

The Point of View of Undergraduate Health Students on Interprofessional Collaboration: A Thematic Analysis

SAGE Open Nursing
Volume 5: 1–10
© The Author(s) 2019
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2377960819835735
journals.sagepub.com/home/son



Monica Bianchi, PhD, EMBA, MSN, RN¹ ,
Annamaria Bagnasco, PhD, MEdSc, MSN, RN²,
Luca Ghirotto, PhD³ , Giuseppe Aleo, PhD, MA²,
Gianluca Catania, PhD, MSN, RN²,
Milko Zanini, PhD, MSN, MSoc, RN² ,
Franco Carnevale, PhD, MA, BSc, MEd, MSC, RN⁴, and
Loredana Sasso, MEdSc, MSN, RN, FAAN, FFMRCIS²

Abstract

Interprofessional education (IPE) is essential to prepare future professionals for interprofessional collaboration (IPC). Learning together is essential for students because it is a way to understand the roles of other colleagues, improve their skills, knowledge, competencies, and attitudes to collaborate with the interprofessional teams. To explore how undergraduate students who attend IPE courses define IPC, a qualitative study using semistructured interviews followed by a thematic analysis was performed. Four main themes were identified: IPC as a resource, requirements for IPC, emotions linked to IPC, and tutor's role to facilitate students' perception of IPC. Students considered IPE important to build IPC, where clinical placement tutors play a key role. The most important findings of the present study include the students' considerations about the importance of IPE when building their IPC definition and the key role played by the tutor during the placement in building IPC in clinical practice.

Keywords

interprofessional education, interprofessional collaboration, student, tutor, skills, competencies, clinical practice, role of tutor, role of student

Date received: 25 September 2018; revised: 6 February 2019; accepted: 10 February 2019

Introduction

Learning together is vital for students because in this way they understand the roles of their colleagues and improve their teamwork and collaborative practice skills (Kent & Keating, 2015). Moreover, undergraduate students acquire the skills, knowledge, competencies, and attitudes to enter the interprofessional team through supervised practice. These experiences are essential for students and have a pivotal role in future employment decisions (Eick, Williamson, & Heath, 2012; Forber et al., 2016; Hamshire, Willgoss, & Wibberley, 2012). Starting from these considerations, it was decided to focus on the students' point of views to better

understand what were their thoughts and experiences related to interprofessional collaboration (IPC). IPC is “when multiple health workers provide comprehensive

¹University of Applied Sciences and Arts of Southern Switzerland, Manno, Switzerland

²Department of Health Sciences, University of Genoa, Italy

³Arcispedale Santa Maria Nuova - IRCCS, Reggio Emilia, Italy

⁴Ingram School of Nursing, McGill University, Montréal, Québec, Canada

Corresponding Author:

Monica Bianchi, Department of Business Economics, Health and Social Care, University of Applied Sciences and Arts of Southern Switzerland, Stabile Piazzetta, Via Violino, CH-6928 Manno, Switzerland.
Email: monica.bianchi@supsi.ch



services by working together synergistically along with patients, their families, carers and communities to deliver the highest quality of care across settings” (World Health Organization [WHO], 2010, p. 7).

Another concept related to IPC is interprofessional education (IPE). IPE “occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (WHO, 2010, p. 13). IPE is promoted to create and develop collaborative practice in the interprofessional team (WHO, 2010). In fact, IPE is an important step to prepare a “collaborative practice-ready” health workforce (WHO, 2010, p. 7). Vyt, Pahor, and Tervaskanto-Maentausta (2015) underline the need for a synergy between practice and education system to prepare professionals with competencies and skills to respond to health and social needs. Therefore, the purpose of this study was to understand how undergraduate students define IPC.

Design/Method

A qualitative research design using semistructured interviews followed by a thematic analysis (Braun & Clarke, 2006) was used. Compared with other qualitative methods, this specific thematic approach enables the researchers to explore in depth the meaning attributed to IPC by students within a specific context. In fact, the thematic approach is suitable to understand what meaning individuals give to their experience and ensure structural conditions that enable the individual accounts emerge. According to Braun and Clarke (2006), a thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data. The study was based on semistructured open-ended interviews, which prompt students to describe their experience in IPC.

Sampling and Setting

The participants were enrolled through purposive sampling, the technique used in qualitative research for the identification and selection of information-rich participants, experienced with the phenomenon of interest (Creswell & Plano Clark, 2011). Accordingly, it was decided to involve students who had some experience of IPE as key informants. The inclusion criteria were as follows:

- Any student attending bachelor courses with IPE training and
- Voluntary participation in the study and willing to consent.

