Short Report

The perspectives of first-year students on interprofessional education as a vehicle for achieving Sustainable Development Goal 3

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Background. The 2030 Agenda for Sustainable Development is a blueprint for world peace and prosperity. The 17 Sustainable Development Goals (SDGs) in the agenda are to be met by the governments of both developed and developing countries. Interprofessional education (IPE) may be regarded as a mechanism for achieving SDG 3.
Objectives. To investigate how students perceive an interprofessional first-year curriculum that contributes to the accomplishment of SDG 3.
Methods. The study design was focused on consensus-building strategies. The students' perceptions of the IPE part of the first-year module were measured on a 4-point Likert scale.
Results. Students agreed that the content in the interprofessional module is suitable to promote teamwork skills and learning. There was no consensus regarding their understanding of the role of their own profession in an interprofessional team. Participants agreed that IPE helps students learn, encourages teamwork, and is good for both patients and themselves as future healthcare workers.
Conclusion. IPE in health professions education has many benefits and can be seen as a vehicle to reach SDG 3, which aims to improve the health and wellbeing of all people at all ages.

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The countries that are part of the United Nations (UN) adopted the 2030 Agenda for Sustainable Development in 2015. This agenda provides a blueprint for peace and prosperity for all people. Within the agenda are the 17 Sustainable Development Goals (SDGs), which are to be implemented by the governments of developed and developing countries.[1] The SDGs build upon the Millennium Development Goals by emphasising the goals that have not yet been achieved. The 17 SDGs (Fig. 1) are interconnected, and the World Health Organization (WHO) envisions these goals being achieved by 2030.

The third goal aims to achieve good health and wellbeing for all.[2] According to the United Nations Development Programme, this goal is to ensure universal health coverage and access to effective medicines and vaccines. Even though health departments around the world have done a lot of good work, it is distressing that developing countries are unable to deal with the growing complexity of health problems.[3] Moore[4] suggests that universities play a crucial role in preventing ecological collapse because they have access to sufficient information about global conditions. There has therefore been a transition in the higher education curriculum to assist in addressing the challenges related to sustainable development.[5] Higher education institutions need to transform their curriculum to reflect the complex challenges we face in society that hinder the achievement of the SDGs. To achieve SDG 3, the UN provides targets that serve as outcome indicators.[6] These targets include the development and training of the health workforce.[6] As we think about how to train people to work in healthcare, it is important to investigate which parts of health professions education (HPE) will help us reach SDG 3. Interprofessional education (IPE) can be seen as a strategy to prepare the future health workforce to improve health outcomes of the population.[7] In view of this advantage, IPE can be considered a vehicle to ensure the attainment of SDG 3.

Fig. 1. The Sustainable Development Goals (source: Heymans et al.*[1]).*

Transforming HPE

IPE consists of occasions when two or more students or service providers from different disciplines learn with, from and about each other to improve collaboration and patient outcomes.[8] Within IPE, the knowledge, skills and attitudes related to collaboration in practice are developed and enhanced.[9] Cooper *et al.*[10] found that health professionals tend to keep their independence and autonomy after they graduate because they are still trained in their silos. Because of this, it is important to change HPE so that graduates have the skills and knowledge they need to work together effectively. At a South African (SA) university, the interprofessional core competencies are taught and learned through the academic continuum. At the first-year level, the aim is to introduce the students to working in

teams and to develop a theoretical understanding of IPE. Since the first-year level is the introduction to the IPE curriculum, it is important to gauge the students' perceptions of the module offered at the onset. At this specific university, student perceptions are determined through student evaluations.

Evaluation of the curriculum

Student evaluations have been used to measure how well health professions educators perform.[11] The main goal of these evaluations is to improve the quality of education. Higher education institutions have incorporated summative student evaluations, which usually take place at the end of a semester to determine students' mastery of the content in a specific module.[12] It is important to remember that community needs change over time and always need to be re-evaluated. This, in turn, affects how curriculum is developed. Brooman *et al.*[13] highlight the need for student involvement in the development of curriculum. Student evaluation is a form of active stakeholder involvement that allows the student to have a voice in the design and delivery of the curriculum. Chen and Hoshower[14] consider that student evaluations are often the primary source of key information to get important information about how to change a curriculum.

HPE is constantly evolving, and curriculum development needs to reflect this. With the global shift towards an interprofessional approach to HPE, it is imperative that students are taught effectively. With the help of student evaluations, course convenors can ensure that the course content helps students develop and improve the interprofessional skills needed to drive SDG 3. The aim of the present study was to determine students' perceptions of the contribution of an interprofessional first-year module towards the achievement of SDG 3.

