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The Hermeneutics of Care: Dialogues between the Contemporary Patterns and Humanistic Health Education in Recent Literature (2020–2025)

A Hermenêutica do Cuidado: Diálogos entre os Padrões Contemporâneos e a Educação Humanista em Saúde na Literatura Recente (2020–2025)

Jackson UTONG
First Author: PhD Candidate, Faculty of Health Sciences, National University of Malaysia, 50300 Kuala Lumpur Malaysia. Email: P145759@siswa.ukm.edu.my

Mohd Sham OTHMAN
Corresponding Author: Senior Lecturer, Faculty of Health Sciences, National University of Malaysia, 50300 Kuala Lumpur Malaysia. Email: mso@ukm.edu.my

Mahadir AHMAD
Associate Professor, Faculty of Health Sciences, National University of Malaysia, 50300 Kuala Lumpur Malaysia. Email: mahadir@ukm.edu.my

Caryn Mei Hsien CHAN
Associate Professor, Faculty of Health Sciences, National University of Malaysia, 50300 Kuala Lumpur Malaysia. Email: caryn@ukm.edu.my

ABSTRACT:
This study performs a critical-reflexive synthesis of the literature on health education evaluation, shifting the focus from technical management to the hermeneutics of care. Using the PRISMA methodology, we reviewed 20 peer-reviewed publications (2020–2025) that examined the application, development, and critique of the Context, Input, Process, Product (CIPP) evaluation model across medical, nursing, allied health, and public health curricula. The findings indicate that CIPP remains a comprehensive and adaptive framework for curriculum and programme evaluation, increasingly hybridised with quantitative decision tools (e.g., Analytic Hierarchy Process) and applied to contemporary educational modalities such as competency-based education, virtual learning, and interprofessional education. The reviewed studies highlight benefits including diagnostic depth, stakeholder inclusiveness, and iterative feedback for quality enhancement, while also identifying challenges related to evaluator subjectivity, resource intensity, and contextual inconsistency. Overall, the study concludes that CIPP must evolve from a descriptive evaluative tool into a dialogical engine for continuous improvement, grounding health professions education in an ethics of responsibility and social accountability.

KEYWORDS: CIPP model; Hermeneutics of care; Health education; Humanistic education

RESUMO:
Este estudo realiza uma síntese crítico-reflexiva da literatura sobre avaliação em educação em saúde, deslocando o foco da gestão técnica para a hermenêutica do cuidado. Utilizando a metodologia PRISMA, revisamos 20 publicações revisadas por pares (2020–2025) que examinaram a aplicação, o desenvolvimento e a crítica do modelo de avaliação Contexto, Insumo, Processo, Produto (CIPP) em currículos de medicina, enfermagem, saúde aliada e saúde pública. Os resultados indicam que o CIPP permanece uma estrutura abrangente e adaptável para avaliação de currículos e programas, cada vez mais hibridizada com ferramentas quantitativas de decisão (por exemplo, Processo Analítico Hierárquico) e aplicada a modalidades educacionais contemporâneas, como educação baseada em competências, aprendizagem virtual e educação interprofissional. Os estudos revisados destacam benefícios como profundidade diagnóstica, inclusão das partes interessadas e feedback iterativo para aprimoramento da qualidade, ao mesmo tempo que identificam desafios relacionados à subjetividade do avaliador, à intensidade de recursos e à inconsistência contextual. Em suma, o estudo conclui que o CIPP deve evoluir de uma ferramenta descritiva e avaliativa para um motor dialógico de melhoria contínua, fundamentando a formação em profissões da saúde numa ética de responsabilidade e prestação de contas social.

PALAVRAS-CHAVE: Modelo CIPP; Hermenêutica do cuidado; Educação em saúde; Educação humanística

INTRODUCTION

Innovation in Health Professions Education and the Need for Evaluation

> It is the abnormal which arouses theoretical interest in the normal. Norms are recognized as such only when they are broken. Functions are revealed only when they fail."
> — Georges Canguilhem, *The Normal and the Pathological* (1991)

Health professions education (HPE) has been rapidly evolving in the last decade, with changes driven by global health priorities, digitization of learning and a convergence around competency-based education (CBE) across medicine, nursing and allied health. These pressures have therefore shifted program evaluation from the periphery of curricular activities to a primary governance tool, which is necessary for compliance with changing societal health needs, accreditation criteria and developed learning outcomes.

Program assessment is one of the foundations of assuring that curricula in medical, nursing, and other allied health fields achieve their targeted educational results, accreditation criteria, and social requirements (Adams & Neville, 2020). Strong assessment systems are vital especially to ensure accountability, match the education inputs with the learning outcomes and to facilitate evidence-based curriculum change (Afriadi & Fitri, 2025).

Program evaluation in health education is not just measurement but it is an overall process that involves the systematic evaluation of relevancy of context, processes of instruction, and competency outcomes. Assessors are now being asked to use holistic systems that have the potential to encompass these multidimensional elements of education systems.

One of the most extensive and lasting models of such evaluations is the Context, Input, Process, and Product (CIPP) model that was created by Daniel Stufflebeam in the late 1960s (Ogwudile, 2025). The CIPP model focuses on continual enhancement of programs as opposed to accountability or summative judgment only.

The CIPP Evaluation Model as a System-Oriented Framework

Fulfilling these requirements, Daniel Stufflebeam's Context, Input, Process and Product (CIPP) model has resurfaced as a robust system-based evaluation approach. The CIPP model was originally developed to improve decision-making rather than to judge, since it is based on the belief that "evaluation should be used not to prove but to improve". The CIPP model divides the assessment into four mutually supporting elements, namely Context, which determines the requirements and justifies objectives; Input, which evaluates strategies and resources; Process, which evaluates implementation; and Product, which examines results and performance (Dizon, 2023).

This framework enables the evaluators to view educational programs as the systems of living, constantly changing, and incorporating the contextual and operational feedback. This cyclical process is important in health education whereby curricula stay dynamic in response to the changing clinical competencies, ethical demands and learner-centered pedagogies.

Recent systematic reviews like that of Toosi et al. (2021) have shown that the CIPP model has been extensively used in medical and nursing education in terms of curriculum assessment and program quality enhancement. Specifically, its diagnostic ability to combine both formative and cumulative intelligence makes it appropriate in dealing with multifaceted educational situations as a result of interdisciplinary learning and competency-oriented outcome. An example is the use of the CIPP model by Meiklejohn et al. (2023) to assess an interprofessional education (IPE) program and revealed that the framework was useful in assessing student preparedness to collaborative practice in the field of medicine, nursing, and allied health.

With the expansion of educational modalities (more hybrid and simulation-based learning environments and virtual learning environments are being adopted), the flexibility of the CIPP model is experiencing a new scholarly interest (Geraylloet al., 2025). Within this new context of health education, evaluators require frameworks that would not only record the outcomes, but also follow the process, instructional design and contextual variables leading to the aspects of those outcomes as time goes on.

