

# Is Interprofessional Learning Only Meant for Professions Within Healthcare? - A Qualitative Analysis of Associations with the Term Interprofessional Collaborative Learning Among Professional Students

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**Purpose:** The main goal of interprofessional learning (IPL) is to help students from different professions develop a common understanding of how to work together in future interprofessional collaboration (IPC). When IPL courses are extended beyond healthcare study programmes to include students from education and social care study programmes, the complexity increases. Since lack of communication and collaboration among professionals is a major challenge in welfare services, there is a need to explore professional students' associations with IPL. Thus, this study aims to explore what students in healthcare, teaching education and social care study programmes associate with the term “interprofessional collaborative learning”.

**Participants and Methods:** The study used student data from an ongoing IPL study at one of the largest state universities in Norway. Students from healthcare, social care and educational teaching bachelor programmes answered the following open-ended question in an online cross-sectional evaluation survey: “What do you associate with the term interprofessional collaborative learning?” We analysed data qualitatively from first- (n = 261) and second-year students (n = 97) collected during December 2019 and 2020. Most second-year students took an IPL course during their first year of study.

**Results:** Overall, the students across all professions expressed positive associations with IPL. The most eminent category was that students associated IPL with collaboration, followed by learning and learning how to collaborate. First-year students were also associated with gaining and sharing knowledge and competencies with IPL. Understanding roles was eminent among second-year students in teaching education.

**Conclusion:** This study supports the importance of IPL across different educational backgrounds since students seemed to have positive associations with the term and a common understanding that IPL involves several professions. The finding that teacher students highlighted the understanding of roles when working with children, young adults and their families, further supports expanding IPL beyond specialised professions within healthcare.

**Keywords:** interprofessional learning, nurses, teacher education, healthcare education, social care, terminology, multiprofessional, collaborative learning

## Plain Language Summary

Recent changes in Norwegian law requires professionals to collaborate and communicate with each other in order to improve welfare services. Interprofessional learning (IPL) is described as occurring “when two or more professionals learn about, from and with each other to enable effective collaboration and improve health outcomes”. To increase students interprofessional collaboration (IPC) skills, collaborative learning is the suggested pedagogical approach in IPL. On this background, higher education is required to implement “interprofessional collaborative learning” in undergraduate curriculum, a term which is used interchangeably with IPL in Norway. The

present study uses data from an ongoing educational intervention among professional students attending different health, social and teacher education study programmes at the largest state university in Norway. We analysed open-ended answers to the question “what do you associate with the term interprofessional collaborative learning?” from first- (n = 261) and second-year students (n = 97) collected during December 2019 and 2020. Overall, the students had positive associations with the term IPL. The most eminent category was that students across all professions associated IPL with collaboration, followed by learning and learning how to collaborate. Understanding roles was eminent among second-year students in teaching education. The major implication of this study is that it lends support to delivery of complex IPL also including teachers in addition to health and social care students in order to prepare the candidates for working with children, young people and their families in different welfare settings.

## Introduction

Professionals helping children, young people and their families in welfare services, with various challenges, must be able to communicate and collaborate without misunderstandings.<sup>1–8</sup> However, these professionals are educated in different educational trajectories, which harbour different disciplinary professional terminologies, identities, cultures, traditions and syllabuses, all of which can act as barriers for professional collaboration and teamwork.<sup>9</sup>

Thus, a shared understanding of the basic terminology used across different educational professional study programmes is essential in interprofessional learning (IPL).

