

Incorporating professional knowledge in undergraduate curricula – an innovative program at Unicamp-Brazil

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Abstract (150 words)

One of the roles of Higher Education is preparing students for professional life. However, especially in research Universities, professors tend to be overspecialized and lack professional skills. This happens because academic professorship has progressively become a full time job even for the most professional careers, such as Medicine and Architecture. In 2011 a new program was created at UNICAMP to bring the experience of highly accomplished professionals into the academic environment. Professionals are invited to contribute to the University, passing their real world experience to students. The program also benefits the professors who accompany the invitees along the semester. Although this is a relatively common practice in some schools, UNICAMP's program is innovative because it reaches all the fields, including those that are typically considered academic (as opposed to professional) such as Mathematics and History. This paper describes how the program was implemented and its preliminary impacts in undergraduate education.

Extended abstract (1000 words)

With the expansion of higher education after World War II, many professional schools were incorporated in larger universities, and had to introduce more scientific content in their curricula. This gave them academic respectability, but interfered negatively in the education of professionals, resulting in "damage to professional competence caused by the loss of design from professional curricula ... in engineering and medicine and to a lesser extent in business (Simon, 1998, p.112). In engineering education, for example, "the practical aspects ... generally taught in the laboratory began to give way to the more academic, theoretical subjects" (Feisel and Rosa, 2005, p.122). Other professional programs, such as medicine and architecture, were also gradually transformed through the inclusion of scientific contents, losing part of their traditional hands-on educational methods.

Besides, academic professorship progressively became a full-time job even for the most professional careers, in order to fulfill governmental and funding-agencies requirements, especially at research Universities. These instructors are more knowledgeable of recent technologies and trends in their fields, attending conferences and keeping up to date with the literature, but they tend to be overspecialized and do not have the chance to develop the generalist professional skills that they need to pass over to students. Nowadays, in most universities, students' contact with "real world" professional problems is often gained through internships, which sometimes is a mandatory activity. However, it is impossible to control the quality of the training given by outside entities, which often see interns just as cheap workforce.

Khun (1962) soon realized that the sharing of ideas and experience between scientists and practitioners within the academic environment was the best way to advance knowledge, changing paradigms and reaching new frontiers. According to him, bringing accomplished

practitioners into the University could be beneficial for both sides. Similarly, Schön (1987) acknowledged the important role of practitioners in professional education, due to the differences between practical and theoretical knowledge:

“The nonroutine situations of practice are at least partly indeterminate and must somehow be made coherent. Skillful practitioners learn to conduct frame experiments in which they impose a kind of coherence on messy situations and thereby discover consequences and implications of their chosen frames. ... They listen and reframe the problem. It is this ... that constitutes a reflective conversation with the materials of a situation – the designlike artistry of professional practice.” (p. 158)

Some universities have addressed the issue of professional training by hiring a small percentage of part-time professors, who also keep private practices, but the best professionals often lack time and a formal graduate degree, which is a requirement, for example, in most public universities in Brazil. At the University of Campinas, for example, 98% of the faculty holds a PhD title and 94% work full-time in research and teaching. Another way of dealing with this problem has been through special programs that bring professionals to academia. Cornell’s Law School, for example, invests a million dollars a year with the Practitioner-in-Residence program. Other examples of similar initiatives can be found at schools of Public Affairs, Business, Pharmacy, Veterinary, Medicine, and Architecture.

At the University of Campinas, one of the top research universities in Latin America, a new program was created specifically to bring professional experience to the academic environment. The objectives of Unicamp’s program are: (1) give students and faculty the opportunity to be in touch with the most experienced and accomplished practitioners, (2) offer professionals the opportunity to interact and learn from the academic community during a time span that will not interfere with their professional appointments, (3) strengthen the relationships between the university and society, and (4) contribute to the strategic formation of high-level human capital for Campinas’ metropolitan area, which is highly industrialized.

Since September 2010, every semester the Office of the Dean for Undergraduate Programs opens a call for proposals, which can be submitted by each program’s coordinator. This system ensures that fellowships will be granted based on the community’s actual needs. The proposals, developed with the consent of the programs’ committee members, must justify the reasons for choosing the practitioner appointed, and clearly state the expected contributions to students. The value of the fellowship offered is equal to a full-time associate professor wage, and lasts for 5 months, a whole academic semester. Visiting practitioners must dedicate an average of at least 4 hours per week to teaching, and deliver at least one major lecture to the community. Other activities, such as undergraduate thesis advising and judging, workshops, field trips, etc., are also encouraged. The selection of proposals is made by a multidisciplinary committee, and takes into account the candidate’s professional curriculum and the expected contribution to the program.

While most Universities’ initiatives address specifically professional schools, at Unicamp an equal number of fellowships (usually one or two per semester) are distributed for each field of knowledge - Arts and Human Sciences, Exact Sciences, Biological Sciences and Technological Sciences, in order to guarantee the diversity in the distribution of resources. The reason for this is the fact that, in the contemporary job market, graduates from basic science programs, such as History, Mathematics or Physics, will not necessarily become teachers or researchers, but may occupy other professional positions. Such is the case, for example, of a visiting practitioner who held a B.A. in History and worked as the Head of the Library of São Paulo’s Legislative Assembly.

The program's results have been assessed in three ways: through final reports turned in by both the visiting practitioners and the programs' coordinators, and through an online system in which students can evaluate the subjects and leave suggestions. Most students who have answered the questionnaire so far have acknowledged the contribution of the program to their professional training, showing enthusiasm for having the opportunity to be in touch with highly accomplished practitioners from their fields. Although the program still needs to be improved in many aspects, it is already possible to foresee a great impact in the education of Unicamp's students due to this curricular innovation.

References

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