Although the CIPP model may be very old, it has been continuously being updated to consider application to methodological breakthroughs and the dynamics of contextual health professions education. But the 2020-2025 timespan is a rather fruitful one of such development, as is encouraged by the COVID-19 pandemic and the worldwide shift to competency-based education (CBE) and online learning. Recent sources show that CIPP-based assessments are no longer limited to traditional medical curricula but also include fields like training in public health (Zhao et al., 2025), simulation-based nursing

education (Zhu & Sonsupak, 2025), and readiness of interprofessional practice (Meiklejohn et al., 2023).

Nevertheless, although the CIPP model has been used in many individual studies, none of these studies have systematically mapped out its uses, methodological differences, critiques, and modifications in the context of the health education field in this modern era. The general increase in the utilisation of evaluation models in health education has been noted in previous reviews (Toosi et al., 2021; Caley et al., 2021), but the models were earlier, and the most recent methodological expansions of CIPP in virtual environments and competency-based models. Thus, it can be concluded that the analysis of 2020-2025 literature should be focused on summarizing the knowledge and inform further research. In this sense, evaluation becomes an inquiry into how "health" is conceptualised and operationalised in education, echoing Canguilhem's view that "Disease is no longer the object of anguish for the healthy man; it has become instead the object of study for the theorist of health" (Canguilhem, 1991).

Justification, Context and Relevance of the Review

Earlier appraisals of evaluation models in health education have detailed the usefulness of CIPP but little has been written on its ever-changing roles in CBE, virtual learning, and interprofessional training during a pandemic and beyond. Additionally, no synthesis has been made yet on the methodological adaptation of CIPP, especially concerning psychometrics and technology tools application.

This review addresses this gap by offering a structured synthesis of how the CIPP evaluation model has been used, debated, and adapted in recent health professions education literature (2020–2025).

Guided by PRISMA principles, the review draws on 20 peer-reviewed studies across medical, nursing, allied health, and public health education. Rather than treating CIPP as a fixed technical instrument, the synthesis foregrounds how evaluative practices function within shifting pedagogical contexts, highlighting reported strengths, limitations, and emerging methodological innovations in contemporary programme evaluation:

(1) How has the CIPP model been applied in evaluating health education curricula (medical, nursing, allied health, and patient education) between 2020 and 2025?
(2) What methodologies are prevalent in CIPP-based evaluations within health education during this period?
(3) What strengths, weaknesses, and implementation challenges are reported when using the CIPP model in health education contexts?
(4) What adaptations or modifications to the original CIPP framework have been proposed or

implemented in recent literature?
(5) What emerging trends characterise the application of CIPP in contemporary educational modalities such as competency-based education (CBE), simulation, inter-professional education (IPE), and virtual learning?

Through answering these questions, this review not only contributes to the theory but also to the practice. In theory, it revisits the relevance of CIPP model even in the changing pedagogical requirements. In practice, it offers an evidence-based summary to educators and policymakers of how the model can be used to improve the curriculum, ensure quality and learner-centered innovation in a wide range of health education practices.

MATERIALS AND METHODS

A PRISMA-guided systematic literature review was conducted to synthesise peer-reviewed studies published between 2020 and 2025 that explicitly applied the Context, Input, Process, Product (CIPP) evaluation model in health professions education. Searches were performed across major international academic databases and supplemented through citation tracking. After duplicate removal and screening of titles/abstracts and full texts against pre-defined inclusion criteria, 20 studies were retained for qualitative synthesis. Data extraction and quality appraisal were independently performed by two reviewers, with disagreements resolved through a third reviewer to reduce selection bias (Paul & Barari, 2022).

As Canguilhem argues, "Disease is, in effect, an experiment of the most subtle order, instituted by nature itself in very precise circumstances by means unavailable to human skill" (Canguilhem, 1991), reinforcing that systematic evaluation depends on rigorous procedures that make patterns and failures analytically visible.

Search Strategy

The search was done in 14 international and national databases between the 15th of January and the 20th of December in 2025, which assures depth and breadth of coverage. These included: PubMed, Scopus, Web of Science, CINAHL, ERIC, ProQuest Dissertations and Theses, Embase, Google Scholar and local databases like SID, MagIran, Civilica, IranMedex, Noormags, and ISC.

The search strategy included Boolean operators of keywords and controlled vocabulary (MeSH and analogues descriptors). The major keywords were:

"CIPP Model" OR "Context Input Process Product" AND "evaluation" OR "program evaluation" OR "educational assessment" OR "curriculum evaluation" AND "health education" OR "medical education" OR "nursing education" OR "public health education".

The search was also complemented by backward and forward citation tracking of the included studies and by manual scanning of reference lists and selected journals in the domain (e.g., BMC Medical Education, Nurse Education Today, KMC Journal).

The three-stage screening process was carried out with the EndNote 21 reference management software to guarantee orderliness in the inclusion of studies and transparency. In the identification stage, they were able to retrieve 2,274 records out of all databases. Once 1,098 duplicate records had been taken out, 1,176 unique records were passed on to title and abstract screening.

During the screening process, 224 articles were retrieved as the full text to be looked at, and the exclusion criteria included irrelevancy of the article to the CIPP model, lack of health education focus, and lack of adequate methodology description.

During the eligibility and inclusion phase, all the articles were subjected to predetermined inclusion and exclusion criteria. After reviewers agreed all criteria, 20 studies that fulfilled all criteria were incorporated in the ultimate qualitative synthesis constituting the evidence base of this systematic review.

Data Extraction and Synthesis

Data from the 20 included studies were extracted independently by two reviewers using a **standardized data-mining form** adapted from Carrera-Rivera et al. (2022). Extracted information included:

- Author(s), publication year, and country/region.
- Discipline and educational level (e.g., undergraduate, postgraduate, continuing education).
- Research design (qualitative, quantitative, mixed-methods).
- CIPP components applied (Context, Input, Process, Product).
- Key findings, strengths, and limitations.

Table 1: Database Search Query

Detailed database-specific search strings and query formulations are provided in **Appendix A** to preserve methodological transparency without interrupting the conceptual flow of the analysis.

Table 2: Inclusion and Exclusion Criteria for Studies

Inclusion Criteria	Exclusion Criteria

Studies published between January 2020 – December 2025	Studies published before 2020 or after 2025
Studies published in English	Studies in languages other than English
Full-text articles accessible through peer-reviewed journals	Abstract-only, commentary, or non–peer-reviewed papers
Studies applying the CIPP model for evaluating educational or training programs	Studies based on evaluation frameworks other than CIPP
Focus on health professions education (medical, nursing, public health, allied health, or patient education)	Evaluations conducted outside health or educational contexts
Both empirical and conceptual papers included	Grey literature, theses, or institutional reports excluded

The discrepancies between reviewers were discussed and any discrepancy between reviewers were subjected to a third reviewer to decide on. Synthesized data were thematically extracted based on the CIPP model components and emerging trends in methodology, innovation, and critique.

