

The case for interprofessional education in teacher education and beyond

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Abstract:

In many PreK-12 school environments, individuals with a variety of professional identities and roles provide services to students. Typically, these individuals are trained with minimal interaction with each other, yet they must work cooperatively with each other in the schools. Interprofessional education (IPE) provides a model whereby students in different disciplines learn to collaborate. This article describes the origins and current status of IPE in the health professions; suggests strategies for applying IPE to educator training; describes a promising example IPE project involving two distinct school-based professionals, pre-service special educators and school counsellors in training, including outcomes documented through student reflections; and offers implications for implementing and sustaining IPE in schools of education.

Keywords: Pre-service teacher education | interprofessional education | interdisciplinary approach | special education | counsellor–teacher cooperation | collaboration

Article:

Introduction

The United States of America's school system is staffed by varied professionals with distinct training experiences (e.g. classroom teachers for different age groups and content specialties, special education teachers, administrators, school counsellors, school psychologists, school social workers, school resource officers, specialised interventionists [behaviour support specialists, speech-language pathologists, occupational therapists, physical therapists] and more). This context is incredibly diverse in terms of the expertise, training and background of the many staff members. As a result, it is diverse in preferred methods of intervention, vocabulary and jargon, theories, priorities and so on. Each of these professionals is trained to do their own specific job, but once they are appointed to a school, they are expected and required to work together.

Collaboration among a wide variety of educational professionals is essential to the effectiveness of any school, and thus to the learning and well-being of the students in that school. A further complication is the substantial variation in access to certain professional specialties across schools, districts, countries and cultures. Thus, although the specific challenges of interprofessional collaboration differ throughout the world, every school has responsibilities that can only be accomplished via the effective collaboration of different professionals. As two examples, consider special education services and student mental health support.

Students' disabilities may impact their learning and development across a wide variety of domains, making special education services an area of near-constant interprofessional collaboration. The specifics, of course, will vary substantially based on the policies, practices and resources of the setting. As an example, though, consider special education in the USA. US federal law requires that special education be planned and implemented by an interdisciplinary team of professionals (Individuals with Disabilities Education Improvement Act of 2004, 2012 Individuals with Disabilities Education Improvement Act of 2004, 2012. 20 U.S.C. §§ 1400–1444.). In accordance with the law, each student's Individualised Education Programme (IEP) is designed by a team including, at a minimum, a special education teacher, a regular education teacher, an administrator, a disability evaluator (typically a school psychologist) and the student's parents. It is also common for that team to include other professionals who provide services to the student, such as additional general education teachers, speech-language pathologists or instructional assistants. Interdisciplinary collaboration is also expected both before the IEP process (e.g. in response to intervention or the disability evaluation process) and after it (i.e. in the implementation of the special education programme). A significant proportion of students are involved in these services; approximately 13% of all US K-12 students are in Special Education programming, and more are affected by response to intervention and disability screening and evaluation processes (U.S. Department of Education, National Center for Education Statistics. 2012 U.S. Department of Education, National Center for Education Statistics. 2012. Digest of Education Statistics, 2011 (NCES 2012-001). Washington, DC. <http://nces.ed.gov/pubs2012/2012001.pdf>).

Despite the continuing need for collaboration throughout the range of special education services, the educational and student services professionals employed in the schools typically receive their training in separate programmes, without any engagement with each other and with minimal exposure to the scope of practice and strengths that each set of professionals brings to a school. Some research has identified the need for additional training regarding interprofessional collaborative practice. For example, a survey of rural school districts and teachers found that 'skills in collaboration', and especially 'how to work more effectively with paraprofessionals', were among the most requested topics for the professional development of special educators (Berry et al. 2011 Berry, A. B., R. A. Petrin, M. L. Gravelle, and T. W. Farmer. 2011. "Issues in Special Education Teacher Recruitment, Retention, and Professional Development: Considerations in Supporting Rural Teachers." *Rural Special Education Quarterly* 30 (4): 3–11.). A recent journal article aimed at practicing general education teachers addressed this need by describing the roles and responsibilities of various professionals likely to be involved in educating students with disabilities (Leader-Janssen et al. 2012 Leader-Janssen, E., K. D. Swain, J. Delkammer, and M. J. Ritzman. 2012. "Collaborative Relationships for General Education Teachers Working with Students with Disabilities." *Journal of Instructional Psychology* 39: 112–118.). It is clear that many, perhaps most, educators are beginning their careers with limited training and experience related to interprofessional collaboration.

