

Interprofessional Education and Interprofessional Practice in Communication Sciences and Disorders:

An Introduction and Case-Based Examples of
Implementation in Education and Health Care Settings

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AMERICAN
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PUBLISHER NOTE: On March 15, 2016, the division of the National Academies that focuses on health and medicine was renamed the Health and Medicine Division (HMD) instead of using the name Institute of Medicine (IOM). All URLs and hyperlinks to IOM content have been updated in this ASHA eBook. For more information and an explanation about the name change, visit <http://www.nationalacademies.org/HMD>.

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PREFACE

[ASHA's Envisioned Future: 2025](#) identifies the role of interprofessional education and interprofessional collaborative practice (IPE/IPP) in aligning service provision with reimbursement systems that reflect a comprehensive, person- and family-centered collaborative practice model. It is important to understand, however, that IPE/IPP is not an objective unique to ASHA. In the health care arena, it is a concept of health professions education and practice that has been advocated for more than 40 years by the Institute of Medicine (IOM; Institute of Medicine of the National Academies, 2001) and, more recently, by the Institute for Healthcare Improvement (IHI, 2008), the World Health Organization (WHO, 2010), the Interprofessional Education Collaborative (IPEC, 2011), and related professional organizations. These groups advocate that IPE/IPP is critical to improving communication and collaboration among professionals in health care and thus is also critical to improving the patient/client experience, outcomes, safety, and cost efficiencies. Within K–12 settings, education policy—such as (a) response to intervention (RTI) or other multitiered systems of support (MTSS) and (b) state education standards (either Common Core State Standards or standards specific to a particular state)—is driving the need for interprofessional collaborations. Such education approaches are best achieved when all professionals integrate their services, communicate, evaluate, and train together to support student success.

To achieve the goals of ASHA's Envisioned Future, the Association established a 10-year (2015–2025) [Strategic Pathway to Excellence](#) plan comprising eight strategic outcomes. Strategic Objective #2 is to Advance Interprofessional Education and Interprofessional Collaborative Practice (IPE/IPP). The desired outcome of this objective is that by 2025, academic programs are using IPE approaches to personnel preparation and that both students and ASHA members are engaging in interprofessional collaborative practice. This is a tall order that requires a strategic, multifaceted approach, engaging stakeholders within and outside of the professions and the Association.

The scope of this objective involves several important actions on the part of the Association:

- Identify, generate, and broadly disseminate resources that define IPE/IPP, explain its value, and identify exemplars for implementation.
- Collaborate with other stakeholders to educate about and begin to infuse IPE/IPP across pre-professional preparation program curricula.
- Foster connections with other organizations for the purpose of increasing collaborative professional development opportunities.
- Promote IPE/IPP research.
- Work toward incorporating IPE/IPP competencies in standards for certification, accreditation, licensure, ASHA's Code of Ethics, and the respective scopes of practice for audiologists and speech-language pathologists.
- Determine valid measures by which baseline and trend data regarding the growth of IPE/IPP in communication sciences and disorders (CSD) can be evaluated.

The purpose of this Special Interest Group (SIG) Reader on IPE/IPP is to provide one such education resource to assist ASHA members and students in acquiring IPE/IPP knowledge and to provide guidance to academic programs and practice settings. So, what does it mean to be educated in a true interprofessional context or to successfully engage in collaborative practice? What knowledge and skills are necessary for IPE/IPP success and competency? The articles included in this SIG reader provide clarification about what IPE/IPP is and what it is not, why IPE/IPP matters, and how to further both interprofessional education and practice in health care and school settings using curricular and clinical examples.

Each author emphasizes the importance of *learning about, from, and with* other professions. Developing an understanding of and familiarity with other professions early in the educational process is necessary to foster communication, trust, collaboration, and the team synergy that is necessary to effectively plan, implement, and sustain continuity of care for individuals and their families. How we interact with other professionals is the key to what we accomplish as a team of professionals. That is why so much of the emphasis in IPE/IPP is on interprofessional professionalism qualities such as communication, respect, altruism and caring, excellence, ethics, and accountability (Hammer et al., 2012) and on team-related skills that are centered around facilitation, role clarification, reflective practice, and collaborative leadership (Center for Interprofessional Education, University of Toronto, n.d.).

This common understanding of other professions—along with a common vision and core set of values for how two or more professionals collaborate to learn together, coalesce their expertise, solve clinical issues, and provide comprehensive treatment—is what the IOM describes as *transdisciplinary professionalism* (IOM, 2013) and is what the Interprofessional Professionalism Collaborative (Holtman, Frost, Hammer, McGuinn, & Nunez, 2011) refers to as *interprofessional professionalism*. It is the social contract by which professionals agree to provide patient- or client-centered care in a collaborative manner.

As audiologists and speech-language pathologists, and in conjunction with other professions, we are called upon to learn about, from, and with each other and to teach and adopt these newer constructs of IPE/IPP—starting with our understanding and practice grounded in other team-based approaches (e.g., multidisciplinary, interdisciplinary, transdisciplinary) but also transcending our knowledge and skills to achieve more synergistic, collaborative, integrated, team-based communication and care (i.e., true IPE/IPP). The authors of the articles included in this reader lay out the knowledge, resources, and examples to begin your learning journey. Join us in advancing IPE/IPP within the CSD discipline through education and practice across settings and in collaboration with other health care and education professionals. Together, we can advance ASHA's IPE/IPP initiatives with direction and purpose and achieve our strategic objective across education and health care settings by 2025. More important, in doing so, we will transform and positively enhance the health care and education experiences and outcomes of students, clients, patients, and their families.

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References

- Center for Interprofessional Education, University of Toronto. (n.d.). A framework for the development of interprofessional education values and core competencies. Retrieved from <http://ipe.utoronto.ca/sites/default/files/2012CoreCompetenciesDiagram.pdf>
- Hammer, D., Anderson, M. B., Brunson, W. D., Grus, C., Heun, L., Holtman, M.,... Gandy Frost, J. (2012). Defining and measuring construct of interprofessional professionalism. *Journal of Allied Health*, 41(2), e49–e53.
- Holtman, M., Frost, J. S., Hammer, D. P., McGuinn, K., & Nunez, L. M. (2011). Interprofessional professionalism: Linking professionalism and interprofessional care. *Journal of Interprofessional Care*, 25, 383–385.
- Institute for Healthcare Improvement. (2008). Triple aim for populations. Retrieved from www.ihl.org/Topics/TripleAim/Pages/default.aspx
- Institute of Medicine of the National Academies. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: The National Academies Press.
- Interprofessional Education Collaborative. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, DC: Author. Retrieved from <https://ipecollaborative.org/uploads/IPEC-Core-Competencies.pdf>
- Institute of Medicine of the National Academies. (2013, May). *Establishing transdisciplinary professionalism for health: Workshop summary*. Washington, DC: Author.
- World Health Organization. (2010.) Framework for action on interprofessional education and collaborative practice. Retrieved from http://www.who.int/hrh/resources/framework_action/en



CHAPTER 1

IPE 101: Introduction to Interprofessional Education and Practice for Speech-Language Pathology

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Introduction

Speech-language pathologists (SLPs) and audiologists typically work in settings—hospitals, clinics, schools—where opportunities for collaboration are abundant. In fact, in certain settings, accreditation, reimbursement, and other regulatory systems mandate such collaboration. Even in nonregulated private practice settings, it is usually necessary to focus attention to include parents, partners and spouses, and others important to the client (patient). Rarely is the exchange between the client and the SLP alone enough to produce optimal improvement in communication or swallowing function. Although it is obvious that clients (patients), families, primary care providers, school personnel, medical specialists, social workers, psychologists, and many others are critical to treatment success, the literature in the discipline of communication sciences and disorders (CSD) has not been particularly attentive to issues of interprofessionalism until recently. In this chapter, we summarize key points that may advance the discussion of interprofessional education (IPE) and interprofessional collaborative practice (IPP) for those in the profession of speech-language pathology.

IPE/IPP

When defining *IPE*, most authors rely on the definition provided by the World Health Organization (WHO, 2010): “When two or more health professions learn about, from, and with each other to foster effective collaboration and improve the outcomes and quality of care” (p. 7). We believe that one of the most crucial aspects of this definition involves the words “about, from, and with.” IPE means that individuals are learning about, from, and with others—typically in their pre-professional programs—so that when they become professionals and engage with other professionals to serve their clients (patients), they can do so knowing the skills, strengths, and expertise that each person brings to the situation. With this knowledge, then, there is no preconceived hierarchy among the professionals; rather, each recognizes how collaboration and teamwork can best meet the client’s (patient’s) needs. When this happens—that is, “when two or more professionals effectively collaborate together to improve outcomes and the quality of care for their client (patient)” —they are engaging in *interprofessional practice* (IPP; WHO, 2010).

In a recent workshop summary report from the Institute of Medicine (IOM, 2013), George Thibault, president of the Josiah Macy Jr. Foundation, summarized three important principles that should be considered with regard to IPE/IPP. These principles are listed in the box below.

3 Key Principles

Principle #1. IPE/IPP is not a replacement for rigorous education specific to each health care profession. This indicates that interprofessional identity complements—but does not replace—professional identity.

Principle #2. IPE/IPP represents one solution—not all solutions—to the problems of the health system.

Principle #3. Experiential and team-based learning are the hallmarks of IPE/IPP.

With this guidance in mind, we present the broad area of IPE/IPP as including basic competencies in patient-centered care and collaboration. This guidance from IOM and Thibault (2013) is helpful in placing IPE/IPP within the context of the health and education systems in which SLPs work and are educated.

How Does IPE/IPP Differ From Other Approaches?

Because IPE/IPP is sometimes confused with other cooperative models of education and service delivery, it becomes important to cite some examples that differentiate interprofessionalism from other approaches. For example, in graduate (professional) education settings that use an interprofessional model, students learn with and from each other as they consider a clinical problem or a patient's (client's) needs. Although it may be valuable for students from multiple disciplines to sit in the same class or share the same learning experience, this type of shared learning (i.e., *multidisciplinary education*) should not be considered the same as *interprofessional education*. Attending a class on statistics or counseling with members of other disciplines does not guarantee interprofessional learning and is not necessarily experiential. In these experiences, it is (rightfully) the content—rather than the client (patient)—that is the focus of information. Similarly, when a group of professionals work together on a team, it is not necessarily IPP. For example, IPP is not the same as *multidisciplinary interaction* (see, e.g., Boon, Verhoef, O'Hara, & Findlay, 2004; Choi & Pak, 2006; Dyer, 2003; Mitchell, 2005). This approach involves multiple disciplines, but it does not necessarily involve professionals learning “about, from, and with each other” to foster effective collaboration. *Multidisciplinary teamwork*, whether in the health care system or in the schools, typically involves professionals working independently in parallel, or sequentially, with one another to address the needs of a specific client (patient). *Interprofessionalism* occurs when the members of the team are simultaneously considering the client's issues, considering best alternatives, and negotiating an approach that recognizes the role that each professional brings to the concerns raised. In IPP, each provider becomes aware of—and values—the resources that the other providers bring to the particular clinical situation.

IPE also is different from cross-training. *Cross-training* can involve (a) the development of skills in a context other than the context in which it will be used or (b) skill development regardless of the profession in which one intends to practice (see, e.g., Nicholas, Madada-Nyakauru, Irri, Myers, & Ghanem, 2014; Salas, Lazzara, Benishek, & King, 2013; Taylor et al., 2012). In many cross-training educational models, pre-professional students take courses from an instructor who does not represent their profession; that student, then, is essentially learning to perform job functions for other professions. This is not the goal of IPE. In IPE, individuals in one profession learn about, from, and with individuals from another profession. This learning leads to a better understanding of the knowledge, skills, and strengths that each profession brings to different settings (e.g., hospital, school) and client types (e.g., persons with aphasia, persons with autism) so that members of a team can respect and value those abilities and know who on a team might best meet the needs of each particular client (patient) that the team serves. Table 1 provides a summary of the different education and service delivery models.

Table 1. Summary of different collaborative education and service delivery models.

Models	Definition
Education	
Interprofessional education	Students from multiple disciplines learn about, from, and with each other's disciplines. Intended outcome is effective collaboration and quality of care for clients (patients) when students begin professional practice.
Multiprofessional education	Students from multiple disciplines enroll in a course, but no specific interactions are encouraged. Intended outcome is related to learning content of course.
Cross-training education	Students from several different disciplines learn content (knowledge, skills, tasks) of one of those disciplines, taught by a professional from that discipline. Intended outcome is for students from all disciplines to learn knowledge and skills of the target discipline.
Service delivery	
Interprofessional practice	Two or more professionals collaborate together, without any perceived hierarchy, and with full understanding of each others' roles and responsibilities, to improve the client's (patient's) outcomes and care.
Multiprofessional practice	Two or more professionals work independently in parallel, or sequentially, with one another to improve the client's (patient's) outcomes and care.

“Interprofessional” Versus “Interdisciplinary”

It is important to note that there has been long-standing attention to issues of cooperation and collaboration among practitioners from many disciplines, particularly professionals in speech-language pathology. Many interdisciplinary teams have worked together to accomplish goals related to patient care. Differentiation of the terms *interprofessional* and *interdisciplinary* may seem like a trivial academic discussion for some. However, it may be helpful to appreciate the differences from a developmental perspective. A continuum that considers multidisciplinary practice, interdisciplinary practice, and interprofessionalism allows for consideration of key features that address the question, “How do individuals from different professions best work together to help those they serve?”

How Do Individuals From Different Professions Best Work Together to Help Those They Serve?

MULTIDISCIPLINARY PRACTICE → INTERDISCIPLINARY PRACTICE → INTERPROFESSIONALISM

At the most fundamental stage, multidisciplinary practice is evident in almost all patient care activities. SLPs in schools and in health care have always been in situations that have required consideration of the role that other disciplines provide for their clients (patients). From a multidisciplinary perspective, appreciation of the specific role that each individual practitioner brings to the clinical situation is critical for issues of referral, patient education, and counseling. The multidisciplinary perspective considers the various players on the patient care team and what they bring to the patient's care. This understanding, appreciation, and respect for the various roles are critical to good care and allow for a coordinated patient care experience.

Interdisciplinary practice is observed when individuals from different disciplines coordinate care to achieve better patient outcomes. Clinicians who work in rehabilitation, special education, or early intervention are all familiar with the great degree of coordination that is required to help patients make progress toward their goals. Thus, interdisciplinary care is both multidisciplinary (i.e., containing multiple professionals, each with different roles) and coordinated. In much the same way that multidisciplinary practice is concerned with understanding the team members, interdisciplinary care is about the collaboration that occurs to achieve a



specific set of goals. Issues of coordination associated with interdisciplinary practice include the scheduling of services, decisions about documentation and shared reporting, mechanisms of collaboration (meetings, notes), shared goal setting for patients, and other important practice-based concerns.

The discussion of interprofessionalism acknowledges the critical and necessary definitions of roles (multidisciplinary) and practices (interdisciplinary), while providing a more comprehensive context for consideration.

This larger context moves the consideration to the fabric of how the system works together to provide the best models that the team can use to have an impact on important issues of outcome, safety, quality, the patient's experience, and larger system concerns (i.e., inefficiencies, clinical processes and standards, required communication practices, and attention to changing cultural aspects of practice that impede care). It is probably safe to say that all IPP includes multi- and interdisciplinary care while also acknowledging that the converse is not always true.

