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Assessment of learning in Interprofessional Education in Health Higher Education: protocol for an integrative literature review on pedagogical approaches

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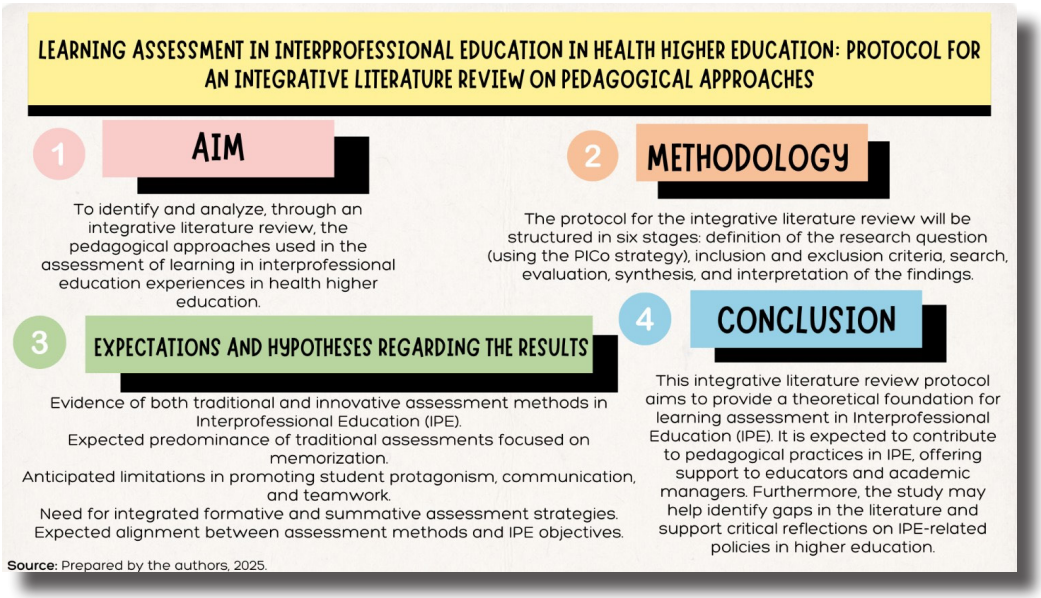
Highlights

- *The development of the Integrative Literature Review will map learning assessment in Interprofessional Education (IPE).*
- *A predominance of traditional and content-focused assessments in IPE is expected.*
- *Assessment methods in both in-person and remote settings will be explored.*
- *Traditional assessments may limit the development of interprofessional competencies.*
- *The findings will support the alignment between learning assessment and the objectives of IPE.*

Graphical Abstract



Abstract

Interprofessional Education (IPE) is defined as situations in which professionals or students from two or more different fields learn with and about each other, with the aim of improving collaboration and the quality of healthcare services provided. When introducing IPE into teaching experiences, it is also necessary to address the assessment of learning within this process. One of the critical issues in assessing learning in IPE is the pedagogical approach adopted by the educational program. In general, such approaches are either not explicitly stated or, when they are, are not reflected in the proposed assessment methods. The objective of this study is to identify and analyze, through an Integrative Literature Review (ILR), the pedagogical approaches used in the assessment of learning in IPE experiences in Health Higher Education. The ILR is a methodology that allows for the rigorous identification and synthetic evaluation of studies available on the topic under investigation. The review question for this study was developed using the strategy that includes Population, Interest, and Context. The ILR methodology will follow six steps: formulation of the research question, definition of inclusion and exclusion criteria, data collection and literature search strategies, rigorous evaluation of the selected studies, analysis and synthesis of the findings, and presentation and interpretation of the results. This ILR aims to identify the predominance of traditional assessments that limit interprofessional learning and to emphasize the importance of integrating formative and summative assessment methods into the teaching process. The description of pedagogical approaches in this ILR may contribute to the development of effective assessment practices in IPE, guiding educators and academic administrators. The results are expected to promote more effective pedagogical policies aligned with the demands of Health Higher Education.

Keywords: Interprofessional Education. Educational Assessment. Teaching. Higher Education. Interprofessional Relations.

