new students, help them choose their timetables, and encourage them to enjoy the benefits of the mentoring programme; following this initial contact some 90% of new students sign up for the programme, with each assigned to a group and a pair of mentors;

3. Training of mentors (September). Training modules cover the following themes: the role of the mentor and the values inherent to the mentor-*protégé* relationship; dealing with "typical" situations; solving problems; empathy, communication, cultural diversity; and study and learning strategies and organization. Training methods essentially fall into two categories: discussion in small groups, and the exchange of conclusions and role-playing scenarios in large groups;

4. Development of mentor-*protégé* relationships. Students are approached within days of their arrival; follow-up contact takes place in the first week of classes or in the week following the arrival of the students (i.e. at a time when the students can be found on an everyday basis, either in the university or when socializing at night); in the period spanning the 2nd to 5th week of classes / sojourn at least two further scheduled meetings are organized, on themes addressing e.g. the organization of timetables and study plans; and a new formal meeting is held during the first round of examinations. All formal meetings are held in a group setting, with each pair of mentors heading a group of 8 to 12 students;

5. Supervision and assessment of the programme. The programme is assessed at various stages: at the beginning (before intervention; in the case of the mentors, before training, and in the case of the *protégés*, at the moment of their arrival); at the end of the first round of examinations; and at the end of the academic year (all participants). The assessment process is designed to gauge the degree of satisfaction of the participants and evaluate the impact of the programme both on *protégés* and mentors, taking into account a series of variables inherent to the processes of adaptation to the new academic milieu and subjective perceptions of well-being.

After one year of the programme, the programme can be provisionally pronounced a success: its objectives — helping students adapt rapidly to their new environment — have been and continue to be met, particularly where the interpersonal component and integration in the new institution are concerned. However, some mentors have voiced their dissatisfaction with the degree of commitment among new students to the challenges which the programme poses them. The group component, in some cases, does not work. Casual, person-to-person encounters are more frequent, and more productive, than group meetings.

The evaluation of the impact of these programmes in adaptation processes and the promotion of the well-being of their participants has been the subject of a more detailed study of the benefits deriving from the participation of higher education students in voluntary social and peer assistance initiatives. Benefits are defined in accordance with indicators such as well-being, academic achievement and careers advice.

PROJECT-BASED LEARNING: THE ROLE OF THE TUTOR

The shift towards a more active approach to teaching and learning has been one of the principal consequences of the implementation of the Bologna Process in the courses offered by Universidade do Minho. More particularly, since 2004-2005 the engineering and industrial management course (MIEGI, now "Mestrado Integrado") has included a teaching--learning component based on cross-disciplinary projects — Project-Led Education (PLE)[9] — with first-year students following this course. This approach to learning incorporates a methodology which emphasizes group work, resolution of cross--disciplinary problems and the articulation of theory and practice in a project which culminates in the presentation of a solution / product devised in real conditions and related with the future professional context (Powell & Weenk, 2003). The aforementioned authors identify the principal characteristics of the PLE methodology as the emphasis on learning and the active role which students must play in their learning processes, and the development of so--called "soft" cross-disciplinary skills which extend beyond the immediate technicalities of the subject.

The verdict so far has been positive on the whole, among both students and teachers, and the project has shown itself to make an effective contribution to the active involvement of students in their own learning processes, in this way helping them improve their performance in the first year of their studies — the year which is generally considered as critical to the success of their course.

The impact of this experiment has been evaluated in a more detailed study carried out as part of a doctorate course on project-led education. Its principal objective is to identify the set of variables which contribute to the successful implementation of this teaching-learning methodology. This paper confines its scope to the role of the tutor in monitoring the progress of the project and of group work.

The tutoring process in PLE
The role of tutor in PLE is normally performed by lecturers from the curricular modules included in the project, with a group of students formed on the first day of the term. The number of students annu-

ally participating in the PLE project has ranged between 37 (2006/2007) and 44 (2004/2005). Groups generally comprise 6-8 members. In the formation of the groups, care is taken to ensure a degree of heterogeneity, i.e. to distribute students in such a way as to ensure an even representation of variables such as gender, previous skills for the development of the project (e.g. 12th-year chemistry), the degree of affinity with other parts of the course, and other pertinent factors. Typically, each PLE project comprises 6 groups and 6 tutors.

