Faculty Development to Support Interprofessional Education in Healthcare Professions:

A Realist Synthesis

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Abstract

Interprofessional education (IPE) is essential to graduate collaboration-ready healthcare professionals. Faculty have limited experience and expertise in facilitating IPE, slowing adoption of this strategy. This article informs the dialogue about faculty development for IPE in academic settings. Through a realist synthesis, the key mechanisms that underpin IPE faculty development and the contextual influences are explained.

Key words: interprofessional relations; professional education; faculty development; healthcare education; realist synthesis.
Faculty Development to Support Interprofessional Education in Healthcare Professions: A Realist Synthesis

Interprofessional education (IPE) occurs when students from varying health professions come together to learn with, from, and about each other while addressing a common goal (1). Implementation of IPE and interprofessional collaboration (IPC) may improve healthcare and patient outcomes. Poor patient outcomes due to ineffective interprofessional communication is widely reported in the literature (2, 3). Patient outcomes might improve when healthcare educators and professionals fully engage in IPE and IPC. Together, IPE and IPC—IPECP—encompass the roles and values of students, educators, providers, and practitioners to effect patient-centered care.

IPC is expected of health care providers to effect positive patient care experiences, reduce healthcare costs, and improve population health. Students in health professions must be ready upon entering practice to work effectively in interprofessional teams. Faculty development specific to IPE can improve educators’ knowledge of IPE and thereby better facilitate IPE courses and experiences (4). Student outcomes require health profession educators to be skilled facilitators of IPE. Faculty development programs (FDPs) for IPE are intended to improve knowledge, skills, and attitudes (KSAs) about development, implementation, and facilitation of IPE activities. The purpose of this article is to demonstrate how processes inherent in FDPs for IPE interact with contextual factors to achieve desired outcomes. A realist review methodology guides this examination.

**Rationale**

There is a lack of an IPE-specific focus in the faculty development literature. A database search revealed that literature on FDPs for IPE is limited to general recommendations, implementation
studies, and case studies or program evaluations (4, 5, 6, 7, 8, 9). Healthcare agencies and schools have often overlooked the training and support of administration and faculty relative to effective IPEC facilitation (8). Educators appear resistant to implementing IPE due to feelings of inadequate preparation with this approach to instruction (7). Recommendations for FDPs for IPE have originated from a small group of institutions and researchers (10, 11, 12). Little has been published that systematically analyzed the success of FDPs for IPE, and even less about what constitutes best practice. FDPs for IPE differ from uni-professional FDPs in important and sometimes subtle ways (10, 11). This paper reveals how processes common to FDPs for IPE are affected by contextual factors, and the impact of these interactions on successful programs in the academic setting.

IPE has been accepted as the new standard pedagogy for graduating “collaboration-ready” health professionals. Published competencies for IPC are being integrated into health professions curricula worldwide (7, 13, 14, 15). Faculty who are knowledgeable, skilled, and enthusiastic about IPE (12, 15) are fundamental to its successful curriculum integration. Faculty who feel unprepared, uncomfortable, or unknowledgeable about effectively facilitating IPE are unlikely to get involved in building and sustaining these curricular innovations (9, 16).

Objectives and Focus

The objective of this review is to find and synthesize evidence of how FDPs for IPE work across academic health professions settings. Findings are presented in context, mechanism, outcome (CMO) configurations to answer the review question, “Through what mechanisms do FDPs for IPE improve outcomes in academic healthcare IPE and how does context, environment, and setting affect those mechanisms and outcomes?”
Methods

A realist review was conducted to examine the mechanisms of FDPs for IPE. The qualitative systematic review method seeks to explain complex interventions in which varying inputs and contexts affect outcomes, making this approach the best option for reviewing this topic (17, 18, 19, 20). Results from a realist review and synthesis explain rather than judge effectiveness. Knowledge transfer does not reveal a best practice per se, but an explanation and description. The realist review search process is iterative and involves electronic databases, manual searches of reference lists, and reviews of relevant books and conference proceedings.

Search Strategy

This realist review occurred in two phases. The goal for Phase 1 was to identify the underpinnings of FDPs for IPE using a scoping search strategy. In Phase 2, the focus was on finding evidence of these mechanisms. Iterative searches identify contexts and outcomes caused by the mechanisms. The search “is directed by the emerging evidence rather than being tightly defined at the outset and the reviewer iteratively develops the search strategy as the review progresses, meaning multiple, responsive searches are conducted” (21, p. 2). A document flow diagram (see Figure 1), similar to an information flow diagram, identified the stages in the search process (22). Eleven documents and three books were reviewed. Supportive but excluded documentation ranged from published reports, books, articles, and websites.