Key informants were undergraduate students attending courses for nurses, physiotherapists, and

occupational therapists at a university in Switzerland. In this context, teachers organized the curricula into monoprofessional modules on discipline-specific knowledge (80 European Credit Transfer and Accumulation System [ECTS]) and 17 interprofessional modules (52 ECTS) that were common to all of the three bachelor courses and distributed across the 3-year education program. This experience started in 2006 and included some months of clinical placements, during which the students experienced IPC.

Recruitment. The principal investigator (PI) presented the study to the dean of the school. After obtaining his consent, the PI presented the study to the directors of the three bachelor courses (i.e., nursing, physiotherapy, and occupational therapy), who also showed interest and arranged a meeting with the students to present the study and encourage their involvement. Students were informed that all data would be treated anonymously and confidentially. Students received the e-mail address of the PI so that they could receive more information and provide their informed consent.

Data Collection

Data collection included semistructured interviews with open-ended questions (Table 1). Data were collected from December 2015 to July 2016. The PI had received specific training about qualitative interviewing by a qualitative methodologist before conducting the interviews. The purpose of the interviews was to enable students to describe their IPC experience and record their reflections and opinions about factors that could facilitate or hinder IPC in the future and about how IPC could be implemented into clinical practice (Table 1).

Data Analysis and Saturation

All the interviews were audio-recorded and verbatim transcribed. The PI did not return the transcripts to the participants. The researchers followed the six-step procedure according to Braun and Clarke’s (2006) thematic analysis.

1. Recordings were transcribed verbatim and read several times. Each interview was analyzed by dividing it into conversation sequences and examining them sentence by sentence.
2. The first two interviews were read by two researchers who identified initial labels with the support of NVivo 10. Subsequently, the two researchers met and discussed what they had included in the initial list of tags.
3. The labels were combined to identify the central themes and subthemes. The two researchers brought

Table 1. Interview Guide.*Opening questions*

Could you please tell me what is interprofessional collaboration to you?

What are the main elements that promote collaboration, both at an individual level and at the organization level?

According to your opinion, which skills are useful to work well within the team?

Central questions

Could you please describe how a recent care situation affected interprofessional collaboration among the members of the care team?

Could you please describe how you have experienced the situation? What did you think?

Supporting questions

What kind of IPC was driving the decisions? Did all the team members agree?

What do you think about the tutors who are helping you? How did they promote the multidisciplinary team?

Could you please tell me about your expectations on this?

Could you please describe the factors that helped you most?

Were there obstacles to the development of the IPC during your training?

What differences or similarities did you notice between interprofessional collaboration experienced during the training and interprofessional collaboration experienced in your clinical placement?

Closing questions

Are there any thought you would like to share? Are there any examples that came to your mind?

Note. IPC = interprofessional collaboration.

their analysis and proposed a shared naming. The themes were reviewed by a third researcher to ensure accuracy. In particular, researchers discussed about naming subthemes linked to the category about emotions and perception.

4. The list of themes identified was commented, reviewed, and refined to ensure internal consistency. Researchers removed overlaps across the various themes.
5. The central themes were accurately described to identify their meanings.
6. The report on the initial findings was reviewed by two researchers.

After 10 interviews, researchers decided to reinstate three students to gain more insight about some interesting topics that emerged from the first interview and achieve saturation of the newly emerging themes.

Rigor

The same researcher who conducted the interviews conducted the verbatim transcription and wrote down the contextual observations. Two researchers analyzed each transcript. An external expert of qualitative research checked the analysis and helped to develop the themes. In addition, the use of software, namely QSR International's NVivo 10 (NVivo, 2012), allowed researchers to share data analysis and define findings. In this way, ongoing agreement between the coders (intercoder agreement) was ensured throughout the study. Finally, researchers selected the most significant quotes for the themes to ensure confirmability.

Ethical Considerations

The study received ethical approval of the Canton Ticino Ethics Committee on the November 30, 2015.

Findings

The PI conducted 13 interviews with 10 students, as three of them were interviewed twice. On average, each interview lasted for 47 minutes. The purposive sample included three students attending the undergraduate program in nursing, three occupational therapy students, and four physiotherapy students. The participant characteristics are shown in Table 2.

Students defined IPC through four central themes: IPC as a resource, the requirements for IPC, the emotions linked to IPC, and tutor's role to facilitate IPC seen by the student. The themes and subthemes are summarized in Table 3.

