



ITALIAN JOURNAL OF SOCIOLOGY OF EDUCATION

Editor-in-Chief: Silvio Scanagatta | ISSN 2035-4983

The Formative Tutoring Programme in Preventing University Drop-outs and Improving Students' Academic Performance. The Case Study of the University of Padova (Italy)

Lorenza Da Re^{*}, Renata Clerici^{**} and Pedro Ricardo Álvarez Pérez^{***}

Authors' information

* Department of Philosophy, Sociology, Pedagogy and Applied Psychology, University of Padova, Italy.

** Department of Statistical Sciences, University of Padova, Italy.

***Department of Didáctica e Investigación Educativa, University of La Laguna, Spain.

Contact authors' email addresses

*lorenza.dare@unipd.it

**renata.clerici@unipd.it

*** palvarez@ull.es

Article first published online

October 2017

HOW TO CITE

Da Re, L., Clerici, R., & Álvarez Pérez, P. R. (2017). The Formative Tutoring Programme in Preventing University Drop-outs and Improving Students' Academic Performance. The Case Study of the University of Padova (Italy). *Italian Journal of Sociology of Education*, 9(3), 156-175. doi: 10.14658/pupj-ijse-2017-3-7



PADOVA UNIVERSITY PRESS

The Formative Tutoring Programme in Preventing University Drop-outs and Improving Students' Academic Performance. The Case Study of the University of Padova (Italy)

Lorenza Da Re*, Renata Clerici** and Pedro Ricardo Álvarez Pérez***

Abstract: The Spanish model of Tutoria Formativa de Carrera may be viewed as a useful strategy to improve student performance and prevent the drop-out phenomenon. In order to verify its adaptability to the Italian academic context, an experimental programme was carried out in three first-cycle degree courses in an Italian university: case studies were chosen according to their high drop-out and low performance rates. A year-long programme of tutoring, together with peer and service tutoring, was proposed to enrolled students, the main aims being to facilitate the transition between secondary school and university, to foster students' integration within the university context and their approach to university-level study, and to guide them towards conscious decisions about their personal and professional careers. By means the innovative approach based on primary prevention and student-centred perspective, substantial results were obtained, highlighting the educational dimension of tutoring, by integration of peer and service tutoring with a new tutoring role for the teaching staff.

Keywords: higher education, programme experimentation, programme assessment, tutoring

* Department of Philosophy, Sociology, Pedagogy and Applied Psychology, University of Padova, Italy. E-mail: lorenza.dare@unipd.it

** Department of Statistical Sciences, University of Padova, Italy. E-mail: renata.clerici@unipd.it

*** Department of Didáctica e Investigación Educativa, University of La Laguna, Spain. E-mail: palvarez@ull.es

Theoretical framework

The drop-out phenomenon appears to be a major challenge for universities worldwide and, from various viewpoints, it is a priority for higher education systems. This problem has had a major impact in the social, educational, economic and political fields, and there are many reasons why it is necessary to face this educational dilemma also in the Italian context. Interest in the phenomenon is primarily for economic reasons (Cecchi, 2014), since drop-outs greatly influence the already high costs of both secondary education and university withdrawal and delay. It also appears to be an important political topic, mainly since the creation of the European Higher Education Area (Sorbonne Declaration, 1998; Bologna Declaration, 1999), with the purpose of encouraging various higher European education models to re-align their systems and set quality standards for university education. Socio-cultural aspects are also important (Cammelli & Gasperoni, 2014; ISTAT, 2015) as regards work placements for young graduates and their competitiveness at national and international levels. Lastly, it is a central theme for problems arising from university teaching quality, initiating pedagogical reflection on the role played by university lecturers (Álvarez, 2014; Sanz Oro, 2005; Zabalza, 2002) in their tutoring functions and on the possibility of activating further support activities for university students (Duran & Vinyet Vidal, 2004; Goodlad & Hirst, 1990; Topping, 1997; Garcia Nieto et al., 2005), such as peer tutoring or other forms of student support.

Reducing the number of university drop-outs and helping university students to graduate on time are therefore priority aims (Pascarella & Terenzini, 2005; Ryan & Glenn, 2003; Zago et al., 2014). The drop-out phenomenon in higher education has also been extensively examined (Astin, 1977, 1983; Barefoot, 2004; Chickering & Gamson, 1987; Spady, 1970) in Italian and Spanish literature (Alvarez et al., 2006; Di Pietro, 2004; Schizzerotto & Denti, 2005; Torrado et al., 2010; Villar, 2010; Zago et al., 2014), not only in the pedagogical field, but also by means of psychological, economic, sociological and statistical approaches. Within the university context, the determinants identified as important for study success or failure can be categorised into individual factors (Arias Ortiz & Dehon, 2013; Barefoot, 2004; Dolton et al., 2003; Lassibille & Gómez, 2011; Zimmerman, 2000) and contextual factors (Arias Ortiz & Dehon, 2013; Arulampalam et al., 2004; Delaney et al., 2011; Ryan, 2004; Tinto, 1975; Clerici et al., 2015; Meggiolaro et al., 2017).

There are various theoretical models to the concept of educational transition from secondary education to university: adaptation (De Beni, 2002; Landry, 2003; Metz, 2002, Nora, 2002; Pascarella & Terrenzini, 1991; Tinto, 1975, 1993), structural (Lujan & Resendiz, 1981), economic (Albert & Toharia, 2000; Thurow, 1973) and psycho-educational (Cabrera Bethencourt et al., 2006; Kirton, 2000; Ryan & Glenn, 2003; Yip & Chung, 2005; Wasserman, 2001).