IPL increases students' interprofessional collaboration (IPC) skills.<sup>1,10,17</sup> However, the organisation and coordination of welfare services are inadequate, and a major issue seems to be a lack of communication and collaboration among professionals with various educational backgrounds.<sup>11</sup> Even among healthcare professionals separately, research has shown different interpretations, overlapping terminologies, interchangeable terms and a lack of uniform definition for interprofessional education.<sup>11</sup> The terms “multidisciplinary”, “multiprofessional”, “interdisciplinary” and “interprofessional” are often used interchangeably, and such lack of clarity contributes to continued misunderstanding and obstacles to an optimal implementation of IPL and IPC.<sup>12</sup> One study among students from medicine, nursing, occupational therapy and physical therapy revealed a common understanding of the key elements of IPC, as well as important differences in the IPC concept.<sup>13</sup>

The present study uses data from an ongoing IPL study<sup>14</sup> among professional students attending different health, social and teacher education study programmes at the largest state university in Norway. The IPL course is part of an educational intervention (Interprofessional Interaction with Children (INTERACT)), which aims to meet society's demands for better coordination of services to children, better interaction between professionals and better cooperation between children/young people and professionals. The educational intervention has been described in several scientific papers, using quantitative methods.<sup>14–19</sup> In short, the curricula throughout the three years of IPL comprise three elements: 1) a shared knowledge platform (first year), 2) explorative communication with children (second year) and 3) interprofessional practice involving children, youth and their parents (third year) (total five European Credit Transfer System, ECTS).<sup>14,23</sup> Even if each year of study has a particular focus, the elements are not isolated items but rather parts of an integrated approach. In a previous quantitative study conducted among first-year students before they participated in the educational intervention, we found unequal preparedness for IPL among different student groups.<sup>16</sup> The students undertaking teacher education and child welfare programmes had learned statistically significantly more about their own respective future professional roles, observation as a method and children and young people than those undertaking healthcare and social care programmes, at their own study programs.<sup>15</sup> The younger students had learned significantly less about IPC, and tended to have learned less about other professional roles. In a quantitative follow-up study, we explored the extent to which the IPL first-year students learnt about the World Health Organisation's (WHO) core IPL competencies (roles and responsibilities, values and ethics, interprofessional communication and teams and teamwork).<sup>21,17</sup> While the majority learnt something about WHO competencies after the IPL course, the teacher and child welfare students achieved the best learning outcomes, including new knowledge about WHO competencies.<sup>19</sup> All the enrolled students were divided into pre-defined IPL groups each consisting of eight students representing health, social care and teacher education programs, aiming to facilitate that the students should learn with, from and about each other. The educational intervention is timely, as the Norwegian government from 2022 adopted new provisions on cooperation, coordination and child coordinator in 14 Welfare Service Acts.<sup>22</sup> The background for the changes in

legislation is to bring about better cooperation and coordination of services for children and young people. Thus, all health, social and education study programs must implement these changes in curriculum.<sup>22</sup> Collaborative learning in mixed student groups is suggested as the pedagogical approach in IPL deliveries. However, knowledge is lacking with respect to different student groups knowledge and understanding of terms used in the legislation<sup>22</sup> and elsewhere, and in particular, IPL is used interchangeably with a Norwegian term which may be translated into “interprofessional collaborative learning”.<sup>22</sup> For understanding these differences and taking into account the different IPL preparedness among the different student groups, students’ association with the concept of interprofessional collaborative learning (IPL) across different study programmes need to be further studied. This knowledge can provide educators and professionals a better understanding of different interpretations, overlapping terminologies and interchangeable terms. The goal is to achieve a higher learning outcome for the different student groups to contribute to a higher quality of health and welfare services. If there are gaps between the different perspectives, educators can address these in future IPL, with the aim of facilitating better communication and collaboration in welfare services.

Thus, this study aims to qualitatively analyse students’ open-ended answers to the question of ‘What do you associate with the term interprofessional collaborative learning? To the best of our knowledge, no comparable previous study has been published among undergraduate students attending both health care, social care and teacher education programmes.

## Materials and Methods

### Setting

The data for this qualitative study comprised responses from first- and second-year bachelor students subjected to compulsory participation in a large-scale IPL course at Oslo Metropolitan University (OsloMet) in Norway. The data were collected in December 2019 and December 2020 prior to the IPL-course deliveries in January 2020 and January 2021. The students answered the following open-ended question: “What do you associate with the term interprofessional collaborative learning?” The IPL course was delivered as a blended learning course on campus in 2020, and the deliveries and learning outcomes were found to be satisfactory.<sup>19,20</sup> Due to the high student volume, the course was delivered online on Zoom in 2021. The student evaluation of the fully digital-course delivery in 2021 will be presented in a separate paper (in preparation).