It is probably safe to say that all IPP includes multi- and interdisciplinary care while also acknowledging that the converse is not always true.

One of the reasons why this discussion about differentiation becomes confusing in our context is the fact that so much of an SLP's practice is conducted in settings that are highly coordinated, such as rehabilitation hospitals, special schools, and teams devoted to individuals with specific conditions (e.g., stroke, amyotrophic lateral sclerosis [ALS], autism, cleft palate, early intervention). Because these settings have well-established multidisciplinary teams and operate in a highly coordinated (interdisciplinary) manner, they have often demonstrated values and aspirations that are interprofessional. In fact, these models are some that have likely guided—perhaps implicitly—the call to change the culture of all of health care and education. Conversely, these patterns have not consistently been nurtured or practiced in other contexts. For example, most acute care hospitals have demonstrated effective multidisciplinary practice (role differentiation), but few have developed attention to either interdisciplinary practice or IPP. In fact, the high rate of error and associated inefficiencies in these settings have led to the push for IPP in all health care settings—not just those with readily identifiable teams.

The Health Care Setting

Recently, leaders in health care disciplines have initiated discussion of interprofessional roles and responsibilities and its potential to improve outcomes, reduce cost and errors, improve safety, and enhance the patient experience in the health care setting. In 2000, the IOM produced a report, *To Err Is Human* (Kohn, Corrigan, & Donaldson, 2000), which highlighted the impact of errors on patient safety and outcomes. More recently, WHO (2010) and the Lancet Commission (Frenk et al., 2010) released reports calling for increased attention to IPE/IPP. These documents also proposed collaboration and interprofessionalism as solutions to the patient safety crisis in the health care system. Table 2 includes a list of key organizations and their associated efforts and activities related to IPE/IPP.



Table 2. Interprofessional leadership organizations in the United States.

American Interprofessional Health Collaborative (AIHC)
The National Academies of Sciences, Engineering, and Medicine: Health and Medicine Division
Interprofessional Education Collaborative (IPEC)
Interprofessional Professionalism Collaborative (IPC)
Institute for Health Care Improvement (IHI)
National Center for Interprofessional Practice and Education
Josiah Macy Jr. Foundation
Robert Wood Johnson Foundation

It is important to note that the majority of the health-related publications in IPE/IPP have focused on the areas of public/community health, primary care, and intensive care. However, the literature related to IPE/IPP is growing in the areas of rehabilitation, education, and speech-language pathology, as well. Similar trends are now being observed in occupational and physical therapy, behavioral health, early intervention, and special education settings.

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In 2011, a group of health organizations known as the Interprofessional Education Collaborative (IPEC) identified a set of core competencies for professional practice (IPEC, 2011). These core competencies have been used to define the

knowledge and skills needed to practice interprofessionally. Groups represented on this panel included the American Association of Colleges of Nursing, American Association of Colleges of Osteopathic Medicine, American Association of Colleges of Pharmacy, American Association of Medical Colleges, and Association of Schools of Public Health. Among the notable absences from this list are groups associated with rehabilitation and the rehabilitation professions—groups such as the American Speech-Language-Hearing Association (ASHA), the American Physical Therapy Association (APTA), and the American Occupational Therapy Association (AOTA).

Despite the fact that our own discipline was not present at the original meeting, it is important to note that the critical issue of communication did arise in the list of competencies proposed by the group. Table 3 provides a list of the interprofessional competency domains from the IPEC (2011) report.

Table 3. Interprofessional competencies for collaborative practice.

Domain #	Domain name	General competency statement
Domain 1	Values/Ethics for IPP	"Work with individuals of other professions to maintain a climate of mutual respect and shared values." (p. 19)
Domain 2	Roles/Responsibilities	"Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and populations served." (p. 21)
Domain 3	Interprofessional Communication	"Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease." (p. 23)
Domain 4	Teams and Teamwork	"Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient-/population-centered care that is safe, timely, efficient, effective, and equitable." (p. 25)

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Many topics and readings are relevant to the discussion of IPE/IPP, and a few key documents are listed in Table 4. These sources provide a substantive overview of the topic and a basic reading list for individuals who wish to learn more, so as to adapt principles of interprofessionalism in their curriculum or in their clinical practice.

Table 4. Links to key readings in IPE and IPP, including ASHA-relevant documents.

<i>Transforming Interprofessional Health Education and Practice: Moving Learners From the Campus to the Community to Improve Population Health [PDF] (HRSA, 2014)</i>
<i>Team-Based Competencies: Building a Shared Foundation for Education and Clinical Practice [PDF] (IPEC, 2011)</i>
<i>Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel [PDF] (IPEC, 2011)</i>
<i>Redesigning Continuing Education in the Health Professions (IOM, 2010)</i>
<i>Interprofessional Education for Collaboration: Learning How To Improve Health From Interprofessional Models Across the Continuum of Education to Practice: Workshop Summary (IOM, 2013)</i>
<i>ASHA Ad Hoc Committee on Interprofessional Education: Final Report and Recommendations [PDF] (ASHA, 2013)</i>
<i>ASHA Ad Hoc Committee on Reframing the Professions: Final Report and Recommendations [PDF] (ASHA, 2013b)</i>

In 2008, Berwick, Nolan, and Whittington proposed a concept that has been used as an important driver for contemporary discussions regarding improvements in health care, especially at the system level. This concept, known as the *triple aim*, has been proposed to include simultaneous consideration of improved population health, reduced per-capita cost, and improved experience of care. Many health systems in the United States have responded with goals for improved care. In their article, Berwick et al. (2008) indicate that their focus is on population health—where a *population* is defined as a group of individuals who are registered (identified) in some organized manner. They may be common patients in a specific health organization, a group of patients with a common condition (e.g., stroke, cancer), or some other defined group (e.g., age group, gender group, race). Consideration of the goals of the triple aim for people with communication disorders has yet to be systematically accomplished with an eye toward population management, but it should be an aspiration for those of us in the CSD discipline. Bringing this approach to the management of complex communication

The Triple Aim

- 1. Improved Outcomes/Improved Population Health
- 2. Reduced Per-Capita Cost
- 3. Reduced Errors/Improved Experience of Care



disorders such as aphasia, child language disorders, or dysphagia would likely improve service delivery, help identify new approaches and resources, and eliminate waste and errors.

The link between the triple aim concept and interprofessionalism is an important one because so much of the health care discussion today is focused on the three goals that are at the heart of the triple aim. When one considers impacting the system to achieve one or more of these goals, it is clear that it is not something that can be done by one provider in isolation. Rather, it is an organized approach to care that allows for these desired improvements. When one moves to a systems-driven thought process regarding health care practices and processes, it quickly becomes clear that one clinician providing the best care for one patient is not enough. However, when a group of individual providers are organized to ensure that the factors that produce errors, increase cost, or compromise safety are addressed with every single patient within the target population, then the aspiration becomes closer to a reality.



Of particular interest to the CSD audience should be the *Final Report on Interprofessional Education*, a document produced by the ASHA Ad Hoc Committee on Interprofessional Education in 2013. This report summarizes a number of

When one moves to a systems-driven thought process regarding health care practices and processes, it quickly becomes clear that one clinician providing the best care for one patient is not enough.

recommendations that were made to the ASHA Board of Directors for action related to IPE/IPP. Several of the recommendations were made with “high priority” by the committee, encouraging the board to take quick action. Some of these recommendations focused on increased attention by leaders in graduate education and practice areas, collaborations with important health-related partners, extension of the discussion to ASHA members

in school settings to demonstrate relevance, and consideration of changes in the requirements for clinical education hours to allow for interprofessional practice credit.

The Education Setting (PreK–12)

As the assistant secretary for Educational Research and Improvement in the U.S. Department of Education, Grover Whitehurst described best practices in education as “the integration of professional wisdom with the best available empirical evidence in making decisions about how to deliver instruction” (see [State Education Resource Center](#) website). Such an integration of professional wisdom would be difficult to achieve without the possibilities for educators across disciplines to learn from one another and work together in collaboration with families. An interprofessional approach ensures, for example, an ability to create an agreed upon educational plan in circumstances where the evidence may be lacking but the full complement of professionals can use their collective knowledge to support an individual child’s needs while these professionals continue to search for empirical evidence and/or contribute their own.

Nine standards for educational best practices—including several that are relevant to the role of IPP in educational settings—have been defined that set apart high-performing schools. For example, high-performing schools are able to create a *clear and common focus* in which educators (including SLPs), administrators, and families commit to goals that support a student’s learning and improved performance. This is a key example of the need for shared knowledge that can guide goal development that is integrated—not splintered across disciplines—and that supports the child’s learning. High-performing schools also

provide *supportive, personalized, and relevant learning* that engages students in learning opportunities that are both rigorous and meaningful, no matter what their skill level. For students with communication disorders and related disabilities, individualized learning opportunities that capitalize on a student’s interests and strengths while also understanding his or her challenges can be accomplished only with a shared knowledge of the student’s individual needs and curricular expectations that must come from an interprofessional team of teachers, SLPs, special educators, psychologists, and parents. In addition, high-performing schools are engaged in *monitoring, accountability, and assessment* of students’ progress so that instructional adjustments can occur to improve performance. This cannot be done without the interprofessional knowledge needed to determine and implement the methods, analysis, and interpretation of an assessment that can lead to practice change across contexts. Further, in high-performing schools, you will see *curriculum and instruction* that actively engages students in their learning through inquiry, concentrated learning opportunities, and ongoing performance evaluation. For children with disabilities—specifically, those with communication disorders—the role of an interprofessional team becomes crucial to ensuring that the curriculum is accessible and that the learning strategies have an evidence base that is responsive to a student’s unique learning profile.

High-Performing Schools...

- Create a clear, common focus
- Provide supportive, personalized, and relevant learning that is both rigorous and meaningful
- Engage in monitoring, accountability, and assessment of student progress
- Offer curriculum and instruction that actively engage students in their own learning

Standards for best practice in the classroom tie in well to the Common Core State Standards (National Governors Association [NGA] Center for Best Practices & Council of Chief State School Officers [CCSSO], 2010; see <http://www.corestandards.org/read-the-standards/>) that have been designed to provide a clear, consistent pathway for learning that

Standards for best practice in the classroom tie in well to the Common Core State Standards.

prepares students for college, for a career, and for life and that also create a role for IPE and collaborative practice in the schools. The Common Core State Standards (NGA & CCSSO, 2010) provide a guide for what students should be learning at each grade level, so that every parent and educator across disciplines

can support students' learning. The Common Core State Standards seek to achieve a shared understanding of goals, with all relevant parties working together to achieve these goals. For Grades K–8, standards in English language arts/literacy and mathematics are outlined for each grade, whereas for Grades 9–12, standards are grouped into Grade 9–10 standards and Grade 11–12 standards. The Common Core State Standards expect students to be able to read stories, literature, and complex texts while stressing critical thinking and problem solving. Although the standards do not define how the content should be taught, there is recognition that supports need to be in place to ensure that all students, including those with special needs, experience success. This is where the role of IPE/IPP is key. For example, in English language arts—as well as for literacy in history and in science and for other technical subjects—students must be able to read, write, speak, listen, and use language effectively across the content areas. For those with challenges in communication, this will require interprofessional knowledge sharing and learning among SLPs, teachers, special educators, and the family so that implementation of best practices is a more integrated approach to the student's learning and success.



Thus, there is real potential to make a difference in supporting the educational, emotional, and social health of children through an interprofessional team engaged in collaborative practice in educational settings that is responsive to both the standards of practice for high-performing schools and the Common Core State Standards. The SLP has a real opportunity to play an important role in making this happen.

Relevance of This Discussion to Practice and Professional Preparation

The leadership of ASHA and many experts are suggesting that our professions move in the direction of teaching and learning about interprofessionalism and that we should bring the concepts of IPP to our clinical settings. But, first, some questions must be asked and answered. What is the relevance of IPP for audiology and speech-language pathology practice? Would patients be better served if audiologists and SLPs worked with others more seamlessly? What are the risks of *not* practicing collaboratively? What are the particular skills and knowledge that audiologists and SLPs should be adding to the teams on which they practice, and is this indeed happening? Do these clusters of skills and knowledge differ across practice settings or clinical groupings? What are the errors, associated safety risks, and costs associated with failed teams or teamwork? As the literature on this discussion is nascent, questions such as those listed have yet to be addressed in any systematic manner.

Much of the current discussion in the CSD literature has focused on the *process* of integrating the interprofessional principles and competencies into the curriculum for students in the health care professions (Zraick, Harte, & Hagstrom, 2014) and for practice-setting professional development (communications, team structure, etc.). Less attention appears to have been given to more clinically relevant projects and initiatives or to the study of errors in practice, patient safety, and cost reduction in either preparation or practice. With regard to the question of safety and speech-language pathology, the majority of the discussion has focused on *clinician* safety



(e.g., radiation safety, infection control) as opposed to patient safety—that is, the resultant safety issues for patients when errors occur. Safety risks for patients with communication and swallowing disorders in the rehabilitation setting have been discussed and highlight the value of an interprofessional approach to practice (Cristian et al., 2012; Giammarino, Adams, Moriarty, & Cristian, 2012). This chapter includes a number of suggestions for minimizing risk with this vulnerable population; suggestions include compensatory communication strategies for patients with communication deficits and provider compliance with swallowing protocols at discharge. Clearly, there is a need for an expanded scientific base that addresses the issues of risk associated with speech-language pathology practice and the safety and outcomes issues associated with delivery of care in both education and health settings when an interprofessional approach is present versus when it is absent. Similarly, Johnson, Valachovic, and George (2007) provided a list of significant errors in acute care speech-language pathology practice.

Clearly, there is a need for an expanded scientific base that addresses the issues of risk associated with speech-language pathology practice and the safety and outcomes issues associated with delivery of care in both education and health settings.

Among those on the list were communication failures, documentation errors, infection control violations, failures in establishing clinical competence, lack of appropriate referral, or failure to complete follow-up or other necessary services. These errors can put the patient at health or recovery risk, undermine the quality of service or outcomes, and increase the cost of care.

What Are Emerging Approaches for IPE?

There is a growing discussion in the literature on approaches to educating health professionals together for at least part of their professional preparation. Educators are using team-based experiences, shared practica or observation activities, online discussions and activities, health mentor experiences, and many other learning strategies to provide students—early in their preparation—with approaches that teach them about the roles of other disciplines, allow for discussion of ethical and value-based principles, and support the development of respectful yet productive communication. In this section, we briefly describe some of the common approaches and experiences used in entry-level education in the health care professions, with a focus on those documented approaches that have included students from speech-language pathology.

Thistlewaite and Moran (2010) proposed that the study of IPE outcomes should be limited to “generic outcomes that should be met by all professions—these refer to the learning of knowledge, skills, or attitudes where interprofessional education adds value to the learning because of interaction between the participants and enhances the chances of meeting the outcomes such as communication skills, teamwork, collaborative practice, etc.” (p. 504). The authors differentiate these generic outcomes from profession-specific outcomes and also from those that are multiprofessional or used by two or more professions. Table 5 provides an example of this distribution as it could

relate to speech-language pathology. This differentiation is useful because it demonstrates the importance of discipline-specific knowledge and skills as well as those that are shared with other professions. This is an important counteropinion to the argument that IPE counters the contribution or uniqueness of each discipline. Each outcome type should be considered critically important in the development of the “whole” professional. However, no professional should be considered fully developed unless he or she has achieved the required competencies across all three domains.



