Radiography 28 (2022) 115–123

Contents lists available at ScienceDirect

Radiography

journal homepage: www.elsevier.com/locate/radi

Radiography students achieving competencies through structured interprofessional education

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ARTICLE INFO

Article history:
Received 6 July 2021
Received in revised form
24 August 2021
Accepted 26 August 2021
Available online 20 September 2021

Keywords:
Radiography interprofessional education
Interprofessional learning
Competencies

ABSTRACT

Introduction: Interprofessional education (IPE) takes place when representatives of at least two professions work and learn together, about and from each other to provide optimal healthcare. For the successful implementation of an IPE programme, conceptualisation, planning, and operationalisation and coordination among the various professions is crucial, to assist students to obtain the desired competencies of such a programme. The purpose is to investigate if a structured IPE programme assisted radiography students to achieve competencies.
Methods: An online questionnaire was compiled from literature and completed by radiography students who participated in a structured, three-week-long IPE programme. The questionnaire was mainly quantitative (using a Likert scale), though it also consisted of qualitative elements (open-ended questions). A Fischer's Exact test was used to compare the responses of three different year groups.
Results: Feedback from the radiography students (n=63) indicated that they achieved this IPE programme's specific competencies: role clarification, interprofessional communication, teamwork, person-centered care and values and ethics. There was good correlation between the feedback from all three year groups. The feedback on the open-ended questions correlated with the quantitative feedback, though some students felt excluded, as there was little reference to their particular profession in the simulation session of the IPE programme.
Conclusion: The results of the study indicate that radiography students achieved the prescribed competencies of a structured IPE programme. The results provide insight into ways to improve the IPE programme. A recommendation emanating from the results of this study is that, to improve the experience of all healthcare professions students, structured IPE programmes have to promote inclusive teaching and learning.
Implications for practice: Radiography students that participate in a structured IPE programme develop competencies necessary for effective collaborative clinical practice.

Introduction

Healthcare professionals are primarily educated in silos and, therefore, have little exposure to other healthcare professionals, which influences collaboration negatively.[1] Institutions of higher learning increasingly recognise the need to teach healthcare students to function optimally in a healthcare team.[2,3]

Effective teamwork amongst healthcare professionals is crucial to address current, complex healthcare needs being experienced worldwide.[2] Interprofessional education (IPE) is an educational strategy that could play a significant role in facilitating teamwork amongst healthcare workers and addressing multiple healthcare challenges. The World Health Organization's *Framework for Action on Interprofessional Education and Collaborative Practice* states that "interprofessional education occurs when two or more professions learn about, from and with each other". The purpose of IPE is to enrich knowledge, skills, and behaviour which are necessary for better teamwork among healthcare professionals.[3]

Literature review

The Framework for Action on Interprofessional education and Collaborative Practice asserts that healthcare systems are

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https://doi.org/10.1016/j.radi.2021.08.010
1078-8174/

fragmented and do not meet the healthcare needs of patients.[2] Interprofessional education is proposed as an approach to move health systems from fragmentation to a position of strength. In a scoping review of 34 articles related to the efficacy of IPE, the authors found that patients identified improved access to various healthcare professions, improved relationships with healthcare providers, respect, shared decision-making, and empowerment as a result of IPE.[4] Patients in the studies reviewed indicated that IPE improved primary healthcare practices.

There has been an increase in the integration of IPE programmes into various professional programmes in healthcare. Even though integration of IPE has been implemented, research studies report diverse findings regarding the impact of these programmes, specifically in relation to the undoing or stifling of students' stereotypes of other healthcare professions.[5] In the studies where 'positive' shifts in students' perceptions were identified, the so-called contact hypothesis can be used to support the assertions. The contact hypothesis suggests that contact between groups will reduce prejudice and stereotypes held by and between groups.[5] Applying the contact hypothesis during IPE reduces stereotyping of different healthcare professions,[6] students gain knowledge and understanding of other healthcare professions,[7] and they learn about their own professions from fellow students who are working towards the same degree.[8]

A research study involving 528 healthcare students from six different programmes investigated the influence of the contact hypothesis on the perceptions and stereotypes of healthcare students. The students completed the Student Stereotypes Rating Questionnaire (SSRQ) before and after a two-year IPE exposure, and 20 students were interviewed. Students' attitudes of healthcare professions shifted positively; they indicated that the informal engagement and socialisation during the programme provided opportunities to learn about other healthcare students and professions. The findings support the contact hypothesis, as contact impacted positively on students' perceptions and knowledge of others. Greater personalisation of IPE programmes may assist in improving effectiveness of such programmes and reduce stereotyping.[5]

In 1954 Allport, also cited by Michalec et al., in 2017, suggests that intergroup contact could reduce prejudice and stereotypes under the following four key positive conditions: (1) Groups must be of equal status; (2) Groups must work together to achieve a shared goal; (3) There must be intergroup cooperation and interdependence; and (4) Intergroup contact must be explicitly supported by the institution(s) and authorities of those institutions.[5,9] This contact between interprofessional healthcare students facilitates social constructivism, as the social environment mediates learning and knowledge acquisition. Learning, therefore, occurs through both social and environmental interactions.[10] Knowledge and understanding, experience, and realities are socially constructed through interactions between students. When social constructivism is co-constructed, knowledge is intended to be applied in the clinical setting during interprofessional care.