University orientation and tutoring have recently been developed for accompanying university students' lives (Álvarez, 2002; Álvarez & González, 2008; Arbizu et al., 2005; Barrows, 1988; Goodlad, 1998; Johnston, 2010; Pedicchio & Fontana, 2000; Topping, 1997; Torre, 2006; Toscano & Monescillo, 2010). Besides playing an important role in the integration of students into a new setting, they are designed to provide support at two crucial moments in an academic career. Orientation aims to help students come to conscious decisions about the university programme and to facilitate the transition to university. Tutoring aims to assist students throughout the educational process and provides support in critical situations, which may be due to the difficulty of integration in the university context and the new study approach. University tutoring, introduced in several countries in various forms and variously defined ways, has generally been regarded as an effective tool in reducing the number of drop-outs. Monitoring the university drop-out phenomenon and helping students who fall behind in their studies are certainly ways of helping them make more responsible choices and face perhaps critical periods in their university experience (Da Re & Zago, 2014).

As regards the many international experiences carried out and the differing university tutoring practices in the European arena, the model of *Tutoría Formativa de Carrera* (Almajano, 2002; Álvarez, 2012; Castellano, 1995; Corominas, 2001; López, 1996; Sebastián & Sánchez, 1999) has been identified as a good international practice which fulfils specific research needs. This model is based on the social cognitive approach (Lent et al., 2004) and on *Career Development Theory* (Savickas, 2005) in terms of self-efficacy, responsibility and academic commitment, according to preventive and proactive logic. This approach assigns a new role to university professors, who are responsible for the integral education of their students. Tutor teachers foster the development of autonomous learning, aiming at the personal, academic and professional growth of their tutees (Álvarez & González, 2008).

Research hypothesis, context and questions

Our research hypothesis was that an integrated system of tutoring actions and actors can produce good results in terms of drop-out reduction and performance enhancement: that is, tutoring (by university docents) and peer tutoring (by specially trained students following the same university courses, for the benefit of other students who have just entered the university world) are effective in preventing drop-outs and improving students' academic performance, and that service tutoring can facilitate contacts and the correct use of the vast network of services available to students.

On one hand, the experimental programme is based on the vast experience of the University of Padova in orienting and tutoring, in which peer tutoring and a large network of services offered to students play a key role. On the other hand, it is inspired by the Spanish *Tutoria de Carrera* model, in the particular version implemented at University de La Laguna, using a new way of seeing the role of university professors - not only their teaching tasks, but also their tutoring duties. It is called the *Formative Tutoring Programme (FTP)*.

This study concerns the first-cycle academic Degree Courses (DCs) of the University of Padova. The programme was introduced in academic year 2014-15 as an experimental tool to improve the quality of teaching and to tackle the problem of drop-outs, as well as to enhance students' academic performance. Our main research questions were:

- a. What are the drop-out and performance levels in the first-cycle (DCs) at the University of Padova?
- b. Do these levels differ in the various scientific and teaching areas (Health, Sciences, Social Sciences, Humanities) and are there particularly critical situations?
- c. Is the Spanish model applicable to the Italian university setting?
- d. How can we test the *FTP* in the context of Padova? Which activities does it involve?
- e. Which tools could be useful in planning, performing and assessing *FTP* actions?
- f. What are *FTP* results in terms of participation, satisfaction and effectiveness?

Methods

A mixed multiple method (Kumar, 2014) was used, with triangulation and integration of quali-quant approaches (Onwuegbuzie & Leech, 2005; Teddlie & Tashakkori, 2009). The research was structured according to the following steps:

1. Analysis of the experimental context, in order to map performance and drop-out levels, to identify students' characteristics and their problems, and to select case studies representing the various scientific-didactic fields which the University offers.
2. Analysis of the Spanish model of *Tutoria de Carrera* and its applicability to the Italian setting.
3. Experimental enhancement of an integrated model of tutoring, peer tutoring and service tutoring – i.e. *FTP* – in three selected DCs, adapting the Spanish model to the Italian context.

Analysis of context

In order to choose the Degree Courses (DCs) in which to experiment *FTP*, a secondary analysis of administrative data about all first-cycle academic DCs of the University of Padova was carried out. Simple indicators, available for each DC, were re-elaborated into new synthetic indicators used to compare dispersion and performance rates. The means of the indicators were obtained for four cohorts of students, enrolled from 2008-09 to 2011-12, so that they were independent of annual variations.

The indicators referring to the dispersion dimension were: *First-year drop-out rate* (self-explanatory), out of the total number of enrolled students; *Total drop-out rate*, out of the total number of enrolled students; *Non-completion rate*, the ratio of the total number of students who left their university course (drop-out, or change to another DC or university) out of the total number of enrolled students. The level of academic performance was analysed with three more indicators: *Graduation rate* (students graduating on time or with a delay of one year at most), i.e., the ratio of students who graduate in one particular year – even from different cohorts – and the total number of enrolled students; *First-year delay rate*, the ratio of students who obtain a maximum of 30 ECTS within their first year and the total number of students enrolled; *Total delay rate*, the ratio of students who are still enrolled with a delay greater than one year (beyond the three years, according to their study plan) and the total number of enrolled students.

These indicators were calculated for each of the 104 DCs and associated with the characteristics of the students enrolled. Table 1 lists the levels of dispersion indicators for each scientific-didactic area. Note the considerable variability in the average number of enrolled students for different DC areas (min = 35, Health area; max = 167, Humanities area). DCs from the Sciences area show the highest percentages of *First-year drop-out rate* (21.8%). For *Total drop-out rate*, the percentage is 28.6% for Sciences, compared with 25.6%, the average percentage of all DCs considered. Lastly, the Sciences area had the most alarming percentages (40.3%) of *Non-completion rate*.