Table 5. Differentiating learning outcomes in interprofessional education.

Domain	Category	Example	Professions Involved
Profession Specific	Speech	Conducting articulation testing	SLP
	Language	Administering an aphasia battery	SLP
	Swallowing	Conducting a bedside swallow examination	SLP
Multiprofessional	Speech	Examining motor speech abilities	SLP, neurology, nursing
	Language	Engaging patient in conversations about current events	SLP, OT, nursing, psychology
	Swallowing	Observing a patient during mealtimes	SLP, nursing, OT
Interprofessional	Speech	Developing skills for communicating with patients who have speech difficulties	All individuals involved in the patient's care
	Language	Assessing general comprehension before providing complex instructions	All individuals involved in the patient's care
	Swallowing	Taking precautions to prevent aspiration	All individuals involved in the patient's care

In an attempt to clearly identify the facilitating outcomes in IPE activities, many descriptions of these types of activities are emerging. Before considering some of the examples from the literature on specific methods, it is useful to consider general issues of curricular and institutional issues in IPE. In reviewing the development of interprofessionalism at one health care professions school, Cahn (2014) concluded that sustainable IPE initiatives require an organizational home and a designated place in the curriculum. Reviewing the 35-year history of the MGH Institute of Health Professions, Cahn noted that until administrative responsibility and curricular leadership were established, the program did not achieve its desired goals of inclusiveness of all students and coordinated assessment and outcomes.

A number of institutions have established identifiable centers to facilitate IPE. In some cases, these are housed as part of an academic unit; in other cases, they represent a stand-alone administrative entity. Because the primary thrust for IPE has come from medicine and nursing, these units are frequently associated with a medical or nursing school within large university settings. This in itself can be a barrier if there is not close cooperation with other health-related academic units in the institution.

Designing experiences that are inclusive and engaging for students from a variety of programs and departments can be challenging with regard to the most fundamental issues of scheduling and communications.

In addition to the academic home for an IPE program, issues of organization and structure become critical. Designing experiences that are inclusive and engaging for students from a variety of programs and departments can be challenging with regard to the most fundamental issues of scheduling and communications. Deliberate and coordinated planning for such experiences is a requirement for success.

Despite the barriers to coordination across academic units (schools, departments, and programs), a number of institutions have accomplished the goal of educating students from different disciplines together, most often using the IPEC competencies (IPEC, 2011) as the basis for designing positive experiences. A few examples of programs that have been described in the literature (and have included CSD participation) are listed as hyperlinks below to allow for in-depth examination about the IPE focus of each program.

- [University of Toronto Centre for Interprofessional Education](#)
- [The University of Vermont College of Nursing and Health Sciences](#)
- [University of South Carolina Interprofessional Education](#)
- [MGH Institute of Health Professions Center for Interprofessional Studies and Innovation](#)
- [Ohio University Interprofessional Education Symposium](#)

Although there are just a few reported experiences of interprofessional curricula that include speech-language pathology students and faculty, it is likely that many more are emerging as universities develop programs that include rehabilitation disciplines and education. Although the following programs do not include descriptions of CSD students or faculty in their reports, they do contain some important examples that could easily be adapted for CSD programs and that are worth considering.

- [Virginia Commonwealth University Center for Interprofessional Education and Collaborative Care](#)
- [Vanderbilt University—Vanderbilt Program in Interprofessional Learning \(VPIL\)](#)
- [Thomas Jefferson University—Jefferson Center for InterProfessional Education](#)
- [University of Washington—Center for Health Sciences Interprofessional Education, Research and Practice](#)
- [University of New England—The Interprofessional Education Collaborative](#)

In addition, a resource for anyone interested in IPE/IPP is the [NEXUS](#)—a funded national center for IPE/IPP that is located at the University of Minnesota. The Nexus serves as a clearinghouse for information, sponsors meetings and conferences, and provides online support for those involved in curriculum development or practice change projects. It also maintains a literature compendium and provides links to 26 different measurement tools. Educators and administrators may use these tools to assess

It is clear that the growing literature on the topic of IPE/IPP is extensive. The content on this topic can be found in many different journals that focus on education.

student preparedness and learning outcomes as well as changes in attitudes. At the end of this chapter, the reader will find a toolkit that includes connection to the NEXUS and other sites that may be of assistance to those developing an interprofessional curriculum. Funded by several leading health care foundations (the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, and the Gordon and Betty

Moore Foundation), the NEXUS is dedicated to the unbiased acceleration of teamwork and collaboration among health care professionals and to the breaking down of traditional silos in the education process. There is an important opportunity for members of the CSD community to become involved with this center, which is the national leader in the discussion of interprofessional health care issues.

From the preliminary review provided in this chapter, it is clear that the growing literature on the topic of IPE/IPP is extensive. The content on this topic can be found in many different journals that focus on education, with one journal—*The Journal of Interprofessional Care*—serving as a major resource and collection of works from a variety of perspectives and disciplines for the past 25+ years. The first issue of a new journal, *The Journal of Interprofessional Education & Practice*, was published in March 2015. Other peer-reviewed journals from a variety of health disciplines are also important sources of information for the individual interested in the development of interprofessional topics.

Because the discussion of interprofessionalism is new to the profession of speech-language pathology, it is critical that those working to develop curricula and practice guidelines learn from the well-established experiences of others. This approach

It is important to equip the next generation of clinicians with the skills and knowledge to practice interprofessionally and to encourage practicing SLPs to develop this new skillset.

allows for innovation but also accelerates progress, avoiding previous challenges and mistakes in the complicated arena of interprofessionalism. In addition, the challenge to advocate for inclusion of the speech-language pathology role, where appropriate, is critical. As previously noted, current academic and practice structures and the existing focus on primary medical problems may create a lack of awareness

of the SLP's role on interprofessional teams; however, this seems to be changing. It is important to equip the next generation of clinicians with the skills and knowledge to practice interprofessionally and to encourage practicing SLPs to develop this new skillset, to advocate for their role on interprofessional teams, and to advocate for their patients. It is also important to recognize the SLP's role in IPE/IPP outside the health care setting, such as in schools and in private practice. IPP knows no boundaries, for its main goal is to improve the quality of outcomes and care of the client (patient), regardless of where that client (patient) resides. To continue the discussion of interprofessionalism, we now present several clinical cases, all with a particular communication or swallowing disability, for consideration from an interprofessional perspective. For each case, we provide a brief set of questions and then a discussion by the authors of this chapter. We intend to highlight the features of the triple aim (improved outcomes, reduced errors, and reduced cost) that could be affected with a different approach to care.

What Can We Do Now To Integrate IPE/IPP in the Future?

- Equip the next generation of clinicians with the skills and knowledge to practice interprofessionally
- Encourage SLPs to
 - Develop this new skillset
 - Advocate for their role on IPE/IPP teams
 - Advocate for their patients
- Recognize the SLP's role in IPE/IPP outside the health care setting (i.e., schools, private practice)

Case 1: Mr. Bob Smith

Overview

Carl is an SLP on the Traumatic Rehabilitation Team at the Acute Rehabilitation Hospital (ARH). Mr Bob Smith, who sustained a traumatic brain injury (TBI) 1 week ago, is Carl's patient. Mr. Smith also receives physical and occupational therapy and is followed by the neuropsychologist and the social worker on the TBI service. Mr. Smith's wife, Nellie, visits daily and wants to learn more about working with her husband. His problems with attention, combativeness, confusion, and memory loss and his dysarthria are quite troubling to her. He receives therapy 3 hours per day (1 hour each for physical therapy, occupational therapy, and speech-language pathology services), and the social worker meets with Nellie about every 3 or 4 days to "check in" and to address any questions. At the most recent appointment, the social worker informed Nellie that the physician on Bob's case, a physiatrist, is concerned because Nellie has not followed up on the request to look into some nursing facilities postdischarge. The social worker and the physiatrist feel that Bob will be able to be discharged in about a week from the acute rehabilitation setting but will not be safe to be at home at that time. Nellie has asked for a copy of her husband's therapy schedule so she can participate, but the schedule—though published—is rarely followed. Nellie is worried about so many things—his lack of progress, who will help her figure all of this out, finances, explaining Bob's condition to friends, and the list goes on and on. She also has a full-time job as an accountant and helps to take care of an aging parent, who lives in an apartment close to the family home.



She attended a patient education conference, but the conference addressed topics that are not on her list of concerns for Bob at the moment. She feels that Bob is being "pushed out" of the acute-care setting, and she is upset.

IP Reflection Questions

1. What are the key opportunities to improve care in this case?
2. What factors of quality, outcome, or cost are obvious considerations?
3. What strategies could improve the situation for Nellie and Bob? for the TBI team? for the institution?

Discussion

The care of the patient who has sustained a serious brain injury always involves considerations from a variety of perspectives and from multiple viewpoints. Issues of cost, complexity, and outcome are consistently part of the concern. When patients are unable to go directly home after such an injury, a variety of personal and social issues inevitably arise. Of course, at this point, after an acute injury, families and patients are also transitioning in their accepting the challenges of functioning and the care needs of the patient. With this particular patient, it appears that the following opportunities could be helpful:

1. *Coordination of the team and teamwork could be improved.* The impression from this case is that each profession is operating in isolation. Several questions come to mind: Have consistent overarching goals and schedules been established, with each team member being able to explain and articulate the direction that is being taken for Bob specifically? Have all health care providers on Bob's team made it clear that all coordination for the case is leading to the next step in Bob's transition toward improved independence? Have the team members made attempts to ease Nellie's stress in the transition? Does Nellie feel that she is part of the team and that she has the necessary support from the other team members?
2. *Communication also is an area for improvement.* Several questions come to mind: Has the staff ensured that Nellie understands her role in moving Bob forward? Has the information that she needs to help her understand why certain recommendations are being made by the team been clearly and transparently presented? Is Nellie being given "space" to have all of her questions addressed, and is she clear on the rationale for the recommendation to transfer Bob to another facility before considering discharge to the home setting?
3. *Roles and responsibilities of the various team members need to be addressed.* It sounds like Nellie is a bit unclear about all of the different issues that are occurring. Bob's issues in cognition and communication (dysarthria) have been highlighted as Nellie's main concerns about her husband, and it is critically important that she understand how these problems are being addressed by the various disciplines.

What would excellent interprofessional care look like in this case? There are a number of complex issues here, and oversimplification is not the goal. Having said that, some of the following options come to mind:

- (1) Ensure that Nellie is receiving regular feedback about Bob's status (health, cognitive, behavioral) and that the next steps in the transition are part of Nellie's goal for Bob, as well.
- (2) Recognize that Nellie's schedule does not allow her to be at the hospital all day, so the team members need to decide—and regularly follow through on—a consistent communication plan that allows Nellie's questions to be answered, her roles to be made clear, and so forth. Perhaps the evening nurse could be the team member responsible for communicating with Nellie each day, and each team member could provide that nurse with the information necessary. Perhaps a notebook could be kept in Bob's bedside drawer so that each team member could leave notes for Nellie each day.
- (3) Coordinate care to improve overall health and well-being with a definite contact plan, support for Nellie (vs. directions for Nellie), and simplification of all the steps involved in Bob's transition.



Case 2: Isaac Wills

Overview

Isaac is a 3-year old preschooler who was diagnosed with classic autism at age 30 months. He was placed in early intervention, but when he turned 3, he was transitioned to an integrated preschool program that is part of a small rural elementary school. Isaac is nonverbal, although he uses some rudimentary pointing and imitates his favorite sounds. He likes to play by himself, most often stacking blocks or putting puzzles together. He does like to look at books, but joint attention has not been established. Isaac is a picky eater and often will only eat crunchy foods or foods that are specific colors. His parents are divorced, but both are engaged in his care. His mother believes that alternative therapies like horseback riding and music will capitalize on his strengths and interest in the outdoors and in making rhythmic sounds. His dad wants a traditional approach to therapy and has behaviorists coming to the home to work on pre-academic and self-help skills. Isaac had a developmental educator and SLP working with him in early intervention, but the transition to preschool has been difficult, and a new team has been put in place to address his needs.



The preschool teacher is an early childhood special educator and is uncomfortable having Isaac in the classroom because of his recent diagnosis of Type 1 diabetes and current difficulties controlling his insulin levels. The SLP serving the preschool was just hired, but she has experience with children with autism and was trained in relationship-based therapies. She initiated a meeting with the early intervention team and the family to learn about what they see as success for Isaac and ways to capitalize on his strengths to facilitate communication. The parents raised their concerns not only with Isaac's lack of communication but with his disinterest in peers, solitary play, poor eating habits, and "meltdowns" when being checked for his insulin levels. The early childhood special educator was unable to attend this meeting. There is a school nurse, but this nurse has not typically been a part of the preschool team. A nutritionist consults to the program monthly. Isaac's pediatrician is concerned about Isaac's diet and controlling his diabetes as well as establishing ways to communicate with Isaac. It is unclear who is taking the lead for managing Isaac's educational, social, and health care needs.

IP Reflection Questions

1. What are the key opportunities to improve care in this case?
2. What factors of quality, outcome, or cost are obvious considerations?
3. What strategies could improve the situation for Isaac and his family?

Discussion

Isaac's situation is a perfect example of the need for infusing the core competencies of IPE/IPP into a collaborative approach to his care. The transition from early intervention to preschool is not going well, and it is clear that interprofessional communication has broken down. It is unlikely that the early intervention team has communicated fully with the family about the expected service changes as Isaac moves to preschool. There was an obvious lack of communication from the sending team to the receiving team in the transition process. The receiving team appears unprepared to meet Isaac's complex needs, and they have not defined their roles or established responsibilities for his care. Several questions remain unanswered: Who should be part of the team? What does the team need in terms of training? How will members of the team and Isaac's family work together? With Isaac's recent diagnosis of Type I diabetes, responsive, responsible communication among all members of the team—both the old and the new—is critical to Isaac's overall health and success. There is also a lack of understanding of the roles and responsibilities of individual team members and how they might work together to address Isaac's educational and health needs. Team development and teamwork is lacking as new members are joining the team; some members lack experience with children with autism spectrum disorder (ASD), and others have not yet been identified as potential team contributors.

In this case, the early intervention SLP has a real opportunity to show leadership in the implementation of the core competencies for IPE, which will improve Isaac's care and overall health. A first step would be the development of a transition plan with a clear understanding of the roles and responsibilities of the sending team and the receiving team. The SLP and the developmental educator can explain their roles and how they assigned and supported their respective responsibilities to meet the needs of Isaac and his family.

The newly hired SLP can establish a communication plan among the sending and receiving teams to capitalize on expertise from those who have known Isaac. Doing so will enable the preschool team to learn about—and from—the early intervention team and, in collaboration with the family, address Isaac's emerging educational needs and his recent health care complications. The newly hired SLP can also (a) learn about, from, and with her preschool team as they establish the values and principles for their team and how it will function; (b) identify what professions (e.g., nursing, nutrition, pediatrics) need to join the team; (c) clarify their roles in Isaac's care; and (d) plan and deliver safe, timely, and effective care.