### Participants

Data for the present study were collected before IPL-course deliveries for all students (December 2019 and December 2020). We analysed the open-ended answers of 261 first-year students one month prior to the IPL course delivered to first-year students and those of 97 second-year students prior to the IPL course delivered to second-year students. The total response rate for the open-ended question from all study programmes was 42.5% in 2019 and 43.1% in 2020. Table 1 presents the educational backgrounds of the study participants; they were between 21 and 28 years old. Teaching education, healthcare and social care study programmes were organised in different faculties. The answers of third-year students were not analysed as no healthcare student answered the open-ended questions. As the IPL course was compulsory, no inclusion criteria were applied.

### Online Evaluation Survey

The development of specially prepared online questionnaires has been described previously.<sup>15</sup> In short, the questionnaires were tested and commented on by university colleagues (academic and administrative) and students and revised

**Table 1** Educational Backgrounds of the Participants

	Healthcare <sup>a</sup>	Teaching Education <sup>b</sup>	Social Care <sup>c</sup>
First-year students (n = 261)	127 (n)	113 (n)	21 (n)
Second-year students (n = 97)	29 (n)	55 (n)	13 (n)

**Notes:** <sup>a</sup>Healthcare included students in occupational therapy, nursing, physiotherapy, and social education.

<sup>b</sup>Teaching education included students in early childhood education and care, primary and lower secondary teaching education, and teacher education in art and design. <sup>c</sup>Social care included students in social work and child welfare.

accordingly. In the present study, we analysed the students' answers to the following open-ended question (the same question was asked for two consecutive years): "What do you associate with the term interprofessional collaborative learning?" The term "interprofessional collaborative learning" is used in Norwegian legislation and elsewhere, and collaborative learning is suggested as the pedagogical approach in IPL. In the present paper, this term is used interchangeably with IPL, although IPL may also be offered using other pedagogical methods. The responders wrote their answers on a computer or their mobile phones. An open-ended question in a survey poll is a question in which possible answers are not suggested, and the respondents answer in their own words; these questions facilitate a spontaneous response.<sup>23,24</sup> None of the closed questions in the questionnaire were relevant to the present aim. The online questionnaires were provided as an internet link embedded in the students' learning management system (LMS) prior to the IPL-course deliveries, and one reminder was sent to increase the response rate.

## Data Analysis

Analysis of the open-ended question was guided by a content analysis<sup>24</sup> which implied (1) gaining familiarity with the data, (2) generating codes, (3) searching for sub-categories, (4) reviewing sub-categories and (5) defining and naming main categories. We used NVivo (version 12.0.) to count the occurrences of the sub-categories in the texts.<sup>24</sup> The occurrence of the main category in students' open-ended question are presented in % of all the analysed main categories (Tables 2 and Table 3).

## Ethics

The Ethical Guidelines for Research at OsloMet were followed.<sup>25</sup> The guidelines for research ethics issued by OsloMet are based on the Act related to Universities and University Colleges, that related to Ethics and Integrity in Research and pursuant regulations and that related to the ethical norms prepared by the Norwegian National Committees for Research

**Table 2** Main Categories and Their Occurrence Related to Educational Background Among First-Year Students (n = 261)

Quotes Count Main Categories <sup>a</sup>	Main Categories				
	Learning	Collaboration	To Learn How to Collaborate	Gain and Share Knowledge and Competencies	Communication
Healthcare students	20/15.7%	72/56.7%	21/16.5%	7/5.5%	9/7.1%
Teaching students	24/21.2%	63/55.8%	14/12.4%	3/2.7%	3/2.7%
Social care students	2/9.5%	9/42.6%	6/28.6%	–	–

**Note:** <sup>a</sup>n = occurrence of the main category in students' open-ended question; in % of all the analysed main categories.