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INTROUCTION

Interprofessional Education (IPE) is defined as situations in which professionals or students from two or more different fields learn with and about each other, with the goal of improving collaboration and the quality of healthcare services provided[1].

In health education, IPE is an important and increasingly adopted approach at both international and national levels, as it provides opportunities for shared learning among students from different programs, with the aim of developing collaborative competencies essential for collective work[1,2].

Evidence shows that IPE is effective in promoting positive attitudes toward teamwork, communication, problem-solving, and collaborative knowledge and skills[3]. It therefore contributes to improving the quality of healthcare delivery by preparing students to work together within the healthcare system[1].

In Brazil, although still incipient in health higher education, IPE is connected to the Unified Health System (SUS), as it enhances its principles of comprehensiveness and social participation. Furthermore, the conceptual, methodological, and organizational structures of IPE strengthen and implement SUS values through an expanded concept of health, which considers the determining and conditioning factors of physical, mental, and social well-being[4].

Although internationally recognized for its benefits in improving the quality of education and healthcare, the implementation of IPE faces several challenges, notably: difficulty in defining and distinguishing it from other terms, especially those related to integration between fields of knowledge, such as interdisciplinarity; asymmetrical power relations between professional areas, which are also present in training environments; the predominance of education based on the biomedical model; limited institutional support; and teaching structures that are still predominantly traditional and uniprofessional[5].

Unlike interprofessional education, uniprofessional education is carried out with students from a single professional field and largely reproduces the traditional teaching method. This approach is characterized by the central role of the teacher as the authority and holder of knowledge, to the detriment of the student's supporting participation, who assumes a passive role as a listener. In this context, the importance of active methodologies for the development of IPE is highlighted, as they position students as protagonists in the construction of their own knowledge and promote interactivity and collaboration among students from different fields. This requires a learning assessment that considers not only the individual outcome but also the integrative and participatory process of learning[6].

To move forward in this process, it is necessary to discuss learning assessment. Every educational program or structure in its teaching and learning process must include two types of evaluation: program evaluation and student learning assessment[7].

The purpose of program evaluation is to improve IPE initiatives to ensure and enhance shared learning. Learning assessment, on the other hand, is a condition built within the teaching and learning process and can influence individuals within the educational environment in how they act. This type of assessment highlights the need for particular attention to understanding and uncovering how students operate, both within learning spaces and beyond, inside and outside educational institutions[8].

According to Hoffmann[9], teaching is the act of being a subject, problematizing the context in which we are inserted in order to resolve differences, and engaging with this context in order to continuously reinvent it. Learning assessment is essential to the teaching and learning process, being intrinsic and inseparable from it, especially when developed with the purpose of questioning, problematizing, and rethinking its implementation.

Learning assessment is a pedagogical tool available to educators to support students in developing their own construction of knowledge and ways of experiencing productive learning. It enables teachers to recognize the effectiveness or ineffectiveness of their pedagogical methods and the attitudes employed in the teaching and learning process, making it possible to rethink the next steps of proposed activities and their outcomes[10].

Essential characteristics of learning assessment include: I – enabling reflection on objectives, content, and methods; II – providing reflection on the teaching plan; III – supporting the development of skills and abilities; IV – being centered on the activities carried out by students; V – being objective; VI – contributing to the teacher's self-understanding; and VII – allowing the teacher to reflect on students' principles and possibilities[11].

Within the scientific literature on assessment in IPE, Diggele[12] emphasizes the importance of constructing learning objectives that are directly aligned with assessment activities and tools when developing an IPE educational program. However, this

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field remains fragile, as most IPE program assessments focus only on students' reactions or satisfaction[13]. Even when learning assessment is considered during IPE planning and development, related aspects are often not described in detail[14]. Learning assessment remains a challenge in IPE, with a notable gap in studies addressing this topic[15].

One of the critical issues in learning assessment in IPE is the pedagogical approach declared by the program or educational structure[16]. In the field of education, a range of pedagogical approaches exists, including traditional, behaviorist, humanist, cognitivist, and sociocultural models[17]. In IPE, there is no recommendation or orientation toward a single approach, which contributes to flexibility in adopting teaching and assessment strategies but also makes it more complex and challenging to conceptually align the principles of IPE with different pedagogical frameworks. Although there is no single directive, the most commonly cited learning theories in IPE literature are constructivism[18,19] and behaviorism[20,21]. In the Brazilian context, the sociocultural theory stands out, particularly the contributions of Paulo Freire, who is also recognized internationally[22].