Case 3: Carter Caldwell

Overview

Carter Caldwell has a history of spoken language impairment. During his toddler years, he was delayed in his acquisition of specific grammatical structures. Now, as an 8-year-old student in second grade (he repeated kindergarten), although his spoken language abilities appear typical, he is struggling to read and write. He struggles to sound out or decode words, and his attempts at spelling words are difficult to understand for most adults. The school psychologist has evaluated him and believes he has “processing” issues related to memory and attention. Carter’s treatment needs to focus on this processing



issue. The special educator has evaluated Carter and believes it is likely that he will always face challenges in decoding, so he should be taught to use context (e.g., pictures, his background knowledge) to make educated guesses when reading. He also can use technology (e.g., spellcheck and voice recognition devices) to write. The SLP has evaluated him and believes he has multiple linguistic awareness deficits (i.e., deficits in phonemic awareness, in orthographic awareness, and in morphological awareness) that are causing him to struggle to both decode and spell. Intervention should focus on improving these underlying causes. Carter’s general education teacher is unsure which specialist’s advice to follow; even more so, at the individualized education program (IEP) meeting, Carter’s parents are completely confused. They hear three different stories of the cause for Carter’s struggles, followed by three very different suggested strategies or interventions to deal with those struggles.

IP Reflection Questions

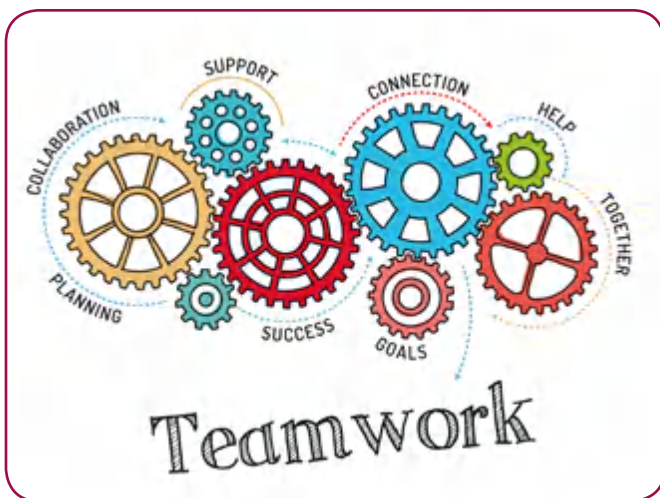
1. What are the key opportunities to improve care in this case?
2. What factors of quality, outcome, or cost are obvious considerations?
3. What are the strategies that could improve the situation for Carter and, in this specific situation, his parents?

Discussion

It is obvious that this is not an example of IPP; in truth, it is an example of multidisciplinary work, at best. The professionals involved were not effectively working *together* to improve the outcomes and quality of care for Carter; it appears that they had not even spoken to each other before speaking with his parents at the IEP meeting. The scenario points to a lack of several core IPP competencies. First and foremost, there appears to be a lack of teamwork in place—one of the basic core competencies of IPP.

Had the four professionals been operating as an IPP team, there would have been a unified approach to assessment, likely resulting in a more efficient assessment (surely Carter underwent hours of testing!) as well as a more focused diagnosis and a clear set of goals to present to his parents. Excessive costs of student and professional time were needlessly spent. That teamwork would have been facilitated with interprofessional communication—a second core competency. In the current scenario, had the four professionals communicated to one another in a responsive, responsible manner about their views on Carter's issues—and had each professional developed a clear understanding of one another's roles and responsibilities (a third core competency) in helping to assess Carter's difficulties—the resulting confusion would have been extremely unlikely. Thus, the quality of the reporting session suffered, and the outcomes—which were, at best, confusing—were subpar, as well.

How might the SLP turn this situation around in the future? To start, she could take a proactive stance. Starting with one of the core IPP competencies, she could emphasize among the team of professionals a sense of mutual respect and shared values by setting aside time for the team to learn from, with, and about the knowledge, skills, and strengths that each member brings to the team itself. Rather than acting as four individual members who do their own work and then meet and share final results, the knowledgeable members who now respect and understand each others' roles and responsibilities will truly work as a team, determining which team member(s) are best suited to guide the assessment process for individual students based on the team member's strengths and skills and the student's needs. Then, team members will be better able to communicate with each other and with Carter's family members.



References

- American Speech-Language-Hearing Association. (2013a, November). *Final report: Interprofessional education (IPE)* [Report of the ASHA Ad Hoc Committee on Interprofessional Education]. Rockville, MD: Author. Retrieved from <http://www.asha.org/uploadedFiles/Report-Ad-Hoc-Committee-on-Interprofessional-Education.pdf>
- American Speech-Language-Hearing Association. (2013b, December). *Final report: Reframing the professions of speech-language pathology and audiology* [Report of the ASHA Ad Hoc Committee on Reframing the Professions]. Rockville, MD: Author. Retrieved from <http://www.asha.org/uploadedFiles/Reframing-the-Professions-Report.pdf>
- Berwick, D., Nolan, T. W., & Whittington, J. (2008). The triple aim: Care, health, and cost. *Health Affairs*, 27, 759–769. doi:10.1377/hlthaff.27.3.759
- Boon, H., Verhoef, M., O'Hara, D., & Findlay, B. (2004). From parallel practice to integrative health care: A conceptual framework. *BMC Health Services Research*, 4, 15.
- Cahn, P. S. (2014). In and out of the curriculum: An historical case study in implementing interprofessional education. *Journal of Interprofessional Care*, 28, 128–133. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/24383409>
- Choi, B. C., & Pak, A. W. (2006). Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education, and policy: 1. Definitions, objectives, and evidence of effectiveness. *Clinical and Investigative Medicine*, 29, 351–364.
- Cristian, A., Giammarino, C., Olds, M., Adams, E., Moriarty, C., Ratner, S., . . . Stobart, E. C. (2012). Safety considerations for patients with communication disorders in rehabilitation settings. *Physical Medicine and Rehabilitation Clinics of North America*, 23, 342–347. doi:10.1016/j.pmr.2012.02.017
- Dyer, J. A. (2003). Multidisciplinary, interdisciplinary, and transdisciplinary educational models and nursing education. *Nursing Education Perspectives*, 24, 186–188.
- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., . . . Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *The Lancet*, 376, 1923–1958. doi:10.1016/S0140-6736(10)61854-5

- Giammarino, C., Adams, E., Moriarty, C., & Cristian, A. (2012). Safety concerns and multidisciplinary management of the dysphagic patient. *Physical Medicine and Rehabilitation Clinics of North America*, 23, 335–342. doi:10.1016/j.pmr.2012.02.008
- Health Resources and Services Administration (HRSA). (2014, October). *Transforming interprofessional health education and practice: Moving learners from the campus to the community to improve population health* [Thirteenth Annual Report to the Secretary of the United States Department of Health and Human Services and the Congress of the United States]. Washington, DC: Author. Retrieved from <http://www.hrsa.gov/advisorycommittees/bhpradvisory/acicbl/Reports/thirteenthreport.pdf>
- Institute of Medicine. (2010). Redesigning continuing education in the health professions. Retrieved from <http://www.nap.edu/catalog/12704/redesigning-continuing-education-in-the-health-professions>
- Institute of Medicine. (2013a, May). *Establishing transdisciplinary professionalism for health* [Workshop summary]. Washington, DC: National Academies Press.
- Institute of Medicine. (2013b). *Interprofessional education for collaboration: Learning how to improve health from interprofessional models across the continuum of education to practice* [Workshop summary]. Washington, DC: National Academies Press. Retrieved from <http://nationalacademies.org/hmd/reports/2013/interprofessional-education-for-collaboration.aspx>
- Interprofessional Education Collaborative. (2011a, May). *Core competencies for interprofessional practice: Report of an expert panel*. Washington, DC: Author. Retrieved from <http://www.aacn.nche.edu/education-resources/ipereport.pdf>
- Interprofessional Education Collaborative. (2011b, February 16–17). *Team-based competencies: Building a shared foundation for education and clinical practice* [Conference Proceedings]. Washington, DC: Author. Retrieved from <http://www.aacn.nche.edu/education-resources/IPECProceedings.pdf>
- Johnson, A. F., Valachovic, A. M., & George, K. P. (2007). Speech-language pathology practice in the acute care setting. In A. F. Johnson and B. H. Jacobson (Eds.), *Medical speech-language pathology: A practitioner's guide* (pp. 284–295). New York, NY: Thieme Medical Publishers.
- Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (Eds.). (2000). *To err is human: Building a safer health system*. Washington, DC: The National Academies Press. Available at <http://nationalacademies.org/hmd/reports/1999/to-err-is-human-building-a-safer-health-system.aspx>.

- Mitchell, P. H. (2005). What's in a name? Multidisciplinary, interdisciplinary, and transdisciplinary. *Journal of Professional Nursing*, 21, 332–334. doi:10.1016/j.profnurs.2005.10.009
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards*. Washington, DC: Author. Retrieved from <http://www.corestandards.org/read-the-standards/>
- Nicholas, R. S., Madada-Nyakauru, R. N., Irri, R. A., Myers, S. R., & Ghanem, A. M. (2014). Research priorities in light of current trends in microsurgical training: Revalidation, simulation, cross-training, and standardisation. *Archives of Plastic Surgery*, 41, 218–224. doi:10.5999/aps.2014.41.3.218
- Salas, E., Lazzara, E. H., Benishek, L. E., & King, H. (2013). On being a team player: Evidence-based heuristic for teamwork in interprofessional education. *Medical Science Educator*, 23, 524–531.
- Taylor, J., Swetenham, K., Myhill, K., Picot, S., Glaetzer, K., & van Loon, A. (2012). IMhPaCT: An education strategy for cross-training palliative care and mental health clinicians. *International Journal of Palliative Nursing*, 18, 290–294. doi:10.12968/ijpn.2012.18.6.290
- Thistlewaite, J., & Moran, M. (2010). Learning outcomes for interprofessional education (IPE): Literature review and synthesis. *Journal of Interprofessional Care*, 24, 503–513. doi:10.3109/13561820.2010.483366
- World Health Organization. (2010). *Framework for action on interprofessional education and collaborative practice* [Report from the Health Professions Network Nursing and Midwifery Office within the Department of Human Resources for Health]. Geneva, Switzerland: Author. Retrieved from http://www.who.int/hrh/resources/framework_action/en/
- Zraick, R. I., Harte, A. C., & Hagstrom, F. (2014, October). Interprofessional education and practice: A primer for training future clinicians. *Perspectives on Issues in Higher Education*, 17, 39–46. doi:10.1044/aihe17.2.39



CHAPTER 2

IPE 102: Innovative Interprofessional Education That Includes Audiology and Speech-Language Pathology

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Introduction

Modern professional degree education is substantially more complicated than it was 20 years ago. From an increasing number and specificity of accreditation standards, to breadth and depth of course content, to the development of professional competencies, there is much more to account for than in the past. Students entering the workforce through their fourth-year externship (audiology) or their clinical fellowship (speech-language pathology) experience an interesting mix of excitement in anticipation of their professional career and apprehension about all of the new responsibilities and transitions to be made, both professionally and personally. Increasingly, these students are working on teams with other health care professionals. For example, in a long-term care facility, teams frequently include a speech-language pathologist (SLP), nurse, physician, and physical therapist (PT). In acute or rehabilitation settings, teams are even

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more varied. Despite the likelihood of working with others, there is usually little information included about other health care professions or teamwork in the core curricula of the professions within the communication sciences and disorders (CSD) discipline. What information about physical therapy is

typically included in a CSD program? What is the physical therapist's (PT's) scope of practice? What role would a PT play on a team? How would PTs and SLPs best work together? In general, CSD programs have done an excellent job at training students for their professional and clinical competencies, but, so far, these programs have not addressed students' *interprofessional* competencies.

There is no single way to provide interprofessional education (IPE), nor is there a single way to measure the outcomes. There are many ideas and approaches, and the unique needs of each university and its students further complicate the solutions chosen. In order to outline issues and potential solutions, this chapter offers the experience of a single university's navigation of the challenges in building such a program.



IPE Background

In audiology and speech-language pathology programs, curricula consist of classroom experiences and clinical practica. This arrangement is consistent with the curricula of other health care professions, as well. Therefore, interprofessional health care professions education must consider both of these elements.

Each health profession may have its own unique way of delivering both classroom and clinical content. However, common factors across disciplines include program philosophy, accreditation requirements, objectives, and available resources. A key challenge in IPE is to develop a common-sense approach that aligns with the long-term goal of producing professionals who are prepared to work as part of a team rather than to merely provide opportunities for convenient overlap among various health care professions' curricula.

As noted in Chapter 1, the four domains of Values/Ethics for IPP, Roles/Responsibilities, Interprofessional Communication, and Teams and Teamwork help to determine a broad structure for objectives. However, the realization—and, especially, the measurement of

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these competencies within clinical and classroom areas—is to be determined and forged by each individual program, depending on its resources and allowing for inclusion of the various health disciplines that are present within a particular institution. For example, some institutions have programs in pharmacy, medicine, and dentistry, whereas others do not. Some may or may not have

a history of integration with CSD programs. It is important to note that, historically, all of these programs have operated in a more siloed environment.

A Two-Course Curriculum: Classroom and Clinical IPE

In this chapter, we present an example from our institution, Ohio University, and the ways in which we have addressed the clinical and classroom portions of IPE. Consequently, this section is divided into two broad subsections: The first subsection presents the evolution and development of an IPE classroom experience, and the second subsection details the related but distinct clinical IPE experience. It outlines a path toward IPE as the starting point for Ohio University as an institution of more than

20,000 students in rural southeastern Ohio with a local hospital and a small city of 10.05 square miles. Launching an IPE program required the integration of several programs within the College of Health Sciences and Professions (CHSP; including nursing, social work, physical therapy, audiology and speech-language pathology, and food and nutrition) as well as the Heritage College of Osteopathic Medicine (HCOM).

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At first, the two threads of clinical and classroom IPE preparations happened in parallel; they were later brought together via resources provided through an external grant mechanism. Each of the two threads is discussed in the subsections that follow.

Part I: Evolution of a Classroom IPE Experience

The classroom portion evolved first through an IPE committee in the CHSP. This committee was designed to evaluate IPE readiness in the college. This committee delivered a survey to faculty and students, asking about their experiences with IPE and what they saw as the potential benefits and challenges to implementing IPE at Ohio University. Predictably, challenges related to instructor scheduling, student scheduling, faculty/instructor teaching loads, supervision and accreditation, and student room in crowded curricula were noted as potential barriers. It is important to note that the majority of faculty and students welcomed IPE initiatives in principle and saw the potential of having not only integrated coursework but also extracurricular experiences. The challenges that we identified at Ohio University were consistent with those noted in the published literature (Barr, Helme, & D'Avray, 2014; Bennett et al., 2011; Frenk et al., 2010; Gilbert, Yan, & Hoffman, 2010; Goldberg, 2015; Lash et al., 2014). The survey did not involve faculty and students at the medical school, although the results were shared through a committee aimed at clinical integration (noted in Part II of this chapter).

To start, the IPE committee arranged a large public event to showcase professions representing each of the major administrative units in both colleges and to highlight the university's new commitment to IPE. To ensure a representative audience, all units within the CHSP, as well as those within the HCOM, invited students to sign up to attend the inaugural event. Ten students and at least two faculty members

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from each program committed to attending. The resulting audience was diverse and representative of all units to be involved. Faculty members were chosen to present their perspectives (e.g., child life, physical therapy, athletic training) in discussing a case of an adolescent with a head injury. The selection of disciplines was designed to have

representation from each of the four administrative units in the college. For purposes of expediency, not every program was represented in the presentations, even though other disciplines (e.g., CSD and nutrition) were present for the discussion.