Before presenting the major themes and subthemes, it is important to describe how students spoke about the concept of IPC. Even if a few months before they were interviewed they had dealt with the topic of IPC in the classroom, the way they described the concept of IPC varied a great deal. They were influenced by previous placements during which they had experienced IPC. Sometimes, they were actively involved in it, whereas on other occasions, they were "spectators." Some students had positive experiences that made them appreciate the essence of collaboration and the positive results that derived from it; for other students, the experiences were negative and experienced the inability to collaborate with other professionals, moments of discomfort, and felt powerless, with a negative impact on care.

Table 2. Participants' Characteristics.

Code	Bachelor			Age Years	Previous education				Work experience (months)		Research participation
	N	OT	PT		High School	Health-care licence	Other licence	Other university	In health care	In other field	N. interviews
S1			x	33	x				12	48	1
S2			x	23	x						2
S3			x	27	x			x	3	1	1
S4			x	22	x				3		1
S5	x			22	x				0.5		2
S6	x			22		x					2
S7		x		28				x		48	1
S8		x		23				x			1
S9	x			21		x					1
S10		x		25	x			x	4		1

Note. N = nursing; OT = occupational therapy; PT = physiotherapy.
'x' used like a check which signifies that the characteristic is present.

Table 3. Main Themes and Subthemes.

Major themes	Subthemes
IPC as a resource	Expected outcomes for the patient Patient-related safety Patients' gratification IPE as a resource Professional satisfaction Improved competencies
Requirements for IPC	Environment Staff mix Skill mix Organization's climate Personal characteristics
Emotions linked to IPC	Gratification Feeling part of the team Frustration
Tutor's role	Supporting relationships Supervising clinical practices

Note. IPC = interprofessional collaboration; IPE = interprofessional education.

This is the starting point of the meaning students gave to IPC, and that highlights how their definitions were naïve.

The ability to identify common goals within the provision of patient care by different professionals ... the ability to pursue them with a certain flexibility, let's say based on personal characteristics. (S2)

It implies a team, thus different professionals, who work together to achieve a common goal. (S5)

I imagine different professions with the same goal ... each one uses their skills and shares them with colleagues

or with whom they work, to reach the goal ... working in synergy with different professions. (S6)

It is the exchange of information for a purpose ... for communication, for example, if you have a person in charge, set up a network with other professionals and with this network exchange information about it. (S10)

Some students, who were interviewed after completing more than half of the last clinical placement in which one of the goals focused on building IPC attitudes, stated that during the placement, they had consolidated the definition of IPC matured at the end of classroom lessons:

I started with the idea that interdisciplinarity was useful, that it was interesting to have lessons together. The placement fortified my ideas because, during the patient discussion meetings with the whole multidisciplinary team, it was great because we could all talk about everyone with everyone ... in this way, a meeting where everyone could intervene, discuss, decide together how to take care of the patient was very positive: you could use the skills of everyone, and it is wonderful. (S1)

The definition I gave regarded the ability to define common goals for different professionals and to pursue them with a certain degree of flexibility ... this is the definition that in my opinion best suits my way of thinking about IPC and in this placement I could see that it is exactly like this. (S7)

Starting from these assumptions, drawn from the analysis of the data collected, that were located the major themes and the subthemes shown in Table 3.

IPC as a Resource

Students often define IPC as not only a resource for patient care but also a professional and personal resource. Within this latter type of resource, the subtheme *IPE as a resource* was identified as students' highlighted aspects related to their educational program as useful or hindering the construction of the concept of IPC, and how to encourage or not share collaborative experiences. Students in these 3 years attended lessons and did group work and in-depth discussions about clinical cases.

The theoretical contributions, however, that never fail to develop this interprofessional nature; the structure of classroom lessons together, is something that helps. (S1)
Some lessons offer us a general idea of who can intervene, whom we have to rely on for certain things ... how important it can be to collaborate, speak, and communicate with other professionals. (S3)

At the beginning I wondered what do the physios do here? or the occupational therapists, then when talking to my peers, they said, "this is a cue to my profession for this and that reason" and it was interesting. (S6)

The fact is that we can work in groups, evaluate clinical situations, and work together with the same person and on the same problem, but from different perspectives. (S9)

In the subtheme, *Expected outcome for the patient*, students think that IPC may have an impact on patient outcomes, especially when it comes to sharing common goals and engaging all the professionals of the health-care team.

The collaboration of a team with different professions where everyone caring for patients care is involved. (S7)
Take advantage of other professionals to find a common purpose, let's say. (S8)

One of the results of IPC is defined as patients' gratification; it leads, in the opinion of the students, to higher patient satisfaction and improved well-being:

It is about collaborating with other professionals. Especially regarding patient well-being and satisfaction. (S4)

Another way of seeing IPC as a resource is *Patient-related safety*. In fact, the impact of IPC can also be observed in terms of patient safety. Shared care and goals ensure higher levels of safety.