The principal functions of the tutor, as enumerated in the Learning Guide for 2007/2008, are to make group work more dynamic and to monitor the progress of the project and of individual learning.

The tutoring process in MIEGI is organized along fairly systematic and continuous lines. Generally speaking, all groups meet their tutor every week to discuss issues related with the development of the project and the operation of the work group. Tutorial meetings are held in the project rooms of each group, at a pre-scheduled date and time. Tutorial meetings are not included in students' timetables: the tutor and the group are responsible for setting a time most convenient to all involved.

In terms of responsibilities, the tutor not only assists his/her group but also acts as the project's scorekeeper, recording and monitoring the milestones plotted for the development of the project. For example, in the formal presentation of students and in extended tutoring sessions, the tutors conduct the discussion phase for each of their respective groups.

Perceptions of tutoring in PLE
To gauge the sentiments of PLE tutors, we interviewed them on their experiences as tutors, the practices they followed in meetings, their interventions in the student assessment process, their feelings about how tutors should ideally intervene, the conditions necessary for good tutoring practices, and the principal skills of the tutor. Below we provide a summary of the principal conclusions gleaned from our interviews with these PLE tutors.

The views of the tutors
The first part of our interview centred on the experiences of tutors in PLE projects. 3 of the 9 tutors interviewed had participated in only one tutoring ex-

periment; the remaining tutors had previously participated in at least 2 PLE projects as group tutors.

Our interviews revealed that not a single tutor had any formal training in tutoring, with most qualified merely in the teaching-learning methodology based on cross-disciplinary projects devised by Peter Powell of the university of Twente in the Netherlands. Other training in areas as diverse as communication, leadership skills, team management, project management, motivation etc. have helped teachers in their work as tutors.

In the immediate context of the MIEGI, tutors expressed satisfaction with and, in some cases, a sense of personal fulfilment from, their work. The overall verdict of the tutors on their tutoring experience has so far been positive. The close relationship with students, and a better understanding of the principal motivations, interests and problems shared by all new arrivals in a university, are some of the advantages which tutors pointed to as a result of their supervision of their students.

With regard to the principal difficulties experienced during the process, tutors identified the following aspects: their lack of tutoring experience (the need to "test the ground", learning as they go), the difficulties they encountered in motivating their groups behind the project, their difficulties in "winning over" their groups, uncertainties with regard to the extent of the tutor's jurisdiction, the accumulation of functions (tutor plus teacher), the lack of availability (their sense that students would like to spend more time with their tutors, with the latter not having the time), the willingness to make the group more dynamic, difficulties in coordination between tutors, teachers and coordination team, permanent adaptation (the theme embraced by the project required research in areas which do not strictly lie within the tutors' sphere of competence), the immaturity of the students (with other motivations competing with learning *per se*, such as meeting friends, finding a boyfriend/girlfriend, going out at night, practising sports etc.). Of all the tutors interviewed, only one claimed not to have encountered any difficulties during the tutoring experiment, noting that the groups s/he tutored never revealed problems with regard to group dynamics and that therefore the supervision given to the groups was essentially centred on the more technical aspects of the project,

an area in which the tutor felt perfectly equipped for helping the students.

The experience acquired over several PLE projects in recent years has allowed tutors to correct and improve certain of the procedures adopted in their tutoring work. All tutors felt the characteristics of the group itself to be decisive in the definition of the posture adopted by the tutor in his/her interaction with students. However, another major influence was the individual style of the tutor, which essentially had to do with his or her personality and professional modus operandi, factors which are equally visible in the way tutors conceive and develop their tutoring practices.