A second event was conducted in the second semester and consisted of a student presenting along with a faculty member from each discipline that had not been represented in the previous event. Designing the events, finding cases, and recruiting individuals to participate on a volunteer basis were all challenges, and it was decided that the next step should be exploration of a curricular option.

Three major sets of challenges emerged in designing this new course. First, students from the various participating disciplines were likely to have varying clinical experience and competence, which created a demand to find authentic cases that could be appreciated by less experienced students but could also be seen as challenging for those with more experience. A second challenge was in identifying multiple instructors who were capable of covering this new content and whose schedules allowed rotating participation during the course of the semester. Without participating experts across all of the disciplines, delivery of effective feedback to all students on a consistent basis was recognized as a challenge. The third challenge was finding ways to emphasize clinical skills that included communication, negotiation, and problem solving with other professionals—this was particularly difficult. It became clear that faculty members and students alike are more comfortable focusing on the application of discipline-specific clinical skills.

On the basis of the identified challenges, several solutions were implemented. A single faculty member was designated to lead the course. In order to address issues of experience levels and course content, a faculty member from the Instructional Technology (IT) department was included in the planning process; this individual's instructional design expertise was invaluable in building the course. Using this guidance, a subset of the original IPE committee looked at existing models of course delivery (see, e.g., Titzer, Swenty, & Hoehn, 2012; Williams, Lewis, Boyle, & Brown, 2011) and decided on two initial solutions. The first was to use a case-based curriculum. The second was to explore mobile technologies as a platform to deal with challenges related to students meeting and collaborating face to face. The IPE subgroup applied for and received an internal grant, which supported this effort. The grant provided funding for iPads for all students involved in the course as well as for the development of materials and the course design.

In developing cases, there was always a tradeoff among authenticity, feedback, and professional interface.

In developing cases, there was always a tradeoff among authenticity, feedback, and professional interface. How much detail do you need to have in a case history for each profession? Do you provide feedback during the decision-making process so that students do not venture too far off track, or do you wait until students develop a plan of care? Do cases that always have interfaces for all professions in the course start to seem contrived? It was also important to keep cases flexible in terms of professions involved because we were not able to guarantee the makeup of teams in the class with the current model.

Fortunately, one event helped trigger a revision of the approach as well as better assurance of equal team representation—outside funding through the Healthcare Access Initiative (HCA) in the Medicaid Technical Assistance and Policy Program (MEDTAPP). MEDTAPP is a university Medicaid research partnership combining nonfederal and



federal funds to support the efficient and effective administration of the Medicaid program. The HCA is the specific partnership mechanism for the activities at Ohio University. It supports the development and retention of health care practitioners to serve Ohio's Medicaid population using emerging health care delivery models and evidence-based practices. The MEDTAPP HCA was designed to align with established, successful IPE programs and leverage existing resources to train and retain health

care practitioners to serve Medicaid beneficiaries in the following areas: child and adolescent psychiatry, community psychiatry with a geriatric and/or integrated behavioral health/primary care focus, pediatrics, family practice, advanced practice nursing, and dentistry. The HCA was designed to provide additional funds to existing projects.¹

MEDTAPP allowed for accelerated remediation of one of the fundamental challenges in setting up our new program: the lack of infrastructure for equal involvement of various health care professions. Funding for students was part of the solution. Although the original idea was to have mobile technologies be the attractive part of getting students from a variety of professions to enroll, the opportunity provided through a state-level grant to provide monetary incentives helped ensure equal enrollment of multiple health care professions in the course. Students participating in the program were MEDTAPP Fellows, meaning they received tuition waivers and a fellowship stipend. Selection was competitive and was perceived as prestigious, which turned the project from “experimental” to “distinctive” and attracted high-quality student participants across professions.

It also allowed for equal numbers of students to be assigned to interprofessional teams. Course instructors controlled enrollment and group membership. Given that there was no mechanism of infrastructure to require an IPE course—and considering that an elective course would have been affected by class schedules and student choice amid a number of competing options—the incentivized model was an ideal starting point in addressing some logistical challenges.

¹ More specific information on the HCA can be found at <http://grc.osu.edu/medicaidpartnerships/healthcareaccess/index.cfm>. This was an Ohio mechanism, but the idea of securing funding to support efforts related to IPE is an important avenue to explore.

In the classroom-based course, there was a need to deal with authentic cases and expert feedback. In looking for a commonality among students enrolled, the one common denominator was that they were all students in the health care professions. The IT faculty member ultimately suggested that we move to a more student-centered framework (Moore, 2004). The premise was that the task of revising and constructing curricular materials was in itself a team-building activity, tailored to address core competency areas for students. A starting point was for students to view existing IPE cases that had been developed, review them, and revise them. The teams used collaborative tools (e.g., Google Docs, VoiceThread, Google Hangouts) and then built revised and new cases through a variety of technologies (e.g., Prezi, iBooks, websites, and interactive PDFs). Students also completed weekly reflection journals on their experiences in team building. Because the Institute of Medicine's (IOM's) core competencies had been chosen as a framework for the original IPE survey and internal grant proposal, they were also adopted to structure the goals of the course.² The various technology tools and their relationships to these standards are summarized in Table 1.

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² The full report describing the IOM core competencies can be found at <http://nationalacademies.org/hmd/reports/2003/health-professions-education-a-bridge-to-quality.aspx>.

Table 1. Various technology tools and their relationship to the Institute of Medicine (IOM) standards.

Core competency area	Tools and activities*
Working in Interprofessional Teams	Pinterest boards of professions and teams; “What People Think I do” memes; elevator speeches; Animoto introductions; introduce yourself as another professional; Wordle and Word Clouds; iBook on case-based approach.
Delivering Patient-Centered Care	Conducting VoiceThread discussions of videos related to patient–provider communication scenarios; using Prezi to convey information about health care teams and issues to patients; engaging in website construction (Weebly) to enhance patient–provider communication.
Practicing Evidence-Based Medicine	Exploration of apps for searching journals; search strategies and keyword searching; comparing and contrasting search approaches across disciplines; jointly searching for evidence on a case and reporting team findings through a Google document.
Focusing on Quality Improvement	Constructing materials related to precautions; conducting VoiceThread discussions of videos related to safety from http://www.mededportal.org ; using Google Forms and surveys to solicit feedback.
Using Informatics	Using Explain Everything and Educreations to make tutorials; interpreting and designing infographics; reviewing electronic health record systems; designing wearable technology to track health information; designing apps and portals to track patient outcomes.

Note. Examples of student work and videos can be found at <http://www.ipefacts.com>.

*See Appendix for sources.

Students received guidance in their projects from a health care perspective from this chapter's second author (John W. McCarthy, with support from the IT faculty member), and their final products required rotating roles for students from each of the professions in leading an activity. We assessed pre- and posttest measures of self-perceived core competency knowledge as well as perceptions and attitudes toward working in groups; we also measured students' knowledge of digital tools. As is the case with many self-report measures (see, e.g., Zorek et al., 2014), students came in rating their skills as high, with the exception of two areas—informatics and quality improvement, in which students started with a much lower baseline.

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Student comments relative to their knowledge of other professions also reflected more depth than they realized from their initial stereotypical views generated from portrayals in dramatized, fictional television programs or movies.

Figure 1. Comparison of all students' ($N = 18$) mean competency scores before and after the Fall 2013 Health Sciences and Professions 5510 course.

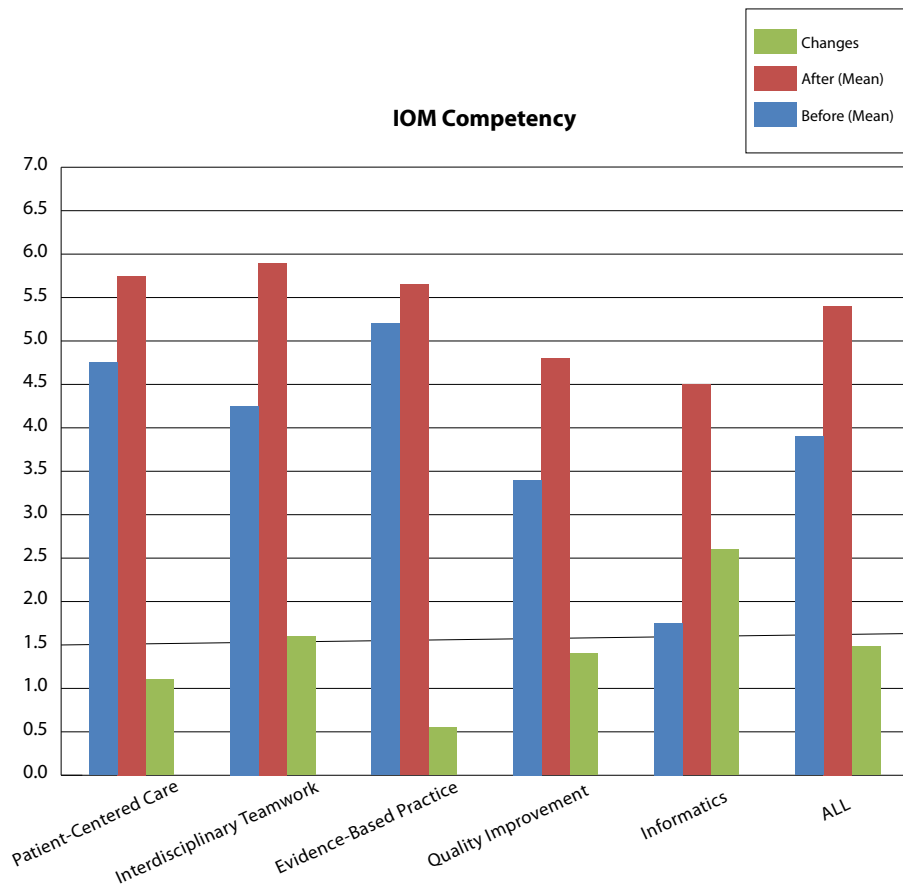


Table 2. Data on student competency before and after the program.

Competency	Before <i>M (SD)</i>	After <i>M (SD)</i>	Δ <i>M (SD)</i>	<i>t</i>	<i>p</i>
Ability to Locate Health Information (Ri)	2.95 (0.95)	4.00 (0.76)	1.05 (0.90)	5.46	.0001
Patient-Centered Care Knowledge (Rp)	4.32 (1.29)	5.41 (1.10)	1.09 (1.38)	3.72	.0001
Interdisciplinary Teamwork (Rtw)	3.82 (1.01)	5.50 (1.01)	1.68 (1.49)	5.29	.0001
Evidence-Based Practice (Re)	4.50 (1.19)	5.86 (0.78)	1.36 (1.18)	5.43	.0001
Quality Improvement (Rq)	3.00 (1.45)	4.64 (1.09)	1.64 (1.40)	5.49	.0001
Informatics (Rinf)	1.77 (0.92)	4.27 (1.24)	2.50 (1.63)	7.21	.0001

Note. $N = 22$. $\alpha = .05$. M = mean; SD = standard deviation; t = paired t -test values.

The final course requirement, a group presentation, had two major goals. The first goal was to ensure equal participation of group members in a public presentation of their final projects. The second goal was to promote an engaging presentation that did not rely on the presenter “reading” PowerPoint slides. To achieve the first goal, the actual speaker for a presentation was chosen randomly and immediately before the group’s presentation. To ensure that presentations were not dry readings of PowerPoint slides, our IT consultant proposed using the Pecha Kucha method (<http://www.pechakucha.org/>), whereby students would have to present using 20 slides and would have 20 seconds per slide. Slides would advance automatically after 20 seconds. At first, students were not receptive to this format. But, like many aspects of the course, once the challenge was met, the students found it to be worthwhile and effective in team building, as the testimonials in Box 1 indicate.

Box 1. Student testimonials on the final project.

“[The final project] . . . was nerve racking, but I began to feel comfortable. After presenting, I actually do like the Pecha Kucha form of presentation. It kept it concise and [was a] visually appealing presentation.” –Taylor

“My favorite assignment is the final project. I liked it the most because it allowed for creativity and a space for the culmination of work and group experience to come to one place and shine. Not only is it beneficial to see all I have learned displayed through components of the final project, but I feel as though it has meaning and life beyond turning an assignment in that is not impactful or even memorable.” –Virginia

“I enjoyed this class/project much more than I originally thought I would. I was hesitant about the technology aspect, but in the end, I feel I grew a lot, had fun, and . . . benefitted in other personal and professional aspects of my life because of it.” –Ginny

Part II: Evolution of a Clinical IPE Experience

The joint committee met for almost a year before developing actionable ideas. Progress felt slow, but strong collegial relationships were built.

The motivation for pursuit of this project was the realization that it would prepare competent, discipline-specific professionals to enter the workforce with no explicit training or assessments on their ability to understand or work with other professionals. Two other faculty members

joined in approaching the medical school to work together on this issue. Like-minded colleagues in the medical school were identified, after which the group began meeting regularly with the stated goal of developing authentic experiences in which both sets of students could work together clinically. The accomplishment of bringing together a number of disciplines to work as interprofessional teams, to be placed in community-based health care facilities, and to learn the team-based care process in a patient-centered manner was a major step in the development of the CHSP as well as the HCOM.

This unofficial “co-college” committee was significant. Prior to 2010, CHSP was not a college specific to the health care professions. Rather, it comprised some professions in the health care arena, but it also comprised those that aligned well with business, education, and fine arts. In 2010, the CHSP was restructured and established as a college primarily toward the development of health care professionals. After the restructuring, the CHSP included programs in athletic training, audiology, child and family studies, exercise physiology, nursing, nutrition/dietetics, physical therapy, and social work. Moreover, despite the CHSP and the HCOM being directly across the street from each other and having similar building names (Grover Center and Grovesnor Hall), historically, the two colleges have had little history of collaboration. This was not due to ill feelings or negative history per se but, rather, the manner in which the colleges conducted business. For example, HCOM handled all aspects of its own admissions, information technology infrastructure, cadaver labs, and so forth. In many ways, HCOM functioned as an independent entity within the university. However, in recent years, HCOM has received internal and external suggestions to collaborate with other professions in its curricular activities. With its own accreditation standards requiring interprofessional experiences and a genuine interest in providing better physicians for the modern medical setting, HCOM faculty and staff were receptive to the request to participate on our developing IPE committee (Commission on Osteopathic College Accreditation, 2014, p. 21).

This joint committee met for almost a year before developing actionable ideas. At first, the discussion consisted of sharing operational details as well as current challenges to programmatic execution. Progress felt slow, but—in addition to each college having a greater awareness of the other—strong collegial relationships were built. Once this trust relationship was developed, the committee created an idea that all members bought into.

Stated again, the goal of this project was to create meaningful experiences in which members of the various health care professions could learn together. The importance of the experiences is that the interactions would be team based and patient centered. The concept included students from audiology, medicine, music therapy, nursing, nutrition, physical therapy, social work, and/or speech-language pathology. Not all professions needed to be represented in every situation, but the committee thought it was critical to have the generalist practices included (i.e., medicine and/or nursing). Identified students from each discipline would be assigned to interprofessional teams.

Prior to assigning students to individual teams, there was one and only one assignment that required the students to work with others within their own discipline: presenting their profession to the rest of the class. For example, speech-language pathology students were instructed to describe what an SLP is. Further, they answered questions such as the following:

- What is the scope of practice?
- What are the requirements to become an SLP?
- Where are the common work settings with which other professions often collaborate?