I realized how much it was ... essential for the patient, for his functional recovery, for the quality of care, for his

safety, how fundamental all these pieces of the jigsaw puzzle are. (S5)

As well as to being a resource for the patient, IPC is a resource for professionals. In fact, the subtheme *Professional satisfaction* shows that IPC ensures working conditions that make professionals feel satisfied.

The interaction between different professionals ... with respect for the skills of every professional that seeks to achieve a treatment or provide the best possible service, and consequently the exchange of information between professionals, respecting the skills of everyone, always at the service of what we do at work. (S3)

I must admit that when I came to this department I had many assumptions ... I imagined that in a Surgery ward (where you are always in a hurry) "who thinks about IPC ... who thinks in general!" Instead, I was struck that, despite the fast pace, the team works a lot together, they have moments of exchange, discussion, sometimes use the coffee break to talk to one other. (S10)

Finally, another professional resource linked to IPC is *Improved Competencies*; collaborating with others and exchanging ideas implies the continuous development of everyone's skills and knowledge.

A pathway that begins when you start your studies, where various professionals experience their roles together with other professionals; so that afterwards they build a culture based not only on their own profession but which is inclusive of other professions. (S1)

Requirement for IPC

The students highlighted the prerequisites for IPC, related to the organization they were in and the characteristics of the people who were part of the team.

They linked the organizational prerequisites to the environment and the context of the settings where they did their placements during the 3 years of their undergraduate course. They observed the presence or absence of IPC of facilitators or barriers in terms of human resources, space and time, communication and shared tools, work climate, and organizational culture.

Students reported the difficulties associated with IPC, which they either observed or directly experienced when they were in settings where the organizational culture was not geared toward collaboration between professionals. The main aspects, which according to students, impact on the setting were the environment, the context in which professionals work and seek collaboration. According to the students, the environment with its features, the available space, and time strongly impact on

IPC because each of these factors can either facilitate or hinder its development.

... with meetings for all professionals.
... devote time to meeting professionals, to discuss ...
the spaces. (S9)

Skill mix is understood as a way to indicate and group all the different professions that are involved in the IPC process. It is described as a mix of different professions that varies across different organizations and different contexts; in some organizations, there is a lack of some “key” professions.

If the professional with a certain skill is already missing, it also becomes difficult ... to integrate and succeed in following all the patients through all these shared goals. (S5)

Staff mix is also seen as an aspect related to numbers and numerical relationships between the professionals and patients present.

Integrating different professionals in sufficient numbers so that they can still make this possible. (S5)

It is often stressed that, in some contexts, despite the intention of professionals to build IPC, this is impossible because the number of staff available is not sufficient to work together.

The organization's climate as a prerequisite for working together and for being oriented to working together; this subtheme highlights the importance of conflict management, the definition of structured sharing moments to facilitate communication between professionals.

When a team lives this spirit of being open to others and benefits from the skills and knowledge of others. This is a prerequisite for IPC. (S3)

That there are no tensions or conflicts between professionals within the Team. (S9)

The assumptions that students associated with the subtheme *Personal Characteristics* arose from the belief that individual characteristics play a key role in IPC: moral values, level of education, and specific skills. Students strongly agreed that it is not possible to open up to others, meet, understand, and interact with another person when you do not know that person's attitudes, limits, role, areas of expertise, and how to express them in a specific context.

... mutual respect; a good deal of humbleness;
... everybody, in my opinion, has their own skills, you don't have people who are worth more or those who are worth less. (S5)

At a medium/high level of education; willpower; a clear idea of what is their role; knowing what their jobs are and having the motivation, a passion that moves all the rest. (S2)

Emotions Linked to IPC

Some students had a positive and some a negative experience with IPC. From these experiences emerged the emotions and moods related to IPC and realized that sometimes when IPC was needed and it could not be implemented. These concepts are evident in the subtheme:

Gratification: Because when students and professionals experience IPC with other members of the health-care team, they feel satisfied and gratified.

Good! In a sense: I was satisfied with the idea, that it should be shared (S3)

Feeling part of the team: When students experience IPC and actively participate in discussing care plans, patient examinations, or activities together with other professionals, they feel they are part of the team and are considered a member of the team.

Being convinced of being part of something bigger ... being part of a group, creates also a broader relationship with others. (S3)

Frustration: perceiving the importance of IPC, the impact it has on care, the patient's safety, and the failure to cooperate with others. Failing to share goals creates a sense of frustration in the student.

