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To cite this article: Silvana Castillo-Parra, Sandra Oyarzo Torres, Mónica Espinoza Barrios, Ana María Rojas-Serey, Juan Diego Maya, Valeria Sabaj Diez, Verónica Aliaga Castillo, Manuel Castillo Niño, Luis Romero Romero, Jennifer Foster & Gustavo Hawes Barrios (2017) The implementation of multiple interprofessional integrated modules by health sciences faculty in Chile, Journal of Interprofessional Care, 31:6, 777-780, DOI: [10.1080/13561820.2017.1345872](https://doi.org/10.1080/13561820.2017.1345872)

To link to this article: <https://doi.org/10.1080/13561820.2017.1345872>



Published online: 18 Sep 2017.



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SHORT REPORT



The implementation of multiple interprofessional integrated modules by health sciences faculty in Chile

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ABSTRACT

Multiple interprofessional integrated modules (MIIM) 1 and 2 are two required, cross-curricular courses developed by a team of health professions faculty, as well as experts in education, within the Faculty of Medicine of the University of Chile. MIIM 1 focused on virtual cases requiring team decision-making in real time. MIIM 2 focused on a team-based community project. The evaluation of MIIM included student, teacher, and coordinator perspectives. To explore the perceptions of this interprofessional experience quantitative data in the form of standardised course evaluations regarding teaching methodology, interpersonal relations and the course organisation and logistics were gathered. In addition, qualitative perceptions were collected from student focus groups and meetings with tutors and coordinators. Between 2010 and 2014, 881 students enrolled in MIIM. Their evaluation scores rated interpersonal relations most highly, followed by organisation and logistics, and then teaching methodology. A key result was the learning related to interprofessional team work by the teaching coordinators, as well as the participating faculty. The strengths of this experience included student integration and construction of new knowledge, skill development in making decisions, and collective self-learning. Challenges included additional time management and tutors' role. This work requires valuation of an alternative way of learning, which is critical for the performance of future health professionals.

ARTICLE HISTORY

Received 26 January 2016
Revised 17 April 2017
Accepted 19 June 2017

KEY WORDS

Collective learning;
interprofessional
collaboration;
interprofessional learning;
teamwork

Introduction

Educational models based on uniprofessional activities do not adequately prepare health professions to meet current demands on health systems, stemming from demographic and epidemiological changes, technological innovation, and process of professional differentiation. The use of interprofessional curricular models has been promoted as an important step in addressing such challenges (e.g. Frenk, et al., 2010; Abu-Rish et al., 2012).

In this article, we describe the development and evaluation of an educational innovation designed to break the rigid boundaries of a siloed professional curricula based at the University of Chile. Specifically, the article reports on the design and implementation of two required, cross-curricular courses, the multiple interprofessional integrated modules (MIIM) 1 and 2 which were incorporated into the University's existing health professions curricula.

Background

The MIIM courses were developed for the eight health professions that constitute the Faculty of Medicine at the University.

Professors believed that interprofessional learning opportunities would enable students to find meaning in working in interprofessional teams. Prior to MIIM, the interprofessional education was taught in a decontextualised way, with little or no reference to the realities of collaborative practice. However, the delivery of healthcare requires that professionals need to continually interact with one another. The central purpose of MIIM is to enhance collaborative work in simulated and real contexts, integrating previously acquired knowledge into practice.

MIIM courses were incorporated into the curricula of seven different health careers, during the fifth and eighth semesters of their programs. For medical students only, the MIIM courses were incorporated in the fifth and tenth semesters of their training. Two teams designed the first MIIM syllabus and the learning scenarios with professors from kinesiology, nursing, midwifery, and medicine, along with experts in education, basic sciences, and public health.

The courses aim to introduce students to elementary core concepts underpinning the clinical practices of those participating from each of the professions. The shared

values encouraged within the courses are designed to help students confront common problems in practice and propose solutions by means of personal and group reflection (Hogden, Greenfield, Nugus, & Kiernan, 2012).

MIIM-1 was implemented with groups of 8–12 students that participated in weekly meetings. A virtual platform was used, where cases were presented, with simulated patients, health professionals, and family members. There was a forum where students interacted by posting alternative solutions and/or questions. The tutor intervened only if the students went off track. There was a blog where patient, family, or health professionals provided key information or asked questions. The role of the tutor in MIIM-1 was to motivate students to work as a team, facilitate discussions, and provide case follow-up to achieve the expected learning outcomes. The tutor had a script to pose questions to the students, make decisions promoting the integration of diverse professions, and receive students' decisions. Also, the tutor assumed the role of the virtual patient for each case. The students did not know that the simulated patient was their tutor, which lent more credibility to the case. Tutors used a rubric to assess individual student learning outcomes related to interprofessional competencies (i.e. collaboration and leadership). The assessment of the group as a whole was based on a report each group submitted, which reflected the team process of analysis, discussion, and synthesis. Each student was assessed on teamwork by the faculty and tutors.