Another area that requires interdisciplinary collaboration is the provision of mental health and crisis support services to students. School counsellors are often the primary mental health personnel in schools. Contexts with more resources may also have school psychologists and/or school social workers; contexts with fewer resources may share partial access to a school counsellor or have no mental health professionals at all. However, teachers have more regular contact with individual students, and, therefore, represent critical sources in the initial detection of mental health, emotional, social, familial or crisis issues. Researchers have addressed the fact that these two spheres of school personnel often function independently of each other (e.g. Amatea et al. 2004 Amatea, Ellen S., Harry Daniels, Nancy Bringman, & Fran M. Vandiver. 2004. "Strengthening Counselor-Teacher-Family Connections: The Family-School Collaborative Project." *Professional School Counseling*. 8 (1): 47–55.; Shoffner and Briggs 2001 Shoffner, M. F., and M. K. Briggs. 2001. "An Interactive Approach for Developing Interprofessional Collaboration: Preparing School Counselors." *Counselor Education & Supervision* 40: 193–202. doi:10.1002/j.1556-6978.2001.tb01252.x.). There has been a call for collaboration between education personnel (e.g. teachers) and mental health personnel (e.g. school counsellors) to collaborate in order to minimise the negative impact of mental health problems on student success, while supporting students academically, socially, behaviourally and systemically (Greenberg et al. 2003 Greenberg, Mark T., Roger P. Weissberg, Mary Utne O'Brien, Joseph E. Zins, Linda Fredericks, Hank Resnik, and Maurice J. Elias. 2003. "Enhancing School-Based Prevention and Youth Development Through Coordinated Social, Emotional, and Academic Learning." *American Psychologist* 58 (6/7): 466–474. doi: 10.1037/0003-066X.58.6-7.466.; Paternite and Johnston 2005 Paternite, Carl E., and Therese Chiara Johnston. 2005. "Rationale and Strategies for Central Involvement of Educators in Effective School-Based Mental Health Programs." *Journal of Youth and Adolescence* 34 (1): 41–49. doi: 10.1007/s10964-005-1335-x; President's New Freedom Commission on Mental Health 2003 President's New Freedom Commission on Mental Health. 2003. *Achieving the Promise: Transforming Mental Health Care in America. Final Report*. DHHS Pub. No. SMA-03-3832. Rockville, MD: 2003.).

In the US, an estimated 13–22% of school-aged children and adolescents face mental health issues severe enough to impair functioning and lead to a formal diagnosis (Ghandour et al. 2012 Ghandour, R. M., M. D. Kogan, S. J. Blumberg, J. R. Jones, and J. M. Perrin. 2012. "Mental Health Conditions among School-aged Children." *Journal of Developmental and Behavioral Pediatrics* 33: 42–54. doi:10.1097/DBP.0b013e31823e18fd.); yet, a majority (70–80%) of students impacted by mental health issues do not receive mental health services (U.S. Department of Health and Human Services 1999 U.S. Department of Health and Human Services. 1999. *Mental Health: A Report of the Surgeon General, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health*. Rockville, MD: U.S. Department of Health and Human Services.). Schools serve as the primary provider of mental health services for school-aged children and adolescents (e.g. Burns et al. 1995 Burns, Barbara J., E. Jane Costello, Adrian Angold, Dan Tweed, Dalene Stangl, E. M. Farmer, and Alaattin Erkanli. 1995. "Children's Mental Health Service Use Across Service Sectors." *Health Affairs* 14 (3): 147–159.; Committee on School Health 2004 Committee on School Health. 2004. "School-Based Mental Health Services." *Pediatrics* 113 (6): 1839–1845.; Greenberg et al. 2003 Greenberg, Mark T., Roger P. Weissberg, Mary Utne O'Brien, Joseph E. Zins, Linda Fredericks, Hank Resnik, and Maurice J. Elias. 2003. "Enhancing School-Based Prevention and Youth Development Through Coordinated Social, Emotional, and Academic Learning." *American Psychologist* 58 (6/7): 466–