I'm sorry I could not cooperate with other professionals ... I was upset because I heard that you did not do all you could do. (S6)

Tutor's Role to Facilitate IPC Seen by the Student

During their clinical placements, students were supervised by their tutors. During the last placement, one of the goals was to encourage the development of attitudes toward IPC. From the analysis of the interviews, it was found that students recognized a tutor-defined procedure for building their own role in the team and IPC process.

Students identified the *tutor's supporting relationships*, where the tutor is at their side, and they help, stimulate, and support students in building relationships with other professionals of the health-care team.

Yes, I must say that tutors supported me.

For example, it is not that I suddenly followed the hand-overs between the doctor and the nurses; it was something that happened progressively because I was included by following my tutor. (S2)

The first week we went together in some rooms ... my tutor made me feel part of the team. He helped me because he pushed me a bit, because I was a little shy, so he gave me a hand. (S3)

The students felt accompanied, next to their tutor, even while conducting clinical practice and defined it as supervising clinical practices

... prepared the initial introduction of the patient together, before speaking to the group, I had to tell the patient what the goals were and what had been done. (S4)

Students appreciated being accompanied along this pathway and underlined how this was enriching for them:

I was well accompanied by my tutor. I felt safe with him. I found that communication was enriching: what worked with him was that he was communicating very much. It helped me to carry on doing things knowing that he would protect me, like a shield. (S8)

Prompts and guidance were appreciated:

... every time they told me to look beyond what I could see, to understand if there was a need to involve other professionals. (S9)

Discussion

When students talked about IPC during the interviews conducted before starting their clinical placements, they used the acronym or its extended form because they had recently finished the lessons on IPC. They often pointed to IPC by borrowing different definitions and emphasizing aspects of interactive and dynamic interpersonal processes (Haddara & Lingard, 2013; Museux, Dumont, Careau, & Milot, 2016). When asked to avoid the use of definitions made by others and describe it in their own words, some common aspects arose. Most of the students used terms such as “different professionals,” “interaction,” “common goals,” and “information exchange,” and they operationalize all this to provide better patient care.

In the interviews conducted during the clinical placements, their vision of IPC was consolidated, enriched by the reflections made to contextualize in clinical practice what was discussed in the classroom. In this situation, all the members of the team gave great importance to

respect, to the collaboration needed throughout the patient and family caring process, to sharing, interaction, and also to the need for power to be equally distributed among the various professions. After sharing classroom sessions with students of different professions, after practicing with other professionals, collaborating with them, or experiencing noncollaboration, a fundamental step was the reflection on the importance of passing from the theoretical framework of each discipline, from the legal rules that determine a certain rigidity of its professional boundaries, and from aspects that frequently lead to competition between professions toward a paradigm made of collaboration (D'Amour, 2005), trust, and common goals.

When considering IPC as a resource, some aspects that made students see it as such included the time and the situation for which they understood that for some patients an interprofessional approach was needed to properly deal with the problem. Related to this, two key aspects were highlighted:

1. The importance of treating patients in collaboration with other professionals. This outlines some aspects that make cooperation necessary: the awareness that alone you cannot fully care for a patient, that care is the result of joint actions, processes, and shared goals. Caring together also involves problems and difficulties of doing things with others. Thus, there are situations where you do not want to share or there are unfavorable conditions that do not make this possible. Students emphasized IPC, bearing in mind the importance of interprofessional training to break down monoprofessional silos in order to improve collaborative relationships and remove hierarchical relationships between professions, and the evidence that collaborative practice can improve health patients' outcomes and safety (Lemieux-Charles & McGuire, 2006; WHO, 2010), and which may decrease complications, length of stay, and staff turnover (WHO, 2010).
2. The importance of interacting with members of other professions. Verbal interactions, patient care interactions with those outside the facility, and those who are not part of the team. Another aspect that derives from the student's reflections is the evidence of the importance of interpersonal education/training as a starting point for the development of IPC (Accademia Svizzera delle Scienze Mediche, 2014; Barr, Koppel, Reeves, Hammick, & Freeth, 2006; Brandt, Lutfiyya, King, & Chioresco, 2014). They have also formulated an “evaluation” about IPE received over the 3 years: They positively evaluated many aspects that made them work together and reflect on common, or, in some cases, quite varied

aspects. While identifying as a barrier the space subtracted from a specific discipline and added to inter-professional content, or anticipating too much the interprofessional themes when specific disciplinary skills had not yet been developed.