After these presentations, the students were assigned to teams that would be making the community-based visits together.

Critical to this concept is the development of partnerships with community-based facilities. One of the project's strongest partners has been The Laurels of Athens, a long-

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term care facility. The Laurels committed to finding and obtaining appropriate consent from certain residents, and each interprofessional team was matched to a resident. The interaction with the residents was designed to consist of three visits, each lasting up to 2 hours.

Prior to the first visit day, The Laurels provided the instructor with basic information about the resident, including primary diagnoses. These were shared with the assigned team to allow each member to perform research on how the diagnoses might manifest from their profession's perspective.

On the first visit day, "Chart Review and Interview Day," the team's first objective was to review the resident's chart. The team learned quickly that there was a certain skillset involved in reading a chart and that the chart tells a story about the resident. In addition, the team was instructed to develop the questions that they wanted to include in the interview. For example, in the case of a 72-year-old female with type II diabetes and dysphagia from a stroke, the dietitian, nurse, and SLP would want information related to food and liquid intake. But each discipline has its own unique perspective on this issue. Therefore, the team members came to a consensus on who would ask which questions. Eventually, the team decided which questions to ask and in what order. When the team members completed their list of interview questions, they met the resident to conduct the interview.

At the end of the first visit day, the team members met to develop a report that included all of the findings from the day as well as the team's plans for the second day. In the subsequent class period, the team conveyed this report verbally to the other teams, and a spirited discussion typically followed.

On the second visit day, "Assessment Day," the team members conducted clinical assessments relevant to the resident. Important to the IPE goals of learning with, about, and from each other, all members of the team were present. In many cases, team members identified areas of collaboration to facilitate one another's work.

At the end of Assessment Day, the team members developed a report (similar to the report from the first day) and presented it to the class. A group discussion followed. The team also presented initial ideas for the final visit day.

On the third and final visit day, "Intervention Day," the team performed a series of interventions with the resident. The goal of final visit day is to develop a treatment plan for

The AHRQ has developed a teamwork system known as TeamSTEPPS, designed to reduce medical errors in medical settings.

the resident and to execute it as a long-term treatment plan on the first day of the actual intervention. For example, for one resident who struggled with balance, lower extremity strength, and step size but had an extraordinary love

for music, the physical therapy and music therapy students teamed to provide synergistic care. In a prior session, the music therapy student established the resident's natural rhythm (i.e., the pace at which the resident walked). The physical therapy student wanted the resident to take larger steps, so she taped images of cockroaches on the floor and instructed the resident to step on the bugs. While the resident was doing so, the music therapy student played the resident's favorite music, which was temporally adjusted to her walking pace. The team experienced a high degree of patient compliance owed largely to the team-based creativity in care planning. Some teams reported frustration due to the time limitations of this session. They often wanted more time with the patient to provide a greater variety of suggestions or treatments. In these situations, we reminded the students of the primary goal of the course, which was to develop interprofessional competencies. Each discipline's standard courses and clinical rotations are designed to develop those specific clinical competencies. In the IPE courses, however, students relied upon that previous training in order to effectively perform in the IPE courses. Once again, each team presented its report to the class, and a discussion followed.

These visit days served as the core of the clinically oriented class. Several activities and knowledge areas were brought in to bolster the clinical curriculum. The Agency for Healthcare Research and Quality (AHRQ) has developed a teamwork system, Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS; AHRQ, 2015), which is designed to reduce medical errors in medical settings.³ This powerful system can be easily integrated into interprofessional courses. The website includes a number of video vignettes as well as valuable downloadable materials.

3 For more information, see <http://www.teamstepps.ahrq.gov>.

The variety of formats allows for a high degree of scalability—that is, if a simple introduction to the concepts is desired, there is a freely available PowerPoint presentation. However, for deep exploration into these topics, the downloadable pamphlets and supporting videos allow examples to be shown and support further discussion on its application.

Another important aspect of this and any true interprofessional course is dedicating time for structured reflection. Two different tools have been explored. The first is a critical reflection process called *clinical jazz*, denoting the improvisation that occurs during the reflection (Longenecker, 2002; Longenecker & Levine, 2012). If a team was scheduled to participate in clinical jazz on a particular day, its one preparatory role was to identify a team member who would bring in a clinical experience that posed some sort of personal and/or professional challenge. An example of such a situation would be conflict between the student and his or her preceptor over a clinical diagnosis that would have significant implications for the patient. On the day of class, the student brought in his or her story, drew a picture on the board representing the situation, and wrote a question—for example, “How can I help a client change who will not help himself?” Through facilitation by the instructor, the process unfolded through three stages.

In the first stage, the situation was described to the rest of the team in order to help them better understand the scenario and to allow for any questions. Once the team members were satisfied with their understanding, the second stage began, which was to revise the question into a *useful question*—that is, one that can be answered broadly, in a non-discipline-specific or even a non-situation-specific manner. For example, the question posed earlier sounds quite reasonable and, in our estimation, is a great starting point. However, a more useful question might be directed toward oneself rather than implicating the client. The question might be rewritten into the following useful question: “What can *I* do to help my client move along the change continuum?” This subtle shift in perspective has profound implications. During this second stage, team members are tempted by the pitfall of trying to answer the question prematurely. The facilitator’s role is to gently keep the process on track and move to the next stage only when the goal of the current stage has been met. The third and final stage of the process was to

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answer the newly minted question in a broad (i.e., non-discipline-specific), applicable way. In clinical jazz terms, this is called the *clinical pearl* because it is a simple, practicable principle that we can carry with us and apply to various situations. Answers to our example question might include variations on “involve the client in the process” or “discover what motivates the client”

(and other such themes). Once the team had answered the question, the answer was written on the board. Finally, the discussion was opened up to all the teams.

Although only the presenting team was technically participating, the other teams in the class were observing and making notes for later discussion. Only when the presenting team had completed the process were the rest of the teams invited to ask

questions and discuss. Typically, teams are incredibly eager to do so. We have found it difficult for the observing teams to refrain from participating during the process.

For each reflection, every observing student filled out an evaluation on the process. The data from these observations demonstrated clearly that each step of this reflection process was achieved (see Table 2 for data that aggregate six sessions from two course offerings). Observers also had the opportunity to write open-ended comments about the session. Some representative comments from these sessions are featured in Box 2.

Box 2. Student testimonials on the clinical jazz reflection process.

“Very interesting to hear from different professions on one problem-solving strategy.”

“Everyone had something to say—not boring, very insightful, enjoyed everyone’s input.”

“Well and respectfully conducted; cooperative process which refined the question into one that is effectively actionable.”

“Kept the scenario universal to all disciplines; emphasized communication between student–patient–supervisor.”

Reflection Tools

Clinical Jazz

The first successful reflection tool used was clinical jazz. A value-added benefit of the clinical jazz experience is that the composition of the teams is highly flexible. In the courses described, a broad representation of disciplines was used. However, this experience can easily be brought into courses with less diversity of disciplines—or even courses making up a single discipline. As a faculty development strategy, a process was created to include in this experience faculty with little exposure to reflection and/or IPE techniques. Essentially, faculty members were given the opportunity to participate in a clinical jazz session as junior facilitators. In this manner, they could observe the process and learn some of the nuances of its facilitation. To identify potential faculty participants, IPE committee members sent an e-mail to the entire CHSP faculty at the beginning of each semester with a description of the opportunity and the time commitment that it would involve. Once identified, individual meetings were set up with each interested faculty member to describe the reflection process and how it might benefit his or her teaching, to set expectations, and to schedule the day of the experience. After the experience, a follow-up meeting occurred in which questions and/or issues were addressed, and a discussion ensued as to how the faculty member might integrate this experience into his or her courseload. A typical course offering can include as many faculty members as there are teams, which is up to four faculty members per semester (see Table 3).

Table 3. Data on the four questions that each observer was asked in their evaluation of the reflection session.

Question	<i>M</i>	<i>SD</i>
The group clarified the jotter's concern.	4.57	0.15
The question was effectively refined into a useful question.	4.50	0.14
Everyone participated.	4.41	0.32
The group created safety and effectively responded.	4.74	0.11

Note. Each question was answered using a 1–5 scale (1 = *strongly disagree*; 5 = *strongly agree*). Means (*Ms*) and standard deviations (*SDs*) are shown for six sessions from two courses. Each session consisted of a unique set of students.

StoryCare

The second successful reflection tool that was used involved a low-fidelity simulation called StoryCare (<http://www.storycare.com>). StoryCare is a subscription-based database of audio-recorded clinical, interprofessional situations designed to improve patient safety and satisfaction. The online tool allows the user to search the database using numerous variables to find a story relevant to his or her desired goals. StoryCare also offers handouts and an instructor's sheet, both of which are printable. This tool is easy to implement because all of the pieces are already in place, and finding an appropriate simulation only requires identifying the right story as well as printing the materials. This reflection, including the presentation and discussion, can be administered easily to the entire class. Or, once the story is finished, the facilitator can separate the group into smaller teams for discussion and can then follow it up with a discussion involving the entire group.

Ad Hoc Opportunities

The third and final successful reflection tool used (and one that continues to be used) was one of opportunity—that is, elements were brought into the class as opportunities became available from our university's pool of experts. For example, in one instance, a psychologist spoke on identifying at-risk patients for suicide. In another instance, faculty members with expertise in rural Appalachian health issues were excited to present this specific area of health to the group. Finally, a transgender person was invited to speak about his experience interfacing with the health care community.

Evaluations and Assessments

A key interest of the faculty involved is to understand which areas are successful and which areas fall short in implementing these courses. In addition to the traditional course evaluations, pre- and postcourse surveys—as well as a self-assessment of interprofessional competencies—were filled out by each student. As discussed below, several aspects were identified as successful; others were rated as needing further development.

Surveys

At the beginning and end of the course, students filled out a survey that included the following questions:

- Open-ended questions
 - What benefits do you anticipate (have you found) from this course?
 - What problems do you anticipate (have you found) (pre/post) in this class?
 - Are there benefits you anticipate (have you found) (pre/post) in working with a team in this class?
 - Do you have experience working with team-based care in a clinical environment?
- Scaled questions (1–7)
 - Perceptions regarding your own knowledge of patient-centered care (1 = *no knowledge*; 7 = *expert*)
 - Perceptions regarding your own knowledge of interdisciplinary teamwork (1 = *no knowledge*; 7 = *expert*)
 - How much do you like to work in groups? (1 = *not at all*; 7 = *highly preferred*)

Of the three scaled questions, two significantly increased from pre- to postcourse: self-perceptions of one's own knowledge about patient-centered care ($Z = -2.51, p < .01$) and, specifically, perceptions regarding one's own knowledge about interdisciplinary teamwork ($Z = -2.67, p < .01$). However, the preference to work in groups remained unchanged ($Z = -1.07, p > .05$). At first, it was surprising to see the seemingly juxtaposed comments that students made in their answers to the first two scaled questions when compared against their answers to the third scaled question. Students consistently wrote comments extolling the virtues of teamwork, learning from each other, interdisciplinary communication, collaboration, and building relationships—all of these being elements of team-based care. When considering the actual day-to-day interactions that students on a team need to have with one another, these virtues are somewhat overshadowed with logistical barriers.



Self-Assessments

The six-member teams in this course came from three different colleges, one of which is located on the opposite side of campus. Programs in physical therapy and medicine do not follow the university-sanctioned academic schedule. Moreover, none of the programs that were included designed their curricular schedule in consideration of this course. One of the biggest logistical challenges of the course (aside from identifying a mutually agreeable 2-hour block) was each team's need to collaborate outside the classroom.

We believe that the challenges involved in coordinating schedules have held back students' preference for working on teams. Teams were observed adapting to these difficulties through the use of synchronous and asynchronous online technologies that are taught in second author John W. McCarthy's course, often through the use of Google Docs.

Tool 1: IPEC Survey

In order to assess more rigorously the primary outcome of this course—that is, to develop interprofessional competencies—self-assessment tools were added. The first tool implemented was the Interprofessional Educational Collaborative (IPEC) Competency Survey Instrument (Dow, DiazGranados, Mazmanian, & Retchin, 2014), a 42-question survey that dedicates a number of questions to each of the four IPEC domains (IPEC, 2011). Each question has five potential responses, ranging from 1.0 (*strongly disagree*) to 5.0 (*strongly agree*; Dow et al., 2014). This self-assessment tool was implemented in two course offerings, but it did not prove to be successful. The problem was identified in the pre-assessment survey. On this survey, the vast majority of students reported having little to no experience in IPE, yet they rated themselves, on average, 4.7 of 5.0 on this survey. After the first course, in which such high initial ratings were seen, this rating trend was interpreted as a misunderstanding. Many of the questions sound similar

We believe that the challenges involved in coordinating schedules have held back students' preference for working on teams. Teams were observed adapting to these difficulties through the use of synchronous and asynchronous online technologies.

to general clinical competencies except with the added framework of an interprofessional context. With this in mind, we made an extra effort to clarify the role of these questions during the second implementation of this tool. But the two sets of ratings were almost identical. In the end, we abandoned this tool because of the

concern that a generational attitude may allow a high perception of competency among individuals who have never been trained or tested in IPE competencies.

Tool 2: Readiness for Interprofessional Learning Scale

To mitigate high self-perceptions, we used a tool that had been validated in the postgraduate medical context. The Readiness for Interprofessional Learning Scale (Reid, Bruce, Allstaff, & McLernon, 2006) is a 19-question survey, with each question containing five potential responses ranging from *strongly disagree* to *strongly agree*. This questionnaire differs from the IPEC Competency Survey Instrument (Dow et al., 2014) in that several of the questions are written in reverse (e.g., a *strongly disagree* response would indicate a higher degree of interprofessional competence). In the coming semester, it is hoped that this reverse format may cause a deeper level of consideration and provide a more accurate level of response.

Perspectives of Students

Either in course evaluations or via e-mail after the class had ended, impactful statements providing encouragement and demonstrating the importance of IPE were received. Some of these statements are shared in the excerpts below.



"I feel I learned a great deal about other health professions and the roles they play on interdisciplinary teams."

"The opportunity the class provided to work on a team and to work within the field was invaluable. In a way, it was like a mini-internship."

"In addition, working together improved my abilities in communication, collaboration, and problem solving on a large team with many different skillsets."

"As I entered my graduate practicum interview, my soon-to-be supervisor was extremely pleased to see I had interdisciplinary experience."

"When I think about the skills I gained from the course and the experience, the impacts are truly innumerable. The impact has been lasting and has greatly aided in my understanding and engagement in my own social work classes—for example referrals, releases, communication with doctors, speech-language pathologists, and physical therapists have all been enhanced due to the experiences of the course. Additionally, my confidence and knowledge were boosted, allowing me to communicate more effectively, making me a valuable member of a team."

Perspective of a Parent

The excerpt below is just one example of statements of support for IPE that we received from parents of children with special needs.

“This [interdisciplinary, team-based care] model will ABSOLUTELY help the students in their future careers. This approach is long overdue. Too often in health care, specialists are isolated by both policy and practice. Too often, prescribed courses are not coordinated among various fields, resulting in less than optimum or even conflicting treatments. This training model is very encouraging for the quality of [the] future of health care.”



Example of Funding

When learning about this university’s story, it is easy to associate the accomplishments with the funding that was received. However, the chronology of events suggests that the funding—though highly facilitative to the implementation of our IPE curriculum—was merely incidental to its development.