Quality Assessment

To ensure rigor and consistency, two reviewers independently analyzed each included study in terms of the methodological quality and risk of bias using two standardized instruments. Qualitative and quantitative studies were considered using the Critical Appraisal Skills Programme (CASP) Checklist, which included 18 appraisal criteria associated with characteristics of participants, the relevance of the study design, data validity, and validity of the results (Mohamed Shaffril et al., 2021).

The studies, with a score of 13 and above, were considered as high quality, 6-12 as moderate quality and below 5 as low quality. The Mixed Methods Appraisal Tool (MMAT 2018) was applied to studies that adopted mixed-method designs, and this relied on the criteria used by Mengist et al. (2020); articles that fulfilled 75% or more of the MMAT criteria were classified as robustly designed.

Cohen 0.87 showed strong inter-rater reliability between the two main reviewers, as it guaranteed consistency in the process of evaluation. Out of the 20 papers, 12 were rated as high quality, 6 medium, and 2 low, but all were included in the synthesis because of the conceptual and methodological value of the article to the overall thematic scope of the review.

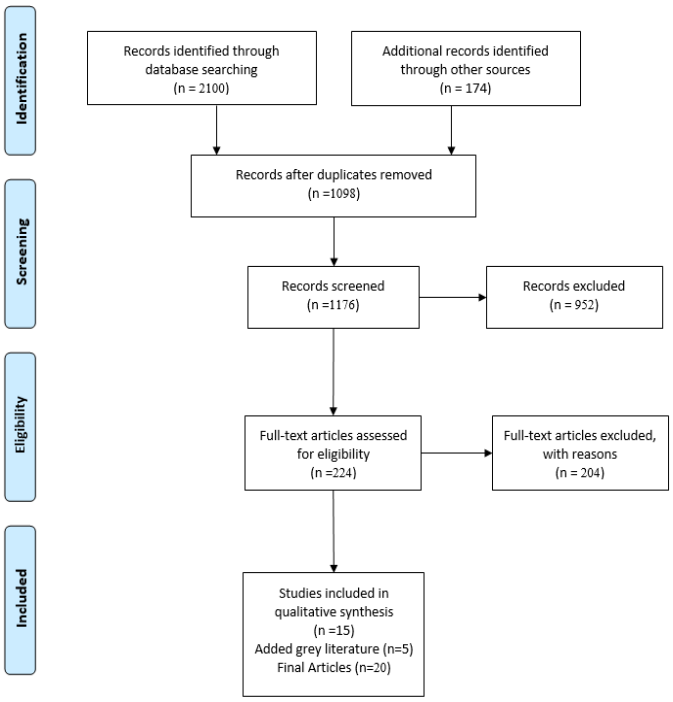

Figure 1: The Process of Selection of Final Articles (Source: Moher et al., 2009)

RESULTS AND DISCUSSION

Application Characteristics by Health Professions Curricula (Objective 1)

The CIPP model was used to synthesize data across three predominant genres of health professions curricula. First, medical education and residency programs employed CIPP to explore similarities between competency curricula and lived teaching–learning practices. In this setting, as highlighted in the results section, Context and Input components often indicated that curricula were officially competencies based and supported studies to be conducted effectively; however, levels of process taught remained bottlenecked by traditional lecture-based pedagogical approaches, a lack of structured feedback opportunities, and also disparities in workload (İlhan et al., 2021a; Akturan et al., 2025b; Fard et al., 2022c; Yoshany et al., 2025d).

Nursing and Allied Health Programs second, we found CIPP Work applied to blended specific learning courses such as health management programs and a public health peer trainer. A total of 56% were found for Context, with Input scores ranging from 18 to 64%, while scores ranged from 49 to and

Process ranged between11 to 47%. Here the products scoring was also less than half, falling between 5and 51% (Smith,2023; Guo et al.,2024; Sunet al.,2025).

Third, within specialized programs (e.g., physical education skills, family health caregiver training, global health tracks, and longitudinal palliative care curricula) CIPP was employed to connect social accountability and interprofessional goals to tangible learning processes and outcomes. These reviews found that CIPP could be applied in specific contexts to link macro-level values-such as equity, retention and collaborative practice to tangible curricular aspects and learner outcomes (Moghadas-Dastjerdi et al., 2020; Burke & Hennessy, 2021; Lee et al., 2024; Sagin et al., 2024; Meiklejohn et al., 2023). "Health is not a state of normality but a normative capacity."(Canguilhem, 1991)

Methodological Approaches in Recent CIPP Evaluations (Objective 2)

Most recent CIPP based evaluations have shown methodological diversification in accordance with the growing complexity of health education. Most of the studies (n = 10) were mixed-method triangulations (quantitative performance data (exam results, course completion rates) and qualitative feedback of the stakeholders (faculty and student interviews).

As an example, Zhao et al. (2025) combined CIPP framework with Analytic Hierarchy Process (AHP) and entropy weighting to come up with a multi-criteria decision model that was utilised in assessing teaching quality in the field of public health.

Likewise, Gerayllo et al. (2025) applied CIPP to evaluate the perceptions of virtual learning between students and faculty, choosing a cross-sectional mixed design method that used questions to assess the impacts of virtual learning.

These developments indicate an increasing methodological hybridization: the more traditional qualitative orientation of CIPP has been extended by means of quantitative, computational and data-driven instruments. This evolution is similar to the move to evidence-based educational governance in the global health systems (Ogwudile, 2025; Sagin et al., 2024).

Context Evaluation Applications (Needs, Goals, Environment)

Context evaluation, which is the cornerstone of the CIPP model, was one of the central points of 11 of the 20 studies. It was mainly employed to test the institutional readiness, stakeholder needs and program relevance.

To illustrate, Meiklejohn et al. (2023) applied the context aspect to evaluate interprofessional readiness gaps among students in health professions and found discrepancies between the curricular goals

and clinical practice requirements. On the same note, Lee et al. (2024) investigated the way global health education programs were in line with student motivation and university missions.

Zhu & Sonsupap (2025) used context dimension in assessing the training on occupational safety in nursing education, whereby the objectives of the program failed to cover the contextual limitations of learners undertaking clinical rotations. The context analysis also was utilised by Li (2025) and Zhao et al. (2025) to study environmental facilitators of competency-based education (CBE) with an accent made on the role of institutional policy and resources.

Moghadas-Dastjerdi et al. (2020) assessed the training program of family health caregiver in Iran and identified contextual determinants, like policy changes and interprofessional role expectations to use the CIPP model. This research concluded that relevance was reinforced by context-sensitive design, which is important in showing how educational transformation on a macro level can be effectively facilitated through the CIPP model.

These findings, combined, further affirm that contextual assessment is critical to justification of goals and alignment of stakeholders especially in fast moving health education settings.

Input Evaluation Applications (Resources, Strategies, Plans)

Input evaluation determines the strategies, resources and designs that have been chosen to attain program goals. This dimension was present in eleven of the 20 studies, with the focus on curriculum design, instructional resources, and preparedness of faculty.