**Table 3** Main Categories and Their Occurrence Related to Students' Educational Backgrounds Among Second-Year Students<sup>a</sup> (n = 97)

Quotes Count Main Categories <sup>b</sup>	Main Categories				
	Learning	Collaboration	To Learn How to Collaborate	Understanding of Roles	Communication
Health professionals	4/13.8%	17/58.6%	3/10.3%	–	26.9%
Teaching education	10/18.2%	38/69.1%	16/29.1%	4/7.3%	1/1.8%
Social care	1/6.7%	5/33.3%	4/26.7%	–	1/6.7%

**Notes:** <sup>a</sup>These students had had an IPL course (1 ECTS) during their first year of study, in which they worked in interprofessional groups.  
<sup>b</sup>n = occurrence of the main category in students' open-ended question; in % of all the analysed main categories.

Ethics. According to the Norwegian Centre for Research Data (NSD),<sup>26</sup> the study was kept completely anonymous with no sociodemographic information beyond the participants' age category and education and, hence, was not subjected to reporting requirements. Therefore, the study should not be reported to the Norwegian Regional Ethics Committee (NSD reference number 741649). The data were collected through an anonymous online survey using Nettskjema,<sup>27</sup> in line with the ethical guidelines.<sup>25</sup> All participants were above 18 years of age and provided with written information about the study beforehand in LMS Canvas. The voluntariness and anonymity of the participants were emphasised, and the participants were informed about the study's purpose and how the data would be used. The participants' informed consent included publication of anonymised responses. Answering the questionnaire was considered informed consent to participate. The study complied with the Declaration of Helsinki.

## Results

### First-Year Students' Associations with IPL

Most of the students had positive associations with IPL, as illustrated by the following statement: "The opportunity for important collaboration in working life so that one is more safe in collaboration situations in real-life" (student in early childhood education and care, age category: 28 years or older). However, we analysed some uncertainties related to what IPL implies. One student in teaching education assumed that "IPL is something for specialized professions within medicine" (student in primary and secondary lower teaching education, age category: 22–24 years). Some students (two from teacher education, two from social care education and one from health care education) answered that they did not know about IPL. Table 2 provides an overview of the identified main categories among the first-year students.

### Learning

Most of the students, independent of their educational background, associated IPL with "learning together" and "learning from each other". A student from primary teaching education answered "that students shall learn from and with each other". In particular, many students answered that IPL implies learning about other professions, or as stated by a student in physiotherapy (28 years or older), "that we learn across other professions and that we together build a united system to make a good job for the society". A nursing student (22–24 years) associated IPL with "a method of learning how students from different professional educations learn with each other".

### Collaboration

Most students across different educational backgrounds associated IPL with collaboration: to collaborate independently of educational background. Students from teaching education tend to include the child in their associations with IPL, as illustrated by the following statement: "Collaboration for the best of the child" (primary school teaching education, age category: 28 years or older). In contrast, students from healthcare and social care focused on the patient in general: "Different professions collaborate to care for the patient as a whole" (social care student, age category: 22–24 years old). Many students with different educational backgrounds answered that the goal of collaboration is to solve problems, as illustrated by the following statement by a student in teacher education: "Several welfare services collaborate on a case to see the situation from different angles in order to find a common solution" (student in early childhood education, age category: 22–24 years). The majority associated IPL with collaboration with various professionals.

### Learning to Collaborate

Students across different educational backgrounds also associated IPL with learning to collaborate. They answered both "learn about collaboration" and "learn to collaborate". A social care student (22–24 years) stated, "that you learn from each other about each other, that you learn together, across educational background". A student in social care (21 years or younger) answered, "to learn that you can have a good collaboration with other professionals, so that one can help the user or patient in the best way". They also stated that the goal of good collaboration is to obtain a common understanding that helps the patient. Most students associated IPL with learning from students from other educational backgrounds. However, some associated it with learning to collaborate within their own field: "It is to learn together with different

subjects at school and to collaborate to give the child these important values” (primary and lower secondary teacher education student, age category: 21 years or younger).