Van Wyk and De Beer (2017) used a qualitative research design to investigate the experiences of healthcare students after they had been exposed to an IPE programme for three contact sessions. Students (n = 19) used reflection journals to express their experiences. Three themes were identified: (i) benefits for students and patients were achieved through (ii) an environment that promotes teamwork, that was influenced by (iii) personal attributes.[11]

Selection, application and scaffolding of teaching and learning play a major role in achieving IPE competencies. The result of explicitly designing content and learning strategies that include teamwork as a part of the actual instruction, is the acquisition of collaborative strategies.[11] Competency teaching in IPE requires an approach that promotes integration across diverse contexts. The structure of IPE and the lack of experience of IPE facilitators can, unfortunately, also have the opposite effect, and promote prejudice.[7] A possible solution for these facilitation insufficiencies is presented by a study by Ekpe et al. (2017).[12] In their study an experimental and control group design was used, the students completed a pre-test, and a post-test after being exposed to either participatory or direct instruction as part of an IPE initiative. Students in this study achieved statistically significantly more outcomes through participatory instruction than the students taught using direct instruction. These achievements relate to patient-centered care, interprofessional teamwork, and evidence-based practice.

The consequence of the contact hypothesis and social constructivism is the development of interprofessional socialisation that reflects the structural realities and interdependency of an interprofessional healthcare team.[13] The characteristics associated with interprofessional healthcare are recognised and assimilated better by senior students. Senior students reported a more positive experience of and attitude towards the IPE programme and working collaboratively than junior students who participated in an IPE initiative.[6,11]

Since 2016, fourth year diagnostic radiography students from a South African university where this study was conducted have been participating in a structured IPE programme scheduled over three weeks. The IPE programme included simulation sessions with standardised patients. These students are incorporated in interprofessional groups that consist of medical, occupational therapy, physiotherapy, nutrition and dietetics, exercise and sport science, optometry, social work, and nursing students. The first orientation and introductory session revolved around the topic of interprofessionalism and included activities to stimulate socialisation among students and the development of IPE competencies. This also included the tools necessary holistic patient care such as person-centered care, health dialogue and the International Classification of Function, Disability and Health. During session two, student groups participated in simulation facilitated through scenarios using Standardised patients, and session three was used for debriefing using digital stories as a medium. Throughout the three-week experience, students continuously engaged in reflection, which culminated in a 5-min digital story. The question whether a structured IPE programme enables radiography students to achieve specified competencies (teamwork, role clarification, person-centered care, interprofessional communication, and values and ethics) is yet to be answered. No similar studies that answer the question were found.

Purpose

The purpose of this study was to investigate if a structured IPE programme assisted radiography students to achieve specific competencies.

Methods

An online questionnaire, hosted by QuestionPro®, was compiled from literature.[14,15] The questionnaire consisted of quantitative (Likert scale, closed-ended questions) and qualitative elements (open-ended questions). The questionnaire gathered information related to Interprofessional competencies such as communication, teamwork, role clarification and person-centered care as well as the institution specific graduate attributes. The information document and consent document with a link to the questionnaire were sent to the participants via email.

The population consisted of 198 final year diagnostic radiography students who attended the IPE programme in 2017–2020.

Due to the size of the population, the entire population was sampled for this research study.[16] Only diagnostic radiography students who participated in the IPE programme were included in the sample.

The researchers communicated via email and WhatsApp® messages to notify the entire population of the email requesting their participation in this research project. Participants were given two weeks to complete the questionnaire. One week and two days prior to the due date of the submission of the completed questionnaire, the researchers sent another WhatsApp® message to the participants to remind them to complete the questionnaire if they had not done so yet.

The questionnaire used during this current study was based on the validated, reliable Interprofessional Collaborator Assessment Rubric to thereby ensure the trustworthiness and specifically the content validity of the data gathered.[17] By using QuestionPro®, the researchers were able to distance themselves from the participants, thereby addressing possible bias, preventing interference with the data collected, and ensuring objectivity.[18]

The researchers obtained approval from the Community Based Education and Rural Health office and the Health Sciences Research Ethics Committee of the Faculty of Health Sciences (UFS-HSD2019/1786/250206). Additionally, permission was obtained from the senior director, Institutional Planning and Quality Enhancement of the institution. All the information gathered by the researchers from the participants was managed in a strictly professional and confidential manner. Unique numbers are used for reporting purposes; no student names were revealed.