Acknowledging that learning assessment is both critical and fundamental to the development of IPE, and that the pedagogical approach guides the entire teaching-learning process, including assessment, this protocol aims to identify and analyze, through an Integrative Literature Review, the pedagogical approaches used in the assessment of learning in Interprofessional Education experiences within Health Higher Education.

METHOD

The Integrative Literature Review (ILR) is a methodological approach that enables the rigorous identification and synthetic evaluation of scientific investigations available on a given topic. The concise and comparative data obtained through the ILR provide a broad synthesis of the research problem, as it follows an organized and systematic process of literature investigation[23,24].

The methodology of this ILR is based on six stages: (I) selection of the research question; (II) definition of inclusion and exclusion criteria; (III) data collection or characterization of the literature search; (IV) rigorous evaluation of the studies; (V) presentation and analysis of the findings; and (VI) clear presentation and interpretation of the results[23].

The Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) checklist was used to draft this protocol[25]. This ILR protocol was registered on the Open Science Framework (OSF) under DOI number 10.17605/OSF.IO/ZWG9Q.

The review question for this study was developed using the PICo strategy, which considers the elements Population, Interest, and Context. The question is: What pedagogical approaches are used in the process of assessing learning in IPE in Health Higher Education? The PICo strategy supports the development of the search and selection strategy for the studies. In this research, PICo was composed of the following elements: (P) – educators and students; (I) – pedagogical approaches used in the process of learning assessment in IPE; and (Co) – health higher education and undergraduate health programs.

The following inclusion criteria were established for the selection of studies: original scientific research articles that address the guiding question of this ILR, published in Spanish, English, or Portuguese. The exclusion criteria include: editorials, literature review studies, legislation, abstracts published in scientific events, dissertations, theses, and undergraduate final papers.

The databases selected for locating the studies were: *Bibliografia Brasileira de Odontologia* (BBO), Cumulative Index to Nursing and Allied Health Literature (CINAHL), *Educ@ – Publicações Online de Educação*, Education Resources Information Center (ERIC), Latin American and Caribbean Literature on Health Sciences (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE), Scientific Electronic Library Online (SciELO), Scopus, and Web of Science (WoS).

The BBO and LILACS databases were accessed through the Virtual Health Library (VHL) Portal, and the MEDLINE database was accessed via the PubMed website. The remaining databases were accessed directly through their original websites. Access to restricted databases (CINAHL, Scopus, and WoS) was obtained through the Federated Academic Community (CAFe) network, available on the Journals Portal of the Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES). The CAFe login used was from the University of São Paulo (USP).

The search for studies was carried out by combining controlled descriptors and keywords, resulting in comprehensive search strategies. Initially, a mapping was conducted in the LILACS and MEDLINE databases to identify relevant terms in the titles, abstracts, and indexed terms of scientific articles. Subsequently, indexed descriptors were searched in the structured trilingual vocabulary of Health Sciences Descriptors (DeCS) in Spanish, English, and Portuguese, as well as in the Medical Subject Headings (MeSH) in English.

Considering that search strategies are essential in evidence-based research, serving as key tools for comprehensively retrieving potentially eligible studies and allowing reuse by other researchers, the search strategies for this review were stored and can be accessed through *searchRxiv*.

The search strategies used in each database, along with access to the records on *searchRxiv*, are presented in Table 1 below.

Table 1 - Databases, search strategies, records on *searchRxiv*, and number of studies retrieved.