Table 1. Dispersion rates by scientific-teaching area, University of Padova, 2008-2012. Average cohort values

AREA	NO. STUDENTS ENROLLED	FIRST-YEAR DROP-OUT RATE	TOTAL DROP-OUT RATE	NON-COMPLETION RATE
Health	35	14.4%	20.5%	32.3%
Sciences	111	21.8%	28.6%	40.3%
Social Sciences	155	12.3%	19.3%	25.8%
Humanities	167	16.1%	23.5%	30.5%
Total DCs	94	15.1%	25.6%	27.5%

Variance analysis of the means of these indicators classified by scientific-didactic area were very significant. The areas in which the differences between average index levels were more notable were identified with appropriate *Post-Hoc* tests. As regards *Enrolled students*, the Humanities area (in which DCs had higher numbers of students) was significantly different from the Health area. Instead, as regards the *First-year drop-out rate*, *Total drop-out rate* and *Non-completion rate*, the Sciences area (in which the dispersion rates are the highest) was significantly different from Social Sciences.

Table 2. Performance rates by scientific-teaching area, University of Padova, 2008-2012. Average cohort values

AREA	GRADUATION RATE	FIRST-YEAR DELAY RATE	TOTAL DELAY RATE
Health	46.1%	28.8%	24.4%
Sciences	38.6%	33.3%	21.2%
Social Sciences	54.5%	27.9%	21.1%
Humanities	43.1%	27.7%	25.2%
Total DCs	42.8%	31.2%	21.9%

Table 2 lists the performance indicator levels for each area. It shows that the DCs best helping students to graduate on time (one-year delay at most) are those in the Social Sciences area (54.5%); the worst are those in the area of Sciences (38.6%); the *First-year delay rate* and *Total Delay rate* are close to the average level for all four areas. Variance analysis showed high significance only in relation to *Graduation rate*. In this case, the *Post-Hoc* test revealed that the Sciences area (38.6%, significantly lower than average) differed greatly from that of Social Sciences (54.4%).

For each scientific-didactic field, one DC was chosen as a case study which would have the right characteristics to represent a particularly critical situation with respect to the phenomena of interest.

Three DCs were selected: Educational Sciences (Humanities), Sociological Science (Social Sciences) and Mechanical Engineering (Sciences). The Health area was not considered, because of too few DCs with stable offers during the years of analysis and because of the much higher levels of performance of its students with respect to the whole University average. Table 3 (Appendix) lists the levels of dispersion and performance indicators for the DCs selected.

The reference Spanish model

According to the reference model, DC tutoring best fits the idea of holistic, continuous education, in line with the European convergence in higher education model (Álvarez & González, 2005; Coriat & Sanz, 2005). This is a “cross-cutting” programme, not connected to a single branch of knowledge, which flanks the traditional “academic” tutoring but which is more directly linked to the development and/or recovery of competences in academic disciplines.

During students' university careers, tutors play a guiding role for students, motivating them, helping them overcome doubts and problems, and suggesting solutions (Álvarez et al., 2006). In particular, tutoring carried out by teachers fosters a growth process for students, acting as “food for thought” about themselves and the environment before making reasoned decisions (Cano González, 2009).

With the help of their tutors, students develop their own professional and educational projects, gathering in their tutoring portfolio the most representative examples of competences acquired and allowing educational activity to converge towards a professional perspective. Cross-cutting competences are those which mainly improve through tutoring: social skills, teamwork, decision-making and problem-solving, employability strategies, ability to plan and carry out projects, etc. Besides tutor teachers,

third-year tutor students participate in DC tutoring, coordinating with tutor teachers in the development and organisation of various tasks (Álvarez & González, 2008).

In order to analyse the *Tutoría de Carrera* model and its adaptability to the Italian context, a qualitative study was carried out during a visit to the Universidad de La Laguna (Da Re, 2016). Various techniques were used: observations of *Tutoría* sessions and groups coordinated with their tutor professors, semi-structured interviews with privileged witnesses (teacher, students, project coordinators and representatives) to understand and identify the key aspects, strengths and weaknesses of the Spanish model, and meetings with the project coordinator to discuss the methodology and pedagogic principles shaping it. Particular attention was given to monitoring DC-level tutoring.

Tutoring was organised so that about 15 students took part, and the programme was conducted throughout the students' university careers, with particular emphasis on the first year.

Collected data were analysed with cross-reading of the various sources, with some conceptual macro-categories as common references: needs and requirements; the *Tutoría de Carrera* model; tasks and roles of tutor teachers and tutor students; coordination, monitoring and resources; future perspectives.

This analysis showed that Italian students enter university insufficiently prepared to face an untroubled educational transfer from secondary education to university. The *FTP* educational space seems to be the proper context in which to bridge various educational gaps: e.g., problems of reading comprehension, written and oral expression, irregular study habits, adapting one's personal study method to the university context, a passive attitude during lectures, inadequate organisation and management of time. The interviews showed that *Formative Tutoring* can provide valid support to improve both teachers' and students' personal development (Da Re, 2016).

As regards points of strength and weakness, aspects of success and possibilities of improvement were noted in various sources. The main positive aspects referred to the proposed pedagogic model, "which starts from the final outcome, on a constructivist level" and which offers opportunities of personal, educational and professional growth for students, thanks to "work on specific dynamics which don't occur during lectures, but which are essential", "allowing students to understand the institution itself and their professional profiles in it"; in addition, "it strengthened the

possibility of contacting the University and supporting students' proactive participation".

Educational potentials and holistic development possibilities for participating students were highlighted, "opening a new learning space beside the traditional one". Another advantage was that there were "opportunities to strengthen the personal and professional identity of students, not focusing only on academic aspects, but also on personal and professional ones". The importance of the informative dimension was also revealed, as it "allowed students to save a lot of time, especially at the beginning of the academic year and with regard to topics which are deemed urgent".