Phase 1

The review question, “Through what mechanisms do FDPs for IPE improve outcomes in academic healthcare IPE, and how does context, environment, and setting affect those mechanisms and outcomes?” guided the selection of evidence. In Phase 1, the extent of the review and synthesis evidence were defined. An initial search of digital databases, Cumulative
Index to Nursing and Allied Health Literature (CINAHL) and Google Scholar, used the search: 
(faculty development AND (interprofessional education OR interprofessional collaboration OR healthcare teamwork OR healthcare practice)) for years 2005–2014 and yielded 232 articles. A manual examination of reference lists yielded an additional 35 articles. Articles were included if they specifically presented or evaluated FDP, presented guidelines or recommendations for faculty development, or reported key lessons or components of FDP. After review, seven articles remained from which the search for mechanisms, contexts, and outcomes was initiated. This initial search defined the scope and provided themes to guide subsequent searches.

**Iterative Searches**

Phase 2 involved conducting additional searches. A comprehensive search was conducted using multiple digital databases that covered business, education, health business, and psychological and social sciences, and included expanded search terms. The search string: {((interprofession* AND educat*) OR IPE OR IPC)) AND (faculty) AND ((develop* OR train* OR instruct*)) AND ((collabor* OR team* OR partner*))} from 2000 to 2014 yielded 101 citations. After initial review and exclusion of duplicates, 31 new articles were reviewed using the inclusion criteria, yielding an additional five citations.

An iterative search was conducted of reference lists from 12 citations. Also, a leading expert on IPE recommended Howkins and Bray (11) as a relevant source (J. Thistlethwaite, personal communication, September 22, 2014), resulting in a total of 20 articles for detailed examination for evidence specific to identified mechanisms. Sources were excluded if the topic was practice-based, uni-professional-focused, or included no details about FDP for IPE. A search in February 2015 captured any new information. The original search string, plus “facilitat*” for years 2014–
2015 across all previously searched databases, yielded 368 citations and three new articles. After all articles and books were examined, 14 relevant pieces of evidence were identified.

**Appraisal of Evidence and Data Extraction**

Inclusion of evidence in a realist review is based on two criteria: whether the information is relevant and contributes to topic explanation, and whether methods used to generate the information are credible or trustworthy (20). Using these criteria, relevance was determined by comparing the information to the review question and other relevant articles. A few sources define the literature related to FDPs for IPE. Recent examples were often based on Steinert (12) and Freeth et al. (10). Inclusion of or reference to these seminal works added credibility and trustworthiness. Articles deemed relevant discussed FDPs for IPE in academic settings and detailed program curriculum, logistics, and participants, enabling analysis and comparison.

A purposefully designed data analysis/extraction form (see Table 1) facilitated sorting for data specific to the preliminary mechanisms. Relationships between outcomes in each article or book for the FDP and processes that led to the outcomes were examined. Multiple readings of the evidence revealed the final selection of mechanisms believed to underpin the intervention of FDPs for IPE. A prospective list of processes common to FDPs for IPE was created; these mechanisms were thought to generate the outcomes. Iterative reading and analysis narrowed the list as contextual factors and outcomes were identified. As the evidence was examined, tangential searches to follow up and clarify meaning were conducted, and key elements were identified in each document or source as context, mechanism, and/or outcome.

**Analysis and Synthesis**

Analysis and synthesis of evidence was organized using Biggs’s 3-P (presage, process, product) model (23). The systems-based 3-P model helps explain how contexts (presage) affect the
mechanisms (process) of the intervention to influence the outcomes (product) (25). Examination of evidence using this framework clarified interconnected influences affecting successful FDPs for IPE (25). Positive and negative outcomes followed from mechanisms according to contexts. FDPs for IPE are effective when learners and institutions meet competencies for IPE, achieve and sustain capacity for IPE, and learners form networks. Successful FDPs for IPE report evaluation and assessment data on individual and organizational levels. The mechanisms and interactions between mechanisms and associated contexts and outcomes are described below.

Two CMO “configurations” serve as exemplars.

**Mechanisms**

Mechanisms underpinning FDPs for IPE include roles and role modeling, valuing diversity, reflection, group process, and KSAs. These mechanisms are influenced by contextual factors of attitudes and expectations, program logistics, institutional and individual commitment, educational theories, and leadership. Outcomes for FDPs for IPE include building capacity for and sustaining IPE, creation of networks of individuals practicing IPE, evaluation and assessment of FDPs for IPE, and improvement of KSAs for IPE.