Methods

The design of the research was based on techniques for building consensus, which work well for questions with limited evidence.[15] In this study, a standard faculty guideline was used to develop a course questionnaire to describe the perceptions of the interprofessional module of the first-year health and social science students. Google Forms (Google, USA) was used as the virtual platform to distribute the questionnaire. The survey included biodemographic questions such as gender, background, age group and first language preference, as well as departmental registration, repeat student status, and the associated facilitator for the module. The questionnaire also included nine questions focusing on students' learning experiences. The nine Likert-type questions were answered using a 4-scale rating (strongly disagree, disagree, agree, strongly agree). Berk[16] considers that an even-numbered scale is the best way to measure how well learning and teaching are going. This is because a midpoint option gives students an escape point. Students were only allowed to choose one answer per question and had to answer all the questions in the questionnaire. Before it was used in the main research study, the questionnaire was used in an exploratory study with other colleagues to detect errors in its content or clarity. The link to the Google Form was shared with the students. Before starting the questionnaire, students were asked to consent to the use of their evaluation. Upon completion of the questionnaire, their answers were put into electronic data sheets for data analysis.

Population

The study population consisted of the 2019 cohort of first-year health science students at UWC (N=678) registered for the compulsory interprofessional module. The students were from the departments or schools of dietetics, natural medicine, nursing, occupational therapy, physiotherapy, social work and sports science.

Sampling

Students who participated in the study were chosen by convenience sampling. The sample for the study was made up of the 218 students who completed the questionnaire. The response rate was 32.0% (74.8% females and 25.2% males). According to Sekaran,[17] sample sizes >30 and <500 are appropriate for most research.

Data analysis

The data from the electronic sheets were entered into an Excel spreadsheet (Microsoft 365, USA). Ten percent of the entries were randomly checked to ensure correctness, and steps were taken to find errors and improve the data in an iterative manner. Since anonymity was applied as an ethical principle in the study, there was no way to trace a survey back to the students; missing data therefore could not be followed up on and were left as is. The responses were rated using a 4-point Likert scale with the following ratings: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. The scale was dichotomised into two categories: disagree, comprising the 'strongly disagree' and 'disagree' responses, and agree, comprising the 'strongly agree' and 'agree' ratings. Van Dusen and Nissen[18] support the reason for collapsing a response category on a Likert scale when the interpretation of the data being analysed is identical to that of another response category and is therefore redundant.

Criteria for consensus

The data for each statement were presented in percentage form. Lange *et al.*[19] propose that on a four-point Likert-type scale, consensus is attained when 80% of respondents agree. In this study, a rate of >80% was regarded as a consensus that the statement contributed to the accomplishment of SDG 3.

Results

Demographics of participants

A total of 218 first-year undergraduates from seven different disciplines completed the online questionnaire on Google Forms. The demographic data of the participants are presented in Table 1.

Main findings

In the questionnaire, students were asked to evaluate the IPE component by rating how much they had learned and how well the module had taught them. The results from the ratings are shown in Table 2 as *interprofessional learning* and *outcomes of interprofessional education*.

Interprofessional learning

Participants were asked to rate their learning in the interprofessional module. Three of the four statements referred to individual learning. On two of these statements, consensus was reached. This agreement implies that the content is suitable for individual and group learning. Regarding their understanding of the role of their profession on a team, there was non-consensus. When the students were asked to elaborate on their views on skills that foster teamwork, there was a high degree of consensus regarding the significance of teamwork skills.

Outcome of IPE

Statements under outcomes referred to the student as a future health professional and the impact of IPE on patient health. Two of the three statements about the results were on how the students saw themselves as future healthcare workers. On both statements, consensus was reached that IPE was the best way to encourage postgraduates to work together. The last statement referred to the outcomes of patients. Students agreed that interprofessional learning (IPL) will have a positive outcome in terms of patient health.

In summary, the students agreed that IPE helps them learn, encourages them to work as a team, and is good for both patients and themselves as future health professionals. Therefore, as we consider these positive outcomes, students perceive IPE as ideal for ensuring good health and wellbeing for their patients, as linked to SDG 3.

Table 1. Demographics of the participants (*N*=218)

Characteristic	%
Gender	
Female	74.8
Male	25.2
Background	
Urban	67.9
Rural	32.1
Age group (years)	
18 - 20	81.2
21 - 25	11.0
26 - 30	3.2
≥31	4.6
English is my	
First language	40.8
Second language	53.7
Third language	5.5
Department/school	
Occupational Therapy	10.6
Physiotherapy	8.3
Dietetics	9.6
Natural Medicine	0.5
Social Work	17.0
Sport, Recreation and Exercise Science	15.6
Nursing	38.5
Public Health	0
Repeat students	
No	91.7
Yes	8.3

Discussion

This study aimed to determine students' perception of the contribution of an interprofessional first-year module towards the achievement of SDG 3. Education and health are closely related. Individuals with higher levels of education are more likely to recognise when they are ill, are more inclined to seek medical attention, and are more knowledgeable about diseases in general. If the world wants to reach SDG 3: Good Health and Well-being, a interprofessional and multi-stakeholder approach that takes education into account is needed. IPE is the beginning of a continuum of collaboration that encompasses IPL and will eventually result in interprofessional practice by future health professionals.

Interprofessional learning

According to Sebastian and Eaton,[20] IPL is a novel concept in undergraduate HPE. Assessments and evaluations of IPL are dependent on reflections, questionnaires and professionalism judgements.[21] Even though questionnaires are not known to be very accurate as evaluation tools, they are great for giving to large groups of people to gather different kinds of data.[22] As with the first-year interprofessional module in question, the IPL experiences of students were divided into several questions to make the evaluation more comprehensive.