MIIM-2. Each student group developed a “community project,” addressing a relevant issue for their health centre and related community. Support for the projects was provided from a health professional working at their assigned centre. The purpose of this experience was to encourage students to integrate public health concepts in an interprofessional clinical care context. To complete the work, students experienced working with staff from different professions (Rodríguez et al., 2013). Students were graded on a group portfolio assignment containing basic information on the community project, with a final presentation and an individual reflection about their learning. Peer assessment within the student groups also informed the final grade.

Methods

A mixed methods design was employed to explore the perceptions of both these interprofessional modules.

Data collection

Student data were generated from two sources. First, student impressions were captured through the standardised course evaluations administered at the faculty level for all courses which elicit ratings on teaching methodology, interpersonal relations, and course organisation and logistics. Student focus groups, as well as documented meetings of tutors and coordinators, were a source of qualitative data. Students were asked

about their perceptions of the course, the strengths, and challenges of working as a team and integrating their different professional perspectives and knowledge during course discussions and assignments. Also, they made suggestions for future versions of the course.

The perceptions of the tutors were ascertained through questionnaires administered at face-to-face meetings at mid-semester and at the conclusion of MIIM. Tutors were asked about their perceived successes, challenges, and suggestions for future planning. Also, they were asked to discuss their role as tutors and what they had learned related to teaching, via their experience with MIIM.

Data analysis

The quantitative data were analysed by generating frequencies of responses and averages obtained from the course survey, with a range of scores between 1 and 4, where 4 was considered the best evaluation. The qualitative information was transcribed and explored by the use of analysis matrix with the use of pre-established categories.

Ethical considerations

All participants were informed about the study before their involvement. Anonymity and confidentiality of information were guaranteed using blinded labels by faculty and students.

Findings

Quantitative perspectives

Of the 881 students enrolled in MIIM between 2010 and 2014, the average course response rate was 81% (Table 1). The average score on the four-point scale for teaching methodology was 2.44, course organisation and logistics was 2.88, and interpersonal relation was 3.0. All scores are slightly lower than the other courses. In spite of the use of grading rubrics, students perceived heterogeneity in assessments by their tutors.

Qualitative perspectives

The discussions in the focus groups suggested development in learner skills related to managing various sources of information from different professions in the construction of original, collective, and contextualised case solutions. Students reported being able to mobilise their solutions into original communications, delivered in interprofessional contexts. However, students felt that the hours assigned were insufficient to conduct the required activities, however. Scheduling conflicts resulted in more time devoted to distributing tasks, rather than establishing common team goals. Students also offered different opinions as part of a collective decision-making process, enhancing in the process their leadership skills as reported by the faculty.

Data from the tutors indicated that they felt their involvement in this experience helped developed new skills as facilitators, valuing the potential of learning from and with other

Table 1. Quantitative evaluation for multiple interprofessional integrated modules (MIIM).

MIIM	Year	Number students	% response	Teaching methodology	Interpersonal relations	Course organisation and logistics
MIIM 1	2010	122	100	2.9	3.2	3.2
	2011*	–	–	–	–	–
	2012**	135	91.8	2.4	3.1	3.2
	2013	140	87	2.4	3.0	2.9
	2014	139	94	2.7	3.2	3.1
MIIM 2	2012**	90	31	2.5	3.0	2.7
	2013	115	93.9	2.3	2.9	2.8
	2014	140	72	1.9	2.6	2.3
Total		881	81	2.44	3.0	2.88

Points are average on 4-point scale (0–4 = lowest to highest).

*MIIM 1 was not offered because students across Chile were on strike and did not attend classes.

** In 2012, the MIIM 1 was offered to third year students instead of second year, and the MIIM 2 was offered for the first time.

Table 2. Qualitative evaluation of successes and challenges for multiple interprofessional integrated modules (MIIM).