**Roles and Role Modeling**

The underpinning mechanism of roles and role modeling drives FDPs. Role identification and role playing promote network development and IPE KSAs; institutional capacity can be created. Evidence supports the importance of this mechanism to generate positive outcomes in building capacity, network formation, increases in KSAs, and assessment and evaluation (10, 12). Learners must recognize their roles as professional participants in a FDP for IPE, and their transient roles in collaborative teams (5, 9).
Role modeling of shared facilitation acts as context in FDPs for IPE and triggers mechanisms of valuing diversity and reflection (26). Effective facilitators of FDPs for IPE use self-awareness and reflection to be positive role models (11). Program logistics of facilitated group work trigger role modeling in learners’ actions (12). Positive outcomes in improving KSAs have occurred because learners were taught as they are expected to teach in IPE (12, 14, 27).

**Valuing Diversity**

FDPs either explicitly or implicitly encourage examination of differences and similarities among participants, professions, roles and responsibilities, and teaching-learning, leading to participants valuing diversity. Valuing diversity ensures outcomes of building capacity and sustainability of IPE in institutions, increase in KSAs of IPE, and formation of faculty networks. Lack of valuing diversity inhibits building capacity and network formation.

Some evidence explicitly discussed participant diversity, roles and responsibilities, students, project, and professions (4, 10, 11, 12, 16, 26). Others supported examination of differences and similarities across professional boundaries without explicitly focusing on diversity (5, 9, 15, 28). The absence of valuing diversity leads to condescension, defensiveness, and “academic elitism” (12, p. 63), although participant diversity may inhibit connection and undermine building capacity and sustainability (5). Valuing diversity was found to be an important competency of IPE teaching (26).

Key contexts for valuing diversity are attitudes and expectations of participants, program logistics, leadership, and commitment. Open-mindedness about differences among professionals and positive expectations about learning triggered the valuing diversity mechanism by encouraging dialogue among participants about their differences and similarities (10). Program logistics, such as use of small group discussions, supported valuing diversity through set-up of
non-threatening environments in which diversity could be acknowledged (12). Leadership in development of FDPs for IPE and commitment of participants may trigger valuing diversity, depending on program presentation. Voluntary participation promotes individual commitment to the outcomes of the FDP, triggering valuing diversity and the group process mechanism, leading to positive outcomes in building capacity, sustainability, and participant network formation.

**Reflection**

FDPs for IPE that incorporate time for self-reflection and guided or peer reflection support learning and integration of new material, leading to increased knowledge and skills of IPE, as well as a positive attitude toward facilitation of IPE. Reviewed programs and guidelines support these claims (4, 5, 10, 11, 12, 26). Several programs did not mention reflection (14, 24, 27, 28). The most common reference to reflection was the importance of self-reflection on one’s actions, according to adult learning theory (10, 11, 12). Schon (as cited in 10) suggested the concept of reflection-in-action to explain how learning occurs and changes in response to the process. Reflection is critical to improving the KSAs of facilitation for IPE (4, 10, 11, 15, 16, 26). Program logistics (eg, small group learning activities, interprofessional co-facilitation, and leadership) triggered reflection. When the mechanism of reflection was present, outcomes of improvement in KSAs enabled the outcome of assessment and evaluation (4, 7, 16, 26). Several studies noted feedback and mentoring encouraged reflection, leading to outcomes of building capacity, sustainability, and collegial networks to support IPE (5, 7, 9, 15, 16).

**Group Process**

FDPs for IPE encourage diverse individuals to work together to achieve shared goals. This work can lead to building capacity for and sustainability of IPE initiatives at individual and organizational levels. Diverse learners’ knowledge and experience influence how they work
together. Facilitating diverse groups and managing group dynamics increases KSAs of IPE, building capacity, sustainability, and positive evaluations (9, 10). Valuing diversity is aligned with group process and may be a mechanism to promote effective group process (9, 10, 11). Managing differences, facilitating positive relations, and establishing trust among individuals and groups requires effective leadership, varying teaching strategies, and positive attitudes and expectations (5, 7, 11). The interaction between this mechanism and these contextual factors yields improved KSAs, builds capacity for IPE, and promotes network formation (15, 28).

Program logistics are a common context trigger; those FDPs with ample small-group interactions involving diverse professions are more likely to involve effective group process (16).