Regarding requirements for IPC, all students stressed the impact the organization has on both the care of the person and the possibility of collaborating with other professionals. The key elements identified to be supportive of the development of collaboration are based on the interpersonal relationships between professionals of the health-care team, the organizational context, and the external environment of the organization, similarly to those defined by D'Amour and Oandasan (2005). By combining different factors, the organization can favor or hinder collaboration, guarantee human, financial resources over time to allow patient and family centered care, as well as the integration of care through the collaboration of different professionals. The organizational factors that are most likely to be influenced by IPC are related to its structure (Walsh, Brabeck, & Howard, 1999). In particular, the need to move from a traditional hierarchical structure to a horizontal structure that creates the best conditions for an open and clear communication among team members and shared decision-making (Feifer, Nocella, DeArtola, Rowden, & Morrison, 2003) to the philosophy and values of the organization that impact on the level of collaboration. A philosophy whose values are based on participation, equity, freedom of expression, interdependence, as well as a climate of openness, accountability, and trust facilitate and develop collaboration between collaborators (Haddara & Lingard, 2013; Museux et al., 2016); as well as systemic determinants outside the organization, such as social components, education, and cultural systems (San Martín-Rodríguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005).

In addition, students identify the influence of organizational factors, staff mix, and skill mix in relation to patient outcomes, staff satisfaction, and greater willingness to collaborate. A better working environment and a workload that is proportional to the number of professionals present results in better patient outcomes and higher survival rates following cardiovascular arrest (McHugh et al., 2016). The type of staff present, both numerically and in relation to the type of training received, affects mortality rates, the likelihood of poor hospital rating by the patients, and the possibility of poor quality and safety reporting (Aiken et al., 2014, 2016). Workload has an impact on missed care (Ball, Murrells, Rafferty, Morrow, & Griffiths, 2014) as well as on the quality of care and patient satisfaction (Aiken et al., 2012; Bruyneel et al., 2015). Among the characteristics of the person, students include moral

values and identify their importance as the basis to build relationships with one other, collaboration and agree on the importance of "respect," "humility," "responsibility," "trust," "fairness," and "respect for human dignity." Regarding the need to have specific competencies in the field of IPC, it is not possible to define a common vision. Initially, it was realized that the term *competence* was not clear to respondents; it was confused and had no specific meaning.

After explaining what was meant by that term, most of the students focused on declaring that personal characteristics (which can be innate or learned) are sufficient to collaborate with others. After analyzing these statements, the concept of competence can be referred to as an intrinsic individual characteristic (Spencer & Spencer, 1993), which expresses itself randomly on different occasions. Another interesting aspect, strongly supported by students, was the influence that the different levels of education can exert on the willingness to collaborate, as well as the difference that students noticed between professionals with more years of experience, who had completed their training a long time ago, compared with younger professionals. For the students, there are other important aspects that characterize the person: the different level of professional experience and tutor activity, the different training backgrounds both with regard to basic and continuing education, and different working seniority. They reported that these aspects have a significant impact and influence on collaboration between and with professionals. Understanding the different personal characteristics of colleagues enables to build collaborative and not hierarchical relationships between different professions (Frenk, Chen, Bhutta, Cohen, & Crisp, 2010), promoting better collaboration and creating good prerequisites for increasing patient outcomes and safety (Lemieux-Charles & McGuire, 2006).

In addition, the acquisition and internalization of professional values are necessary for clinical practice to determine professional development (Horton, Tschudin, & Forget, 2007) and create a common framework that meets professional expectations and identifies shared ways to respond to the ethical dilemmas that arise (Irving & Snider, 2002; Parandeh, Khaghanizade, Mohammadi, & Nouri, 2015). The students' emotions linked to IPC and moods derive mainly from experience in clinical practice. Emotions are positive when students feel welcome in the team and feel they are considered an integral part of it (Dale, Leland, & Dale, 2013), when they experience moments of information sharing, discussion among professionals, respecting the values of mutual collaboration even though its perception may vary across different professions (Krogstad, Hofoss, & Hjortdahl, 2004). Emotions become negative when there is an asymmetry of power in relationships between different health professionals (Malloy et al., 2009; Tang,

Chan, Zhou, & Liaw, 2013), a power that in the literature is described in terms of authority, status, hierarchy, and influence and which has many dimensions including those relating to gender, race, social class, and knowledge and which impact on the relationships between different professionals (Baker, 2011).

With regard to the tutor's role to facilitate IPC seen by the student, it was found that such role in the student's clinical practice experience was crucial to achieve the learning goals (Webb & Shakespeare, 2008; Wilkes, 2006) and the learning experiences that derive especially when support is perceived during moments of difficulty or innovation in practice (Luhanga, Billay, Grundy, Myrick, & Yonge, 2010; Webb & Shakespeare, 2008). Finally, it strengthens the importance of tutor support in building self-confidence and integration into the profession (Clements, Fenwick, & Davis, 2012).