Many of the principal changes and adjustments implemented by tutors had to do with procedures of a more formal character, such as making sure that minutes of tutoring meetings were taken and moving meeting venues to places not restricted exclusively to the tutoring group. These two strategies were designed to solve communication problems between tutor and group — written records of the issues discussed at meetings and, in the second instance, improved concentration by students, who are easily distracted by other tasks and preoccupations related with their immediate environs. After some of these changes, one of the tutors claimed to detect a clear change in the attitude of the students, who as a result of a change of venue adopted a more serious and attentive attitude in the meetings.

Other changes introduced by tutors were directed at attitudes revealed with regard to the resolution of problems related with group dynamics, such as one-to-one conversation with each group member at some stage in the project, the prohibition of the repeated use of certain expressions related to group demotivation, the need to have an open attitude towards the group, and the exposition of personal issues which may be factors in the problems faced by the group at a given moment in time, among other activities.

The interviews allowed us clearly to identify a set of functions[10] related to the task of tutoring:

i) Providing the group with feedback during the preparation, and after implementation, of each of the project control points.

ii) Supporting the group in the taking of deci-

sions relative to the project, which in some cases means monitoring group preferences even where the options under discussion place the success of the project at stake. Tutors have to show that they believe in the decisions made by the group, and have to encourage the group to adopt an ambitious attitude towards the project, encouraging it to work constantly harder and better.

iii) Increasing group motivation, promoting dialogue, interaction and informal exchange among the members of the group and between the members and the tutor (given that demotivation of students mostly derives from social interaction problems), and seeking to cultivate a team spirit.

iv) Showing an interest in the individual learning progress of students, trying to find out how the students in the various curricular units are getting on, either via open discussion with the tutor's own group or via information gleaned from coordination meetings, where teachers regularly conduct a diagnosis of students vis-à-vis the evaluation of the respective curricular unit. Although most tutors recognize that this function is not easy to monitor over the course of the tutoring process, they did say they had made some efforts in this direction.

As for the role of the tutor in the student evaluation process, opinions vary. Some tutors feel that the areas for which they are responsible can make a contribution to evaluation, such as the cross-disciplinary skills of the students in their group. Other tutors argued that teachers too can and should play an important role in the evaluation of the cross-disciplinary skills of students: since they spend so much time with them, especially in supervised learning situations, they have a clearer perspective on the realities of the situation. The opposite too may happen, however: teachers may have different views of the performance of their students as a result of the students' evaluation of their curricular units, and this may compromise the validity of the evaluation process.

In addition to the evaluation of cross-disciplinary skills, some tutors feel that the evaluation of content ultimately constitutes a legitimate object of appraisal on the part of the tutor, albeit a less significant one in view of the fact that it is very difficult to separate one part from the other.

When questioned on the principal skills required of a tutor, most teachers reflected the opinions of their students in citing aspects essentially related with the attitude to be adopted by the tutor with regard to his/her group — the willingness to listen, to show interest and concern, to enjoy contact with students, to be friendly, sincere and open with them, to deliver what is expected of them and, as one tutor said, to be a "good parent" for the students.

Other skills related with the methods adopted by tutors have to do with the role of the tutor as a facilitator in the learning of his/her students. The function of the tutor is not to direct but to guide, providing the group with all the necessary assistance and incentives but demanding in return a rigorous and serious approach to group work. Tutors should be ambitious, and not settle for merely "acceptable" achievement from their students, but instead impress upon them the need not only to do the job but to do it well.

In the event they were asked to give and advice or suggestions to potential PLE tutors, those with experience in this field indicate that being available for students is the key factor. Some tutors compare tutoring with guidance work, as there is no single standard or ideal method of intervention; constant adaptation and re-adaptation is required as the complexion of the group changes and as the project progresses. Sometimes it is better to adopt a more dirigiste posture; in other cases it may be enough simply to raise certain questions for the group rapidly to hit upon the best strategy for the pursuit of its objectives. This is a job which requires a certain "artfulness", as one of the tutors remarked.

The resources cited by tutors for the successful performance of their functions were mainly related to training in various areas such as project management, communication, team work, conflict management, learning styles etc., all of which help equip the tutor with the skills and knowledge s/he requires in determining which is the best posture to adopt (more rigid, more flexible etc.) in view of the profiles of the students and the type of situations encountered in the course of the tutoring process.