Dimension	Team module evaluation	Examples
Successes	The debates and the synthesis of each group indicated integration of knowledge by means of the collective and contextualised resolution of cases.	"The cases allowed integrated knowledge of different areas of health, by joining with other professions to solve problems" (SGD 1, 2012).
	Students discussed different opinions to make decisions, with the support of the tutor, building student leadership.	"It (the course) created the necessity of discussing as a team and integrating everyone's opinion to formulate a decision" (SGD 3, 2012). "Student leadership was apparent in this case (study), related to their professional knowledge" (T5).
	Autonomous learning was stimulated, required by the need to plan within the time frame. The tutors learned new skills as facilitators.	"This module required us to do literature searches and learn a lot in a short time" (SS 14, 2010). "(I learned) to contain the uncertainty of the team" (T4). "(I learned) to act more as a facilitator than as an instructor" (T7).
Challenges	There was significant interprofessional learning within the faculty that designed the modules.	"Being on this team changed my perspective and validated all that I could learn from other professionals" (C1).
	Students think that the hours assigned are insufficient to achieve all the necessary requirements.	"I want to clarify that I consider the workload of this course to be too high, not because the clinical cases were excessively complex, but because the methodology used is hard to wrap our brains around since we have been raised within paternalism. Nevertheless, I believe it is a methodology that must be strengthened in the university" (SS 3, 2012).
	In spite of the grading rubrics, the students described heterogeneity among the tutors. Schedule conflicts resulted in more time dedicated to assigning tasks, instead of establishing common goals as a team.	(There was) "Disparity in evaluation and assigning grades" (SS6-2012). "It was really difficult to work in a team with the schedules of both careers, and finally what happened was every career worked separately" (SS 1, 2013).

SGD: Student group discussion; T: Tutor; SS: Student section; C: Coordinator.

professionals, changing thus their perspectives concerning interprofessional work (Table 2).

Discussion

From a curriculum perspective, although the study found some evidence to support that it is possible to achieve levels of integrated knowledge in students to value the contribution of interprofessional experiences, improvement is needed in some aspects of the delivery of the course. The first challenge to overcome the status quo: interprofessional education is not yet the current paradigm in health professions' education. This applies to teaching staff as well as to students. The importance of this kind of learning must be genuinely valued by faculty and tutors for the professional performance of students to change (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). The interprofessional experience is strengthened through the collective and contextualised case solutions (IOM, 2015; Quattrochi, Pascuale, Cerva, & Lester, 2002).

Future versions of MIIM should provide more time to students and consider the schedule compatibility among the different programs. A way to facilitate evaluation would be to establish an assessment system that considers both tutor and students' opinions (Perrenoud, 2004). More examination is required to ascertain what factors contributed to these perceptions. In future iterations of MIIM, extra effort will be placed on encouraging standardised judgments of student learning and performance.

A key limitation related to this study was that it only examined perceptions of interprofessional education. As a result, the study could not provide any insight into the future performance of these students within interprofessional teams. Also, the study was undertaken in a single institution which limits the generalisability of the results.

Acknowledgment

We gratefully thank Faculty of Medicine, University of Chile for providing the opportunity to work on the task force team, and for providing the necessary time needed to develop this interprofessional educational innovation.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

Funding

We gratefully acknowledge U.S. Fulbright Commission of Chile for its financial support of international scholar exchange.

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References

- Abu-Rish, E., Kim, S., Choe, L., Varpio, L., Malik, E., White, A. A., & Zierler, B. (2012). Current trends in interprofessional education of health sciences students: A literature review. *Journal of Interprofessional Care*, 26(6), 444–451. doi:10.3109/13561820.2012.715604
- Frenk, J., Bhutta Zulfiqar, A., Chen, L. C.-H., Cohen, J., Crisp, N., Evans, T., ... Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *The Lancet*, 376(9756), 1932–1958. doi:10.1016/S0140-6736(10)61854-5
- Hogden, A., Greenfield, D., Nugus, P., & Kiernan, M. C. (2012). Engaging in patient decision-making in multidisciplinary care for amyotrophic lateral sclerosis: The views of health professionals. *Patient Preference and Adherence*, 6, 691–701. doi:10.2147/PPA.S36759
- IOM [Institute of Medicine]. (2015). *Measuring the impact of interprofessional education on collaborative practice and patient outcomes*. Washington, DC: The National Academies Press.
- Perrenoud, P. (2004). *Évaluer les compétences. L'Éducateur: La note en pleine évaluation*. Retrieved from www.unige.ch/fapse/SEE/teachers/perrenoud/php_main/php_2004/2004_01.html
- Quattrochi, J. J., Pascuale, S., Cerva, B., & Lester, J. E. (2002). Learning neuroscience: An interactive case-based online network (ICON). *Journal of Science Education and Technology*, 11(1), 15–38. doi:10.1023/A:1013943330024
- Reeves, S., Perrier, L., Goldman, J., Freeth, D., & Zwarenstein, M. (2013). Interprofessional education: Effects on professional practice and healthcare outcomes (update). *The Cochrane Database of Systematic Reviews*, (3), Art. No.: CD002213. doi:10.1002/14651858.CD002213.pub3
- Rodríguez, D., Berenguera, A., Pujol-Ribera, E., Capella, J., Peray, J. L., & Roma, J. (2013). Identificación de las competencias actuales y futuras de los profesionales de la salud pública. *Gaceta Sanitaria*, 27(5), 388–397. doi:10.1016/j.gaceta.2012.10.005