The questionnaire was sent to final year students on three different occasions: in 2017–2018, 2019, and in 2020. The time allowed to complete the online questionnaire was 10 min. After the participants had completed the questionnaire, the quantitative data was analysed by the QuestionPro® software, which presented the results as descriptive statistics. The researchers analysed the descriptive statistics, and a biostatistician assisted with calculating significance and correlations between responses of the year groups 2017–2018, 2019, and 2020 using the Fisher's Exact test of independence. The Fisher's Exact test investigates whether the proportions of one student year group are different when compared to the other year group; it is used with sample size less than 1000.[19] The qualitative data was analysed using Tesch's eight steps as elaborated on by Creswell (2014).[20] Student responses to the open-ended questions were grouped according to similarity to thereby create the different categories; a descriptive, collective word was used to represent each category. A similar process was used to create the subthemes from the categories and the themes from the subthemes.[20]

Results and discussion

Of the 198 students who participated in the IPE sessions, 117 viewed the online questionnaire and only n = 63 completed the online questionnaire. In 2017–2018, 13 students completed the questionnaire, in 2019, n = 21 students, and in 2020, the sample size was 29, which gives a total return rate of 32%. Due to the low response rate, the external validity of the study is threatened.[21] Currently, there is no theoretical justification for what is considered to be an adequate response rate; however, theoretical guidelines are provided. By using a formula with the variable's population size, the percentage of the entire population surveyed, commonality of the sample internally and externally, and anticipated feedback, one can calculate how many respondents are required. If the size of the population is 200, and "liberal condition" of the variables is in effect, a response rate of 12% is adequate and therefore does not compromise the external validity and implications of the results of this current study.[22] The return rate, though low, compares well with similar studies with radiography students such as that by Vari, Jimenez and Lewis (2021),[23] which had a return rate of 16.7%. Even though this survey was short and required 10 min to complete, the possible reasons for the low response rate could be lack of interest in the research topic, that they experienced survey fatigue due to the number of requests they receive to complete surveys.[24] Email and WhatsApp® were used to communicate with potential participants. Petrovčič, Petrič, and Lozar Manfreda (2016)[25] indicate that the use of anti-spamming software that blocks unsolicited email can affect the response rates of email surveys negatively, and the rate can be lower than for postal or phone surveys. Response rates can also be influenced by the interest of the participants.

Although this study did not use a mixed method approach, data that were collected using both quantitative and qualitative approaches, were connected. First the quantitative data will be presented and discussed.

In response to the question, During the IPE experience, I shared/integrated ideas and knowledge with the healthcare team to provide care to the patient, "strongly agree" was chosen most often – by 49% of respondents – while "strongly disagree" was selected by only 3% of respondents (Fig. 1). The *p*-value of 0.12 indicated no significant difference between the responses of the students who participated in the IPE sessions of 2017–2018, 2019 and 2020 in relation to this question.

In reference to collaboration (see Fig. 2), 48% of respondents indicated that collaboration between interprofessional students that benefited patients did occur, while 11% disagreed and 0% strongly disagreed. The belief that patients benefited from the collaboration was echoed by the three-year groups (2017–2018, 2019 and 2020), with a *p*-value of 0.72 indicating no significant differences between the responses of the students.

The Linkert scale option "agree" had the highest number of responses related to all the questions under communication, as presented in Table 1. The lowest *p*-value, of 0.33 (question 3), and the highest *p*-value, of 0.73 (question 11), under communication indicates a good correlation between the responses of the students who participated in the IPE sessions during 2017–2018, 2019 and 2020.

From Table 2 it is clear that the options "agree" and "strongly agree" had the highest percentages for all the questions related to role clarification. The *p*-values for the questions in Table 2 ranged from 0.14 to 0.79, indicating no significant difference between the responses for the years 2017–2018, 2019 and 2020.

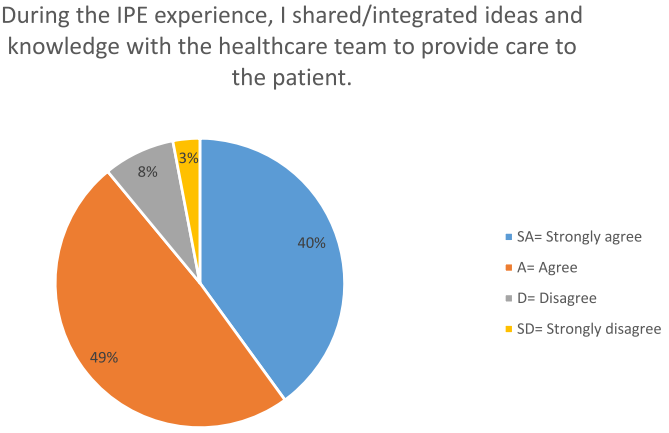

Figure 1. Sharing/integration of knowledge.

