

An Innovative Junior Faculty Online Development Program

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Abstract: This study examines whether two online courses offering educational support for junior faculty have a positive effect on their attitudes and curriculum and teaching capacities (CTC) learning. The data used in the analysis are from two 2005 online University training courses. The tasks the online courses assign to faculty, the resources they provide, the learning environment they create, and the conversations they provoke proved to be consequential in shaping faculty's attitudes. The results also indicate that junior faculty who participate in individual and collective online developing activities, such as constructing teaching episodes and communicating with other colleagues, are more likely to gain a better understanding of how to teach their scientific disciplines.

Keywords: assessment, e-learning, higher education, teaching practice, staff development

1. Conceptual framework

Literature on university faculty documents the mental challenges they face as they embark on professional careers. One example is the limited "feeling of community, in which relationships become impersonal and teamwork is undermined" (Lackritz, 2004: 714). New assistant teachers struggle with constructing approaches to classroom management, with images of the professorial status, underpaid and short-term contracts, and, if they are women, they keep particular types of resistance (O'Connor, 2000). Probationary and tenured teachers also have particular beliefs on approaches to teaching specific subject matters to students: formal lecturing, small-group teaching in classes or tutorials, large-group teaching or laboratory work. They struggle with their pedagogical and scientific knowledge of the subjects they teach and their ability to take declarative and semantic knowledge and represent it in ways that is comprehensive to students within the new scenario of the European Convergence that assumes changes in credit accumulation, modularisation of study programs, and semesterisation of the academic year (Milliken and Colohan, 2000). Moreover, university faculty and part-time teachers make great efforts while enduring difficulties with the terms and conditions of employment (e.g., many are dissatisfied with pay), the rights they have (e.g., many have excess working hours), and the teaching changes the University expects from them (e.g., some perceive workload is too heavy) (Husbands and Davies, 2000). In addition to discovering what it means to teach their subject matter, junior faculty face other difficulties as they enter the classroom. They are concerned with issues related to themselves and their own adequacy (i.e., many feel a lack of competence in the teaching methodology) (Hardré, 2005).

Most important, new entrants to the academic profession or probationary teachers are still at the beginning stages of learning to teach. Much of what they learn about teaching will depend upon their experiences in classrooms and their opportunities to continue to learn - about subject matter, about students, and about teaching - in a process of learning-by doing or socialisation into academic life (Knight, Tait and Yorke, 2006). New academic appointees have, thus, a different relationship to university policies than do experienced faculty. With regard to junior faculty, the problem for university authorities is not how to change faculty's practices but rather how to provide the types of support junior faculty may need as they construct their teaching practice. In other words, how induction practices contribute to the process of socialisation of junior faculty so that different social practices, norms, values, predispositions and taken-for-granted knowledge become instantiated at different scientific areas and campuses (Trowler and Knight, 2000). The first educational challenge is to identify the broad trends of faculty empowerment that the university development programs seek to promote. Our distillation of this literature yielded seven broad quality assumptions of optimising university staff development programs: (a) that universities increase the learning to teach of junior and experienced faculty. As Romano, Hoising, O'Donovan and Weinsheimer (2004: 26) note.

The Mid-Career Teaching Program (MCTP) attracted a group of experienced faculty who are quite diverse in age, in the number of years they have worked in higher education, and in the length of time remaining before retirement.

However, faculty participation in Spanish training courses depends upon such variables as the age, status and rank of teachers; (b) that higher education organisations improve formal personal, professional, career and instructional development. Many universities are establishing development programs in order to strengthen pedagogical content knowledge (Major and Palmer, 2006), as well as other forms of professional practice and personal support services; (c) that specific universities develop self-evaluation teaching (Aleamoni, 1997). One form of faculty deep involvement is typically concerned with the advancement of subject matter competence and the mastery of one's own discipline as it is related to teaching, thereby building criteria and models as masters of their own learning; (d) that university government bodies increase faculty control over their learning. As Caffarella and Zinn (1999: 248) have pointed out, an enabling factor that enhances professional development is the following faculty personal characteristic:

Strong personal beliefs and values about the value of continuous professional development; a sense of obligation to be active teachers, scholars, and learners throughout the career.