In the opinion of one tutor, previous briefing on the characteristics of the students may help tutors deal better with the heterogeneous composition of

many groups.

THE VIEWS OF THE STUDENTS

Perceptions of MIEGI students of the performance of their tutors during implementation of the project have been fairly positive. The findings, taken from a questionnaire-based survey at the end of the PLE experiment (2nd term 2006/2007), revealed that most students gave the tutors in their groups a rating of between 8 and 10 on a scale of 1 to 10.

In the light of the functions of the tutor as proposed by Guedes *et al.* (2007), in the MIEGI context and in accordance with the opinions of its students the role of the tutor is essentially associated with the figure of "facilitator" and "motivator" rather than "specialist" and "evaluator". No student made any reference to the role of tutor as evaluator. As for the tutor as "specialist", some comments on to the intervention of the tutor on the level of the technical aspects of the project were made, although none stressed the importance of this aspect.

The key categories which we can identify in the discourse of the students on the role of the tutor concern not only the skills which the tutor should mobilize during his/her involvement in the project (Table 2) but also, and more importantly, the attitudes revealed by the tutor in his/her interaction with students.

TABLE 2
SKILLS REQUIRED OF TUTORS
(IN THE OPINION OF STUDENTS)

TUTOR SKILLS	F
Approachability (being on hand all the time; being available to listen to the group)	11
Stimulating group motivation (making the group more dynamic; making it lively; improving group morale)	9
Monitoring and contributing to project progress (giving ideas; helping the group make decisions; helping in the preparation of control points; providing the group with feedback)	6
Helping the group solve problems (providing support in difficult moments; maintaining group unity)	3

Of the attitudes cited by students as the most important in the work of the tutor, the correlations established between the different attitudes yield three principal categories.

· The first category concerns the attitude of the tutor with regard to his/her performance in the tutoring function, with the following aspects the principal benchmarks of this attitude: responsible, attentive, concerned, dedicated, hard-working, interested, organized.

· The second category emphasizes the attitudes of the tutor with regard to the resolution of the problems faced by the group. Here the qualities most valued in a tutor are sincerity, directness, impartiality, justice, equanimity, critical posture, and respect for others.

· The third and final category concerns tutor-student interaction. The adjectives recurrently cited in describing the ideal tutor attitude in interaction between the tutor and the group and/or individual students were: friendly, nice, helpful, communicative, patient, understanding, outgoing, approachable, relaxed.

To arrive at a final verdict on the PLE experiment over two consecutive terms, the coordination team organized a workshop with the objective of reflecting on the process and identifying points for improvement. Generally speaking, the students participating at this workshop cited the principal functions of the tutor as: orienting the group, promoting group motivation and confidence, helping the group overcome conflicts, and stimulating debate. They also mentioned availability as a fundamental requirement for the successful accomplishment of the tutor's role.

When asked for their suggestions on how things could be improved in future projects, the students reiterated the idea that tutors should not be teachers from any of the curricular units included in the projects. They stressed the importance of greater informal contact between tutor and group (e.g. extra-curricular activities), with tutor-student relations striking a correct balance between respect and "feeling at ease". Students generally acknowledged the importance of the figure of the tutor, without whom, they said, it would have been more difficult to get to the end of the project.

CONCLUSIONS

By way of a brief conclusion we shall now cite some of the key ideas to have emerged from the debate and experiences examined in this paper. In addition to the recognition and valorization of the tutoring processes and practices in different contexts and their positive effects on students, but also for the teachers involved (as is the case of the PLE experiment in the university of Minho), and despite certain obstacles and difficulties, three principal issues deserve special mention. Firstly, the importance of the need for training in tutorial tasks, and the recognition of this importance; this also involves a more detailed exposition of the functions of the tutor, on the basis of the recommended model, alongside the joint construction of mechanisms for regulating and monitoring these processes. The decisive importance of feedback in training deserves special attention from those who organize and develop these programmes. Secondly, and as a follow-on from the first point, is the importance of clarifying the role of the tutor as a person who provides support and carries out evaluation. How do we strike a balance between these two functions?