## Gain and Share Knowledge and Competencies

A few students in healthcare and teaching education associated IPL with gaining and sharing knowledge and competencies, as illustrated by a student in occupational therapy (28 years or older): “to actively share knowledge and to gain specific competencies across and within a team”. They also associated IPL with gaining knowledge about how to collaborate with other professionals. Others associated IPL with sharing their own knowledge and competencies with other educational groups. A physiotherapy student (28 years or older) wrote, “to gain knowledge and perspectives from another position than my own”.

## Communication

Some students from healthcare and teaching education associated IPL with communication or, according to a health care student, “the study of communication”. This category is often related to communication within the same educational background: “To learn how to communicate with other health professionals” (nursing student, age category: 21 years old or younger) and “good communication among teachers” “(student in primary and lower secondary teacher education, teacher education, age category: 22–24 years old)”. Another student in early childhood education (28 years and older) wrote, “I think that I associate interprofessional communication and group work with interprofessional learning”.

## Second-Year Students’ Associations with IPL

Overall, the students across different educational backgrounds had positive associations with IPL after the course delivery, as expressed by a student in physiotherapy (21 years or younger): “It is important for many groups of patients, because diseases are often complex, and it is important that we share what we can best”. Only one student in the second semester, studying social care (22–24 years), had negative associations with IPL: “It is something that will never be used in working life”(social care, age category: 22–24 year second semester). One student from teacher education replied that they never heard about IPL in the second semester. Two students deviated from the other students’ responses. One student never heard about IPL in the second semester (teacher education, age category: 28 years or older).

Table 3 provides an overview of the identified five main categories among second-year students: The students associated IPL with learning, collaboration, to learn how to co-operate and understanding of roles and communication.

## Learning

Students whose answer involved the main category of learning often associated IPL with learning from others’ experiences, as described by the statements of two students in teacher education and social care: “To learn from each others” ‘experiences across professional background’. Another student from primary school teaching education (22–24 years) answered that IPL is “to learn through interaction between people with different competencies”.

## Collaboration

According to Table 3, most students associated IPL with “collaboration”. Many of them involved the child in their answers. Like a student in teacher education in arts and design (21 years or younger) answered, “to co-operate across professional fields to support children’s ‘learning’”. A healthcare student (nursing education, age category: 22–24 years) answered, “to work professionally to secure the child, to function as an entire system for the child, and not parallel systems that do not co-operate from each point” (health professional).

Several students across different educational backgrounds answered, “to co-operate to achieve common understanding” (social care, age category: 28 years or older) or “to co-operate to solve a common problem” (nursing student, age category: 22–24 years). Several students independently of their educational background associated IPL with “different professions working together with the same goal”. In this regard, the students perceived that different professional backgrounds can provide a better understanding of the problem. Students from teaching education more often answered in collaboration with other institutions, whereas healthcare students answered in collaboration with other professions.



A social care student (21 years or younger) answered that IPL was “to train that professional groups unite and co-operate so that the support system for the user works, without leaving the user being thrown around”. Interestingly, some healthcare students had different target groups for IPL: a physiotherapist answered to co-operate to help a patient, whereas a nurse student answered to co-operate to help a child.

## To Learn How to Co-Operate

Several students associated IPL with learning how to co-operate, as illustrated by the answer of a student in primary and lower secondary teaching education: “it means that one shall learn to co-operate across other professions”. Another student (social care education, age category: 22–24 years) wrote, “to learn how to co-operate, to learn from each other, to see different perspectives and that together contributes to the best of the child across professions”.

## Role Understanding

This main category of understanding often emerged in the answers of students from teaching education. One student in teacher education in art and design (28 years or older) associated IPL with “to get an overall perspective and awareness of the relationship between different professions”. Another student in primary and lower secondary teaching education (22–24 years) expected from IPL “to learn from other professions that we will meet in work life and what kind of roles they think they have related to the child and where they place us”.