Toosi et al. (2021) found that medical education programs based on the CIPP model applied input evaluation in identifying the best instructional resources and faculty training needs. In the same vein, Sagin et al. (2024) reviewed the process of resources allocation on a palliative care curriculum and revealed how CIPP-based input evaluation helped to improve course sequencing and staff development.

Zhao et al. (2025) offered a new method as it measured the input indicators (e.g., teaching resources, instructor expertise, infrastructure) based on an AHP weighting. This approach increased objectivity, which showed that data-based input assessment may be used to supplement the qualitative strength of CIPP.

Ahmadipour et al. (2023) investigated the psychometric strength of evaluation tools based on CIPP in medical ethics education. The input stage tested resource models, curriculum templates, and evaluation instruments and ensured that the model was able to equalize ethical education appraisal in medical schools based on evidence-based input diagnostics.

Mulato et al. (2022) evaluated physical education programs based on the CIPP framework and showed

some weaknesses with the input in the good quality of instructional materials and teacher readiness. The research showed that stringent input assessment facilitates fair distribution of quality resources, where CIPP proves to be useful in identifying the structural weaknesses in educational systems.

When designing the Blended Teaching Quality Evaluation Scale (BTQES) in nursing, Zhao et al. (2024) used the CIPP model to justify the design of instructions and technological preparedness. The input evaluation reflected key enablers such as faculty backing, blended learning facilities, and pedagogical materials which were instrumental in the applicability of CIPP in incorporating resource assessment into blended learning assessment systems.

These findings indicate that input assessment is progressively changing to use more quantitative measures, indicating the modification of the model to competency-based and evidence-based education changes.

Process Evaluation Applications (Implementation Monitoring, Activities)

The 16 out of 20 studies reviewed incorporated process evaluation which is used to monitor the implementation of the programs. It offered insightful information on curriculum delivery, instructional engagement and program fidelity.

Meiklejohn et al. (2023) and Milburn (2024) used process evaluation as a method of following instructional delivery and interprofessional collaboration in the simulation. They found that systematic monitoring of the processes helped to provide timely feedback loops, which increased the effectiveness of teaching. On the same note, Fard et al. (2022) used the CIPP framework to evaluate the quality of implementation of pediatric residency training, with a special emphasis on the quality of supervision systems, adequate clinical teaching, and feedback systems. Process evaluation showed inconsistency in faculty feedback and work-load balance in training and the importance of continuous monitoring to improve competency development in residents.

Furthermore, Akturan (2025) has used process evaluation in one Turkish medical faculty to track compliance and quality of instructions of the faculty in integrated modules.

Burke and Hennessy, (2021) employed CIPP model to appraise clinical training academic programs. Their process analysis revealed the lack of mentoring efficacy and gaps in curriculum delivery stressing the use of systematic feedback systems to develop professional competency in academic-clinical transition initiatives.

The results revealed that process feedback mechanisms played an important role in constant improvement of the program, and it is worthwhile to mention that CIPP is not a summative tool, but it

is a developmental one.

Product Evaluation Applications (Outcomes, Impact, Effectiveness)

The product dimension which involved the evaluation of the outcomes and effectiveness was the one that was represented in all the studies reviewed, but the level of detail was different. Product assessment not only assessed the immediate learning outcomes but also had an overall assessment in terms of professional competence and improvement of the system.

The study conducted by Zhu & Sonsupap (2025) indicated that the product component of CIPP as a tool of educational impact measure was significantly improved on the safety performance scores after training among nurses. Meiklejohn et al. (2023) have shown that IPE graduates in a CIPP-assessed curriculum have indicated increased preparedness to collaborative practice.

Yoshany et al. (2025) further applied the model to the performance of clinical internships by establishing that CIPP product assessment was able to account both objective (exam scores) and subjective (self-reported competence) outcomes. In the same manner, Zhao et al. (2025) have shown that a combination of CIPP and AHP generated multi-dimensional evaluation of the teaching quality results.

Li, (2025) used CIPP model in assessing vocational physical education and the model considered the product outcomes which are acquisition of skills and satisfaction by the students. The research affirmed that product analysis gives proof of value-add in the program, with outcomes data is directly linked to the improvement of the curriculum and the performance of the institution.

In the literature, product evaluation was a critical factor in connecting the effect of the educational interventions to quantifiable competencies, which validates the use of the model to match the outcomes of the curriculum with the accreditation requirements and workforce demands.

Table 3 presents an overview of the included studies, highlighting disciplinary focus, evaluation purpose, CIPP components findings and challenges of the study.

Cross-Component Trends and Integration

It was found that Context Process Product linkages were the most commonly used triad in studies, whereas Input was commonly used as an intermediary of resource-based or design-oriented assessment. This trend is shown in figure 2 (conceptual integration model).

Additionally, the availability of hybridized forms of CIPP, including CIPP-AHP (Zhao et al., 2025), CIPP-CBE (Yoshany et al., 2025) and CIPP-virtual (Gerayllo et al., 2025) indicates the change in the methodology towards the focus on flexibility and measurement.

All these findings confirm that CIPP model remains a comprehensive and adaptive model when it comes to assessments of various health education programs. Its success, however, is greatly based on methodological rigor, stakeholder engagement and context sensitivity.

From a philosophical standpoint, the reviewed emphasis on formative improvement reflects Canguilhem's claim that Functions are revealed only when they fail" (Canguilhem, 1991), positioning evaluation as an interpretive practice that learns from breakdowns and discrepancies rather than merely auditing outcomes.

Reported Strengths of CIPP in Health Education Settings (Objective 3)

In the reviewed literature, the strengths of the CIPP model were always highlighted and they include its all-inclusive nature, diagnostic flexibility and inclusiveness of the stakeholders.

- **Comprehensiveness and Holism:** The most mentioned advantage was the ability of CIPP to offer a systemic perspective of the quality of education. It does not only cover outcomes (Product) of the model but also contextual antecedents (Context), implementation processes (Process) and input design considerations (Input) (Toosi et al., 2021; Dizon, 2023).
- **Formative and Summative Utility:** Sagin et al. (2024) and Fard et al. (2022) noted that CIPP has the two-fold possibility of both formative and summative assessment to improve the program on a continuous basis and provide summative accountability to accreditation organizations.
- **Stakeholder Engagement:** Research, such as Meiklejohn et al. (2023) and Lee et al. (2024), highlighted the idea of multi-stakeholder involvement (students, educators, administrators) when using CIPP as a tool, which helps foster transparency and the sense of ownership of evaluation results.
- **Adaptability and Scalability:** Zhao et al. (2025) have proven that the CIPP framework could be scaled to large-scale quantitative analysis (through AHP), whereas Akturan (2025) demonstrated that the framework was scalable to continuous medical education systems.
- **Interoperability with Emerging Frameworks:** Interoperability of the type of CIPP-CBE and CIPP-Virtual demonstrates that it is compatible with emerging educational standards and technological systems (Yoshany et al., 2025; Gerayllo et al., 2025).