The development of both courses had been largely conceptualized by mid-Summer 2012 for Fall 2012 registration. The developers of the classroom-based course even had secured a competitive internal award to support the technology elements. Two weeks before the beginning of the semester, a notification of a request for proposals was received from

Our faculty members and students have gained much experience with IPE/IPP after being part of this 3-year project. In that time, several things have worked well; several others have not worked. The courses are continually adapted and improved.

the Ohio State University’s Colleges of Medicine Government Resource Center for a potentially large award as part of its Medicaid Technical Assistance and Policy Program (MEDTAPP) Healthcare Access Initiative (HCA). The MEDTAPP HCA was designed to encourage and support integrated training programs that support the Medicaid population in Ohio. The

challenging aspect of this grant was the fact that an entire proposal needed to be developed—one that had rather complicated budget requirements—with only 3 weeks until the deadline. We pursued this opportunity using what were originally two separate ideas developed in parallel and adjusting them into a cohesive curriculum. The initial award was for 1 year and was subsequently renewed for 2 more years before ending in June 2015.

Lessons Learned

Our faculty members and students have gained much experience with IPE/IPP after being part of this 3-year project. In that time, several things have worked well; several others have not worked. The courses are continually adapted and improved to reduce the shortcomings in the model for the program. Some elements are able to be controlled, whereas others require a unique understanding and initiative from a higher level. Below is a list of what has been learned.

1. Do *something*. The group of individuals who developed this clinically oriented course could have spent 2 or even 3 years devising a more perfect theoretical experience. Better outcome measures could have been devised, different professions could have been considered for inclusion, and so forth. However, at that point, still nothing would have *actually* happened. About 6 or so months into the meetings, one key member of the group finally announced, “We need to *do* something. As soon as we do it, we’ll know what to change.” This advice is profound. Start with a solid core idea, and build iteratively.
2. Look for funding opportunities to scale the projects. There are a number of advantages to finding internal and/or external support. Any new project will have its detractors, and the process of funding review can mitigate some of the concerns that might be raised. In the case of this project, having the internal award gave it a sense of legitimacy from the university and reduced resistance from certain individuals. Then, having the larger award to support both courses provided a much greater sense of value and raised the visibility of the project. In addition, the support provided a bit more independence with which to operate.
3. Start small, and with individual leadership. Most colleges and universities are not structured to move easily into a mature model of IPE/IPP. We believe that the appetite of higher administration to enable this model varies greatly. By starting with smaller, doable projects, the case is made for expansion and broad implementation. However, the barriers to making this leap are numerous and large. These barriers are more easily addressed in smaller projects before large-scale implementation is complete.
4. Be flexible in how various professions participate. Each program that might participate has its own culture and personality. A high degree of variability was observed in how each program prefers to communicate and how much control it exerts over the recruitment of its students into the project. Provided that the project goals are being met, it is not only permissible but also important to provide that freedom to these programs as an inexpensive way of building trust.

Conclusion

At Ohio University, IPE experiences are accompanied by faculty development opportunities in the form of symposia, and there are faculty research incentives for collaborative research. For example, the University has implemented small, internal grants to encourage faculty engagement in multidisciplinary research. Online IPE courses are an option; however, it is more challenging to ensure a high degree of interactivity with an online-only format. It can be tempting to pursue multiple efforts at IPE once interest and energy are created within academic units and/or administrations. Through this IPE experience, we have observed that students are most attracted to interesting questions and projects that allow them to feel like the health care professionals they want to be and to tackle patient-centered issues. Classroom experiences should be project centered and grounded in major issues such as core competencies, with a greater focus on execution and less emphasis on the acquisition of content knowledge. This project was fortunate enough to have administrative support from the early stages of development.

Box 3. Lessons learned in IPE/IPP.

1. Do *something*. Start with a solid core idea, and build iteratively.
2. Look for funding opportunities (internal and/or external).
3. Start small, and with individual leadership.
4. Be flexible in how various professions participate.

However, past experience has suggested that administrators will tend to work within existing hierarchies. New projects can be most exciting, especially when they are successful and when they squarely hit the aspirations of the institution's mission. But the operational adjustments required in making a truly effective, long-term IPE program work involve significant collaboration, trust, and some sacrifice in order for such novelties to become sustainable. At the end of the day, a short-sighted administration will try to minimize these requirements and insist that IPE can function within existing structures, which, absent a timeline, guarantees the program's ultimate demise. The top-down piece that worked in this case was the initial step of having administrative support that allowed individual faculty and students to innovate. As the project progressed through this grant-supported venture for 3 years, the administration continued to struggle to truly understand and embrace the unique requirements of interprofessional programming, adjust hierarchies, relinquish certain controls, and foster the successful programs.

References

- Agency for Healthcare Research and Quality (AHRQ). (2015). TeamSTEPPS®: Strategies and tools to enhance performance and patient safety. Washington, DC: Author. Retrieved from <http://www.ahrq.gov/professionals/education/curriculum-tools/teamstepps/index.html>
- Barr, H., Helme, M., & D'Avray, L. (2014, January). *Review of interprofessional education in the United Kingdom*. Fareham, United Kingdom: Centre for the Advancement of Interprofessional Education. Retrieved from <http://caipe.org.uk>
- Bennett, P. N., Gum, L., Lindeman, I., Lawn, S., McAllister, S., Richards, J., . . . Ward, H. (2011). Faculty perceptions of interprofessional education. *Nurse Education Today*, 31, 571–576. doi:10.1016/j.nedt.2010.09.008
- Commission on Osteopathic College Accreditation. (2014). *Accreditation of Colleges of Osteopathic Medicine: COM Accreditation Standards and Procedures*. Chicago, IL: American Osteopathic Association.
- Dow, A. W., DiazGranados, D., Mazmanian, P. E., & Retchin, S. M. (2014). An exploratory study of an assessment tool derived from the competencies of the Interprofessional Education Collaborative. *Journal of Interprofessional Care*, 28, 299–304. doi:10.3109/13561820.2014.891573
- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., . . . Zurayk, H. (2010). Health professions for a new century: Transforming education to strengthen health systems in an interdependent world. *The Lancet*, 376, 1923–1958. doi:10.1016/S0140-6736(10)61854-5
- Gilbert, J. V., Yan, J., & Hoffman, S. J. (2010). A WHO report: Framework for action on interprofessional education and collaborative practice. *Journal of Allied Health*, 39(Suppl. 1), 196–197.
- Goldberg, L. R. (2015). The importance of interprofessional education for students in communication sciences and disorders. *Communication Disorders Quarterly*, 36, 121–125. doi:10.1177/1525740114544701
- Interprofessional Education Collaborative (IPEC). (2011, May). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, DC: Author.
- Lash, D. B., Barnett, M. J., Parekh, N., Shieh, A., Louie, M. C., & Tang, T. T.-L. (2014). Perceived benefits and challenges of interprofessional education based on a multidisciplinary faculty member survey. *American Journal of Pharmaceutical Education*, 78(10), 180. doi:10.5688/ajpe7810180

- Longenecker, R. (2002). The jotter wallet: Invoking reflective practice in a family practice residency program. *Reflective Practice*, 3, 219–224.
- Longenecker, R., & Levine, C. (2012, November 16). *Teaching reflection in practice*. Paper presented at the 2011 Celebration of Educational Scholarship, The Ohio State University Heritage College of Osteopathic Medicine, Columbus, OH.
- Moore, D. R. (2004, Fall). A framework for preparing students to design their own learning strategies. *The College Quarterly*, 7(4) pp. 1–12. Retrieved from <http://www.senecac.on.ca/quarterly/2004-vol07-num04-fall/moore.html>
- Reid, R., Bruce, D., Allstaff, K., & McLernon, D. (2006). Validating the Readiness for Interprofessional Learning Scale (RIPLS) in the postgraduate context: Are health care professionals ready for IPL? *Medical Education*, 40, 415–422.
- Titze, J. L., Swenty, C. F., & Hoehn, W. G. (2012). An interprofessional simulation promoting collaboration and problem solving among nursing and allied health professional students. *Clinical Simulation in Nursing*, 8(8), e325–e333. doi:10.1016/j.ecns.2011.01.001
- Williams, B., Lewis, B., Boyle, M., & Brown, T. (2011). The impact of wireless keypads in an interprofessional education context with health science students. *British Journal of Educational Technology*, 42, 337–350. doi:10.1111/j.1467-8535.2009.01031.x
- Zorek, J. A., MacLaughlin, E. J., Fike, D. S., MacLaughlin, A. A., Samiuddin, M., & Young, R. B. (2014). Measuring changes in perception using the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education (SPICE) instrument. *BMC Medical Education*, 14, 101. doi:10.1186/1472-6920-14-101

Appendix

IPE/IPP Tools and Resources

1. Pinterest

<https://www.pinterest.com>

Pinterest is a free website that works like a virtual bulletin board. Those who use Pinterest can search, share, and “pin” other websites and images related to a particular topic; share the pins with other people; and create their own personal “boards” to group items together.

2. “What People Think I Do” Meme

<http://frabz.com/meme-generator/what-i-do>

The “What People Think I Do” meme uses a group of visual images that can be inserted by the creator(s) depicting preconceived notions regarding a particular occupation or area of expertise.

3. Elevator Speeches

<http://sfp.ucdavis.edu/files/163926.pdf>

An *elevator speech* is a simple and concise self-promoting tool that is intended to communicate the most pertinent information about you and your background in the shortest period of time. An example of when an elevator speech would be used would be for a job fair.

4. Animoto

<https://animoto.com>

Animoto is a website that allows you to create videos to communicate important information about yourself or a topic you are involved in. You can insert music and themes, and each slide is completely customizable and timed.

5. Wordle

<http://www.wordle.net>

Wordle is a website used to generate word clouds. Its users provide text and can choose from multiple designs, fonts, and colors to create a unique word cloud about a particular topic related to the provided text.

6. VoiceThread

<https://voicethread.com>

VoiceThread is a cloud-based sharing application that allows users to create unique slideshows by adding images, videos, voice text, presentations, video comments, and documents into a slide show that can be shared with others. Those who view these slideshows can make comments of their own about the content.

7. MedEdPORTAL

<https://www.mededportal.org>

MedEdPORTAL is an online peer-reviewed publication service developed by the Association of American Medical Colleges (AAMC). MedEdPORTAL allows you to search tutorials, virtual patients, simulation cases, lab guides, videos, podcasts, assessment tools, and other resources.

8. PechaKucha

<http://www.pechakucha.org>

PechaKucha is a presentation style where you show 20 images, in individual slides, for 20 seconds each that advance automatically.

9. Weebly

<http://www.weebly.com>

Weebly is a free site where users can create their own customizable website with a unique URL.

10. Google Forms

<https://www.google.com/forms/about>

A Google Form is a survey-developing program within Google Docs that allows its users to create and send surveys to others and also collects data in a spreadsheet as responses are submitted.

11. Google Docs

<https://www.google.com/docs/about>

Google docs is an online word processing program that allows you to develop and format text documents while collaborating with other people in real time.

12. Explain Everything

<http://explaineverything.com>

Explain everything is a “whiteboard tool” that allows its users to create a step-by-step explanation of a process regarding any given topic. Its users can insert different colors, images, text, or audio to create their explanation.

13. Educreations

<https://www.educreations.com>

Educreations is an application that allows you to use your iPad as a “recordable whiteboard.” This app records your voice, saves your writing, allows you to insert images to develop video lessons that can be shared online.

14. Infographic

<https://infogr.am>

Infographic is a website that allows its users to develop charts online that are unique and customizable.

15. StoryCare

<http://storycare.com>

StoryCare is a subscription-based website containing numerous story-based, low-fidelity simulations designed to improve patient safety and satisfaction.



CHAPTER 3

Interprofessional Practice in the Schools: Adopting the Medical Model?

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I vividly remember the individualized education program (IEP) meeting in which I realized how little I knew about interprofessional practice (IPP). One particular kindergarten student, diagnosed with moderate-to-severe autism, received every special education resource service available at the time. Each team member was asked to give an opinion—based on professional expertise—about placement options for the following school year. Well aware of the divide between the regular and special education

Interprofessional practice (IPP) is a process in which different professionals learn from, with, and about each other in order to develop a collaborative practice.

staff, I (somewhat) confidently advised moving the student to a first grade classroom, with the intent of exposing the child to appropriate pragmatic skills by same-age peers. My focus and concern was for his communication needs, and I was certain that my suggested placement would continue to enhance his growing verbal communication skills and potential for appropriate social interactions. It was not until the student, first grade teacher, personal aide, and I

“survived” through a tough transition period the next school year that I realized how little I really knew about the expectations of the teacher, the difficulty of training an aide to address all of a student’s needs, and the lack of IPP that had occurred to get us to this breaking point. No, it was not my duty to take sole responsibility for making this student successful, but as the only special education–trained professional who was consistently in the building, I became the go-to professional for advising on students’ day-to-day scheduling, behavior, and sensory needs. The stress of this burden became almost overwhelming. I needed assistance—and I needed it fast.

What about my IEP team? Why did I feel isolated? I was already a team player—I collaborated, cooperated, and consulted. I participated in referral team meetings and IEP meetings. I sat on response to intervention (RTI) advisory councils. I shared information and expertise, working with my colleagues to meet a common goal. Teaming was my middle name! What had created this discord? Much of it had to do with my—and all of the other professionals’—lack of training for true IPP in the school setting.

The goal of IPP is to develop professional SLPs who are capable of advocating for clients in a coordinated manner.

Moving to an IPP Model

As school-based professionals, the timeliness of IPP has never been greater. According to the World Health Organization (2010), IPP is a process in which different professionals learn from, with, and about each other in order to develop a collaborative practice. The goal of IPP is to develop the skills of professional speech-language pathologists (SLPs) who are capable of advocating for clients in a coordinated manner.

Nearly 40 years ago, the first Institute of Medicine (IOM) conference developed a framework for IPP, advocating for cost-effective, cooperative teamwork focusing on shared, common goals. Leaders in the field concluded that cooperative teaming would improve care, but the existing educational system was not preparing future professionals for the required teamwork.

Unfortunately, this issue remains relevant today: The continued isolation of health profession education results in professional “silos” and decreases the likelihood and instances of collaborative theory in action (IOM, 2001). As a result, we—and most of the other professionals in the school setting—lack adequate knowledge of and training for IPP.

With decreased resources for education in both funding and time, and the increased need for individualized instruction for managing a complex caseload, collaboration and team decision making are imperative for success. The truth is, many of our students present with complex needs inappropriate for one professional to handle alone. At the same time, the varied needs of a given school-based professional’s entire caseload are often too diverse to be addressed by the knowledge base of a single professional. A primary concept underlying IPP is that *how* care is delivered is as important as *what* care is delivered (Interprofessional Education Collaborative, 2011). This means that programming determined and delivered by the IEP should focus on treating the whole child. By providing services that are student centered, safer, and timelier, IEPs will be more effective, efficient, and equitable (IOM, 2001). Four competency areas, which were developed to enhance IPP and make successful implementation possible, provide a framework for guidance.

Collaborative Competencies

Successful IPP requires effective collaboration at many levels. Consider the need for effective teaming between specialties within a profession (e.g., an SLP on a cleft palate team and a school-based SLP), between professions (e.g., an SLP and a classroom teacher), with students/families, within and between organizations (e.g., a team made up of the Division of Specialized Care for Children and the school; a team made up of Dynavox and the SLP), within communities (e.g., the local health department), and at a broader policy level. As Bridges, Davidson, Odegard, Maki, and Tomkowiak (2011) pointed out, effective collaboration hinges on a number of key aspects, including responsibility, accountability, coordination, communication, cooperation, assertiveness, autonomy, and mutual trust and respect. Successful IPP presents as a complex, dynamic process. What does it really look like in practice?