Thus, by mapping their own road to professional proficiency, novel teachers sustain desired learning over time; (e) that staff development programs expand faculty's critical abilities. Scholarly teaching requires a systematic process of inquiry into one's own teaching practices and into students' learning (Goldstein and Benassi, 2006). On this point, Koch *et al.* (2002: 84) grouped the differing sources used in evaluating one's effectiveness into four discreet, but interrelated, approaches to quality assessment:

Reflective critique, student feedback, analysis of student work, and classroom observations.

The infusion of reflective activities into online courses should be thoughtfully considered and carefully buttressed by a strong research base; (f) that supportive leadership by university administrators disseminate the idea of effective faculty program assessments. Another form of program optimising is to guarantee faculty minimum course standards for recognising faculty work. Many researchers and university leaders have become increasingly concerned with evaluating the effectiveness of professional staff development programs (Pittas, 2000). The focus now is to ensure that this professional development has the effect of adapting teaching styles to meet the demands and expectations of today's students, providing enlarged opportunities for collegial networking and promoting institutional aims (Dixon and Scott, 2003), and (g) that staff collaboration help faculty succeed academically, providing new strategies, particularly structuring e-learning activities for building digital portfolios, which show novel teachers' best teaching productions (Woodward and Nanlohy, 2004).

2. Design

In designing Online Courses of Teaching Initiation at the University of Jaén (OCTIUJA), we make six training assumptions (a) from the perspective of social constructivism, online collegial interaction (chat, forum debates, e-mail) is imperative for faculty development; (b) facilitated debates centred on critical university issues play an important role in initiating university formative program reforms; (c) pedagogical knowledge and outcomes require exposure to new and challenging ideas and an opportunity to reflect on the possibilities that these ideas offer towards a greater engagement through multimedia, as well as the encouragement to adapt the ideas of creating narratives to one's own teaching situation; (d) junior faculty may feel distanced from the newer instructional strategies and classroom technologies (web editors, databases, "listservs", chat groups, etc.) that serve as mediators for learning interactions in university settings; (e) faculty are interested in adapting their teaching style and subject design to meet the expectations of today's diverse students, and (f) positive outcomes occur when enrichment programs match faculty in their field of knowledge, respectful of their learning experience, and addressing faculty core areas of teaching – content knowledge, curriculum, instruction, and assessment. The critical design issues behind the rationale of both OCTIUJA courses include online CTC planning, organising, structuring, implementation, tracking, impact reporting, communicating assessments, and many other principles that take time and require orderliness on the part of the online program advisers (Nijhuis and Collis, 2003). Following are some other key features of the OCTIUJA online delivery system located in the following URL: <http://dpdu-jaen.cica.es>. Our support conditions and measures are based on university faculty data taken from the literature: (a) they use a CTC handbook (Villar, 2004), which reviews several sources on college teaching and identifies the critical CTC related to class preparation, classroom structure and organisation, with a focus on teaching innovation and student learning; (b) they learn lesson materials – ten CTCs – which are segmented into weekly modules and released on a weekly basis with ongoing updates. All 156 pdf and html documents, 114 Web sites, and ten Microsoft Power Point

presentations are hyperlinked; (c) they read and practice each CTC which includes a four-step approach towards reflection following a particular order: Goals, Uses, Teaching Scenarios and Case Study; (d) they discuss two topics in asynchronous forums: 'European Convergence issues', and 'Student mental effort to cope with the new European credit system'. These are organised and released on a fortnight basis, but remain accessible throughout the course. The last forum includes postings posing reflective questions (Socratic questions); (e) they access e-mail from the browser for one-on-one interactions with OCTIUJA mentors or other participant instructors; (f) they browse the material containing URL links to related articles and institutions, notes and grades from any location, at flexible time schedules; (g) generally speaking, they download Microsoft Power Point presentations, key concept maps and study guides and resources onto their personal computer; (h) they submit online learning activity assignments using Web forms interface, or via e-mail; these assignments are authentic activities that have real-university relevance and which present complex teaching-learning tasks to be completed over a sustained period of time; (i) they complete ten online exams using Web forms with answers recorded in the appropriate database on the server. Each CTC exam is programmed (random selection) to be unique and to provide instant feedback to the participant instructors with the results. In other words, there is an authentic assessment, which is seamlessly integrated into the learning activity assignments, and which provides a formative assessment of their understanding of basic concepts, aiding them to gain a sense of progress; (j) they assess satisfaction with OCTIUJA courses. They assess the quality of materials and of the training process as a formative evaluation for course revision, and (k) they meet with an experienced professor of the UJA during real-time in a chat room to discuss course progress and forum contents. Supporting, motivating and developing are the aims of this mentoring function (Sosik and Godshalk, 2000).