Carney *et al.*[23] state that one of the benefits of IPL is that it helps health professionals (or students) build personal relationships with each other, which may lead to friendships that complement task-related activities. IPL also improves education because it helps people understand each other's roles and responsibilities better. The third benefit referred to improved patient care. Through the case studies in the interprofessional module, students learned that working as a team with students from different disciplines could help them provide better care to their patients. This included 'overlapping' care by the different professions. Students started to learn about the skills needed for their own professions and those of other professions, as well as how their patients could get continuous care, which would improve their health and wellbeing. The final benefit of IPL relates to job satisfaction as a future health professional. It gave students a greater sense of ownership over the tasks they had to complete in the interprofessional module. This sense of ownership at times gave them a position of leadership as group facilitators, and the students felt that this helped them to take ownership, which helped them prepare for their day-

Table 2. Participants' responses to the interprofessional education questionnaire (*N*=218)

	Agree, *n*	Disagree, *n*	Consensus, %
Interprofessional learning			
Learning with other students will help me become a more effective member of a healthcare team	199	19	91.3
Team working skills are essential for all students	206	12	94.5
I am not sure what my professional role is in an interprofessional team	89	129	40.8
Interprofessional learning with other healthcare students will help me to communicate better with patients and other healthcare professionals	207	11	95.0
Outcomes of interprofessional education			
Interprofessional education for undergraduate students will improve collaborative practice after graduation	204	14	93.6
Interprofessional education will help me to understand my own limitations	205	13	94.0
Patients will ultimately benefit if health students/professionals work collaboratively	213	5	97.7

to-day tasks as well as for their future practice as health professionals.[23] In the present study, the IPL part of the IPE curriculum was the focus of the module that was evaluated.

IPE as a vehicle for SDG 3

The goal of IPE is to prepare students for collaborative practice as future health professionals. According to Khalili *et al*.,[24] IPE and collaborative practice (IPECP) has a positive impact on patients, health professionals and the government, who are the major stakeholders in a healthcare system. A well-functioning healthcare system is imperative for addressing the targets of SDG 3. It is therefore important to understand how IPE benefits these stakeholders for the improvement of the health system and ultimately the attainment of SDG 3.

According to Towle and Godolphin,[25] when patients are viewed as educators, they challenge the notion of expertise and power in the healthcare system. When students learn with rather than just about patients, patient involvement means that patients are more active, but more importantly, it shows that the relationship between students and patients is dynamic and gives both sides something to learn. IPE can therefore be thought of as a partnership between a team of health professionals (or students) and a patient that is well co-ordinated and allows for shared decision-making about the patient's health.[26]

Green and Johnson[27] suggest that IPECP allows professions to achieve more than they can on their own. The authors go on to say that a collaborative approach to healthcare gives patients and their families improved health services and outcomes. Littlechild and Smith[28] state that when health professionals work together, there are benefits such as improved efficiency, a better mix of skills, higher levels of responsiveness, more comprehensive services, more innovation and creativity among team members, and a more user-centred approach to practice. The WHO has found a link between interprofessional collaboration and better results with non-communicable diseases, infectious diseases, humanitarian efforts and responses to epidemics.[7]

Governments create and implement health policies to improve the health of all citizens, and consequently the health systems of their countries. However, policies merely provide health professionals with 'what' they must do and fail to provide them with the 'how'. Often this lack results in poor or failed implementation of these policies. The principles of IPE can be used to show health professionals how to put these health policies into practice in a way that works. The incorporation of IPE principles into health policy implementation is encouraged, as IPECP has been shown to improve health systems.[7] As a result, there has been a shift in policy development to include IPECP. However, including IPECP might not give enough information about how IPE can be used to successfully put these policies into place. The responsibility therefore rests on higher education institutions to provide health professionals with the attitudes, skills and knowledge necessary for IPE.

Universities and other higher education institutions are centres of human and community progress, and they can be crucial to reaching SDG 3.[29] Bhargava and Galan-Muros[29] state that by 2030, 15 million more healthcare professionals will be required. Chronic underinvestment in health worker education and training as well as the misalignment of educational and employment initiatives within healthcare systems are the causes of this severe shortage. As a result, IPECP benefits the three major stakeholders in the healthcare system. IPECP can therefore be seen as the best way to make sure that SDG 3 is met.

Conclusion

IPL in HPE has several benefits and can be seen as a vehicle for achieving the realisation of SDG 3, which seeks to ensure health and wellbeing for all at every stage of life. When health professionals are trained in and exposed to IPE at the beginning of their education as undergraduates, they learn how important it is to work as an interprofessional team for the complete wellbeing of their patients. This will help achieve SDG 3 in the long run. In 1948, the WHO defined health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. This definition still applies to the SDGs considering SA's plan for healthcare in 2030. Target 3.8 refers to universal health coverage and quality of care, which need to be pursued aggressively by an improved health workforce to fast-track progress in meeting the SDG goals in the remaining 7 years.

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