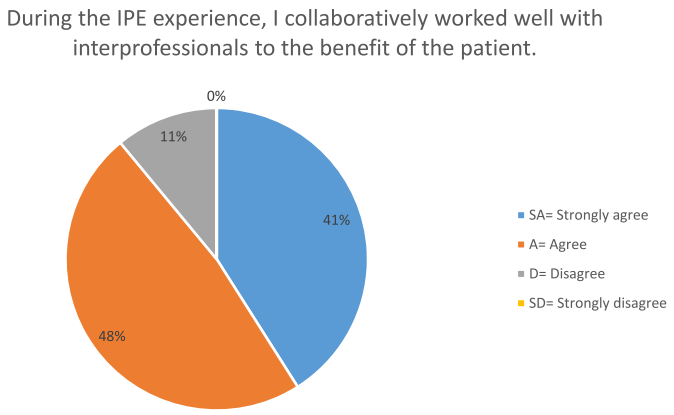

Figure 2. Collaboration during IPE.

The graduate attributes of communication and teamwork (as seen in Fig. 3) was indicated by students as mostly achieved during the IPE sessions. The attributes with the highest frequencies align with interprofessional competencies, which strengthened the initial feedback from the quantitative responses in Tables 1 and 2. Again, the responses by the students indicate good correlation, with a *p*-value of 0.16. The Fisher's Exact test was used to analyse whether the different year groups experienced the IPE intervention differently as small changes were made to the programme in subsequent years. Results from the Fisher's Exact test indicate no significant differences between the feedback given by all three-year groups sampled in this study. Possible reasons for this finding could be that the sessions were deliberately structured by a team of interprofessional academics to address the key competencies necessary for an effective IPE, and patient engagement.[26]

Feedback from the students indicate that they achieved the prescribed key competencies of this specific IPE programme; these are role clarification, interprofessional communication, teamwork, person-centered care and values and ethics. The diagnostic radiography students gained a clear understanding of the roles and responsibilities of the various healthcare professions and that of social work, which resulted in them gaining respect for various healthcare professions and social work students.[11] These competencies manifested in both the quantitative (role clarification and communication) and qualitative feedback discussed below, under the themes inclusiveness and interprofessional cognitivism.

Students were given two opportunities to freely express their experiences through open-ended prompts, such as Please comment on the values you learned from the IPE programme. Two themes emerged, the first is inclusiveness, with the categories teaching and learning, and respect. The second theme is interprofessional cognitivism, for which subtheme one is communication, with categories interprofessional communication and health dialogue. Subtheme two is team functioning, with categories collaboration, decision-making and professionalism. Additional singular categories under this open-ended question related to critical thinking, '*Teamwork, innovation and problem solving*' (RS21) and nothing, *'I learnt nothing*' (RS57). The direct quotes provided as evidence to the themes, subthemes and categories created and discussed in this research are examples that best represents the overall feedback from students.

Though the quantitative data presented the achievement of competencies, the feedback from the open-ended questions differed somewhat, and also indicates that this achievement happened in a less than ideal learning environment in some instances. As the IPE programme is not an elective, it can be inferred that students may have been acquiescently volunteered to participate by their facilitators. Other reasons for the differences in the responses for this study could also be inferred as being due to diagnostic radiography students feeling free to express themselves with the open-ended questions; or it could be due to the Hawthorne effect. The Hawthorne effect relates awareness by research participants in experimental or observational studies of being studied, which could affect their behaviour or responses to questions.[27]

Table 1
Communication during IPE orientation.

Question (Q) criteria (n = 63)	Strongly agree	Agree	Disagree	Strongly disagree
Q1 During the IPE experience, I was able to use various communication strategies (verbal and non-verbal) with patients and healthcare team.	32%	60%	8%	
Q2 During the IPE experience, my communication strategies (verbal and non-verbal) improved.	35%	46%	16%	3%
Q3 During the IPE experience, my communication strategies (verbal and non-verbal) demonstrated patient-centered care.	37%	60%	3%	
Q4 During the IPE experience, I was able to communicate in an understandable manner with the patient.	39%	56%	3%	2%
Q9 During the IPE experience, I was able to explain how the responsibilities of each healthcare team member contributed to the care of the patient.	30%	57%	13%	
Q10 During the IPE experience, I focused on patient-centered care by involving the patient in his/her care.	35%	60%	3%	2%
Q11 During the IPE experience, I educated the patient through sharing information.	27%	56%	11%	6%

Table 2
Role clarification through teamwork.