474. doi: 10.1037/0003-066X.58.6-7.466.). Schools are the sole source of mental health services for over 70% of children and adolescents, including nearly half (46.5%) of students who had a diagnosed mental illness and impaired functioning (Burns et al.). Of course, access to mental health care is even scarcer in many parts of the world, further underscoring the important role potentially played by schools and teachers.

Interprofessional education in pre-service education training

As demonstrated in the examples above, the tasks faced by schools call for interprofessional collaboration. Researchers and educators have called for more interprofessional collaboration in professional educational practice (e.g. Anderson 2013; Corrigan 2000; McMahon, Mason, and Paisley 2009; Mostert 1996). Furthermore, accreditation policies from the Council for Accreditation of Educator Preparation (CAEP), the National Commission for the Accreditation of Special Education Services (NCASES) and the Council for Accreditation of Counselling and Related Education Programmes (CACREP) all contain language that, at a minimum, encourages interdisciplinary collaboration (see CACREP 2015; CAEP 2013; NCASES 2014).

Despite all this, at the university level, it has historically been most common for pre-service education training to take place in separate programmes that have little sustained contact with each other (e.g. Shoffner and Wachter Morris 2010). There are notable exceptions in the literature where continued interprofessional collaboration was developed as a hallmark of a university programme (e.g. Tourse et al. 2008; Wright, Stackhouse, and Wood 2008), but common practice still appears to be specialised training in separate silos with little curricular room dedicated to cross-disciplinary collaboration. While this is easy to understand, given the growing list of demands on teacher education programmes, it may nevertheless lead to new professionals who lack even a basic understanding of what different education professionals' roles are in the school or how they might work together effectively. The question is, can (and should) educator training transition to a format where interprofessional collaboration is integrated into teacher and educator training programmes? An affirmative answer may be found by examining how the challenge of interprofessional collaboration has been addressed within the health professions.

Interprofessional education: a model from medicine

The need for professionals across disciplines to collaborate effectively is certainly not limited to the field of education. In health care as well, interprofessional collaboration is essential. Beginning as early as the 1960s, multiple parallel initiatives emerged in the UK with the common objective of improving working relationships among various professionals in health care, and sometimes also in social services and beyond (Barr 2002). Over time, these various initiatives have coalesced into an international movement aimed to develop systematic, formal approaches to teach the knowledge, skills and attitudes needed for professionals across various health disciplines to collaborate effectively with one another. This movement has been labelled interprofessional education (IPE). IPE is defined as 'occasions when two or more professions learn with, from, and about each other to improve collaboration and the quality of care' (Barr 2002, 6).

IPE is an international movement, with extensive roots in the UK (Gordon and Walsh 2005; O'Halloran et al. 2006), Canada (College of Health Disciplines 2008), Australia

(Braithwaite and Travaglia 2005; IPL Research and Development Unit and IPL Curriculum Framework Project Group 2008), New Zealand (Davys and Beddoe 2008) and the United States (Djukic et al. 2012), and a growing presence in other countries, particularly throughout Europe and Asia (Abu-Rish et al. 2012). Terminology has changed over time, moving from multidisciplinary to interprofessional and from teamwork to collaboration (Thistlethwaite, Moran, and The World Health Organization Study Group 2010). The reach of IPE has changed as well, beginning primarily with medicine and nursing (Hasler and Klinger 1976; Osterweis et al. 1980), extending into a broad range of other health and allied health disciplines (e.g. occupational and physical therapy (Richardson et al. 1996), psychology (Short 1997), music therapy (Purvis and Solomon 2010), rehabilitation therapy (Sheldon et al. 2012)) and reaching beyond health to social service disciplines such as social work (Copperman and Newton 2007) and ministry (Thomas 2012). In the earliest days, IPE tended to focus exclusively on professionals already working in the field; the rationale was that one needed adequate preparation in one's own specialty before learning about and collaborating with other disciplines (Barr 2002). As the movement matured, however, IPE experiences began to be developed in pre-service training settings (i.e. for students of medicine and nursing for example), and now pre-service settings are understood to be an important part of the IPE movement, though in-service IPE continues to be more common (Barr 2002).