What are the implications when it comes to selecting a tutoring model? The friction likely to arise from the clash of these two functions needs to be accounted for in the framework of a continuum ranging from a greater to a lesser degree of structuring of tutoring and mentoring programmes and practices, within the scope of the nature of the assistance provided and of the stated objectives (*see*, for example, Johnson, 2008). Thirdly, and again as a follow-on from the first two ideas, it is important that collaboration is conceived as a strategy for the promotion of tutoring and mentoring practices if the challenges posed by the diversity of student profiles are to be properly addressed and the quality of training is to be improved. As Veiga Simão, Caetano and Freire (2007, p. 68) argue, "if we believe that the student can be the architect of his own knowledge, participating in collaborative processes with his peers under the guidance of a teacher, why should teachers not equally develop their skills and professionalism via contact with their peers at their place of work?" Thus, as with tutoring between tutor and student(s), peer mentoring processes can represent an opportunity for personal, academic and professional development.

Endnotes

1. The literature, in the English-speaking academic world especially, makes frequent use of the expression "peer mentoring" (*see* for example Terrion & Leonard, 2007). This text uses the two terms indiscriminately.

2. *See* http://gep.ist.utl.pt/html/tutorado (01-2008).

3. *See* http://www.ua.es/ice/tutorial (01-2008).

4. *See* http://www.ipcb.pt/index.php?option=com_content&task=view&id=509&Itemid=637 (01-2008).

5. The satisfactory definition of the term "mentoring" is one of the difficulties faced by research in this area, since it is a term which often overlaps and is confused with others such as "tutoring", "advisorry services", "guidance/supervision" (Barnett, 2008; Colvin, 2007; Denisson, 2000; Pereira, 2005; Rose & Rukstalis, 2008) and "coaching" (Healy, 1997). What distinguishes "mentoring" from other kinds of teaching and/or assistance relationships is that it is designed for use in a transitional context — helping the recipient make the transition from one state to another (Wallace & Gravells, 2005).

6. In the case of students in higher education, various researchers (Cooke *et al.*, 2006; Dias, 2006; Jones & Frydenberg, 1999; Soares *et al.*, 2006) have concluded that for most students their 1st year at university is a criitical phase in the process of adaptation to higher education — and the 1st term of the 1st year is *the* time for preventive action (Jones & Frydenberg, 1999).

7. For a review of peer mentoring experiments focused on the characteristics of the mentors, *see* Terrion & Leonard (2007).

8. The programme was organized along the lines of one pair of mentors for one group of 8 to 12 students, in this way ensuring that for each pair there are students with knowledge of the languages of the countries represented in the group and also of the courses followed by each member of the group.

9. For more details on how the PLE project operates in MIEGI and the findings of the related evaluation process, *see* Lima, Carvalho, Flores & van Hattum-Janssen (2005, 2007); Carvalho & Lima (2006); Alves, Moreira & Sousa (2007); Fernandes, Flores & Lima (2007a, 2007b); Lima, Cardoso, Pereira, Fernandes & Flores (2007).

10. Other functions performed by the tutors as part of the same experiment are described in greater detail in Alves *et al.* (2007).

Bibliographical references

Alves, A. C.; Moreira, F. & Sousa, R. (2007). O papel dos tutores na aprendizagem baseada em projectos: três anos de experiência na Escola de Engenharia da Universidade do Minho. *In* A. Barca; M. Peralbo; A. Porto; B. Duarte da Silva & L. Almeida (eds.), *Libro de Actas do Congresso Internacional Galego-Portugués de Psico-Pedagoxía*. Número extraordinário da Revista Galego-Portuguesa de Psicoloxía e Educación. A Coruña: Universidade da Coruña, pp. 1759--1770.

Bandura, A. (1969). *Principles of behaviour modification*. New York: Holt, Rinehart and Winston, Inc.

Barnett, J. E. (2008). Mentoring, boundaries, and multiple relationships: opportunities and challenges. *Mentoring & Tutoring: Partnership in Learning*, 16, 1, pp. 3-16.