Concerning weak points, organisational problems were mainly emphasised, due to schedules and low student participation ("the schedule and the fact that the programme is not compulsory", "an hour a week is a lot, all through the year", "following a model in a systematic and weekly fashion creates some problems"), the limited use of available online resources, and insufficient training for the tutoring role.

Formative Tutoring Programme experiment

The *FTP* was experimented in academic year 2014-15 in three DCs of the University of Padova. It only covered the first academic year, involving 120 first-year students, 12 professors (tutor teachers), 25 second- and third-year students (tutor students) and 8 members of the University Services personnel (Da Re, 2016).

As in the reference model, the programme was developed as a series of activities involving various educational goals, according to which schedules were defined. The tutors were given an operative guide, consisting of supporting task sheets for planning and carrying out activities. Some of these were selected and adapted from the Spanish reference model, others were designed ad hoc according to students' specific needs (Da Re, 2016). Activities during the *FTP* meetings (see Table 4) aimed at the following educational goals:

1. To facilitate students' adaptation and knowledge of the university as an institution;
2. To strengthen their involvement in university life and in the DC context;
3. To improve their personal knowledge and facilitate their education;
4. To develop strategies for academic and professional decision-making.

These activities (Table 4) were structured in weekly meetings in small groups with tutors and monthly DC sessions organised by the University Services personnel.

Table 4. Plan of Formative Tutoring Programme

EDUCATIONAL GOALS	ACTIVITIES	SERVICES OFFERED
1.	A. Let's get to know each other! * B. Clarifying some doubts ** C. Let's know our context *	1. Fees and Scholarships Office 2. <i>Student Office</i> 3. Library Centre
2.	D. Involvement in university life * E. Being university students and university teachers ** F. Working in a team * G. Cultural, sport and free time activities *	4. Language Centre 5. International Relations Office
3.	H. My expectations ** I. Knowing how to evaluate: evaluate yourself and evaluate the teaching ** J. My goals ** K. Learn how to learn ** L. Commuter? Non-residential? Residential? * M. Study method: reading, studying and understanding a text ** N. Knowing how to write and debate: written examinations ** O. Knowing how to communicate what you study: oral examinations **	6. Study Advice Office 7. Counselling Service 8. University Sports Centre
4.	P. Taking decisions: knowing how to choose (free examinations and/or CV) * Q. Final essay ** R. Thinking about careers and traineeships ** S. <i>Post lauream</i> and professional plans *** T. Summing up *** U. Final reflections and attendance certificates	9. Career Service and Placements

* peer tutoring (*tutor student*); ** tutoring (*tutor teacher*) *** peer tutoring and tutoring

The steps of the Programme implementation were (Da Re, 2016):
0. *Selection* of DCs and professors, *tutor students* and first-year students to be part of the experiment.

1. *Training*: *tutor teachers* and *tutor students* participated in periodic training meetings, both before and during the programme, in which the role of tutors and educational relationships were examined in depth. A training meeting was arranged for *tutor teachers*, in order to examine the role of university tutoring in the formative model of the European Higher Education Area and to make them aware of the main features of the *FTP*. In parallel, five formative modules were arranged: (i) introduction, (ii) role management, (iii) communications, (iv) relationships with students, with simulation of an *FTP* session, and (v) monitoring and assessing tools. *Tutor*

students and *tutor teachers* took part in meetings at regular intervals to co-build activities; these meetings presented varying features and were different from each another, according to the characteristics of each DC.

2. *Production* of a series of tools for planning and carrying out *FTP* activities, starting from the materials used in the reference model (Alvarez, 2002; Alvarez & Gonzalez, 2008), adapted to the context of the new experiment. Calendars were drawn up and customised for each DC. *Tutor teachers* and *tutor students* were given a manual, composed of a series of task sheets for each activity, and asked to use these tools to conduct *FTP* sessions. Each task sheet was structured according to a regular framework: (i) reason for the theme, (ii) goals, (iii) person in charge, (iv) timing, (v) development of activities, (vi) attachments.

3. *Fulfilment* of *FTP* actions in the three DCs, through programmed actions involving weekly meetings lasting about one hour for first-year students, from October to May (excluding vacation and examination periods). *FTP* meetings were subdivided into:

- *Services tutoring*: those working for University Services had monthly meetings with students, to help them exploit their personal resources and to provide back-up (libraries, information on Erasmus programme, study support, etc.).

- *Tutoring and Peer Tutoring*: divided into small groups, students worked on cross-cutting competences (method and ability to study; participation in university life; capacity for evaluation and self-evaluation; development of problem-solving strategies, etc.), with support and coordination from second- or third-year students (*tutor students*) or *tutor teachers*.

4. *Monitoring and Assessment*: the programme was evaluated considering the process, students' satisfaction, and effectiveness. Process evaluation was carried out according to multi-method kinds of ad hoc techniques for all types of participant in *FTP* activities. For tutor professors, there were an intermediate monitoring meeting and a *Delphi* study; for tutor students a final meeting, compilation of *Learning Events Journals* (Munari, 2011) and semi-structured interviews; for students following the *Logbooks* programme, a kind of self-assessment of experience acquired (Romero Rodriguez 2004), periodical questionnaires, personal evaluations for every session, monitoring meetings, and a final meeting; for the University Services representatives, semi-structured interviews and a final meeting. The programme was coordinated by an e-learning platform (Moodle) containing most of these assessing tools.

Results

In the Sociological Sciences DC, 7 professors offered to be *tutor teachers* and 10 students *tutor students*. For Educational Sciences DC, 4 *tutor teachers* and 12 *tutor students* took part. Mechanical Engineering DC had 1 *tutor teacher* and 3 *tutor students*. Students' participation varied greatly for each DC (see Table 5, Appendix). The best results, in terms of participation, were obtained in Sociological Sciences, in which an average of 60 students took part in *FTP* sessions weekly.