Database	Search Strategy and Sharing Link on *searchRxiv*	Number of Studies Retrieved
Scopus	(TITLE-ABS-KEY ("Interprofessional education" OR ipe OR "Interprofessional learning") AND TITLE-ABS-KEY ("assessment of interprofessional learning" OR "learning assessment" OR "assessment of IPL" OR "interprofessional assessment") AND TITLE-ABS-KEY (baccalaureate OR undergraduate OR universities))	14
	(TITLE-ABS-KEY ("interprofessional education" OR ipe OR "interprofessional learning") AND TITLE-ABS-KEY ("assessment off interprofessional learning" OR "learning assessment" OR "assessment off ipl" OR "interprofessional assessment") AND ALL ("pedagogical approach" OR "pedagogical conception" OR "pedagogical framework" OR "learning theory" OR pedagogy OR pedagogics))	05
PubMed/Medline	((((“Interprofessional education”) OR (“Interprofessional education”[MeSH Terms])) OR (IPE)) AND ((((“assessment of interprofessional learning”) OR (“learning assessment”)) OR (“assessment of IPL”)) OR (“interprofessional assessment”))) AND ((((baccalaureate) OR (undergraduate)) OR (universities)) OR (universities[MeSH Terms]))	802
	DOI: https://doi.org/10.1079/searchRxiv.2023.00434	
	((((("Interprofessional education") OR ("Interprofessional education"[MeSH Terms])) OR (IPE)) AND ((((“assessment of interprofessional learning") OR ("learning assessment")) OR ("assessment of IPL")) OR ("interprofessional assessment"))) AND ((((((“pedagogical approach") OR ("pedagogical conception")) OR ("pedagogical framework")) OR ("learning theory")) OR (pedagogy)) OR (pedagogics))	386
	DOI: https://doi.org/10.1079/searchRxiv.2023.00433	
Web of Science	("Interprofessional education" OR IPE OR "Interprofessional learning") AND ("assessment of interprofessional learning" OR "learning assessment" OR "assessment of IPL" OR "interprofessional assessment") AND (Baccalaureate OR undergraduate OR Universities)	07
	("Interprofessional education" OR IPE OR "Interprofessional learning") AND ("assessment of interprofessional learning" OR "learning assessment" OR "assessment of IPL" OR "interprofessional assessment") AND ("pedagogical approach" OR "pedagogical conception" OR "pedagogical framework" OR "learning theory" OR pedagogy OR pedagogics)	01
	DOI: https://doi.org/10.1079/searchRxiv.2023.00432	
CINAHL	("Interprofessional education" OR IPE OR "Interprofessional learning") AND ("assessment of interprofessional learning" OR "learning assessment" OR "assessment of IPL" OR "interprofessional assessment") AND (Baccalaureate OR undergraduate OR Universities)	05
	("Interprofessional education" OR IPE OR "Interprofessional learning") AND ("assessment of interprofessional learning" OR "learning assessment" OR "assessment of IPL" OR "interprofessional assessment") AND (Baccalaureate OR undergraduate OR Universities) AND ("pedagogical approach" OR "pedagogical conception" OR "pedagogical framework" OR "learning theory" OR pedagogy OR pedagogics)	01
	DOI: https://doi.org/10.1079/searchRxiv.2023.00431	
ERIC	("Interprofessional education" OR "Interprofessional learning") AND ("assessment of interprofessional learning" OR "learning assessment" OR "assessment of IPL" OR "interprofessional assessment")	04
	("assessment of interprofessional learning" OR "assessment of IPL" OR "interprofessional assessment") AND ("pedagogical approach" OR "pedagogical conception" OR "pedagogical framework" OR "learning theory" OR pedagogy OR pedagogics)	00
	DOI: https://doi.org/10.1079/searchRxiv.2023.00430	
LILACS	("Educação Interprofissional" OR "Interprofessional Education" OR "Educación Interprofesional") AND ("Avaliação interprofissional" OR "Avaliação Educacional" OR "Educational Measurement" OR "Evaluación Educacional" OR "Desempenho Acadêmico" OR "Academic Performance" OR "Rendimiento Académico") AND (Universidades OR Universities OR Universidades OR Graduação OR Bacharelado)	03
	("Educação Interprofissional" OR "Interprofessional Education" OR "Educación Interprofesional") AND ("Avaliação interprofissional" OR "Avaliação Educacional" OR "Educational Measurement" OR "Evaluación Educacional" OR "Desempenho Acadêmico" OR "Academic Performance" OR "Rendimiento Académico") AND ("Abordagem pedagógica" OR "Concepção pedagógica" OR "Teoria de aprendizagem" OR "Pedagogia")	00
	DOI: https://doi.org/10.1079/searchRxiv.2023.00429	

to be continued...