Question (Q) criteria (n = 63)	Strongly agree	Agree	Disagree	Strongly disagree
Q7 During the IPE experience, I was able to explain my role and responsibilities clearly to the patient and healthcare team.	43%	44%	10%	3%
Q8 During the IPE experience, I felt that my role played an important part in relation to patient-centered care.	36%	30%	24%	10%
Q12 During the IPE experience, I felt part of the team discussions to contribute to quality of care and patient-centered care.	32%	35%	17%	16%
Q13 During the IPE experience, I worked effectively in a team to provide team-based care for the patient.	28%	59%	10%	3%

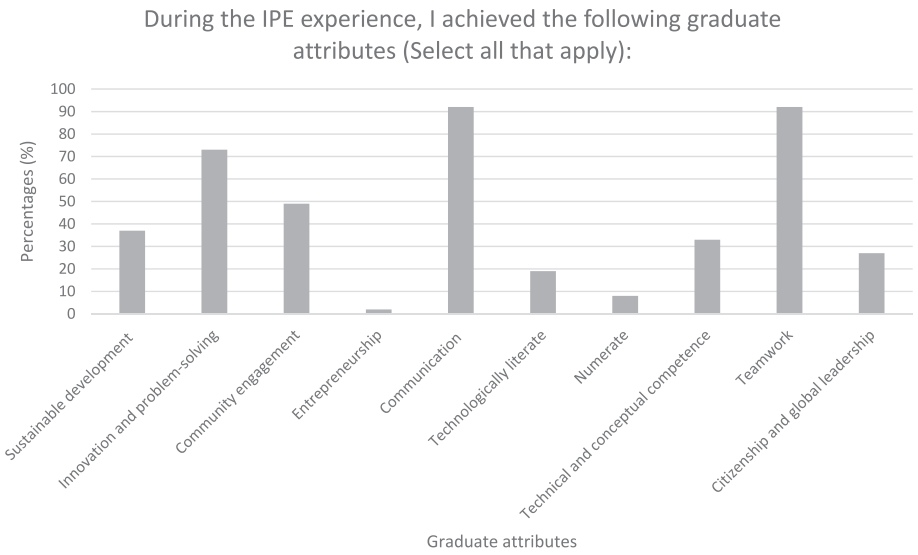

Figure 3. Graduate attributes students acquired.

Theme 1: inclusiveness

Inclusion and, by extension, inclusiveness, relate to the process of making the classroom available to all students.[28] In reference to IPE, it refers to the act of including students from different professions as part of the IPE experience.

Category: teaching and learning

Teaching can be viewed as the strategies and approaches used (by a facilitator) to support the internal process of learning (by students), whereas learning is the change brought about by developing new competencies, new understandings or changing attitudes of students.[29] In this regard, both processes (teaching and learning) were influenced by the case study, as illustrated by the statement, *We were left there standing with red faces, only contributing to saying what we WOULD have done; if we were in the radiology department, which we were not and never had a chance to explain because it was deemed unnecessary by the group* (RS1).

Category: respect

The category of respect is justified by the statement "*Never underestimate others professions*" (RS3), which relates to the value of one's own and other professions within the integrated healthcare team.

Some diagnostic radiography students felt excluded by the simulation case used, because, according to their feedback it included limited aspects of their discipline; this finding is similar to that of a research study in which radiography students expressed that medical imaging was neglected.[29] This neglect may have led to radiography students perceiving and experiencing the IPE intervention as prejudice against them through statements by RS3 that related to underestimating others professions and RS1 that indicated that the group felt that radiography information was seen as unnecessary.

The IPE programme was strengthened through yearly feedback from all students, academics and standardised patients who participated in simulations, thereby improving the effectiveness of future IPE programmes. In 2019 and in 2020, the simulation case was expanded to include radiography-related information. However, student feedback related to these matters still had some negative comments.

Theme 2: interprofessional cognitivism

Interprofessional cognitivism relates to the metacognitive and cognitive processes that result in a deeper understanding of the concept of interprofessionalism and the interdependency associated with it. Interprofessional cognitivism: understanding of roles, collaboration, teamwork, and communication, was a consequence of participating in a structured IPE programme, and according to the feedback was acquired by all but one diagnostic radiography students. Fig. 4 presents the subthemes and categories of this theme.

Sub-theme 1: communication

Table 1 reflects the Likert-scale responses from students related to communication. From students' open-ended feedback, communication again manifested as the following categories.