As regards the *adequacy* of the proposed activities within the aims of the *FTP* and student needs, activities fostering the search for information were deemed to be very important, facilitating integration within the university context and strengthening students' awareness of an academic, professional and personal perspective, helping their personal growth.

Participating students were given a brief questionnaire concerning activities conducted so far, which included one closed-ended and one open question. The open question concerned the aspects of appreciation and weakness; the answers were examined with classical analysis of the contents, with "paper and pencil" processing, and macro-categories were created *ex post*. The evaluations were highly positive (90%).

We summed up participants' opinions in the following macro-categories. As regards satisfaction, the students evaluated tutoring: (i) as a useful tool for academic and professional pathways, through which some initial doubts were resolved and helped students to know the university environment better; (ii) thanks to the positive mood of the small groups, tutoring was seen as a locus in which it was possible to meet classmates and integrate with them; (iii) as a container of emotions linked to new experiences, i.e., the meetings were perceived as educational spaces in which some emotions connected with studying could be expressed; (iv) because of the new approach of *tutor teachers*.

The weaknesses of the project were summarised in two macro-categories: (i) obvious and not very clearly defined subjects were to be faced; (ii) problems due to the times scheduled for meetings.

With regard to the *setting* in which the *FTP* was developed (education, coordination, classrooms, schedule, timetables, etc.), the results showed that tutor training needs to be strengthened, and that timing and choice of classrooms are key elements for success.

Concerning the *instruments* made available to the working group (Task Sheets, Moodle online platform, Learning Events Journals) and participants (Moodle, Logbooks, Portfolio), results showed that: (i) the *Moodle*

platform was not very popular among participants, both working groups (tutor teachers and tutor students) and students; (ii) *Task Sheets* were positively evaluated by participants, as a basis on which to start work. However, coordination and training meetings were conducted with the aim of tailoring proposed activities to various contexts; (iii) Students did not take advantage of the potential of the *FTP* as an instrument to report their learning experience; (iv) *Learning Events Journals* were positively evaluated by *tutor students*. However, in a few cases they were not filled out regularly, but only at moments which were perceived as most important.

As regards *satisfaction*, a brief questionnaire was given to all participating students. For the question “To what extent are you satisfied with the meetings?” the general average satisfaction was 3.9 (on a self-anchoring scale from 1 to 5, with 1 as minimum and 5 as maximum) (specifically: Mechanical Engineering = 4.2; Sociological Science = 4.3; Educational Sciences = 3.2).

The *effectiveness* of tutoring was evaluated by a quasi-experimental design based on propensity score matching (Martini & Trivellato, 2011; Rosenbaum & Rubin, 1983; Winship & Morgan, 2007) among subjects who willingly decided to take part in the experiment and those who did not, and were as similar to the participants as possible (with respect to a previously defined set of characteristics) (Clerici et al., 2016). The comparison affected 48 full participants (treated) and 341 non-participants (not treated). The test of the hypothesis of effectiveness was carried out by *ex-post* selection of a control group composed of the most similar not treated students, on observable characteristics, to treated ones. Probability selection was fitted by a logistic regression model with a set of independent variables available for all enrolled students. Controfactual causal analysis (Rubin, 1974) was used to compare control units, drop-out rates (Table 6) and levels of academic performance (Table 7, Appendix) at the end of the first academic year of these two similar groups (participants and non-participants).

Table 6. *Quasi-experimental design groups and academic results*

GROUP	PAIRED CASES (A)	DC CHANGES (B)	UNIVERSITY CHANGES (C)	WITHDRAWALS (D)	DROP-OUT INDEX (B+C+D)/A
Not treated	41	2	1	3	15%
Treated	41	2	0	1	7%

Significant results were found: the drop-out rate fell by half, and performance increased in terms of ECTS accumulation and the number of examinations passed within the first year of the course (one examination more in the treated students). The mean examination grades were also higher in the treated group (one point more than in the not treated group).

Discussion and Conclusions

In the light of the existing literature, using tutoring models at university seems to be one strategy in tackling the problem of poor student performance, as such models not only include direct enhancement of teaching but also allow deeper changes to take place. The experiment of the *Formative Tutoring Program* - inspired by the Spanish model of *Tutoria de Carrera* - in some Degree Courses at the University of Padova provided promising results in terms of interest among the various actors, satisfaction among participants, and effectiveness. It reached substantial results, highlighting the educational dimension of an integrated model of actors and actions, and appears as an innovative educational strategy to improve the academic success of university students and to contrast and prevent academic drop-outs in the Italian academic context.

Some elements which until now have seemed important as regards students' participation in the *FTP* experiment are summarised as follows:

- *The role of DCs management*: in those contexts in which the initiative was shared with the DC professors' council, students' participation was higher.
- *The role of first-year teachers*: there was more involvement in those contexts in which *tutor teachers* were involved with first-year teaching. They were better able to stimulate the students' participation; a teacher (an influential source) reminded them that the importance of taking part in the *FTP* legitimated it as a knowledge-sharing space and useful for first-year students.
- *Setting (classroom and schedule)*: it was important to carry out the *FTP* in spaces where students were already following classes, both because these were locations they already knew and to facilitate their participation; time scheduling had to be either immediately before or after one of the classes attended by students. The best solution was to schedule the *FTP* between two classes. Unfortunately, this was not always possible, both because of the high number of participants and because space was not always available.

- In terms of contribution to the educational process, the activities carried out promoted better integration of students and their overall development.
- Exploitation of resources: tools for planning and carrying out the *FTP* were evaluated as really useful, but the Moodle platform was not often used.
- Difficulties: student participation was low. However, in terms of overall satisfaction, we observed very high levels among the students who took part in the Programme.