Current state of IPE

Although IPE in the field of health care is widespread, it is still a relatively new approach experiencing rapid growth and change. Consensus has yet to emerge on the theories and best practices underlying IPE. A recent World Health Organisation review documented the learning outcomes most commonly targeted by IPE programmes in the health field. In order of frequency, they were: teamwork, roles and responsibilities of health professionals, communication, learning and reflection, the patient, and ethics and attitudes (Thistlethwaite et al. 2010). An international review of evaluations of IPE programmes suggested that IPE is most effective at developing the knowledge and skills needed for effective collaboration; on the other hand, results tend to be mixed with respect to influencing attitudes regarding other professions (Hammick et al. 2007). Additionally, Hammick and colleagues concluded that IPE is most effective when it reflects authentic service settings likely to be experienced by the learners now or in the future.

Hugh Barr, a leader in IPE and the president of the Centre for the Advancement of Interprofessional Education (CAIPE), has suggested that IPE programmes can be classified into three levels based on their complexity, institutionalisation and goals (Barr 2012). Pragmatic programmes are those that spring up in isolation, driven by the passion and ideals of a small team of educators. Strategic programmes are more extensive and institutionalised, having a clear position within the university or training programme, with investment from a wider community of stakeholders. Systemic programmes may not yet exist. Rather, Barr suggests that the next challenge for the IPE movement in the health professions is to envision systemic IPE programmes wherein the whole of professional training is built with IPE and collaboration in mind, and the strands of uniprofessional, multiprofessional and IPE are intentionally intertwined.

IPE that occurs in university and professional school settings (pre-licensure, or pre-registration, in UK terminology) is most relevant to this article and its focus on IPE for pre-service educational professionals. Thus, from this point on, the paper will focus on IPE in pre-licensure educational settings. A recent literature review reported on 83 evaluations of pre-

licensure IPE programmes published between 2005 and 2010 (Abu-Rish et al. 2012). These programmes most commonly included students in two professions (42%), but 24% of the programmes addressed students in four or more professions. The largest proportion of programmes lasted between one and eight weeks (23%), with a slightly fewer number lasting fewer than six hours (18%), between six hours and one week (17%), or one quarter or semester (17%). 6% of the reported programmes lasted one year in duration. A wide range of educational strategies was reported, with some of the most common including small group discussion, case analysis, large group lecture, direct patient interaction and reflective exercises.

The Centre for the Advancement of Interprofessional Education (CAIPE) has produced a guide to pre-registration IPE, listing 18 recommendations (Barr and Low 2012). Of those 18, there are 6 that seem particularly relevant for developing IPE within education, as follows:

- Interprofessional teamwork is central in students' learning.
- All stakeholders are involved in the planning.
- Outcomes from students' interprofessional learning are defined as competencies or capabilities and curricula planned accordingly.
- Teachers and practice supervisors optimise interactive opportunities for students to learn with, from and about each other's professions.
- Every effort is made to include student groups for professions likely to work in the same settings in their subsequent careers.
- 'Objectives, content and learning methods during ... IPE are designed to lay the foundations for continuing interprofessional development.' (Barr and Low 2012, 4).

Of course, IPE programmes vary in the extent to which they adhere to these recommendations.