...continuation - Table 1.

Database	Search Strategy and Sharing Link on *searchRxiv*	Number of Studies Retrieved
Educ@	("educação interprofissional") AND (avaliação) AND (graduação)	03
	("educação interprofissional") AND (avaliação) AND (pedagogia)	00
	Por ser uma estratégica de busca simplificada, não foi compartilhada em *searchRxiv*.	
SciELO	("Educação Interprofissional" OR "Interprofessional Education" OR "Educación Interprofesional") AND ("Avaliação interprofissional" OR "Avaliação Educacional" OR "Educational Measurement" OR "Evaluación Educacional" OR "Desempenho Acadêmico" OR "Academic Performance" OR "Rendimiento Académico" OR Avaliação) AND (Universidades OR Universities OR Universidades OR Graduação OR Bacharelado)	08
	("Educação Interprofissional" OR "Interprofessional Education" OR "Educación Interprofesional") AND ("Avaliação interprofissional" OR "Avaliação Educacional" OR "Educational Measurement" OR "Evaluación Educacional" OR "Desempenho Acadêmico" OR "Academic Performance" OR "Rendimiento Académico") AND ("Abordagem pedagógica" OR "Concepção pedagógica" OR "Teoria de aprendizagem" OR "Pedagogia")	00
	DOI: https://doi.org/10.1079/searchRxiv.2023.00428	
Total		**1.239**

By combining descriptors and keywords using the Boolean operators AND and OR, it was possible to establish groups or terms that provided the data needed for conducting the research. The search for studies in the selected databases was performed on December 20, 2023.

The studies retrieved from the databases were imported into the EndNote Web reference manager, where duplicates were removed. Subsequently, the methodological stages of the ILR required article screening based on the inclusion and exclusion criteria, through the reading of titles and abstracts, followed by full-text reading. This screening will be carried out independently and blindly by two reviewers (RSM and CMSS), with a third reviewer (VML) designated to resolve any disagreements.

A data extraction tool was developed using Microsoft Excel spreadsheet software, following the guidelines provided on the Joanna Briggs Institute (JBI) collaboration resources portal, to extract information from the selected articles. The items recorded in the tool include: authors, journal name, year, country, objective, methodology, level of evidence, methodological quality of the study, participants, main findings, health-related courses, location, characteristics of the IPE educational initiative, pedagogical structure, and description of learning assessment. Table 2 details the definition of each data item.

Table 2 - Data to be extracted from the selected studies and their definitions.

Dados	Definition
Authors	Names of the authors who wrote the study.
Journal Name	Scientific journal in which the study was published.
Year	Year of publication of the study.
Country	Country where the study was conducted.
Objective	Study objective, as described in the abstract or introduction. If not clearly stated, extract based on the introduction, methods, and results.
Methodology	Type of study and approach used (qualitative, quantitative, or mixed methods).
Level of Evidence	Classification of the level of evidence according to Melnyk and Fineout-Overholt[26].
Methodological Quality of the Study	Assessment of methodological quality based on the JBI's critical appraisal tools.
Participants	Description of the study population or sample.
Main Findings	Key results identified in relation to the study objective.
Health-Related Course	Health-related degree programs involved in the IPE initiative.
Setting	Context in which the IPE initiative was developed.
Characteristics of the IPE Educational Initiative	Information on the IPE initiative, such as duration, number of students, and facilitators.
Pedagogical Structure	Pedagogical approach to learning assessment (traditional, behaviorist, humanist, cognitivist, or sociocultural), with reference to the authors.
Description of Learning Assessment	How the learning assessment process occurs and its characteristics in the study.

Source: Melnyk and Fineout-Overholt[26] and Joanna Briggs Institute[27].