## Communication

Healthcare students tended to associate IPL with communication without any explanation.

## Discussion

Overall, the students across different educational backgrounds and study years on a neutral question about their associations with the term IPL, overall expressed positive associations. The most eminent category was that students associated IPL with collaboration, followed by learning and learning how to collaborate. First-year students were also associated with gaining and sharing knowledge and competencies with IPL, whereas *understanding roles* was more eminent among second-year teacher education students.

Even though learning from each other was a category that occurred in all professions, some students from teaching education tended to associate IPL with their own profession. The quote from a primary teaching education student (21 years old or younger)—‘It is to learn together with different subjects at school and to collaborate to give the child these important values’. Two educational reforms were implemented in higher education in Norway from the study year 2020–2021. The new curriculum<sup>18</sup> states that all healthcare and social work students must learn how to initiate and support interprofessional and cross-sector cooperation. Likewise, the government implemented interdisciplinarity in specific topics in teacher education.<sup>28</sup> Both reforms aim to bridge the educational silos to increase the candidates’ IPC skills relevant to welfare services. Recently, Norway has been convicted in several child welfare cases in the European Court of Human Rights. From 2022, by law, all professionals must strengthen the follow-up of vulnerable children and young people and their families through increased cooperation between the welfare services.<sup>8</sup> Although the terminology used in the educational reforms and this law is not entirely consistent, the increased focus on IPL/IPC at the national level might have contributed to our findings.

We have asked students about their associations with IPL prior to an educational IPL intervention to gain more knowledge about how to develop appropriate IPL education interventions. Students’ associations may influence their attitudes towards IPL. Other international studies found positive attitudes towards and experiences with IPL among students.<sup>1,2,10,30</sup> For instance, 584 students from 11 disciplines who participated in a large-scale IPL activity at the University of Sydney perceived their experiences to be largely beneficial to their learning and interprofessional skill development.<sup>30</sup> A cross-sectional study among 646 health discipline students in Turkey investigated their perceptions of and readiness for interprofessional education. This study showed that health discipline students had a high level of perception of interdisciplinary education and were ready for interprofessional education. The study also demonstrated that students’ perception of interdisciplinary education increased with their readiness for this education.<sup>30</sup> In a cross-

sectional survey of undergraduate students in nursing ( $n = 130$ ) and medicine ( $n = 68$ ), who had never been exposed to IPL, the students in both schools almost equally indicated the need for IPL and practice-based IPL in their clinical rotations, focusing on patients in general wards, and wanted to learn teamwork.<sup>31</sup> Nursing students scored significantly higher on the positive professional identity subscale of the Readiness for Interprofessional Learning Scale (RIPLS), whereas medical students scored higher on the competency and autonomy and perceived need for cooperation subscales. However, these studies were conducted among healthcare professionals. Appropriate services for children also involve teachers and social care workers.<sup>18</sup>

Most of our participants associated IPL with collaboration instead of learning. Participation in the IPL course involved working together with tasks, including submitting a joint assignment for approval, in student-led IPL groups.<sup>14</sup> The IPL groups were designed to resemble IPC teams, and all tasks to be solved aimed to be relevant for working with children, young people and their families. The intention was that the students should learn about, from and with each other in order to prepare them for IPC. Teuwen conducted a qualitative study among nursing and medical students who participated in four classroom IPL sessions to investigate how IPL in a classroom setting influenced students' perceptions of collaboration in clinical practice.<sup>32</sup> Some students learned specific knowledge from the other discipline, which they could apply in clinical practice. In line with our study, students in Teuwen et al's study also highlighted improvement in patients' well-being as an effect of IPL. To improve the welfare services, including healthcare for children and young people, in line with the recent law,<sup>8</sup> future courses in IPL should be extended beyond health education.