Consequently, three main OCTIUJA goals emerge from these assumptions. We want to assess (a) participant CTC needs; (b) participant reaction to CTC lesson content and structure, delivery method, time consumption, etc., and (c) participant attention to, and learning of, the ten CTC lessons, in order to support instruction and learning in university classes, thus making university professional development more relevant.

3. Setting and participants

Funded in 1993, the UJA is a new Andalusian institution. It is considered one of the seventeen middle-sized Spanish public universities, which had, in the academic year 2005-2006, around 14,099 students, 899 teachers of various status and ranks, and 43 formative programs distributed around three campuses. Sixty-five subjects are the total sample of the two courses: 50.8% ($N = 33$) in the first course, and 49.2% ($N = 32$) in the second course. Sixty-one percent ($N = 40$) are male and 38.5% ($N = 25$) female. Forty-one per cent ($N = 27$) are between the ages of 30-34, 27.7% ($N = 18$) between 25-29, 23.1% ($N = 15$) between 35-39, and 7.7% ($N = 5$) between 40-44. Typically, faculty members hold higher education degrees. Fifty-three per cent ($N = 35$) have a doctorate degree, 44.6% ($N = 29$) a Bachelors' degree, and only 1.5% ($N = 1$) a Graduate College Degree (a three-year College). Faculty members are hired at the lowest rank. Forty-seven per cent ($N = 31$) are Assistant professors, 24.6% ($N = 16$) Lecturers, 12.3% ($N = 8$) College professors, 7.7% ($N = 5$) Probationary faculty members, 6.2% ($N = 4$) Scholarship holders, and 1.4 ($N = 1$) is an Associate professor.

The number of teaching years ranges from 1 to 19. Forty-one ($N = 27$) respondents have up to three years of teaching experience; 38.5% ($N = 25$) between 4-6 years; 9.2% of the participant instructors ($N = 6$) have 7-9 years, and 7.7% ($N = 5$) have 10-12 years. Finally, 1.5% ($N = 1$) has 13-15 years teaching experience, and also at 1.5% ($N = 1$) one participant has 16-18 years of experience. When disciplines are broken down into scientific areas, thirty-six faculty members ($N = 24$) teach in the Social Sciences; 27.7% ($N = 18$) in Technical Sciences; 16.9% ($N = 11$) in Experimental Sciences; 12.3% ($N = 8$) in Humanities, and 6.2% ($N = 4$) in Healthcare Sciences. Besides, participants in Course I teach thirty-two different subject matters, and participants in Course II teach thirty-four different disciplines. Demographic measures are used as independent variables in analyses. The OCTIUJA courses took place during the year 2005, and lasted 11 weeks each.

4. Faculty questionnaires

Faculty members complete two types of questionnaires. The first questionnaire assesses CTC reactions and attitudes, which are adapted from common themes in the University training literature, that is, what faculty think might be true and say they want regarding OCTIUJA quality, in order to

capture potential stances among all participants. Faculty rate ten online five-point Likert-type scale CTC sheets. Each sheet consists of ten declarative statements (e.g. 'This capacity is pertinent to my teaching') with an additional open-ended question. A Cronbach' alpha coefficient ($\alpha = .995$ standardised) computed for this instrument indicates a high degree of internal consistency. A second questionnaire assesses their CTC learning. Ten multiple-answer teacher-made CTC tests are used for measuring learning attainment; taking a test is understood as a time on-task learning activity (e.g. 'A process of group dynamics can be constituted by the following phases'). Once again, Cronbach' alpha coefficient ($\alpha = .979$ standardised) for all tests shows a high degree of internal reliability. Responses require selecting from a range of four item possibilities, and tests are administered at the end of each CTC lesson. Face validity, stem clarity, correct keying answer, and spelling of distracters are some of the determinants of the quality of capacity tests to be considered. Overall, these α scores indicate that respondents are highly likely to answer consistently on items belonging to the same instrument or test.