Categories

Interprofessional communication is reflected by the statement, *I learned that it is very important to communicate with other health care workers from different professions as to give the patient maximum patient care* (RS37). Diagnostic radiography students were able to communicate with a variety of other student groups in a collaborative, responsive and responsible manner. This was also the case when students interacted with the standardised patients during simulation, where communication took the form of a health dialogue: *I learned how to include the patient in the discussion about their health plan and care* (RS34).

Sub-theme 2: team functioning

Team functioning is achieved when students apply the principles of team dynamics and group processes to enable effective interprofessional team collaboration. This statement is underlined by the categories that were identified.

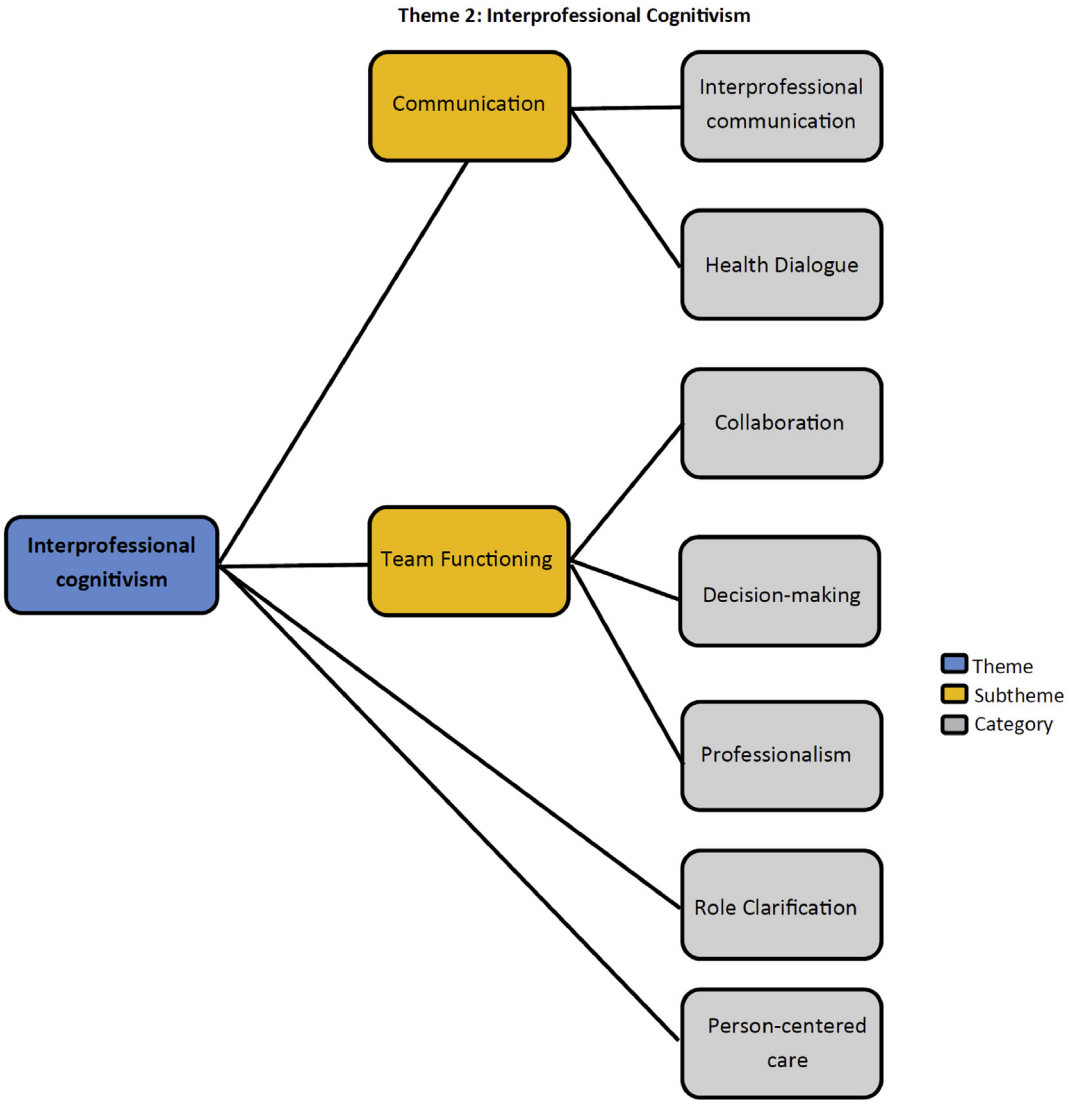

Figure 4. Themes, sub-themes and categories indicating what students learned.