Understanding professional roles was an emerging category among second-year teaching students. A lack of knowledge about professional roles and the inability to communicate one's own professional identity can prevent an IPC team from functioning effectively. Getting to know each other's responsibilities was an important experience in the IPL sessions for students in the qualitative study conducted by Teuwen.<sup>32</sup> Understanding the different roles and responsibilities was also identified as a positive aspect of IPL among 11 health professional disciplines at the University of Sydney.<sup>30</sup> Hence, future courses in IPL across professions should focus on students' role understanding. Our previous quantitative study<sup>15</sup> showed that teacher education and child welfare students learnt significantly more about their future professional role than healthcare and social care students. It is beyond the scope of the present paper to draw firm conclusions with respect to any consequences of professional candidates not equally prepared for IPL and IPC. Nevertheless, our findings showed that the students across different education levels associated IPL with collaboration with different professions, which might reflect students' awareness of the recent educational reforms<sup>18,28</sup> and the recent law targeting better welfare services for children, young people and their families.<sup>8</sup> Teachers mainly work alone in their classrooms with pupils, whereas health professionals, such as nurses, work together with other professionals, multi- or interprofessionally. This offers an explanation to our finding that the healthcare students tended to associate IPL with communication, whereas this was not a category among the teacher education students.

Students with different educational backgrounds often answered that the goal of collaboration is to solve problems, and the majority associated IPL with collaboration with various professionals. Not surprisingly, students from healthcare and social care tended to focus on the patients, whereas those from education study programmes tended to include the child in their associations with IPL. The terminology regarding end users in welfare services is not consistent, potentially resulting in confusion among not only professional students but also researchers and practitioners.<sup>12</sup> For example, the terms "children at risk" and "vulnerable children" might have an intuitive meaning, but to the best of our knowledge, these terms have no consistent definition across professions and welfare services. Thus, future IPL courses should also focus on clarification of terminology defining the end users.

## Limitations and Strengths

This is the first study investigating students' associations with the term IPL in Norwegian higher education. As there are currently no validated questionnaires to measure students' associations with the term, our qualitative approach gave us valuable insights for future research. The response rate for content analysis of the open-ended question was appropriate, as analysis did not reveal new sub-categories.<sup>24,33</sup> Students' associations with IPL were based on a single question and subject to the authors' personal interpretation. However, many students provided long sentences.

The term "interprofessional collaborative learning" is used in Norwegian legislation and elsewhere, mainly because collaborative learning is suggested as the pedagogical approach in IPL. IPL may also be offered using other pedagogical



methods. The inclusion of the word “collaborative” in IPL was necessary in our context, and is a strength because this reflects the curriculum, legislation, and official web pages. As previously described, students in teacher education and child welfare programmes might be particularly interested in all topics involving children.<sup>21</sup> Self-selection bias cannot, therefore, be excluded, as respondents with strong opinions—in either direction—cannot be excluded (yet the diversity in our sample enhances the robustness of the findings). The anonymous data collection and inclusion of different educational backgrounds are the major strengths of this study, and to the best of our knowledge, no previous comparable study has been published. The students who participated in December 2020 had experienced distance online education on/off since the closure of campus in March 2020 due to the COVID-19 pandemic lockdown measures. This study did not separate digital IPL from face-to-face IPL, which can be interpreted as both a limitation and a strength—a limitation because we did not specify digital IPL/face-to-face IPL in our question and a strength because none of the students made any relevant comments. One explanation might be that these young students (the internet generation) are well-adapted to the use of online platforms. Results may be transferable to similar IPL intervention courses within the same context.

## Conclusion

The students in this study had overall positive associations with the term IPL across different educational backgrounds and study years. Some consistent categories were that the students associated IPL with collaboration, followed by learning and learning how to collaborate. The study also revealed some differences among students from various professions and, most dominantly, the finding that *understanding* roles was eminent among students in teaching education. The finding that teacher students highlighted the understanding of roles indicates the need to expand IPL targeting future work with children, young people and their families, beyond healthcare professionals. In doing so, IPL students should be trained to develop a shared understanding of the basic terms to prepare them for future communication and collaboration in working life, aiming to help children, young people and their families.

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## Disclosure

The authors report no conflicts of interest in this work.

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