All of these strengths make it possible to say that, even despite its age, CIPP model is still a favorite as the model of evaluation that can be used to provide a comprehensive, evidence-based assessment in health education.

Reported Weaknesses, Limitations, and Implementation Challenges (Objective 3)

Although it has strengths, there are still some critiques and challenges about the use of CIPP in the context of modern health education. "The pathological state is not the mere absence of the normal; it is a new way of life." (Canguilhem, 1991)

- **Subjectivity and Interpretive Bias:** A limitation that is present in both Toosi et al. (2021) and

Ogwudile (2025) relates to the subjectivity of the evaluator, particularly in cases where the evaluation processes involve qualitative data as a major factor. Though this problem is addressed by integrating quantitative models (e.g., AHP), these models may also complicate the evaluation process and evade interpretive subtlety.

Table 3. Summary of Included Studies (2020–2025)

A full descriptive summary of included studies is provided in **Appendix B** to preserve detail while maintaining readability and conceptual focus in the main text.

- **Resource and Time Intensity:** It has been mentioned by many studies (Meiklejohn et al., 2023; Sagin et al., 2024, etc.) that a complete CIPP assessment needs a considerable amount of human and time resources, which is not always feasible in small institutions or settings with limited resources.
- **Fragmentation across Components:** In other studies, the use of unimplemented sections of the four CIPP dimensions resulted in lopsided assessment, undermining internal consistency (Fard et al. 2022). This kind of selective application is a threat to the holistic philosophy of the model.
- **Limited Longitudinal Assessment:** There are not many longitudinal studies that could have been used to ensure the long-term effects of interventions in education (Lee et al., 2024). The lack of follow up evaluations decreases the potential of continuous quality improvement of the model.
- **Contextual Rigidities in Global Adaptation:** There are cultural and institutional environments that need local adjustments, but such strict belief in the original paradigm may result in the emergence of misalignments (Li, 2025). To illustrate, assessors of East Asian medical curricula indicated that they had problems using Western-centric Process indicators to capture collectivist, hierarchical learning societies.

Evolution, Adaptation, and Insights of the CIPP in Health Education (Objective 4)

Adaptations and Modifications Reported

Within the context of health education, the CIPP model has been adjusted to various contextual and methodological changes since 2020 to be adapted to the new paradigms of the pedagogical process. Although the original model of Stufflebeam concentrated on holistic formative assessment, recent implementations are more concerned with hybridization, quantification, and contextual flexibility (Ogwudile, 2025).

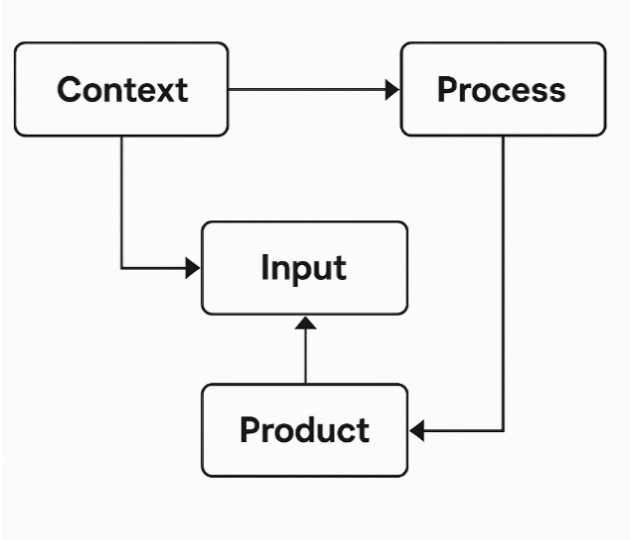

Figure 2: Conceptual Integration Model

A notable change is the integration of CIPP and AHP suggested by Zhao et al. (2025) that combines the qualitative paradigm of Stufflebeam with the quantitative decision-making tools, including Analytic hierarchy Process and entropy weighting. While quantitative integrations (e.g., AHP and entropy weighting) may enhance procedural clarity, their value in educational evaluation should remain interpretive rather than purely calculative. As Gadamer reminds us, "Health is a state of being involved in the world, of being together with others" (Gadamer, 2015), suggesting that evaluation must remain attentive to lived experience, meaning-making, and relational dimensions of learning.

This adaptation is designed to minimize the subjectivity of the evaluators and increase reproducibility through weighing each CIPP component mathematically. It has received extensive reference as a milestone towards operationalization of CIPP in data-driven assessment in the realms of public health and medical education.

On the same note, Gerayllo et al. (2025) came up with a CIPP-Virtual version that would suit online and hybrid health education setting. This model includes digital analytics, including the measures of learner engagement, virtual attendance, and performance tracking in Learning Management System (LMS), as a part of the Process and Product stages. This kind of adaptation demonstrates that the conventional classroom-based assessment standards were no longer able to reflect the dynamics of e-learning in the 21st Century.

Another adjustment that was made was by Yoshany et al. (2025) who aligned the four stages of CIPP with the competency-based education (CBE) model. The context evaluation was redefined to determine the competency relevance; Input considered the alignment of learning outcomes; Process

considered the ongoing tracking of competencies; and Product considered the benchmarking of performance of a learner to the national accreditation standards benchmarks.

Moreover, Akturan (2025) introduced a quality improvement cycle of CIPP-based medical education of the undergraduate level, in which every element informed the subsequent program changes on an annual basis. This active feedback-based adaptation turned out to be a practical way to operationalize CIPP as a cyclic mechanism of curriculum renewal, as it serves as a way of connecting formative and summative functions of evaluation.

All these changes are characteristic of the methodological elasticity of the CIPP model, or its ability to change with the changes in the educational field and the institutions, without losing its theoretical integrity, which also increases its practical significance.

Evaluating Contemporary Health Education Modalities - CBE, Simulation, IPE, Virtual Learning. (Objective 5)

The review demonstrates a powerful tendency toward the implementation of the CIPP framework to recent educational models, such as competency-based education (CBE), simulation learning, interprofessional education (IPE), and virtual learning.

Competency-Based Education (CBE)

CBE focuses on the results which are measured by the competencies of learners instead of time. Here, Yoshany et al. (2025) applied CIPP in terms of measuring medical internship programs by balancing the medical internship program to competency frameworks (Context), adequacy of resources to competency acquisition (Input), clinical practice experience (Process), and evaluation results (Product). This consent confirmed that CIPP could be used in competency mapping and compliance on accreditation (Li, 2025).

Simulation-Based Learning

The use of simulation is becoming more accepted as a real experience learning tool in health education. Sagin et al. (2024) used the CIPP framework to assess a longitudinal palliative care simulation program indicating that the model was effective in reflecting the implementation fidelity, learner engagement, and knowledge transfer to clinical settings. In a similar vein, CIPP was utilised by Zhu & Sonsupap (2025) to evaluate a short-term simulation of nursing occupational protection, with the authors finding high scores of confidences among the learners and their awareness of safety.