There is substantial diversity in the current set of pre-service health IPE programmes in use around the world. Programmes include students studying a wide variety of health professions, including medicine, nursing, occupational therapy, physical therapy, midwifery, physician assisting, pharmacy, dentistry, audiology and paramedicine (Djukic et al. 2012; Rodger et al. 2005; Rosenfield, Oandasan, and Reeves 2011; Saxell, Harris, and Elarar 2009; Sheldon et al. 2012; Solomon and Salfi 2011; Williams et al. 2011). Some programmes extend beyond the health professions. For example, a programme developed at Boston College trains students of nursing, social work and education to collaborate in the design of interventions for children with learning and behavioural problems (Tourse et al. 2008). Another example, at Clarke College, included students of nursing, physical therapy, social work and special education in an IPE programme designed to teach effective multidisciplinary teaming (Selle et al. 2008). Pre-service IPE programmes take place in classroom settings (e.g. Solomon and Salfi 2011; Williams et al. 2011); online (e.g. Pahor and Rasmussen 2009); and in practicum training settings (e.g. Conway 2009; Sheldon et al. 2012). Some of the more sophisticated IPE programmes involve two or more of these settings (e.g. Djukic et al. 2012; Tourse et al. 2008).

An infrastructure has been developed within the health professions to support and encourage IPE. There are professional organisations dedicated to IPE (e.g. CAIPE, the IPE Collaborative), as well as temporary panels and task forces, such as the National League for Nursing's Panel on Interdisciplinary or Transdisciplinary Education (1997). The Journal of Interprofessional Care is dedicated to the topic of IPE and interprofessional practice. Professional associations for the various health professions each have defined standards and

requirements with respect to IPE (Barr and Norrie 2010). Finally, some programmes are beginning to be established to help health profession educators become effective interprofessional educators (Anderson, Cox, and Thorpe 2009).

Applying IPE to education: an example

The following description of an IPE experience at a large Midwestern US university is now presented as an example of how the educational fields could incorporate IPE into pre-service educational programmes. Of course, the specifics of this example will not necessarily apply to every setting; however, the IPE model is flexible and can be easily adapted to respond to the needs and resources present in a variety of contexts.

The first author is a faculty member in an early childhood education (ECE) programme leading to a bachelor's degree and dual licensure in both regular and special education. The second author was a faculty member in the school counselling (SC) master's degree programme. The authors were convinced of the need for their respective students to learn more about one another's fields, and to learn how to collaborate effectively with professionals from various disciplines, so developed a semester-long IPE experience linking the courses. The ECE course enrolled juniors and focused on special education and individualising curriculum to meet students' needs. The SC course enrolled second-year master's students and covered professional topics including consultation, advocacy for the SC profession and an introduction to special education.

The ECE course included a practicum experience in which students spent one half-day per week in a pre-school classroom, typically a special education classroom in a public school. Those students each worked closely with a 'target child' for the duration of the semester. This target child had a disability or was at risk for a disability. The IPE project involved a pair of ECE and SC students collaborating to plan for the academic and functional needs of each of these children.

The curriculum

The project began with separate course meetings designed to teach students about special education procedures, including the process of creating, and the content included in, an IEP for a child receiving special education services. Next, the two courses met together for a session in which SC students taught about the nature and scope of their work in school settings. At this point, each ECE student was assigned to a SC student. The next several steps of the project involved the pairs of students working together. First, they engaged in a consultation meeting in which the ECE student presented the SC student with information about her target child and identified questions the consultant could help in answering. Next, the student consultant visited the early childhood student's practicum classroom and observed the target child and her environment. Then, the two students engaged in another consultation meeting to debrief from the visit and prepare for a mock IEP meeting on the target child. Finally, the students all came together for a series of mock IEP meetings in which the early childhood student played the role of the classroom teacher and the SC student played the role of school counsellor and behavioural consultant. Students gave presentations on the child's current levels of development and performance and the child's progress toward annual goals. They made recommendations for new annual goals, future classroom placements and the transition to kindergarten.

After each of the six steps of the IEP project, students wrote short, individual reflections on their experience. Reflections are a common activity in pre-service teacher education (Shoffner 2009), with goals that include developing students' ability to 'stand back from their own teaching, evaluate their situation and take responsibility for their own future action' (Calderhead 1992, 141). These reflections helped to solidify and document student learning, as well as to reveal questions and confusions that emerged at various stages of the project.