Limitation

The limitation of this study is that it is related to the context and the fact that only three health disciplines (nursing, physiotherapy, and occupational therapy) were involved in the IPE training experience. It is a qualitative study, and the generalizability of our findings is limited to similar experiences in similar contexts.

Conclusions

This study offers a reflection on what students in their 3 years of preparation had understood about the concept of IPC. The most important aspects are related to students' considerations about the importance of IPE to build their own IPC definition, and having observed, with interviews analysis, how during and at the end of the placement not only their concept of IPC did not change but rather became stronger and richer. Another important theme is the role of tutors as guides and who support them to define their role within the interprofessional team and to apply in clinical practice what they have learned, discussed, and understood in the classroom about IPC.

After an in-depth reflection on these aspects, it is important for those who educate health-care students to build a curriculum that includes IPE moments and establish a partnership with tutors in the clinical placements to share the fundamentals on which to build the important collaborative practice-ready health workforce (WHO, 2010, p. 26).

Declaration of Conflicting Interests


The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Monica Bianchi  <http://orcid.org/0000-0001-6927-4622>

Luca Ghirotto  <http://orcid.org/0000-0001-7632-1271>

Milko Zanini  <http://orcid.org/0000-0002-1081-6279>

References

- Accademia Svizzera delle Scienze Mediche. (2014). *Carta Collaborazione dei professionisti del settore sanitario* [Swiss Academy of Medical Sciences (2014) Collaboration of specialists in the health-care system Basel]. Basel, Switzerland: Kreis Druck AG.
- Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., . . . , Kutney-Lee, A. (2012). Patient safety, satisfaction, and quality of hospital care: Cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States. *British Medical Journal*, *344*, e1717.
- Aiken, L. H., Sloane, D., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R., . . . , Sermeus, W. (2014). Nursing staffing and education and hospital mortality in nine European countries: A retrospective observational study. *The Lancet*, *383*(9931), 1824–1830.
- Aiken, L. H., Sloan, D., Griffiths, P., Rafferty, A. M., Bruynell, L., Mc Hug, M., . . . , Sermeus, W. (2016). Nursing skill mix in European hospitals: Cross-sectional study of the association with mortality, patient ratings, and quality of care. *BMJ Quality & Safety*, *26*(7), 559–568.
- Baker, G. R. (2011). *The roles of leaders in high-performing health care systems*. Retrieved from kingsfund.org.uk
- Ball, J. E., Murrells, T., Rafferty, A. M., Morrow, E., & Griffiths, P. (2014). Care left undone' during nursing shifts: Associations with workload and perceived quality of care. *British Medical Journal Quality and Safety*, *23*, 116–125.
- Barr, H., Koppel, I., Reeves, S., Hammick, M., & Freeth, D. (2006). Effective interprofessional education: Argument, assumption and evidence. *Journal of Interprofessional Care*, *20*, 217–218.
- Brandt, B., Lutfiyya, M. N., King, J. A., & Chioreso, C. A. (2014). A scoping review of interprofessional collaborative practice and education using the lens of the Triple Aim. *Journal of Interprofessional Care*, *28*(5), 393–399. doi:10.3109/13561820.20
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.
- Bruyneel, L., Li, B., Ausserhofer, D., Lesaffre, E., Dumitrescu, I., Smith, H. L., . . . , Sermeus, W. (2015). Organization of hospital nursing, provision of nursing care, and patient experiences with care in Europe. *Medical Care Research and Review*, *72*(6), 643–664.
- Clements, V., Fenwick, J., & Davis, D. (2012). Core elements of transition support programs: The experiences of newly