Melnyk and Fineout-Overholt[26] propose two different classifications of levels of evidence, depending on the methodological approach (qualitative or quantitative) of the selected study. For quantitative studies, the classification is as follows: Level I – Evidence from a systematic review or meta-analysis of relevant randomized controlled clinical trials or from clinical guidelines based on systematic reviews of randomized controlled clinical trials; Level II – Evidence obtained from at least one well-designed randomized controlled clinical trial; Level III – Evidence obtained from well-designed clinical trials without randomization; Level IV – Evidence from well-designed cohort and case-control studies; Level V – Evidence from systematic reviews of descriptive and qualitative studies; Level VI – Evidence from a single descriptive or qualitative study; Level VII – Evidence from expert opinion and/or expert committee reports. For qualitative studies, the classification is: Level I – Evidence from meta-synthesis of qualitative studies; Level II – Evidence from a single qualitative study; Level III – Evidence from synthesis of descriptive studies; Level IV – Evidence from a single descriptive study; Level V – Evidence from expert opinion[28].

In addition to classifying the level of evidence, it is essential to assess the methodological quality of the included studies, since this quality directly affects the applicability and credibility of the results. In this ILR, the checklists from the JBI Critical Appraisal Tools were chosen, which are internationally recognized for providing validated and systematic criteria for the critical appraisal of qualitative, quantitative, and mixed methods studies[29].

There are 15 checklists that may be applied depending on the methodology under evaluation: analytical cross-sectional studies, case-control studies, case reports, cohort studies, case series, diagnostic test accuracy studies, economic evaluations, prevalence studies, qualitative research, quasi-experimental studies, randomized controlled trials, systematic reviews, textual evidence: expert opinion, textual evidence: narrative, and textual evidence: policy[29].

Before the official data extraction, two reviewers (RSM and CMSS) will independently conduct a pilot test with three studies. Subsequently, all three reviewers (RSM, CMSS, and VML) will discuss and adjust the data extraction instrument as needed.

In this ILR, no formal sensitivity analysis will be performed due to the non-statistical nature of the synthesis. However, a descriptive assessment of the robustness of the findings will be conducted based on the critical appraisal of the methodological quality of the included studies, according to JBI criteria.

For the analysis of the collected data, thematic analysis was chosen. Thematic analysis is a fundamental qualitative method used to identify, describe, and analyze patterns and content within the data, allowing for detailed and thorough organization and interpretation[30].

The thematic analysis will be carried out in six phases: (I) – familiarization with the data, in which the researcher engages deeply and broadly with the content; (II) – coding, after reading and becoming familiar with the material, the researcher develops an initial list of relevant information and generates preliminary codes, characterizing the data either semantically or latently; (III) – searching for themes, this phase begins after data have been grouped and coded, allowing the analysis to move to a more complex level by transforming codes into themes; (IV) – reviewing themes, initiated when the researcher compiles a set of selected themes; (V) – defining and naming themes, this phase starts once the researcher has developed a satisfactory thematic map of the data and must then refine and clearly define the themes to be analyzed; and (VI) – producing the report, at which point the themes are fully developed, allowing for the final analysis and the writing of the report[30].

As this is an ILR protocol, conclusive results will not be presented in this manuscript. In the final manuscript of this ILR, results will be reported narratively, and the study search and selection process will be detailed using the PRISMA 2020 Flow Diagram[31]. Below, the authors describe their expectations and hypotheses regarding the potential findings of this ILR, in order to provide clarity on the research direction.

EXPECTATIONS AND HYPOTHESES REGARDING THE RESULTS

Considering the relevance of IPE in the training of healthcare professionals to address the complex modern health needs of users, families, and communities, this ILR seeks to identify evidence on the pedagogical approaches used in the process of learning assessment in IPE within Health Higher Education, as reported in the scientific literature.

It is believed that the evidence may reveal both traditional and innovative assessment methods for IPE initiatives, which may occur in various in-per-

son settings, such as classrooms, simulation environments, and healthcare practice settings, as well as in synchronous and asynchronous remote learning contexts.

However, it is expected that a predominance of traditional assessments will be identified, with a focus on content memorization, which may limit students' ability to apply knowledge in real-life scenarios. Additionally, this focus hinders student engagement in interactive learning and, consequently, impairs the development of essential competencies for interprofessional education, such as communication, understanding of professional roles, and teamwork. As a result, the excessive use of traditional assessments does not foster student protagonism in the teaching, learning, and assessment process.