The truth is, IPP in the schools has a long way to go. Most of the research supporting IPP has been completed in the medical field (e.g., nursing, general medicine) and not specifically among our medically based counterparts. Assessing the quality and effectiveness of IPP is even farther behind. The American Speech-Language-Hearing Association (ASHA, 2015) advocates for a growing focus on increasing IPP, although the literature addressing the need in the school setting is sparse. However, although not directly written for the school setting, the four competencies—Values/Ethics for IPP, Roles/Responsibilities, Interprofessional Communication, and Teams and Teamwork—suggested by the IOM (2001) for building and maintaining successful IPP present valid and useful areas of consideration for improving the services that we provide to children. As noted in Table 1, these four competencies build the foundation for successful IPP (IOM, 2001).

Table 1. Four competencies for interprofessional practice (IPP).

Competency area	Description
Value/Ethics for IPP	"Work with individuals of other professions to maintain a climate of mutual respect and shared values." (p. 19)
Roles/Responsibilities	"Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and populations served." (p. 21)
Interprofessional Communication	"Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease." (p. 23)
Teams and Teamwork	"Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient- and population-centered care that is safe, timely, efficient, effective, and equitable."

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Values/Ethics for IPP

In regard to values and ethics in IPP, we must acknowledge that all professionals want or need control, to some degree. We all have professional boundaries that sometimes feel stretched or pushed in upon us. A key factor to working with other professionals is to provide a positive experience for collaborating. Consider how your presence affects the environment for the student and the other professionals. Seek clarification on goals. Ask how another professional envisions a skill occurring. Many children require multiple professional services to be successful; ask how you can be helpful in another professional environment.

Validation is also important. It feels good to know that others highly value our input, our insights, and our expertise. When other professionals know that we value them, we build a foundation for future positive interactions. Validation also allows for an open discussion of specific strengths and areas of need as professionals. We must create our own openness to learn from and with others—and this openness must be readily apparent from the very first interaction.

Roles/Responsibilities

Understanding the roles and responsibilities of ourselves and other service professionals begins with the realization that we are all working toward the same goal: We want our students to reach independent functioning, with the ultimate goal of no longer needing our services—that is, from the very first day, each member of the IEP team is working toward dismissal from special education services. With this concept in mind, we must realize that our roles and the roles of other professionals will change over time.

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By realizing the scope and practice of different professions, as well as acknowledging a different or more explicit role as a team member for a specific student, we evolve to meet the needs of our students as the challenge arises. This evolution must occur at both an individual and a team level. Sometimes our roles overlap, or our boundaries are unclear. If we can delegate responsibility in given situations, we can avoid conflict and open the discussion for how best to serve the student and how to most effectively function as a team.

Addressing limitations in knowledge and skill requires us to be confident in all areas of the scope of practice for SLPs. Consider what other professionals need from us. We have to self-evaluate our own areas of strength and weakness, and we must be willing to collaborate while maintaining the integrity of our professional agenda.

In addition to stepping out of our professional comfort zone and actively learning about other professions, we must also embrace the concept of shared responsibility to improve IPP. This means sharing responsibility for not only the successes but also the failures of a particular student. Much more than splitting up programming tasks for the purpose of efficiency, shared responsibility requires multifaceted problem solving and decision making. Shared responsibility promotes accountability of all professionals involved, requiring a reflection on the successes and failures of the intervention programs used and on the collaborative process itself.

Professional communication is key to successful IPP implementation.

Interprofessional Communication

Yes, we really do have to think about our competency in interprofessional communication because professional communication is key to successful IPP implementation. Although we are the “communication experts,” we must consider learning more about effective professional communication. A key matter is that *communication*, in terms of IPP, refers to the characteristics of effective interactions. As explained by Correa, Jones, Chase Thomas, and Voelker Morsink (2005), when communicating professionally, we must purposefully plan and personalize our statements

to portray open, clear ideals. To effectively communicate as a team, we must know ourselves and develop trust and respect while maintaining confidentiality and sensitivity to differences or preferences.

Communication falls under a broader sense of interpersonal skills needed for effective teaming. Correa et al. (2005) also suggest a number of personal characteristics contributing to effective communication. A self-evaluation of communicative interactions may reveal a growing need to learn about how we approach IPP. Do we portray open-mindedness, acceptance, flexibility, objectivity, and active listening, and then give people the benefit of the doubt? Do we provide helpful criticism and support, take risks, and recognize others' interests and achievements?

Of course, communication does not occur in a vacuum and is a reciprocated interaction. We cannot control the actions or reactions of others; however, by providing a model of effective interaction and good communication, we can provide foundations for future teamwork.

Teams and Teamwork

Functioning as a “living, evolving team” is not an easy task. As Lilly (1971) suggested, professionals should continually monitor how they view children with disabilities—taking great care to apply the label of “exceptional” to the *situation* and not to the student. Considering we have so many students on our caseloads, and that we receive infrequent opportunities to discuss these students with other professionals, the concept of a “living, evolving team” often seems to get lost in the process.

True teamwork includes not only providing direct service but also serving in a supportive and training role for other professionals and parents. We have to break down our professional walls and willingly discuss strategies with other service

We have to break down our professional walls and willingly discuss strategies with other service professionals to address student needs across environments.

professionals to address student needs across environments. In addition, teams are built and supported from the top to the bottom, and vice versa. Plans and accommodations must be understood and supported by all team members, including administrators and parents, and a clear understanding of how the team plans to implement the IEP goals

must be discussed. The idea of “teaming” differs greatly from our known concept of collaboration in the school setting. In an IPP team atmosphere, members voluntarily participate in establishing mutual goals that reflect equality in members' contributions, resources, authority, and accountability (Hillier, Civetta, & Pridham, 2010). Although it is frequently attempted in the school setting, achieving true interactive teaming can be a real challenge.

Barriers to Effective IPP

Moving forward with an IPP model in the schools is by no means an easy task. Although literature supports educational professionals acknowledging the importance of working together and seeking increased collaboration, the actual practice of collaborative teaming remains a significant challenge (Boshoff & Stewart, 2012). A number of obvious and obscure factors contribute to the challenges of effective interprofessional teaming.

The largest, most distinct barrier to even the simplest forms of collaboration is the resource of time. We admit: Scheduling time for a meeting may seem impossible. With lack of dedicated time for meetings—and even less time for informal networking—having the time to build the rapport necessary for effective IPP may seem unreasonable. To address this need, remember that IPP can start small, with a team of just two people working to understand each other's roles, identifying and working on a joint problem, determining responsibilities, and forming a plan of action (Boshoff & Stewart, 2013). Future efforts can then utilize the successes and challenges of the initial attempt to enhance IPP. Administrative awareness of and support for moving to an IPP model will also enhance opportunities for discussion at referral team meetings and at IEP meetings.

Another source of interprofessional tension can be common or overlapping competencies. Determining under whose domain a skill falls may cause professionals to balk at sharing information. A key to enhancing IPP is to focus on complementary competencies or skills that enhance the qualities of other professionals in providing care, such as an SLP using the recommendations of an occupational therapist (OT) during therapy to aid focus, attention, or behavior. We also cannot deny the degree to which

Remember that IPP can start small, with a team of just two people working to understand each other's roles.

effective communication pervades the daily requirements of our students. Other professionals need to know and understand the significance of student deficits. However, concern for

less qualified individuals infringing on a particular professional domain may keep professionals from sharing specific skill ideas. It can be difficult to define and describe the specific needs of our students to other professionals who are not trained in our field. We must consciously avoid domain-specific jargon and clarify our knowledge base, providing the rationale for our recommendations. By viewing exchanges with other professionals as enhancing the client's overall skills, we can achieve a greater understanding of helping the student succeed.

BARRIERS TO IPP

- Time
- Common or overlapping competencies
- Conflict
- Poor communication
- Lack of clear leadership
- Marginalizing the need for IPP by a "just-making-it-through" attitude

Conflict can also have a great impact upon effective IPP. The truth is, some professionals are just easier to work with than others. Personality traits such as empathy, positive self-concept, and willingness to learn from others influence whether a professional relationship can effectively develop when resistance may initially be present. Anticipation of confrontation may keep individuals from moving forward with IPP. Working in the IPP framework requires a paradigm shift—and change does not

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generally occur without resistance. We will not always agree with everyone, but disagreement is not a new professional concept. What does need to change, however, is the way in which we work together to find solutions—solutions that center on treating the whole child.

Although effective communication remains our focus, consider instances in which communication did not go as planned. Poor communication, both verbal and nonverbal, can lead to ineffective exchanges with other professionals. Consider the need to not only enhance our ability to summarize and inform efficiently but also to actively listen to other professionals throughout our busy daily schedule. Active listening requires more than just hearing what another person says; it asks us to demonstrate sincerity in genuinely wanting to know and accept the ideas and opinions of another person while realizing that another professional may perceive the situation differently (Correa et al., 2005). Differing caseloads/workloads and differing access to other professionals influence our ability to communicate

with others in ways that make us the most comfortable. Specifically, consider your own communicative strengths and weaknesses and how they affect your interactions with other professionals in their own stages of learning about professional communication. Recognize and acknowledge the personal stereotypes of other professionals, and realize that other professionals hold their own sets of beliefs about SLPs. Advocate and communicate an openness for continued learning that will help us to break down barriers and open interactions.

We must consciously avoid domain-specific jargon and clarify our knowledge base, providing the rationale for our recommendations. By viewing exchanges with other professionals as enhancing the client's overall skills, we can achieve a greater understanding of helping the student succeed.

True IPP also requires leadership, which can take many forms. Designation of responsibility must occur to clarify and delineate team members' roles and responsibilities. When clarity in responsibility is achieved, team members can acknowledge the overwhelming need for each professional's expertise and experience and the necessity for teamwork in order to achieve goals.

The necessity of IPP is often marginalized by a focus on “just making it through” the daily struggles and obligations of our work. Consider your self-perception of previous collaborative experiences and their impact on determining your willingness and excitement for IPP. Then, factor in other team members’ attitudes and readiness, and you may find that moving forward with an IPP model can appear unattainable. Focus on the positive implications of IPP (i.e., increased progress, decreased isolated addressing of overlapping skills, etc.), and other professionals will follow.

To move forward with IPP in the schools, we as a unified team of SLPs can be the change agent. We have to determine our own theory of learning and continually strive to improve clinical practice.

As with any new concept, measuring the success of IPP beyond anecdotal evidence has yet to be established in the schools. We must make a professional commitment to engage in true IPP and then seek feedback in the process. As Newton, Wood, and Nasmith (2012) discuss, professional development focusing on building

IPP can promote knowledge and acceptance. Addressing the quality of our current collaborative attempts also enables transformation to successful practices.

Conclusion

So, where do we start? True, effective IPP takes deep commitment toward a new type of learning and doing—a change from our current understanding and ideas related to collaboration. To move forward with IPP in the schools, we as a unified team of SLPs can be the change agent. Embracing IPP requires a perspective on teamwork and communication that is different from what we are currently accustomed to. Be a leader in establishing a workplace culture open to learning about and from others, demonstrating mutual trust and respect, and improving interactive communication.



IPP: Suggested Next Steps for SLPs

- Make a plan of action for effective IPP.
- Define your understanding of language and learning and how that affects your priorities and beliefs for school-age children.
- Explore your personal strengths and weaknesses in working with others.
- Craft a set of goals for improving IPP with both willing and unwilling professionals whom you encounter in the educational environment.
- Determine why you think IPP is important to the success of the students on your caseload.

Consider the following self-reflective questions to assess your readiness for IPP.

- Do I understand and accept the theory of IPP?
- Do I possess adequate or proficient interprofessional skills?
- Do I feel comfortable with the idea of engaging in IPP?
- Does my current self-perception adequately reflect my limitations in knowledge and skills necessary for working with other professionals?
- Can I confidently communicate my role and priorities while also accepting the dynamic interface of a client-centered team?
- Can I embrace shared responsibility for successes and failures?
- What areas of concern do I have, or what clarification do I anticipate needing, as an SLP—based on my current knowledge of other professionals’ goals—for a specific child?
- How am I, personally, perceived by other professionals?
- How is my role, as the SLP, perceived by other professionals?
- What goals might I establish for myself in order to successfully navigate assumed communication and collaborative challenges for effective IPP?



As Apel (2014) suggested, we have to determine our own theory of learning and definition of language to drive intervention. We must continually strive to improve clinical practice. Make a “plan of action for effective interprofessional practice” for yourself. Begin by defining your understanding of language and learning and how that affects your priorities and beliefs for school-age children. Explore your personal strengths and weaknesses in working with others. Craft a set of goals for improving IPP with both willing and unwilling professionals whom you encounter in the educational environment. Determine why you think IPP is important to the success of the students on your caseload.

Ask yourself: “Can I learn more about addressing attentional needs to enhance learning? How do I feel about learning language in contextualized versus decontextualized environments? What do I know about how this specific student learns best, and does the classroom teacher, aide, and resource teacher share the same view?” By truly examining our students’ needs, determining our own priorities and beliefs that drive intervention, and self-evaluating our efficacy with IPP, we can continue to provide the best, most efficient intervention to our students.

Key Aspects of Successful IPP

- Responsibility
- Accountability
- Coordination
- Communication
- Cooperation
- Assertiveness
- Autonomy
- Mutual trust and respect

References

- American Speech Language Hearing Association. (2015). *Interprofessional education/interprofessional practice*. Rockville, MD: Author. Retrieved from <http://www.asha.org/Practice/Interprofessional-Education-Practice/>
- Apel, K. (2014). Clinical scientists improving clinical practice: In thoughts and actions. *Language, Speech, and Hearing Services in Schools*, 45, 104–109. Retrieved from <http://lshss.pubs.asha.org/article.aspx?articleid=1867694>
- Boshoff, K., & Stewart, H. (2012). Key principles for confronting the challenges of collaboration in educational settings. *Australian Occupational Therapy Journal*, 60, 144–147.
- Bridges, D. R., Davidson, R. A., Odegard, P. S., Maki, I. V., & Tomkowiak, J. (2011). Interprofessional collaboration: Three best practice models of interprofessional education. *Medical Education Online*, 16(1), 1–10.
- Correa, V. I., Jones, H. A., Chase Thomas, C., & Voelker Morsink, C. (2005). *Interactive teaming: Enhancing programs for students with special needs* (4th ed.). Upper Saddle River, NJ: Pearson.
- Hillier, S. L., Civetta, L., & Pridham, L. (2010). A systematic review of collaborative models for health and education professionals working in school settings and implications for training. *Education for Health*, 23(3), 1–12.
- Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press.
- Interprofessional Education Collaborative. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, DC: Author.
- Lilly, M. S. (1971). A training-based model for special education. *Exceptional Children*, 37, 745–749.
- Newton, C., Wood, V., & Nasmith, L. (2012). Building capacity for interprofessional practice. *The Clinical Teacher*, 9, 94–98.
- World Health Organization. (2010). *Framework for Action on Interprofessional Education and Collaborative Practice*. Geneva, Switzerland: Author. Retrieved from http://whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.pdf

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