5. Results

We analysed the data results for all faculty members who participated in both courses.

5.1 Evaluating OCTIUJA quality measures

We compare participants' ratings on reactions and attitudes separately for each item. Our hypothesis that both course participants would have significantly different OCTIUJA quality reactions and attitudes was not supported. The results by gender show the following significant findings: CTC 1 – Knowledge of student motivation and ability to promote students' positive attitudes – ($t(63) = -3.12, p < .003$); CTC 2 - Awareness of students' diversity in all its forms – ($t(63) = -3.27, p < .002$); CTC 3 - Capacity to solve students' problems – ($t(63) = -2.780, p < .007$); CTC 4 - Capacity to develop metacognitive skills in the trainee - ($t(63) = -3.126, p < .003$); CTC 5 - Capacity to provide effective and free curriculum time – ($t(63) = -2.779, p < .007$); CTC 6 - Knowledge of area being supervised (learning tasks, research, assessment, etc.) – ($t(63) = -3.499, p < .001$); CTC 7 - Teaching and didactic skills for large groups – ($t(63) = -3.037, p < .003$); CTC 8 – Grasp of questioning skills - ($t(63) = -3.091, p < .003$); CTC 9 - Knowledge of formative and summative evaluation - ($t(63) = -3.008, p < .004$), and CTC 10 - Capacity to conduct own self-assessment process - ($t(63) = -3.378, p < .001$).

On participants' age range, we found significant differences in the following capacities: CTC 1 – Knowledge of student motivation and ability to promote students' positive attitudes – ($F(2, 56) = 3.50, p < .037$); CTC 2 - Awareness of students' diversity in all its forms – ($F(2, 56) = 4.82, p < .012$); CTC 3 - Capacity to solve students' problems - ($F(2, 56) = 4.15, p < .021$); CTC 4 - Capacity to develop metacognitive skills in the trainee – ($F(2, 56) = 3.97, p < .024$); CTC 6 - Knowledge of area being supervised (learning tasks, research, assessment, etc.) – ($F(2, 56) = 4.41, p < .015$); CTC 7 - Teaching and didactic skills for large groups – ($F(2, 56) = 3.48, p < .037$), and CTC 8 – Grasp of questioning skills – ($F(2, 56) = 4.24, p < .019$). The one-way ANOVA was also significant regarding scientific area in CTC 5 - Capacity to provide effective and free curriculum time – ($F(3, 56) = 3.72, p < .016$); CTC 6 - Knowledge of area being supervised (learning tasks, research, assessment, etc.) – ($F(3, 56) = 3.26, p < .028$); CTC 7 - Teaching and didactic skills for large groups – ($F(3, 56) = 2.89, p < .049$); CTC 8 - Grasp of questioning skills – ($F(3, 56) = 3.04, p < .036$); CTC 9 - Knowledge of formative and summative evaluation – ($F(3, 56) = 3.14, p < .032$), and CTC 10 - Capacity to conduct own self-assessment process – ($F(3, 56) = 3.35, p < .025$). Across academic degree, status and rank, and teaching experience there were no significant differences.

5.2 Assessing learning activities

Our goal was to examine the change needed in CTC learning to reflect the way the curriculum and didactic knowledge will be used in real university environments. Over time, the focus on activities highlighted critical decisions for designing a valid use of telecommunications. The activity(ies) give(s) meaning and structure to the study of the OCTIUJA courses. In this sense, participant instructors completed 1,351 learning activities in Course I and 1,741 learning activities in Course II. An overview of Figure 1 reveals a higher flow of answers for the cognitive demands of CTC 2 – Awareness of students' diversity in all its forms - and a sense of difficulty of CTC 9 – Knowledge of formative and summative evaluation -. Males completed more activities than female participants in both courses (i.e., 57.6% men and 42.4% women in Course I, and 65.6% men and 34.1% women in Course II);

Course I participants of ages 30-34 completed 51.5%, while Course II participants of the same age range completed 31.3%; Course I Doctors completed 54.5%, while those in Course II completed 53.1%, with Doctor participants realising more activities than Bachelor's degree participants in both courses; Assistant professors in Course I (48.5%) completed more activities than those in Course II (46.9%), and again, Assistant professors completed more activities than Lecturers in both courses; finally, Course I participants completed more activities than Course II participants in the two cycles of teaching experience (up to 3 years, and between 4-6 years). Course II Social Sciences participants completed 43.8% of activities, which was the highest percentage both in comparison to other areas of the same group course and to other areas in Course I.