Ideally, the studies would address the integration of formative and summative assessment methods, enabling the continuous monitoring of students throughout their interprofessional training.

The selection of pedagogical approaches and assessment methods should be aligned with the principles and learning objectives of IPE, which aim to promote integration among different fields of study and the development of competencies required for teamwork. This alignment is essential to ensure that the assessment methods support a learning process that goes beyond traditional teaching and evaluation practices.

THEORETICAL HYPOTHESES AND RELEVANCE

Educational assessment is an essential component of the teaching, learning, and instructional process. Assessments serve as indicators of the level of understanding acquired in relation to a specific concept[32]. In the context of the teaching and learning process, assessment plays a fundamental role in the classroom, as it involves analyzing students' performance[33].

Assessment methods can be classified as traditional or summative, such as tests, individual assignments, final exams, and periodic exams, and non-traditional or formative, such as question-and--answer sessions, group discussions, among others, that foster student protagonism[32,33].

In the field of IPE, studies have criticized the prevalence of traditional assessments in educational settings, as these methods prioritize content memorization, focus on individual performance, and do not foster interactivity or integration among students within learning environments. IPE aims to develop collaborative competencies for teamwork; however, the effectiveness of IPE initiatives is often limited by the assessment methods used, which do not adequately reflect the competencies required for effective teamwork[34,35]. The exclusive use of traditional assessments may negatively impact the teaching and learning process, particularly by delivering a final judgment on a student's performance in a given program and by limiting the potential to achieve future learning goals[33].

Formative assessment, on the other hand, is characterized by its focus on continuous analysis, aiming to adapt teaching to the specific needs of students and to promote the fullest development of their skills[32,33,34].

Formative assessment serves to diagnose students' progress, guide them, and encourage their engagement throughout the learning process, positioning them as protagonists of their own education. It emphasizes the interaction between teacher, student, and knowledge, stimulating self-regulation and incorporating feedback as a continuous process that fosters the reinterpretation of knowledge. In this way, it aims to contribute to learning development, guide decision-making, promote the sharing of responsibilities, and strengthen formative interaction[36].

The application of formative assessment requires going beyond traditional approaches, which treat learning assessment as an isolated moment, disconnected from teaching and learning, focusing mainly on control and validation[37].

Despite the advantages and disadvantages associated with each assessment method, according to Quansah[33], the purpose of the assessment should be the central criterion in choosing among different assessment methods. While certain knowledge and skills can be effectively assessed through traditional methods, others require non-traditional assessments, such as the use of portfolios and the completion of practical tasks[33].

Ideally, IPE initiatives should integrate both summative and formative assessment methods, depending on the objectives, setting, and teaching strategies being used. Summative assessments are often employed to certify students upon completion of a course. Integration with formative methods may include: continuous feedback through

formative assessments, allowing educators to identify learning gaps before summative evaluations; opportunities to adjust teaching strategies based on formative assessment results; and encouragement of student engagement in their own learning process by promoting self-assessment and accountability[38].

Emphasizing a formative approach to teaching and assessment is essential to ensure that future healthcare professionals are equipped to work collaboratively and effectively in interprofessional contexts[39].

Given the central role of learning assessment in the training process, it is crucial that educators possess a deep understanding of assessment methods and select them carefully, aligning them with the specific objectives of interprofessional initiatives. The combination of summative and formative assessment methods is recommended, as it supports the development of effective learning experiences for interprofessional practice[40].

CONCLUSION

The description of pedagogical approaches in the final manuscript of this ILR will provide a valuable contribution to the theoretical and scientific field of IPE, especially for educators who will be able to design their IPE initiatives anchored in a pedagogical approach and implement the assessment of student learning. This will offer a consistent foundation for educators and academic administrators by consolidating an overview of assessment practices in IPE.

The mapping of pedagogical approaches not only consolidates the available knowledge but also highlights underexplored areas, encouraging the development of methodologies that enhance interprofessional teaching and learning. Thus, the results are expected to guide more effective pedagogical guidelines and policies for Health Higher Education, promoting an educational practice aligned with the demands and challenges of the field and reinforcing the importance of IPE in the training of healthcare professionals.

CRediT author statement

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All authors have read and agreed to the published version of the manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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