Lorenza Da Re wrote the sections *Theoretical framework, Research hypothesis, context and questions, Formative Tutoring Programme experiment, Results and Discussion and Conclusions*. Renata Clerici wrote *Analysis of context* while Pedro Ricardo Álvarez Pérez wrote *The reference Spanish model*.

References

- Albert, C., & Toharia, L. (2000). El abandono o la persistencia en los estudios universitarios. *Papeles de Economía Española*, 86, 192-212.
- Almajano, P. (2002). Experiencias previas. In M. Coriat (Ed.), *Jornadas sobre tutorías y orientación* (pp. 223-236). Granada: Editorial Universidad de Granada.
- Álvarez, P. (2002). *La función tutorial en la universidad: Una apuesta por la mejora de la calidad de la enseñanza*. Madrid: EOS.
- Álvarez, P. (2012). Los planes institucionales de tutoría y el desarrollo de competencias en el marco del Espacio Europeo de Educación Superior. Un estudio desde la perspectiva del alumnado. *Perfiles Educativos* (Vol. XXXIV), 137, 28-45.
- Álvarez, P. (2014). La función tutorial del profesorado universitario: una nueva competencia de la labor docente en el contexto del EEES. *Revista Portuguesa de Pedagogía*, 47(2), 85-106.
- Álvarez, P., & González, M. (2005). La tutoría académica en la enseñanza superior: una estrategia docente ante el nuevo reto de la Convergencia Europea. *Revista electrónica interuniversitaria de formación del profesorado*, 19, 8-14.
- Álvarez, P., & González, M. (2008). *Los planes de tutoría en la Universidad: una guía para su implantación*. Tenerife: Servicio de Publicaciones de la Universidad de La Laguna.

- Álvarez, P., Asensio, I., Forner, A., & Sobraro, L. (2006). Los planes de acción tutorial en la universidad. In T. Escudero & A. Correa (Eds.), *Investigación e innovación educativa: algunos ámbitos relevantes* (pp. 147-206). Madrid: La Muralla.
- Álvarez, P., Cabrera, L., González, M., & Bethencourt, J. (2006). Causas del abandono y prolongación de los estudios universitarios. *Paradigma*, 27(1), 7-36.
- Arbizu, F., Lobato, C., & Del Castillo, L. (2005). Algunos modelos de abordaje de la tutoría universitaria. *Revista de Psicodidáctica*, 10(1), 7-12.
- Arias Ortiz, E. A., & Dehon, C. (2013). Roads to Success in the Belgian French Community's Higher Education System: Predictors of Dropout and Degree Completion at the Université Libre de Bruxelles. *Research in Higher Education*, 54, 693-723.
- Arulampalam, W., Naylor, R. A., & Smith, J. P. (2004). A hazard model of the probability of medical school dropout in the UK. *Journal of the Royal Statistical Society. Series A*, 167(1), 157-178.
- Astin, A. W. (1977). *Four critical years*. San Francisco: Jossey-Bass.
- Astin, A. W. (1993). *What Matters in College*. San Francisco: Jossey-Bass.
- Barefoot, B. O. (2004). Higher education's revolving door: Confronting the problem of student drop out in US colleges and universities. *Open Learning*, 19(1), 9-18.
- Barrows, H. S. (1988). *The tutorial process*. Springfield: Southern Illinois University School of Medicine.
- Bologna Declaration (1999). *Joint declaration of the European Ministers of Education*. Retrieved from http://www.ehea.info/Uploads/Declarations/BOLOGNA_DECLARATION1.pdf.
- Cabrera, L., Bethencourt, J., González, M., & Álvarez, P. (2006). Un estudio transversal retrospectivo sobre prolongación y abandono de estudios universitarios. *Relieve, Revista Electrónica de Investigación y Evaluación Educativa*, 12(1). Retrieved from http://www.uv.es/RELIEVE/v12n1/RELIEVEv12n1_1.htm.
- Cammelli, A., & Gasperoni, G. (2014). *XVI Rapporto Almalaurea sul Profilo dei Laureati Italiani: Opportunità e sfide dell'istruzione universitaria in Italia*. Retrieved from <https://www.almalaurea.it/sites/almalaurea.it/files/comunicati/2014/sintesi-2013.pdf>.
- Cano González, R. (2009). Tutoría universitaria y aprendizaje por competencia ¿cómo lograrlo?. *REIFOP*, 12(1), 181-204.
- Castellano, F. (1995). *La orientación educativa en la Universidad de Granada*, Granada: Universidad de Granada.
- Cecchi, D. (2014). *LOST dispersione scolastica: il costo per la collettività e il ruolo di scuole e Terzo settore*. Milano: WeWorldOnlus.
- Chickering, A.W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin*, 3-7.
- Clerici, R., Da Re, L., & Álvarez Pérez, P. R. (2016). Evaluación de la eficacia de un programa de tutoría formativa de carrera: una experiencia en la Universidad de Padua (Italia). "XVI Congreso Nacional Y VII Congreso Iberoamericano de Pedagogía: Democracia y educación en el siglo XXI. La obra de John Dewey 100 años después", Madrid, 28-30 June 2016. Retrieved from <http://www.congresodepedagogia.com/libro-de-actas/>
- Clerici, R., Meggiolaro, S., & Giraldo, A. (2015). The determinants of academic outcomes in a competing risks approach: evidence from Italy. *Studies in Higher Education*, 40(1), 1535-1549. doi:10.1080/03075079.2013.878835
- Coriat, M., & Sanz, R. (2005) (Eds.), *Orientación y Tutoría en la Universidad de Granada*. Granada: Editorial Universidad de Granada.