Categories

Collaboration is demonstrated through statements such as, *I learned how to work in a team, in perfect collaboration with people of other disciplines or fields involving in the care of a patient. And definitely understood that the care of a patient implies multidisciplinary intervention that can be achieved only by a team effort and contributions* (RS43). This collaboration can be ascribed to joint decision-making: *I have learned that decision making that involve the patient can be therapeutic hence making care easier* (RS45). Although there was evidence of the previously named categories, students needed to display professionalism where there were signs that they were not fully included in the feedback: *But there I learned to just act professional no matter what and try and make my voice heard through clear professional communication* (RS1).

Separate, smaller categories under the theme interprofesssional cognitivism are role clarification – *I got to be exposed to the different roles different healthcare practitioners play in the betterment of the patient* (RS22) – and person-centered care – The IPE programme allowed for all the healthcare professionals to work together in a team to provide patient-centered care (RS10). Despite the feedback of exclusion the learning environment succeeded in promoting social constructivism and acquisition of competencies, as knowledge was constructed socially through students interacting with other healthcare professions students and social work students.[23]

The second open-ended question asked Please suggest ways how the IPE programme can be improved. Inclusiveness is again a theme but now it and some of the subthemes relate to the second open-ended question, with one subtheme, teaching and learning, that included the categories, case study and facilitation. Under inclusiveness, smaller categories are more professions and respect. A second theme under the aforementioned question is interprofessional cognitivism with the subtheme teaching and learning, with the categories frequency, duration, longitudinal and praxis. Additional categories under this question are affirmation, *The programme need no changes or improvements* (RS16), and It was excellent and good (RS17), and nothing, *Nothing in particular* (RS59).

Theme 1: inclusiveness

Inclusiveness is a theme that emerged from the students' responses regarding ways to improve the current IPE programme.

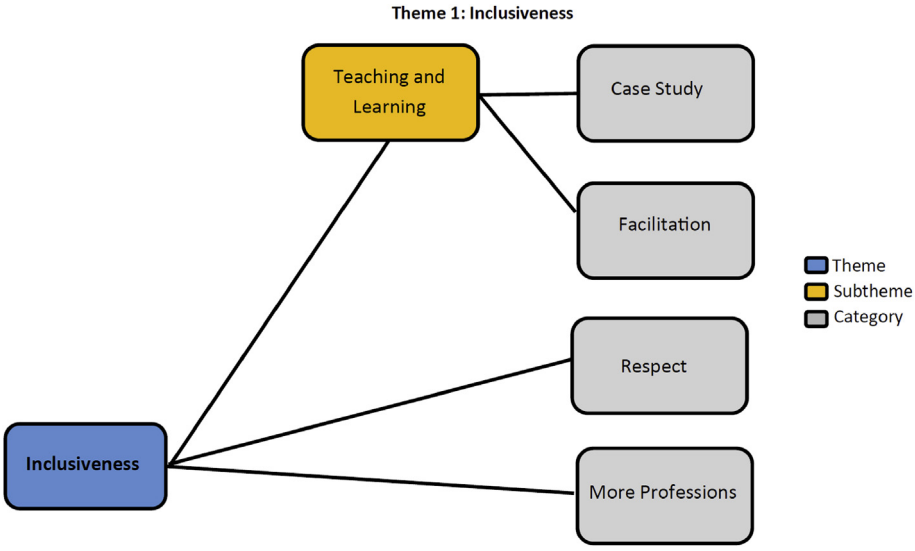

Figure 5. Themes, sub-themes and categories related inclusiveness.

The subthemes and categories under this theme are presented in Fig. 5.

Sub-theme: teaching and learning

Again, students reported teaching by a facilitator to achieve student learning as a necessary component for competency development.

A recommendation regarding the case study was *Use more radiology based scenarios. Doesn't help if one has a patient with eye problems. Use topics that include the ACTIVE role of radiographers not only chest xrays … Please* (RS1); coupled by the facilitation: *I think it would also be good if we can have our own lecturer to attend with us* (RS25), are areas needing attention.

Categories

Separate categories under inclusiveness are more professions: *I believe the IPE programme should represent all professions at a hospital setting, such as social workers psychologists* (RS9) and respect: *They can value the Radiography students more and not look over us because we're not from* [name of other institution] (RS40). Students' experiences may also have been influenced by evidence of stereotyping as pointed to by RS40 that indicated that radiography students are looked over as they are from a university of technology and not a traditional university.

Theme 2: interprofessional cognitivism

This structured IPE programme aims to assist students to make the necessary connection (thinking and reasoning) between the concepts and practices associated with interprofessionalism. Teaching strategies and approaches used in IPE should include the development of team functioning (a separate category under the theme), which is clear from the student response: *It can be improved by enforcing the team-work amongst health care workers because it is not solid in a way* (RS4). Interprofessional cognitivism presented the subtheme and categories illustrated in Fig. 6.