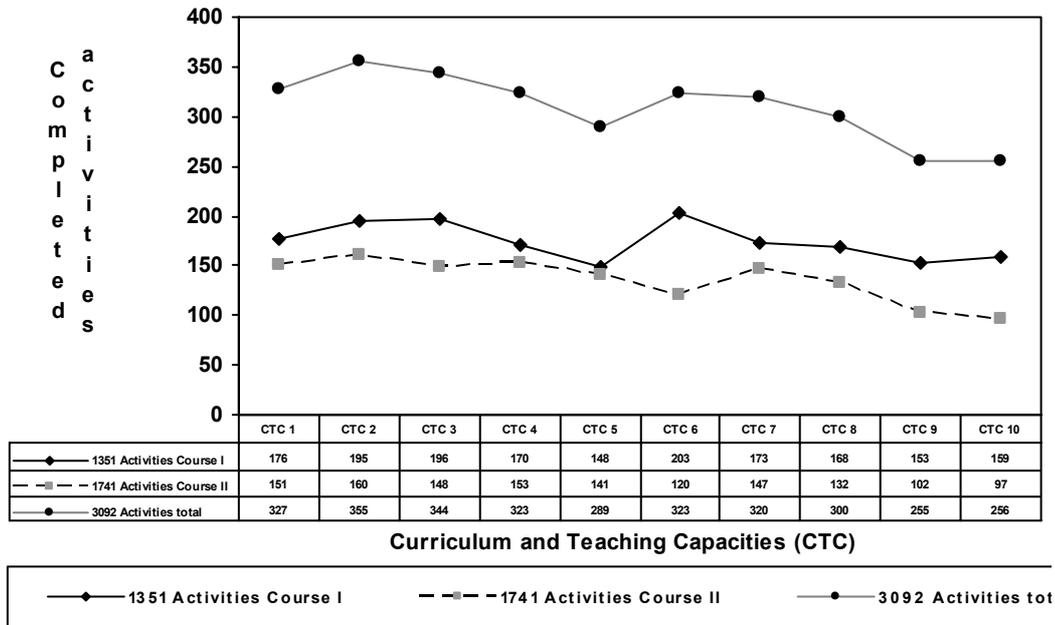


Figure 1: Frequency of CTC activities realised in course I and course II.

Our hypothesis that course participants would show significant differences in lesson learning in the two courses was supported. The *t*-test analyses revealed that junior faculty in Course I experienced a commitment to CTC learning and had better defined academic goals after joining the OCTIUJA program than participants in Course II. This suggests that Course I participants remained concerned about their academic performance while participating in OCTIUJA and then benefited from having clearer defined academic goals and greater self-efficacy in their ability to succeed in the course. The results of CTC learning across the various demographic groups show that tests yield significant differences in age groups, once categories have been collapsed into three independent variables. There were significant differences in only two of the ten capacity tests: CTC 8 - Grasp of questioning skills - ($F(2, 56) = 4.14, p < .021$), and CTC 9 - Knowledge of formative and summative evaluation - ($F(2, 56) = 3.44, p < .039$). For teaching experience, we grouped the independent variables into two; there was a significant difference in only one of the ten capacity tests: CTC 3 - Capacity to solve students' problems - ($t(50) = -1.276, p < .066$). Regarding scientific area, we redistributed independent variables into four; there were significant differences in only two of the ten capacity tests: CTC 4 - Capacity to develop metacognitive skills in the trainee - ($F(3, 56) = 2.91, p < .028$), and CTC 5 - Capacity to provide effective and free curriculum time - ($F(3, 56) = 2.62, p < .043$). Across gender, academic degree, status and rank there were no significant differences.