Interprofessional Education (IPE)

The model was also found to have great utility in IPE settings. Meiklejohn et al. (2023) carried out a multimethod CIPP assessment of an interprofessional curriculum that was designed to enhance collaborative practice preparedness. Their results showed that the model offered a multi-perspective evaluation with structured answers that included stakeholder perceptions, curricular design and quantifiable results to improve transparency and accountability.

Virtual and Hybrid Learning

The traditional requirements of CIPP in virtual and blended learning processes needed to be reconfigured to consider the digital learning environment. Gerayllo et al. (2025) discovered that Process evaluation was especially useful in tracing the interaction of online learners, whereas Product evaluation demonstrated the disparity in self-efficacy between learners who studied in the synchronous and asynchronous formats. On the same note, a CIPP was employed by Lee et al. (2024) to analyse interview results of learners and educators in global health programs, showing that digital access equity, platform usability, and quality of virtual collaboration were the indicators of adaptable evaluation to be used in digital learning environments.

All these studies affirm that the flexibility of CIPP over forms, including physical classes and virtual environments, supports its continued usefulness in the digital age.

Synthesis of Evolutionary Trends (2020–2025)

Overall, evidence indicates a clear evolutionary trajectory of the CIPP model in health education toward:

1. **Quantitative integration** (CIPP-AHP, CIPP-entropy)
2. **Digital alignment** (CIPP-Virtual, LMS-based analytics)
3. **Competency mapping** (CIPP-CBE adaptations)
4. **Iterative curriculum renewal cycles** (CIPP-Quality loops)

This trajectory also reflects Canguilhem's view that health is not mere stability but a "normative capacity" (Canguilhem, 1991), which parallels how contemporary CIPP adaptations seek responsiveness rather than fixed measurement. The changes are an indication of the evolution of CIPP as a descriptive evaluation instrument into a dynamic decision-support system, with qualitative comprehensiveness, and quantitative precision, thereby reasserting its long-term promise of relevance in health change of direction toward evidence-based optimization and accountability.

Discussion

This systematic review analyzed the use, development, and evaluation of the Context, Input, Process, Product (CIPP) evaluation model in health education between 2020 and 2025. The synthesis of the study, conducted in 20 peer-reviewed studies, demonstrated the dynamic relationship between classic principles of evaluation and the advances of new adaptations due to the fast-changing environment of medical, nursing, and allied health education. CIPP model is still one of the most persistent frameworks on program evaluation with Process and Product dimension being the most commonly used. The two elements allow sustaining improvement and testing results with the help of stakeholder interest and reflecting feedback loops (Toosi et al., 2021; Meiklejohn et al., 2023; Sagin et al., 2024). Methodologically, there has been a move towards mixed-method research with over fifty percent of the studies analyzed employing a combination of qualitative and quantitative data to support both subjective and objective measures. Quantitative integrations, such as the Analytic Hierarchy Process (AHP) and entropy weighting systems, contributed to the reliable performance and reproducibility of results, a further development of the previous, mostly interpretive usage of CIPP (Zhao et al., 2025; Fard et al. 2022).

In Gadamer's terms, the question of health cannot be reduced to technical optimisation alone, because "health is not something we can produce, but something that happens" (Gadamer, 2015). This insight clarifies why contemporary uses of CIPP increasingly emphasise dialogue, context sensitivity, and iterative interpretation alongside measurable outcomes.

The review also re-established the main strengths of CIPP, including its comprehensiveness, diagnostic depth, and participatory inclusiveness, but identified the persisting limitations of CIPP, including evaluator subjectivity, the lack of uniform application of all four components, and the time-consuming implementation (Lee et al., 2024; Ogwudile, 2025). Significantly, current literature has shown a number of innovations, including CIPP-AHP model to assess data-driven (Zhao et al., 2025), CIPP-CBE to align with competency-based (Yoshany et al., 2025) and CIPP-Virtual to implement digital education (Gerayllo et al., 2025). Together, these adaptations represent a conceptual change of CIPP to a dynamic decision-support system that informs the institutional and curricular decision-making.

Based on the synthesis, there were five major trends obtained. To begin with, increasing integration of data analytics and decision sciences into CIPP is a. Second, the framework has also been extended to digital and virtual ecosystems, and researchers have started using the learner engagement analytics metrics and online performance tracking as measures of the virtual learning process (Gerayllo

et al., 2025; Lee et al., 2024). Third, CIPP model becomes now very close to world systems of accreditation with competency-based education (CBE) reforms using their Context and Product elements of mapping and validating core competencies (Yoshany et al., 2025). Fourth, the model encourages interprofessional collaboration through dialogue and shared ownership of different professional groups (Meiklejohn et al., 2023). Lastly, the shift of the summative judgment to the developmental feedback is also worth mentioning, which places CIPP into the category of the formative and improvement-focused tool instead of a fixed evaluation system (Fard et al. (2022; Akturan, 2025).

These results have important implications to the evaluation practice and curriculum development. To evaluators, the CIPP model provides a framework of balancing qualitative depth and quantitative accountability in offering defensible evidence to the accreditation and policymaking. To curriculum developers, CIPP will encourage iterative, evidence-based design in line with learner requirements, institutional resources and quantifiable competencies (Dizon, 2023; Ogwudile, 2025). Moreover, the flexibility of the model in blended and competency-based modalities enables the incorporation of simulation data, analytics, and qualitative reflections into single quality improvement models. Although the level of the given review is constrained by language and time span, it offers a solid ground in the further longitudinal, cross-cultural, and AI-enhanced CIPP studies. On the whole, the evidence proves that the CIPP model is a health education evaluation cornerstone, digitally enhanced, competency-focused, method pluralistic and contextually responsive, which functions as a reflective meta prism and a transformative engine of contemporary health professions education.

CONCLUSION

The Context, Input, Process, Product (CIPP) model has shown to be extremely resilient and adaptable as an assessment framework of health education curricula in the 2020-2025 period. Based on the synthesis of the results of 20 peer-reviewed studies, this systematic review supports the assertion that CIPP continues to form the basis of formative and summative assessments in medical, nursing, allied health, and public health education. The model has over the past years also acquired the capacity to transform a qualitative, descriptive paradigm into a data-driven, multidimensional assessive framework that can incorporate the latest evaluative methodologies, including the Analytic Hierarchy Process (AHP), competency mapping, and virtual learning analytics. This has also enabled the educators to measure results as well as contextual and procedural processes that influence quality of education. Such extensions as CIPP–AHP (Zhao et al., 2025) and CIPP-Virtual (Geravllo et al., 2025) have enhanced the methodological correctness and contextual allocation of the framework, combining the qualitative

interpretation with the quantitative rigor.