Sub-theme: teaching and learning

In reference to interprofessional cognitivism, teaching and learning strategies and approaches relate to how these influenced the thinking and reasoning associated with making the connections needed to achieve effective interprofessionalism.

Categories

Recommendations related to frequency, *More similar programmes should be created or more time should be given to participate in this project* (RS7), and the duration of interventions, *The IPE programme can be improved by increasing the length of the program sessions* (RS37), could be incorporated in future programmes. Students also proposed a longitudinal approach: *I believe that this IPE would be beneficial if they conduct it starting from first year. It would be helpful that way* (RS23).

Praxis relates not only to a practical approach to IPE, but also to translation into practice, as recommended by students: *The IPE programme can be improved if it can be applied to students of different disciplines in the care of a patient at our various clinics or hospitals* (RS43), and *IPE for just 3 days, and then we forgot the rest, therefore I SUGGEST that they can also try to extend it in our hospitals in the Republic of South Africa so that we can really feel its impact practically* (RS53).

Contact as it relates to the contact hypothesis had positive (achievement of competencies) and negative effects on interprofessional experiences (exclusion) of diagnostic radiography students. In addition to the students' suggestions on how the IPE programme can be improved, it is clear that "contact" needs a clear definition, which should be outlined during inclusive planning phases of IPE programmes. Radiography programmes should consider implementing "contact" with other health professions students through IPE programmes to promote the development of the competencies necessary for collaborative teamwork and holistic patient-centered care.

Recommendation

The findings of this study suggest that a team of interprofessional academics consisting of all professions participating in the

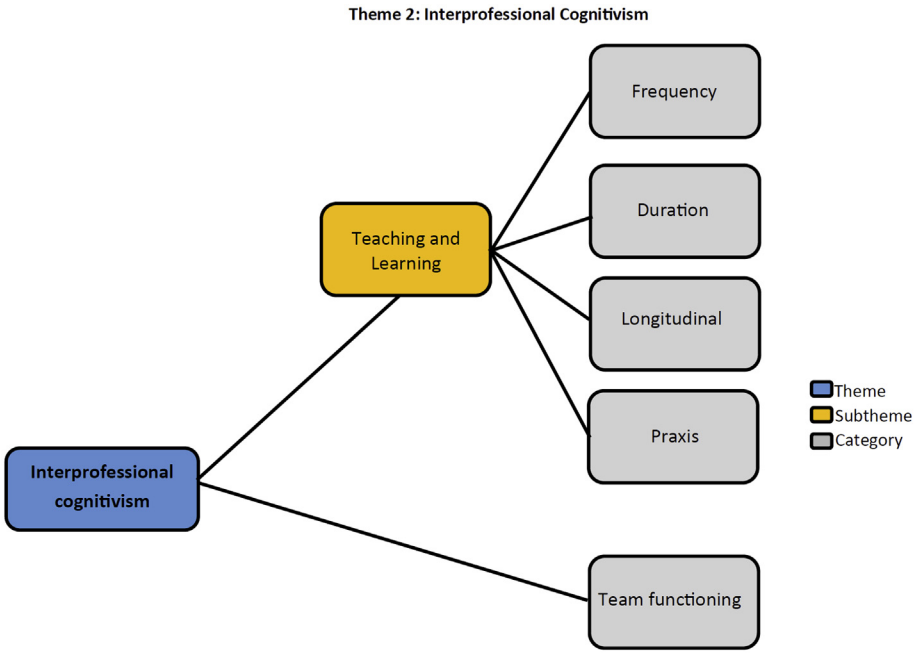

Figure 6. Themes, sub-themes and categories related interprofessional cognitivism.

IPE programme collaborate in developing the programme to thereby ensure active involvement and inclusiveness of all health professions students. IPE must be implemented at clinical training sites to enforce and further promote the IPE competencies among health professions and social work students. Development and standardisation of facilitation can create a safe environment for diagnostic radiography students to participate and provide inputs without feeling prejudiced against or stereotyping from their team members.[30]

In reference to future research around implementation of IPE programmes for radiography students, it is recommended that a larger sample be used.

Conclusion

The results of the study indicate that a structured IPE programme assisted radiography students to achieve the specific IPE competencies they require for effective clinical practice. Furthermore, the findings provide insight into how this manifests and how to improve the IPE programme for all healthcare professions students. Care should be taken in the planning, development and structuring of all aspects of an IPE programme, so as to promote equal, inclusive teaching and learning, failing to do so could lead to non-participatory interprofessional de-socialisation.

Conflict of interest statement

None

Acknowledgements

The authors would like to thank:
The students that participated in the research.
Mrs H. Human who assisted with the language editing of the manuscript.
Mrs M. Viljoen who assisted with calculating significance and correlations. This is study was funded by Central University of Technology, University of the Free State.

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