5.3 Discussion, implications, and suggestions

This is the first OCTIUJA study to include all categories of faculty staff, and to relate the findings of CTC needs, attitudes and learning to worker demographics, job conditions, and factors, which pertain to the general academia. Taken together, the results indicate that a teaching change in university staff is widespread and needed. Furthermore, these results provide support for the consideration that junior faculty perceive CTC needs (79%). This perceived level of teaching needs is a concern. A staff program such as OCTIUJA is one way to address the needs of junior faculty to better serve an increasingly diverse and growing student population. The majority of younger faculty (between 25 and 29 years of age) also felt that they needed training in new teaching skills, in valuing the improvement

of their teaching styles, and in trusting and increasing their confidence in the classroom learning evaluation. Faculty had the same views about the qualities of OCTIUJA (e.g. structure, procedures); they did not vary across participants in the two courses. Nevertheless, according to some demographic variables (e.g., gender, age range or scientific area) faculty members have different stances from their colleagues on the characteristics of some CTC attitudes. However, it is particularly surprising that CTC training attitudes did not differ by category of academic degree, status and rank, or teaching experience. One plausible explanation for this result relates to the faculty's belief systems regarding the goals and structure of each CTC. They might also have considered OCTIUJA quality (opinions and attitudes) questionnaire at the end of each CTC lesson too repetitive, and hence, have answered with similar scores. Nevertheless, faculty members' reflections on CTCs have helped to identify areas that might need to be redesigned and implemented in future university staff online trainings.

Do CTC development activities assist in a faculty member's professional success? Our belief is that they do. Are the faculty member's learning activities the core factor of OCTIUJA? We believe this is the case, and we have attempted to bring to light the principles from which these influences arise. We hope that the formal activities provided enabled them to reflect on pedagogical sources of support to bring about a change in teaching knowledge. The average number of activities by faculty is 40 in Course I, and slightly higher in Course II (54). Can a faculty member control the degree of influence that such learning activities exert on his or her professional development? We assume, like other researchers (Caffarella and Zinn, 1999), that the learning that takes place as a result of course experiences have an impact on university careers and on the success of university faculty as professionals. Differences in levels of activities among faculty yield interesting results. For instance, female faculty members realise fewer training activities than men, who have a higher percentage of participation in both courses. Our percentage results in completed activities also demonstrate that the direction of the differences between types of faculty and course participants may be related to the size of the faculty samples. Interestingly, faculty members of the two courses showed discrepancies in the test scores of all CTCs. It seems that junior faculty in Course I were committed to increasing their awareness of their CTC training goals, such as the ability to keep student interest and attention high, and the ability to promote student learning. Age, teaching experience and scientific area are three independent variables that yielded significant differences between groups.

There are significant implications for University administrators, who should be concerned about the CTC change of their faculty members. We offer some insights into the challenges of OCTIUJA. Mentoring by expert professors who provide an advisory role for new faculty can increase the latter's awareness of learning strengths and weaknesses (Brancato, 2003). Junior faculty believed that mentors were responsive to the needs of the group and that sharing ideas with colleagues in the two forums had been useful. As Dixon and Scott (2003) noted, being able to discuss problems related to teaching and learning had been of benefit in improving pedagogical content knowledge. Having said that, the authors note a limitation in that the data collected on OCTIUJA attitudes and learning are just a snapshot of the faculty members' belief system at the time of the study. As faculty applicants can clearly vary from course to course, professional teaching improvement could result, not from the current online program, but from a build-up of courses taken in early years.

6. Conclusions

There is no debate that junior faculty development is a significant key to the continued success of higher education, as Camblin and Steger (2000) have written about regarding another university. The impact is best summed up by a comment made on the faculty survey by a faculty member while referring to a CTC,

The aggregate knowledge I have gained attending face-to-face weekend workshops does not equal the positive effect that this blended course has produced in me.

CTC activities have provided opportunities for discussion, reflection, and connection of learning at a personal and professional level, such as improving course content, method of instruction, course and instructional organisation, relation of course content to course objectives and course and instructional organisation.

The results suggest that the online programme should continue with minor amendments to structure and content such as an increased use of case-study approaches and more opportunity to witness and discuss best practice in teaching and learning, and possible formal certification for attendance and achievement of programme outcomes by junior faculty.

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