However, there are still certain limitations, such as the subjectivity of the evaluator, the time-consuming nature of data collection, and an unequal implementation of the four elements (Toosi et al., 2021; Ogwudile, 2025). To overcome these limitations, methodological refinement, involvement of the stakeholders, and integration of digital technologies into the study to simplify data analysis and feedback processes are necessary. Finally, the long-term robustness of the CIPP model is in its capacity to strike a balance between structure and flexibility- between capturing the complex nature of context, resources, implementation and outcomes of the educational setting under dynamic conditions. With the ongoing digitalization and inter-professionalization of health professions education, as well as competency-based approaches, CIPP stands as a flexible, despite its systematic architecture, to ensure that it is an invaluable resource in the alignment of evidence-based, learner-centered, and socially responsive curriculum design.

Based on these findings, several recommendations are provided to streamline the use of CIPP model in health education institutions. To begin with, an integrated and balanced approach should be embraced between teachers and assessors so that all the four dimensions of this approach, namely, Context, Input, Process, and Product, are used in a holistic, as opposed to a selective manner. Researchers like Toosi et al. (2021) and Fard et al. (2022) show that the partial utilization may corrupt the results and undermine systemic consistency. The creation of institutional standardized CIPP templates could encourage uniformity and consistency throughout the evaluation cycles. Second, evaluators ought to use quantitative decision-making methods, such as AHP, entropy weighting, or Delphi validation, to improve the level of empirical rigor (Zhao et al., 2025). These kinds of integrations transform subjective knowledge into quantifiable results that will enhance the credibility of accreditation and policy audits. Third, CIPP should be incorporated into Continuous Quality Improvement (CQI) systems to have cyclic feedback channels to refine a curriculum (Akturan, 2025). The programs may be updated based on the new healthcare needs and technologies by making CIPP a continuous evaluation process.

The other recommendation is based on stakeholder involvement and openness. The participatory character of CIPP enables the creation of evaluation outcomes by more than one voice, which is a group of students, faculty, administrators, and policymakers (Meiklejohn et al., 2023; Lee et al., 2024). Interdisciplinary evaluation committees should be set up in institutions to increase a sense of shared responsibility and inclusion in decision-making. Also, evaluators will need to redefine CIPP standards in modern educational environments, including digital, hybrid, or competency-based courses, and encompass analytics in Process assessments and align Product measures with international standards like World Federation for Medical Education (WFME) or American Association of College of Nursing

(AACN) (Yoshany et al., 2025). To be academically credible, methodological rigor and ethical adherence guidelines according to PRISMA or MMAT requirements (Mohamed Shaffril et al., 2021) must be documented. Lastly, cross-institutional cooperation between various global health education initiatives may be relevant to foster benchmarking and knowledge exchange which the works of Sagin et al. (2024) and Chanthalangsy et al. (2024) demonstrated.

Further studies in the future should enhance knowledge in long-term effects of CIPP and situational flexibility. Longitudinal studies are required to record the effect of CIPP-based reforms on student achievements, faculty growth, and institutional change in the long term (Lee et al., 2024). In doing so, CIPP remains ethically grounded and contextually responsive in contemporary health professions education (Souza & Furlan, 2024).

The relations between the regional and economic conditions and the implementation fidelity could also be investigated in cross-cultural comparative studies (Li, 2025; Ogwudile, 2025). Since health education is becoming more approachable through AI and learning analytics, scholars need to consider the way that predictive algorithms can be used to supplement the Process and Product phases of CIPP to create real-time feedback (Gerayllo et al., 2025). To make the model more applicable to society, the application to patient and community education, where the model is underrepresented (Rocha et al., 2022), could be expanded. It can also be performed in the form of meta-analyses to measure the overall impact of CIPP in other fields (Paul & Barari, 2022). Moreover, investigation of hybrid assessment frameworks, e.g., CIPP hybridised with Kirkpatrick or Logic Models (Iqbal et al., 2021), might result in integrative methods, which would encompass depth and predictive worth. In addition, "Health is a state of being involved in the world, of being together with others" (Gadamer, 2015).

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Appendixes

Appendix A. Database Search Query

Search Step	Search Query
1	((((((EVALU*[TITLE/ABSTRACT]) OR ASSESS*[TITLE/ABSTRACT]) OR PROGRAM EVALUATION[TITLE/ABSTRACT]) OR (OUTCOME[TITLE/ABSTRACT] AND PROCESS ASSESSMENT[TITLE/ABSTRACT])) OR PROGRAM EFFECTIVENESS[TITLE/ABSTRACT]) OR EDUCATIONAL ASSESSMENT[TITLE/ABSTRACT]) OR EDUCATIONAL MEASUREMENT*[TITLE/ABSTRACT]
2	(((CIPP MODEL[TITLE/ABSTRACT]) OR CIPP MODEL[MESH TERMS]) OR (CONTEXT INPUT PROCESS PRODUCT[TITLE/ABSTRACT])) OR (CONTEXT INPUT PROCESS AND PRODUCT EVALUATION[MESH TERMS])
3	CONTEXT[ALL FIELDS] AND INPUT[ALL FIELDS] AND PROCESS[ALL FIELDS] AND PRODUCT[ALL FIELDS] AND ("EVALUATION"[JOURNAL] OR "EVALUATION (LOND)"[JOURNAL] OR "EVALUATION"[ALL FIELDS]) AND MODEL[ALL FIELDS] AND ("MEDICAL EDUCATION"[MESH TERMS] OR "NURSING EDUCATION"[MESH TERMS] OR "HEALTH PROFESSIONS EDUCATION"[MESH TERMS])

Appendix B. Full Summary of Included Studies (2020–2025)

Table 3: Summary of Included Studies (2020–2025)

No.	Reference / Country	Study Type & Population	Focus of Evaluation	Context Findings	Input Findings	Process Findings	Product Findings	Challenges
Dicipline / Setting : Medical Education and Residency Programs - studies evaluating core medical curricula, residency training (Pediatrics, OB-GYN), and specific medical courses (Ethics, Global Health).								
1	Ahmadipour et al. (2023) / Iran	Medical Ethics Education (Evaluation Instrument Validation).	Medical Ethics Education (Evaluation Instrument Validation).	Confirmed validity of items assessing "needs of the audience" and "justification of program design."	Validated items for resources/financing. Cronbach's alpha = 0.76.	Validated implementation items; 2 items removed due to low factor loading.	Validated outcome items. Cronbach's alpha = 0.71. Overall Scale CVI = 0.97.	Lack of valid, specific instruments for evaluating medical ethics led to the need for this study.
2	Akturan (2025) / Turkey	Case Study. Medical students and faculty at Karadeniz Technical University.	Undergraduate Medical Education (CBME implementation).	Model effectively aligned curriculum design with societal health needs.	Methodologies required tailoring (complexity theory) to meet demands.	Students displayed greater optimism toward CBME than faculty. Faculty uncertain about implementation.	Enhanced program accountability. Agreement on perceived benefits.	Faculty time commitment; logistical concerns; faculty uncertainty on delivering feedback.
3	Chanthalangsy et al. (2024) / Lao PDR	Mixed methods. 120 participants (47 lecturers, 73 residents).	Postgraduate OB-GYN Residency Training.	Score <3.00 (Low). Issues with "overlapped learning outcomes" and course maintenance.	Critical lack of classrooms, skills labs, and staff.	Lecturers failed to collect student opinions. Residents requested structured lectures.	Residents satisfied with personal improvement but differed significantly from professors on "outcomes achieved."	Language barriers (textbooks not in Lao); lack of internet/tech; no formal evaluation for 20 years.
4	Fard et al. (2022) / Iran	Descriptive cross-sectional. Census of 20 faculty, 20 residents.	Pediatrics Residency Training Program.	Rated "relatively desirable." Management structure strong; financing weak.	Faculty rated "relatively desirable" (3.01); residents rated facilities "undesirable" (2.52).	Faculty rated 3.35; residents 2.72. Dissatisfaction with feedback mechanisms.	Graduates' abilities "relatively desirable." Faculty scientific production rated "undesirable."	Significant perceptual gap between faculty (positive) and residents (negative). Residents felt ignored.