- Corominas, E. (2001). La transición a los estudios universitarios. Abandono o cambio en el primer año de universidad. *Revista de Investigación Educativa*, 19(1), 127-151.
- Da Re, L. (2016). Il Tutorato Formativo come strategia per la prevenzione del drop-out e per il miglioramento del rendimento accademico degli studenti universitari. La Tutoría Formativa como estrategia para la prevención del abandono y la mejora del rendimiento académico en estudiantes universitarios. *Tesi di Dottorato in Scienze Pedagogiche dell'Educazione e della Formazione*, Università degli Studi di Padova; Escuela de Educación, Universitat de La Laguna (ES), Supervisor Prof.ssa R. Clerici e Prof. P.R. Álvarez Pérez.
- Da Re, L., & Zago, G. (2014). I servizi per gli studenti: il tutorato universitario. In G. Zago A. Giraldo, & R. Clerici (Eds.). *Carriere universitarie tra successo e insuccesso. Dati, interpretazioni e proposte*. Bologna: il Mulino.
- De Beni, R. (2002). Relazione finale del progetto di formazione Tutor Junior per la Facoltà di Lettere e Filosofia, Psicologia, Scienze MM.FF.NN., Scienze Statistiche e Scienze Politiche. In S. Arcuri, N. Paggin, & G. Zago (Eds.), *Una parte per il tutor* (pp. 121-122). Padova: Cleup.
- Delaney, L., Harmon, C., & Ryan, M. (2011). Does lecture attendance matter for grades? Evidence from a longitudinal tracking of Irish students. *Critical Issues in Irish Society Network*. Retrieved from http://ciisn.files.wordpress.com/2011/01/martin-ryan_-does-lecture-attendancematter forgrades_working-paper.pdf.
- Di Pietro, G. (2004). The determinants of university drop-out in Italy: A bivariate probability model with sample selection. *Applied Economics Letters*, 11, 187-191.
- Dolton, P., Marcenaro, O. D., & Navarro, L. (2003). The effective use of student time: A stochastic frontier production function case study. *Economics of Education Review*, 22, 547-560.
- Duran, D., & Vinyet Vidal, V. (2004). *Tutoría entre iguales: de la teoría a la práctica. Un método de aprendizaje cooperativo para la diversidad en secundaria*. Barcellona: Edicional Graò.
- García Nieto, N., Asensio Muñoz, I., Carballo Santaolalla, R., García García, M., & Guardia González, S. (2005). La tutoría universitaria ante el proceso de armonización europea. *Revista de Educación*, 337, 189-210.
- Goodlad, S. (1998). *Mentoring and tutoring by students*. London: BP Educational Service.
- Goodland, S., & Hirst, B. (1990). *Exploring in peer tutoring*. Oxford: Basil Blackwell.
- Istat (2015). *Mercato del Lavoro: soggetti, imprese e territori*. Retrieved from <http://www.istat.it/it/files/2015/05/CAP-4-Rapporto-Annuale-2015-3.pdf>.
- Johnston, B. (2010). *El primer año de universidad: una experiencia positiva de transición*. Madrid: Narcea.
- Kirton, M. J. (2000). Transitional factors influencing the academic persistence of first semester undergraduate freshmen. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 61(2-A), 522.
- Kumar, R. (2014). *Research Methodology*. London: Sage.
- Landry, C. (2003). Self-efficacy, motivation and outcome expectation correlates of college students' intention certainty. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 64(3-A), 825.
- Lassibille, G., & Gómez, M.L.N. (2011). How long does it take to earn a higher education degree in Spain? *Research in Higher Education*, 52(1), 63-80.
- Lent, R., Hackett, G., & Brown, S. (2004). Una perspectiva Social Cognitiva de la transición entre la escuela y el trabajo. *Evaluar*, 4, 1-22.

- López, E. (1996). Una experiencia de tutoría de iguales en la universidad. *Revista Complutense de Educación*, 4(2), 207-267.
- Lujan, J. R., & Resendiz, A. N. (1981). *Hacia la construcción de un modelo causal en el análisis de la deserción*. México: Universidad Autónoma Metropolitana Iztapalapa.
- Martini, A., & Trivellato, U. (2011). *Sono soldi ben spesi? Perché e come valutare l'efficacia delle politiche pubbliche*. Venezia: Marsilio.
- Meggiolaro S., Giraldo, A., & Clerici, R. (2017). A multilevel competing risks model for analysis of university students' careers in Italy. *Studies in Higher Education*, 42(7), 1259-1274. doi: 10.1080/03075079.2015.1087995
- Metz, G.W. (2002). Challenges and changes to Tinto's persistence theory. *Annual Meeting of the Mid-Western Educational Research Association*. Columbus, OH.
- Munari, A. (2011). Il metodo degli eventi nella formazione continua. *FOR Rivista per la formazione*, 86, 15-25.
- Nora, A. (2002). The depiction of significant others in Tinto's 'rites of passage': A reconceptualization of the influence of family and community in the persistence process. *Journal of College Student Retention: Research, Theory and Practice*, 3(1), 41-56.
- Onwuegbuzie, A. J., & Leech, N. L. (2005). On becoming a pragmatic researcher: the importance of combining quantitative and qualitative research methodologies. *International Journal of Social Research Methodology*, 8(5), 375-387.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students: a third decade of research*, 2. San Francisco, C.A: Jossey-Bass.
- Pedicchio, M. C., & Fontana, I. (2000) (Eds.), *Tutoring in European universities*. Trieste: Servizio Tipografico Editoriale d'Ateneo.
- Romero Rodriguez, S. (2004). Aprender a construir proyectos profesionales y vitales. *REOP*, 15(2), 337-354.
- Rosebaum, P., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70(1), 41-55.
- Rubin, D.B. (1974). Estimating Causal Effects of Treatments in Randomized and Nonrandomized Studies. *Journal of Educational Psychology*, 66(5), 688-701. doi:10.1037/h0037350
- Ryan, J.F. (2004). The relationship between institutional expenditures and degree attainment at baccalaureate colleges. *Research in Higher Education*, 45(2), 97-114.
- Ryan, M. P., & Glenn P. A. (2003). Increasing one-year retention rates by focusing on academic competence: An empirical odyssey. *Journal of College Student Retention*, 4(3), 297-324.
- Sanz Oro, R. (2005). Integración del estudiante en el sistema universitario: La tutoría. *Cuadernos de Integración Europea*, 2, 69-95.
- Savickas, M. L. (2005). The theory and practice of career construction". In S.D Brown, R.W. Lent (Eds.), *Career Development and Counseling. Putting Theory and Research to Work* (pp. 42-70). Hoboken, NJ: John Wiley.
- Schizzerotto, A., & Denti, F. (2005). *Perduti e in ritardo. L'esperienza dell'abbandono e dell'irregolarità degli studi in cinque leve di immatricolati all'ateneo di Milano-Bicocca. Rapporto di ricerca*. Milano: Dipartimento di Sociologia, Università degli Studi di Milano-Bicocca.
- Sebastián, A., & Sánchez, M. (1999). La función tutorial en la universidad y la demanda de atención personalizada en la orientación. *Educación XXI*(2), 245-263.
- Sorbonne Declaration (1998). *Declaración conjunta para la armonización del diseño del Sistema de Educación Superior Europeo*. Retrieved from http://www.eees.es/pdf/Sorbona_ES.pdf.