Competencies developed through this IEP project

The Interprofessional Education Collaborative (IPEC) commissioned a report defining the competencies needed for interprofessional collaborative practice in healthcare (Interprofessional Education Collaborative Expert Panel 2011). They are: (1) values and ethics for interprofessional practice, (2) roles and responsibilities, (3) interprofessional communication and (4) teams and teamwork. Using this framework, but applying it to education professions, below direct quotations from student reflections are presented as evidence of the competencies developed through this educational experience. Students are referred to by pseudonyms and programme area. All ECE students were in their junior year, and were all female. The SC students were all in the second (final) year of their master's programme.

Values and ethics for interprofessional practice

In health care, values and ethics for interprofessional practice are distinctive for their patient-centeredness (Interprofessional Education Collaborative Expert Panel 2011). Recall that IPE is defined as 'occasions when two or more professions learn with, from, and about each other to improve collaboration and the quality of care' (Barr 2002, 6, emphasis added). Similarly, in the educational context, the ultimate purpose of IPE should be to improve the quality of students' education. Additionally, the IPEC competency statement emphasises that effective interprofessional practice requires mutual respect and relationship building among the various professionals who will be working together (Interprofessional Education Collaborative Expert Panel 2011).

The IPE project described here involved undergraduate students of early childhood special education (ECE) and graduate students of SC. These future educational professionals wrote in their reflections about how students are impacted by interprofessional collaboration in general and in particular the collaboration that happens in the process of devising and implementing individualised educational programmes (IEPs). About that process, one ECE student, Jane, observed,

This process is viewed as very important all around. Without a good IEP these children would not have as good of [a] chance at having an education that they need. It is a big deal in their lives and also the lives [of] their parents.

Jordan, a SC student, noted the ways in which she expects to use her role in the IEP process to benefit students: 'I ... hope to serve as an advocate for the student. I want to help the student feel heard, understood, and safe'. Finally, Sarah, an ECE student, noted that consulting with her student consultant, as required by the IPE project, led to direct benefits for a pre-school student with whom she was working:

My consultant helped me realise things I had not even noticed about my child ... This helped me tremendously in helping improve the child and me. Along with this she saw an abnormal behaviour from the child that I had not even noticed.

Thus, student-centred values were in evidence when these future professionals reflected on the IPE project.

Student reflections also noted increasing respect for other educational professionals, as well as the importance of this respect in promoting successful collaborations. As Melinda, an ECE student, observed, 'I believe that in order to have a cohesive team, it will be imperative that we all respect one another's knowledge and views, and work together to blend them into the best plan for the child in focus'. Similarly, Emily, a SC student, noted that 'effective and credible consultation not only requires empathy and respect for the consultee, but also being direct and speaking with confidence'.

Roles and responsibilities

The roles and responsibilities competency focuses on individuals' ability to (1) understand, and explain to others, their role as a member of a particular profession/discipline and (2) understand the roles and responsibilities of other professionals with whom they may collaborate (Interprofessional Education Collaborative Expert Panel 2011). When this competency is well-developed, the diverse backgrounds and expertise of a multidisciplinary team (e.g. an IEP team) truly become a resource in support of students' education. When this competency is not well-developed, multidisciplinary teams may be impeded by misinformation and stereotyping about the professions represented on the team.

Reflecting on their own roles, ECE students emphasised reporting on the child's performance and progress ('It will be really important on my part to track the child's progress so the team of other professionals can know what the next step is'. – Kelly) and advocating for both student and family ('I plan to be an advocate for the family so that their voice can be heard and that they will be involved in decision-making'. – Casey). SC students noted that the role of a school counsellor in the IEP process is sometimes ill-defined and may 'differ in different schools'. One SC student, Amy, described an optimal role for school counsellors as 'facilitators who advocate for the students as well as the parents and even the school and teachers. I also see school counsellors coordinating services within the school. They may sometimes even have to serve as a peacemaker'. By the end of the IPE project, Maria, an SC student, reflected on how much she had learned about her role as a consultant: 'One of the most significant things I learned from this entire process is what it may look like to be a consultant to special education teachers, both during IEP meetings and during consultation meetings outside of IEP meetings'.