5	İlhan (2021) / Turkey	Qualitative case study. 15 faculty, 50 students.	Competency-Based Medical Education (CBME) Curriculum.	Paradigm shift recognized, but regulatory environment slows implementation.	Faculty saw competencies as "outcomes"; students saw them negatively as "exam clues" or "unclear."	Students described process as "teacher-centered" and "boring," contradicting CBME goals.	Both groups agreed curriculum contributed to academic/vocational development.	Massive gap between student expectations (interactive) and reality (lecture-based). Faculty need training.
6	Lee et al. (2024) / South Korea	Qualitative (Interviews). 10 participants (5 students, 3 TAs, 2 Faculty).	Global Health Curriculum (Lee Jong-wook Curriculum).	Students held idealized views; needed "real stories" to bridge gap with reality.	Strong demand for early exposure. Difficulty defining knowledge boundaries.	Preference for active learning/discussions. TAs crucial for interaction.	Promoted reflection on altruism/social responsibility. Expanded career perspectives.	Recruitment of specialized faculty; adjusting difficulty for different stages; pandemic disruptions.
7	Toosi et al. (2021) / Iran & Global	Systematic Review. 41 studies (majority from Iran).	Medical Education Programs (General Review).	Common issues: Goals not clear to students; lack of periodic goal review.	Key factors: Faculty, budget, equipment. Often evaluated without linking to process.	Found to be the critical link. Managerial processes/teaching methods determine success.	Satisfaction generally high, but dependent on process fidelity.	Bias: most studies evaluate only one viewpoint (students). Lack of qualitative data to explain failures.
8	Yoshany et al. (2025) / Iran	Cross-sectional. 305 students, 15 faculty.	Medical Internship Program.	78% students reported inadequate needs assessment (vs 35% faculty). Significant discrepancy.	No significant difference (p=0.32). Resource adequacy rated reasonably well (4.1-4.3/6).	Major gaps: Students rated supervision 2.8/6 (Faculty 4.7/6). 65% dissatisfied with feedback.	Strong correlation between Context/Input and Product.	Massive disconnect between faculty perception of supervision quality and student experience.
Dicipline / Setting: Nursing and Allied Health - evaluates nursing curricula, healthcare management, and interprofessional education, highlighting the shift toward competency-based frameworks								
9	Ameryoun et al. (2023) / Iran	Descriptive cross-sectional. 430 participants (8 faculty, 95 students, 327	BS in Healthcare Management.	Score 3.03 (Relatively favorable). Weak alignment with "innovation in management."	Score 2.96. Faculty rated high (3.85); students rated low (2.89).	Score 3.06. Research activities scored high (3.16); Student activities low (2.97).	Score 2.99. Specialized skills scored 2.95 (Relatively favorable).	"Suitability of curricula" rated unfavorable (1.84). Weak student engagement in problem-solving.

15	Burke & Hennessy (2021) / Ireland	Mixed methods. Stakeholders, exit surveys (n=33), bibliometrics (n=72).	Academic Internship Track (AIT) for Junior Doctors.	Strong stakeholder support to retain talent and promote discovery.	Design: Protected time, named supervisor, €2000 bursary.	100% uptake, 0% attrition. 92% satisfaction. High satisfaction with clinical/academic balance.	57% published papers (135 total). >90% retention in Ireland (vs <40% standard).	Small number of posts (24) excludes candidates. COVID-19 disrupted study days.
16	Gerayllo et al. (2025) / Iran	Cross-sectional. 522 students, 38 faculty.	Virtual Learning (COVID-19 Implementation).	Topics matched plans (3.63), but virtual ed reduced teacher control (3.56).	Class hours suitable (3.29). Significant faculty-student difference on inputs.	Professors perceived as having "less commitment" in virtual settings (3.48).	"Student participation is low" (3.78) but "saves time" (3.67).	Marital status affected perceptions. Technical barriers (internet/cost). Anxiety from lack of interaction.
17	Li (2025) / China	Mixed methods (Longitudinal). 1,500 students.	Physical Education (PE) Skills Teaching (Value-added).	K-means clustering categorized students into 3 tiers to tailor goals.	Strong correlation (r=0.82) between resource allocation and skill outcomes.	Real-time monitoring via observations/skill testing improved feedback precision.	"Value-added" approach showed gains in lower-tier students missed by pass/fail.	Traditional outcome-based models fail to account for individual growth/baseline differences.
18	Mulato et al. (2022) / Indonesia	Qualitative case study. School principals, teachers.	PE Learning Implementation (Quality Assurance).	Score 74.32% (Good). Standards generally met.	Score 70.71% (Good). Suitability of materials high.	Score 50.83% (Adequate). Learning activities rated lower.	Score 48.10% (Adequate). Tailoring assessments to student disabilities was weak.	Process/Product scores significantly lower than Context/Input. Implementation/outcome lag.
19	Sagin et al. (2024) / USA	Mixed methods. 21 faculty, 6 students.	Palliative Care Longitudinal Curriculum (CARE-7).	Students rated communication important (4.71) but felt unskilled in dying care (2.71).	"Step-wise" curriculum using VitalTalk. Strategy: Immersion + embedded assessment.	Split sessions based on feedback. Added home visits. Clarified "goals of care."	"PC Skills Day" highest rated. Improved "lifelong learning" mindset.	Local hospice closure. Lack of staff bandwidth for mandatory rotations. Visibility issues.
20	Zhao, T. et al. (2025) / China	Delphi (19 experts) + AHP/Entropy.	Public Health Practice Teaching Quality System.	Identified need for alignment with national standards.	High weight on "Teaching Facilities" and "IT infrastructure."	Highlighted role of "Information Technology" in delivery.	System combines expert insight (AHP) with objective data (Entropy) to identify gaps.	Subjectivity of expert judgment (mitigated by Entropy method).