- Spady, W. G. (1970). Dropouts from higher education: An interdisciplinary review and synthesis. *Interchange*, 1(1), 64-85.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: integrating quantitative and qualitative approaches in the social behavioral sciences*. Los Angeles: Sage.
- Thurow, L. (1973). The political economy of income redistribution. *Annals of the American academy of political and social science*, 409, 146-155.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45: 89-125.
- Tinto, V. (1993). *Leaving college: rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.
- Topping, K. (1997). *Tutoring. L'insegnamento reciproco tra compagni*. Trento: Erickson.
- Torrado, M., Rodríguez, M. L., Figuera, P., Freixa, M., Dorio, I., & Triadó, X. (2010). La persistencia y el abandono en el primer año de universidad en ciencias sociales: factores explicativos asociados al contexto institucional. *Actas VI Congreso Internacional Docencia Universitaria e Innovación*, Barcelona.
- Torre, E. (2006). *Il Tutor: teorie e pratiche educative*. Roma: Carocci.
- Toscano, M. O., & Monescillo, M. (2010). Incidencia de la orientación en el tránsito del Bachillerato a la Universidad. *Revista Española de Orientación y Psicopedagogía*, 21(2), 539-549.
- Villar, A. (2010). Del abandono de estudios a la reubicación universitaria. *Revista de la Asociación de Sociología de la Educación*, 3(2), 267-283.
- Wasserman, K. N. (2001). Psychological and development differences between students who withdraw from college for personal-psychological reasons and continuing students. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 62 (3A), 915.
- Winship, C., & Morgan, S. (2007). *Counterfactuals and casual inference*. New York: Cambridge University Press.
- Yip, M. C. W., & Chung, O. L. L. (2005). Relationship of study strategies and academic performance in different learning phases of higher education Hong Kong. *Educational Research and Evaluation*, 11(1), 61-70.
- Zabalza, M. (2002). *La enseñanza universitaria. El escenario y sus protagonistas*. Madrid: Narcea.
- Zago, G., Giraldo, A., & Clerici, R. (2014) (Eds.). *Successo e insuccesso negli studi universitari: dati, interpretazioni e proposte dall'ateneo di Padova*. Bologna: il Mulino.
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. (13-39). In Boekaerts M., Pintrich, P.R. & Zeidner, M. (Eds.). *Handbook of self-regulation*. London: Academic Press.

Appendix

Table 3. Dispersion and performance rates in selected DCs, University of Padova, 2008-2012. Average cohort values

CASE STUDIES	NO. ENROLLED STUDENTS	FIRST-YEAR DROP-OUT RATE	TOTAL DROP-OUT RATE	NON-COMPLETION	GRADUATION	FIRST-YEAR DELAY	TOTAL DELAY
Mechanical Engineering	264	24.1%	30.0%	36.4%	39.5%	36.2%	29.2%
Sociological Sciences	102	19.9%	28.3%	34.2%	34.8%	31.8%	29.4%
Educational Sciences	294	21.0%	26.5%	44.8%	30.2%	32.6%	21.4%

Table 5. Participants in Formative Tutoring Programme

CASE STUDIES	NO. STUDENTS ENROLLED	TEACHER TUTOR	STUDENT TUTOR	STUDENTS WITH AT LEAST ONE FTP ACCESS	STUDENTS WITH REGULAR FTP ATTENDANCE
Mechanical Engineering	About 300	1	3	89	About 30
Sociological Science	About 220	7	10	97	About 60
Educational Sciences	About 200	4	12	55	About 25

Table 7. Comparison of academic performance (treated versus not treated)

	NO. ECTS NOT TREATED	NO. ECTS TREATED	MEAN EXAMINATION GRADES, NOT TREATED	MEAN EXAMINATION GRADES, TREATED	NO. EXAMINATIONS, NOT TREATED	NO. EXAMINATIONS, TREATED
Number	35	39	35	39	35	39
Mean	42	50	24	25	5	6
St. Dev.	15	14	3	2	2	2
Sign t (2-tail)		0.018		0.050		0.059
Sign t (1-tail)		0.009		0.025		0.029