**Knowledge, Skills, and Attitudes**

The body of KSAs toward IPE underpins the foundation of FDPs for IPE. Learning in teams and through programs based on IPE competencies promotes the outcomes of improving participants’ KSAs. Steinert (12) showed that IPE facilitators need “to focus on a change in attitudes, increase understanding of roles and responsibilities of other healthcare professionals, and skill acquisition” (p. 63). Facilitation skills take precedence over skills of a specific profession (5, 14). Incorporation of competencies or guidelines for IPE in healthcare that encompass KSAs are recommended (5, 7, 28). Faculty must feel secure in their knowledge base of IPE (9, 24, 26).

Contexts that influence KSA mechanisms include educational theory in the FDP. Attitudes and expectations influenced the mechanism of KSAs in how participants perceived the need for FDP. Those with educational theories explicitly discussed KSAs, but a theory was not required for the mechanism to be present. Teaching-learning frameworks as a contextual factor and program logistics influenced how KSAs were embedded, presented, and evaluated, thereby affecting the outcome of improving KSAs. The mechanism of roles and role modeling was closely aligned
with KSAs. As an outcome, KSAs were evaluated both quantitatively (5, 24, 28) and qualitatively (4, 15), with evidence supporting that KSAs are both a mechanism and an outcome.

**Discussion**

To answer the realist question, “Through what mechanisms do FDPs for IPE improve outcomes in academic healthcare IPE and how does context, environment, and setting affect those mechanisms and outcomes?” evidence was reviewed and synthesized. This evidence shows that through roles and role modeling, valuing diversity, reflection, group process, and KSAs for IPE, positive outcomes can be achieved. Increasing capacity and sustainability of IPE programs, forming networks of individuals concerned with IPE, and evaluating and assessing outcomes may be achieved through these mechanisms. Contextual factors have positive and negative influence over the processes of FDPs. These mechanisms worked within the important contexts of attitudes and expectations, program logistics, leadership, and commitment at individual, classroom, and institutional levels, and influenced the outcomes. The focus of this review was on FDPs for IPE in academic institutions. The intended audience was health professions educators.

**Strengths and Limitations**

The strength of this realist review is evolution of the question from an exhaustive immersion in literature on IPE in health professions education from 2005 to 2014. Narrowing the focus to academic FDPs was informed by the holistic review. High-quality evidence adds to the quality of the insights reported, leading to continually narrowing of the focus to FDPs for IPE in academic settings. The search strategy ended when saturation of thematic elements was achieved through chronological review of the body of evidence. The review was constrained by limited time and completion by single reviewer. Teams of reviewers will aid in understanding how, why, and where FDPs for health professions educators work.
Future Research Directions

Further work suggested by this review includes examination of contextual triggers: creating expectation, building planning teams, creating leadership positions for IPE in academic settings, finding space and resources for IPE, and exploration of use of explicit theoretical frameworks. A template for FDP for IPE might encourage acceptance of FDP for IPE, creating and sustaining collaboration from the start of health professions education.

There are no systematic reviews of FDP for IPE in academic settings. On the broader topic of FDPs in health professions, a systematic review of initiatives for improving teaching effectiveness in medical education was conducted (29). That review focused on outcome data; themes included overall satisfaction with programs and positive changes in KSAs about FDP and teaching (29). Some features of successful FDPs that align with the results of the current review include diversity of teaching methods, peer and colleague relationships, and provision of feedback (29). This realist review shared Steinert et al.’s (29) goal: “to determine the effect of faculty development activities on faculty members’ teaching abilities and to assess the impact of these activities on the institutions in which these individuals work” (p. 499). The differences of a narrower focus on academic FD and fewer limitations resulted in a more inclusive search.

Conclusion

FDPs for IPE have evolved little since 2005 (10, 12). The current trend is to document FDP implementation at the organizational level. This synthesis showed how common mechanisms of FDPs may yield positive outcomes of building capacity and sustainability of IPE in an institution, increase participants’ KSAs and behaviors related to IPE in health professions, create networks of faculty who champion IPE across departments, and encourage support for IPE in healthcare professions. The aim of the synthesis was to explain the interactions among the
processes, context, and outcomes of FDPs for IPE to serve as a foundation on which institutions can examine design, development, and implementation of IPE. IPE is becoming common in healthcare professions education and in practice settings, although the challenges and complexity of these possibilities might be daunting.

To support widespread integration of IPE, effective FDPs are needed. The information from the realist synthesis will help inform the dialogue about FD for IPE across academic settings. The better faculty and administration understand the key processes of FD for IPE, the more effective those programs will become.
References


8. Savage GT, Duncan WJ, Knowles KL, Nelson K, Rogers DA, Kennedy KN. Interprofessional academic health center leadership development: The case of the University


Appendices

Figure 1. Document Flow Diagram

Table 1. Data Extraction Form
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Included as a separate file.
Table 1. Data Extraction Form

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