Beltran, J. (1996). Concepto, desarrollo y tendencias actuales de la Psicología de la instrucción. *In* J. Beltran & C. Genovard (eds.), *Psicología de la instrucción: variables y procesos básicos*. Vol 1. Madrid: Síntesis/Psicología, pp. 19-86.

Boronat Mundina, J.; Castaño Pombo, N. & Ruiz Ruiz, E. (2007). *Dimensión convergente de la tutoría en la universidad: tutoría entre iguales*. Retrieved January 2008 from http://www.eduonline.ua.es/jornadas2007/comunicaciones/2G3.pdf

Carrasco Embuena, V. & Lapeña Pérez, C. (2005). La Acción Tutorial en la Universidad de Alicante. *Investigar el diseño curricular: redes de docencia en el Espacio Europeo de Educación Superior*. Vol. 2. Alicante: Universidade de Alicante, pp. 329-358.

Carvalho, D. & Lima, R. M. (2006). Organização de um Processo de Aprendizagem Baseado em Projectos Interdisciplinares em Engenharia. *In* Z. Martin; C. Pravia; L. A. Consalter & V. M. Rodrigues (eds.), *Livro de Actas do XXXIV Congresso Brasileiro de Ensino de Engenharia COBENGE´2006*. Passo Fundo — Rio Grande do Sul: Universidade de Passo Fundo, pp. 1475-1488.

Colvin, J. W. (2007). Peer tutoring and social dynamics in higher education. *Mentoring & Tutoring: Partnership in Learning*, 15, 2, pp. 165-181.

Cooke, R.; Bewick, B. M.; Barkham, M.; Bradley, M. & Audin, K. (2006). Measuring, monitoring and managing the psychological well-being of first year university students. *British Journal of Guidance & Counselling*, 34, 4, pp. 505-517.

Dennison, S. (2000). A Win-Win Peer Mentoring and Tutoring Program: A Collaborative Model. *The Journal of Primary Prevention*, 20, 3, pp. 161-174.

Dias, G. F. (2006). Psicoterapia breve dinâmica com estudantes do ensino superior. *In* G. F. Dias (org.), *Apoio Psicológico a Jovens do ensino superior. Métodos, técnicas e experiências*. Porto: edições ASA, pp. 53-83.

Fernandes, S.; Flores, M. A. & Lima, R. (2007a). Avaliação de uma experiência de ensino-aprendizagem baseada em projectos interdisciplinares. *In* C. R. Brito & M. M. Ciampi (eds.), *Proceedings of ICECE 2007 International Conference on Engineering and Computer Education*. Monguaguá: COPEC — Council of Researches in Education and Sciences and Institute of Electrical and Electronics Engineers, pp. 422-426. ISBN 85-89549-38-0. Retrieved January 2008 from http://www.copec.org.br/icece2007/

Fernandes, S.; Flores, M. A. & Lima, R. (2007b). Project-Led Education in Engineering: Monitoring and Assessing the Learning Process. *In* L. Szentirmai & T. Gyula Szarka (eds.), *Joining Forces in Engineering Education Towards Excellence*. Proceedings SEFI and IGIP Joint Annual Conference 2007 [CD-ROM]. Miskolc: University of Miskolc. ISBN 978-963-661-772-1.

Guedes, M. G.; Lourenço, J. M.; Filipe, A. I.; Almeida, L. & Moreira, M. A. (2007). *Bolonha. Ensino e aprendizagem por projecto*. Lisboa: Centro Atlântico.

Healy, C. C. (1997). An Operational Definition of Mentoring. *In* H. T. Frierson Jr. (ed.), *Diversity in Higher Education*. Londres: Jai Press Inc, pp. 9-22.

Johnson, W. B. (2008). Are advocacy, mutually, and evaluation incompatible mentoring functions? *Mentoring & Tutoring: Partnership in Learning*, 16, 1, pp. 31-44.

Jones, B. & Frydenberg, E. (1999). Who needs help and when: coping with the transition from school to university. Paper presented at the *Annual Conference of the American Educational Research Association*. Montreal, Canada.