In terms of learning about other professionals' roles and responsibilities, both ECE and SC students reported that they understood the other profession much better by the end of the IPE project. Sophia, an SC student, described having 'a great weight off my shoulders as special education becomes less of a mystery to me and more of a process that I understand and can contribute to'. Tabitha, an ECE student, noted that the project 'expanded my knowledge on how every person is needed with their educational backgrounds, no matter what skills they have ... It ... showed me how everything and everyone has a place in a school system'. Some students noted that there were more similarities between the two professions than they had expected. Tina, an ECE student, noted, 'What I have taken away so far is that the counselling students are

interested in a lot of the same things we are. They want to analyse different behaviours and skills'. Similarly, Christine, an SC student, reflected, 'There seems to be much more overlap between special education and SC programmes than I realized'. This understanding of common ground seemed to promote the students' readiness to collaborate with one another.

Learning about the other profession's roles and responsibilities also facilitated a correction of previously held stereotypes and misunderstandings. For example, Dianne, an ECE student, observed

From learning more about school counsellors I have a better understanding of what they do. Before I thought they only helped students with scheduling classes and preparing for college because that is what my counsellor did. Now I have faith that school counsellors will be assisting in much more.

SC students also noticed that their profession was not well understood by others at the beginning of the project, with Steven, an SC student observing: 'Many of the students did not know all of the things that school counsellors were responsible for, or there were some students that had a negative view of school counsellors based on their own bad experiences'. The experience of the IPE project, though, helped to improve this situation, leading to, as Shirelle, an ECE student, put it, 'a new found confidence' in working with other educational professionals.

Interprofessional communication

A multidisciplinary team that cannot communicate is one that cannot function. Effective communication across professional boundaries is an essential competency developed through IPE. Key interprofessional communication skills include communicating a readiness to work together, using understandable language rather than jargon, using communication technologies effectively, speaking up without being hindered by perceived hierarchical boundaries and sensitively communicating difficult information such as a child's diagnosis (Interprofessional Education Collaborative Expert Panel 2011).

Reflecting about communication skills, the undergraduate ECE students often spoke about needing to better facilitate the communication process. For example, Hope, an ECE student, stated,

It's important to keep the professionalism of the experience and tell the school counsellor exactly what she needs to know and to be able to answer any questions she may have. I realise it's important to take proper notes when making observations; otherwise the meeting with my school counsellor student would not have gone as smoothly.

Tricia, another ECE student, recognised her own misstep when she owned that 'It would have been a good idea for me to write myself a list of things to talk about so that our conversation could be organised, nothing would get left out, and so I could stay on track'. The graduate-level School Counsellor students were more attuned to issues of jargon. Melanie, an SC student, stated,

This experience will help me to be more conscious of the terms and phrases I use when speaking with parents and community members. This is not to suggest that parents need

to be spoken down to, but there is no reason to use ever-changing educational jargon when clearer terms will suffice.

Teams and teamwork

Teamwork is the foundation of interprofessional collaboration. Through IPE, students should develop their abilities to collaborate with other professionals, coordinate their actions and the actions of other team members, and engage in shared problem solving and shared decision-making. It is also important for future professionals to understand how teams function most effectively and how to address problems in team functioning that may arise (Interprofessional Education Collaborative Expert Panel 2011). Although the students focussed on here did not reflect specifically on teamwork or collaborative skills that they developed, many reflected on changed or solidified views of collaboration and teaming. ECE students reflected about their attitudes toward collaboration. For example:

I tend to be an independent person who is generally unwilling to ask for help, but this experience has helped me realize that outside help is very necessary, especially when dealing with young children. There are so many factors that go into how a child behaves and why, that it can be nearly impossible and quite overwhelming to try to help an entire classroom of children alone. Outside professionals are invaluable. (Lynn, ECE)

SC students also wrote about the necessity of teaming and collaborating with teachers, making comments such as, this project ‘shows me just how much of a collaborator I must become. I may talk with 5 individuals to simply get information about 1 student’. (Virginia, SC). Claire, another SC student, concluded that:

Collaborating closely and consistently with teachers in the schools is imperative for building strong ‘bridges’ not only between counsellors and teachers, but also for building a strong relationship between the school counselling programme and the entire school community. In order for school counsellors to reach all students, counsellors must intentionally seek out consultation with teachers ...