- qualified Australian midwives. *Sexual and Reproductive Healthcare*, 3(4), 155–162.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed method research* (2nd ed.). Thousand Oaks, CA: SAGE.
- Dale, B., Leland, A., & Dale, A. J. (2013). What factors facilitate good learning experiences in clinical studies in nursing: Bachelor students' perceptions. *ISRN Nursing 2013*, ID 628679. doi:10.1155/2013/628679
- D'amour, D., & Oandasan, I. (2005). Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept. *Journal of Interprofessional Care*, 19, 8–20.
- Eick, S. A., Williamson, G. R., & Heath, V. (2012). A systematic review of placement related attrition in nurse education. *International Journal of Nursing Studies*, 49(10), 1299–1309.
- Feifer, C., Nocella, K., DeArtola, I., Rowden, S., & Morrison, S. (2003). Self-managing teams: A strategy for quality improvement. *Topics in Health Information Management*, 24(1), 21–28.
- Forber, J., DiGiacomo, M., Carter, B., Davidson, P., Phillips, J., & Jackson, D. (2016). In pursuit of an optimal model of undergraduate nurse clinical education: An integrative review. *Nurse Education in Practice*, 21, 83–92. ISSN 1471–5953.
- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., & Crisp, N. (2010). Health professionals for a new century: Transforming education to strengthen health system in an interdependent world. *The Lancet*, 376(9756), 1923–1968.
- Haddara, W., & Lingard, L. (2013). Are we all on the same page? A discourse analysis of interprofessional collaboration. *Academic Medicine*, 88(10), 1509–1515. doi:10.1097/acm.0b013e3182a31893
- Hamshire, C., Willgoss, T. G., & Wibberley, C. (2012). The placement was probably the tipping point – The narratives of recently discontinued students. *Nurse Education in Practice*, 12(4), 182–186.
- Horton, K., Tschudin, V., & Forget, A. (2007). The value of nursing: A literature review. *Nursing Ethics*, 14(6), 716–740.
- Irving, J. A., & Snider, J. (2002). Preserving professional values. *Journal of Professional Nursing*, 18(1), 5.
- Kent, F., & Keating, J. L. (2015). Interprofessional education in primary health care for entry level students – A systematic literature review. *Nurse Education Today*, 35(12), 1221–1231.
- Krogstad, U., Hofoss, D., & Hjortdahl, P. (2004). Doctor and nurse perception of inter-professional co-operation in hospitals. *International Journal of Quality in Health Care*, 16(6), 491–497.
- Lemieux-Charles, L., & McGuire, W. L. (2006). What do we know about health care team effectiveness? A review of the literature. *Medical Care Research and Review*, 63(3), 263–300.
- Luhanga, F. L., Billay, D., Grundy, Q., Myrick, F., & Yonge, O. (2010). The one-to-one relationship: Is it really key to an effective preceptorship experience? A review of the literature. *International Journal of Nursing Education Scholarship*, 7(1). doi:10.2202/1548-923X.2012
- Malloy, D. C., Hadjistavropoulos, T., McCarthy, E. F., Evans, R. J., Zakus, D. H., Park, I., . . . , Williams, J. (2009). Culture and organizational climate: Nurses' insights into their relationship with physicians. *Nursing Ethics*, 16(6), 719–733. doi:10.1177/0969733009342636
- McHugh, M., Rochman, M. F., Sloane, D., Berg, R., Mancini, M., Nadkarni, V., . . . , Aiken, L. H. (2016). Better nurse staffing and nurse work environments associated with increased survival of in-hospital cardiac arrest patients. *Medical Care*, 54(1), 74–80. doi:10.1097/MLR.0000000000000456
- Museux, A. C., Dumont, S., Careau, E., & Milot, É. (2016). Improving interprofessional collaboration: The effect of training in nonviolent communication. *Social Work in Health Care*, 55(6), 427–439.
- NVivo qualitative data analysis software (Version 10). (2012). QSR International Pty Ltd.
- Parandeh, A., Khaghanizade, M., Mohammadi, F., & Mokhtari Nouri, J. (2015). Factors influencing development of professional values among nursing students and instructors: A systematic review. *Global Journal of Health Science*, 7(2), 284–293.
- San Martín-Rodríguez, L., Beaulieu, M. D., D'Amour, D., & Ferrada-Videla, M. (2005). The determinants of successful collaboration: A review of theoretical and empirical studies. *Journal of Interprofessional Care*, 19(1), 132–147. doi:10.1080/13561820500082677
- Spencer, L. M., & Spencer, S. S. (1993). *Competence at work. Models for superior performance*. Mississauga, Canada: Wiley.
- Tang, C. J., Chan, S. W., Zhou, W. T., & Liaw, S. Y. (2013). Collaboration between hospital physicians and nurses: An integrated literature review. *International Nursing Review*, 60(3), 291–302. doi:10.1111/inr.12034
- Vyt, A., Pahor, M., & Tervaskanto-Maentausta, T. (2015). *Interprofessional education in Europe: Policy and practice*. Antwerp, Belgium: Garant Publishers.
- Walsh, M. E., Brabeck, M. M., & Howard, K. A. (1999). Interprofessional collaboration in children's services: Toward a theoretical framework. *Children's Services: Social Policy, Research, & Practice*, 2(4), 183–208.
- Webb, C., & Shakespeare, P. (2008). Judgements about mentoring relationships in nurse education. *Nurse Education Today*, 28(5), 563–571.
- Wilkes, Z. (2006). The student-mentor relationship: A review of the literature. *Nursing Standard*, 20(37), 42–47.
- World Health Organization. (2010). *Framework for action on interprofessional education and collaborative practice*. Retrieved from http://www.who.int/hrh/resources/framework_action/en