Lázaro Martinez, A. J. (2002). La acción tutorial en la función docente universitaria. *In* Víctor Álvarez & Ángel Lázaro (coords.), *Calidad de las Universidades y Orientación Universitaria*. Málaga: Ediciones Aljube, pp. 249-281.

Lima, R. L.; Cardoso, E.; Pereira, G.; Fernandes, S. & Flores, M. A. (2007). Aprendizagem baseada em Projectos Interdisciplinares num Curso de Engenharia: uma Leitura dos Resultados Académicos. *In* A. Barca; M. Peralbo; A. Porto; B. Duarte da Silva & L. Almeida (eds.), *Libro de Actas do Congreso Internacional Galego-Portugués de PsicoPedagoxía*. Número extraordinário da Revista Galego-Portuguesa de Psicoloxía e Educación. A Coruña: Universidade da Coruña, pp. 1269-1280.

Lima, R. M.; Carvalho, D.; Flores, M. A. & van Hattum-Janssem, N. (2005). Ensino/aprendizagem por projecto: balanço de uma experiência na Universidade do Minho. *In* B. D. Silva & L. S. Almeida (eds.), *Actas do VIII Congresso Galaico-Português de* Psicopedagogia. Braga: Centro de Investigação em Educação (CIEd) do Instituto Educação e Psicologia da Universidade do Minho, pp. 1787-1798.

Lima, R. M.; Carvalho, D.; Flores, M. A. & van Hattum-Janssem, N. (2007). A case study on project led education in engineering: students' and teachers' perceptions. *European Journal of Engineering Education*, 32, 3, pp. 337-347.

Pereira, A. S. (2005). *Para obter sucesso na vida académica: apoio dos estudantes pares*. teoria poiesis praxi. Aveiro: Universidade de Aveiro.

Powell, P. C. & Weenk, W. (2003). *Project-Led Engineering Education*. Utrecht: Lemma.

Rose, G. L. & Rukstalis, M. R. (2008). Imparting medical ethics: the role of mentorship in clinical training. *Mentoring & Tutoring: Partnership in Learning*, 16, 1, pp. 77-89.

Simão, J. V.; Santos, S. M. & Costa, A. (2002). *Ensino Superior: uma visão para a próxima década*. Lisboa: Gradiva.

Simão, J. V.; Santos, S. M. & Costa, A. (2005). *Ambição para a excelência. A oportunidade de Bolonha*. Lisboa: Gradiva.

Soares, A. P.; Almeida, L. S.; Diniz, A. M. & Guisande, M. A. (2006). Modelo Multidimensional de Ajustamento de jovens ao contexto Universitário (MMAU): Estudo com estudantes de ciências e tecnologias *versus* ciências sociais e humanas. *Análise Psicológica*, 1, XXIV, pp. 15-27.

Terrion, J. L. & Leonard, D. (2007). A taxonomy of the characteristics of student peer mentors in higher education: findings from a literature review. *Mentoring &Tutoring: Partnership in Learning*, 15, 2, pp. 149-164.

URL: http://www.sefi-igip2007.com/

URL: http://www.udc.es/congresos/psicopedagoxia

Veiga Simão, A. M. & Flores, M. A. (2006). O aluno universitário: aprender a auto-regular a aprendizagem sustentada por dispositivos participativos. *Ciências & Letras*, 40 (Jul/Dez), pp. 229-251. ISSN 0102-4868.

Veiga Simão, A. M.; Caetano, A. P. & Freire, I. (2007). Uma formação para o Desenvolvimento Profissional em Contexto Laboral. *In* J. C. Morgado & M. I. Reis (orgs.), *Formação e Desenvolvimento Profissional Docente: Perspectivas Europeias*. Braga: CIEd, pp. 41-72.

Wallace, S. & Gravells, J. (2005). *Professional Development. Lifelong Learning Sector: Mentoring*. Exeter: Learning Matters.

Welling, H. (1997). *Mentorado em Portugal*. Retrieved August 2007 from http://www.indeks.pt/mentorado.htm

Translated by Mark Ayton