Thus, both the ECE and the SC pre-practice educators seemed to formulate and solidify ideas about the necessity and the utility of working with other educators in their future work in schools.

Strengths and limitations

This IPE programme aligns with many of the CAIPE guidelines for effective pre-service IPE (Barr and Low 2012). In particular, the programme is based on an actual instance of collaborative practice that will be required of these students in their professional futures. It is not simply a passive situation in which a diverse group of students listen to a lecture together; instead, the bulk of the learning happens through interactive, interprofessional teamwork. Additionally, this programme includes a variety of learning and assessment methods, including lecture, discussion, teamwork, field-based experience, writing and oral presentation. During this programme, students learn about educational laws and policies relevant to teamwork and

collaboration. The programme also reflects important priorities from the accrediting bodies associated with each degree programme. For example, the USA's Council for Exceptional Children requires that teacher education programmes in special education emphasise collaboration, producing teacher candidates who 'collaborate with families, other educators, related service providers, individuals with exceptionalities, and personnel from community agencies in culturally responsive ways to address the needs of individuals with exceptionalities across a range of learning experiences' (Council for Exceptional Children 2012, 9–10). Additional strengths of the programme include its length (multiple experiences distributed over a semester) and that it involves work in actual educational settings and with real students. Furthermore, the programme was developed by linking two already existing courses and redesigning a single unit within those courses. This did not require any additional resources, beyond some instructor planning time, nor did it crowd out any other course objectives. This demonstrates that it can be practical to include IPE in pre-service education, even given the challenges of resource limitations and curriculum demands.

Of course, there are also ways this programme could be improved. Only two professional groups are represented in the programme. Many more are commonly at the table when planning IEPs and so could be logically included in a programme like this one. For instance, it would be valuable to include students of speech-language pathology, a very common intervention in early childhood special education, and students pursuing administrator's licences, as every IEP meeting includes a school administrator. Furthermore, this programme exists in isolation. In Barr's (2012) terminology, it is a pragmatic programme that was developed because of the commitment of the individual instructors involved. As a result, the programme is vulnerable to disruption. When one faculty member's teaching assignment changed, the programme had to be suspended until the newly assigned instructor could develop the necessary knowledge and buy-in to help lead the programme. Since IPE is not universally endorsed as essential to the training of future educators and counsellors, it risks being viewed as expendable. Only when faculty, colleges of education and accreditors demand the presence of IPE in every pre-service curriculum will these programmes have long-term viability. Furthermore, faculty must consider where IPE could play a role throughout the entire pre-service curricula. To be truly prepared for the collaborative practice that will be required of them, students need a thorough, developmental sequence of IPE opportunities.

Implications for education

Although IPE has made significant headway in the health fields, implementation of IPE has been slower to take hold in educator training programmes. Yet, given the sheer number of professions represented in a typical school building, there is a clear need to train education professionals to work with each other by strategically infusing IPE into pre-service educator training. What little IPE has made its way into university curricula seems similar in scope to the project described above, being isolated, pragmatic projects, rather than a sustained movement within colleges of education.

To facilitate the incorporation of IPE into the pre-service educational training curriculum, it is possible to learn from those in the health professions who have wrestled with the logistics of such programmes. Borduas and colleagues (2006) provided a meaningful document detailing how five academic institutions in Canada implemented IPE in their health-related programmes. This document describes what is needed from individuals, schools, universities and the academy

at large in order to support IPE efforts. Although the focus of their article is on implementing IPE in health fields, many of the dynamics encountered, resources required and challenges experienced are transferable to colleges of education.

At the individual level, each institution that implemented IPE had identifiable 'champions', individuals who took the lion's share of the work, devoting energy and enthusiasm to drive the IPE process forward. These individuals were able to put significant time into developing and providing information about IPE to their colleagues and key stakeholders. Some strategies proposed at the individual level by Borduas et al. (2006), adapted to fit the educational fields, include the following:

- use of intrinsic and extrinsic motivational approaches to build enthusiasm and buy-in among stakeholders
- engagement in research projects that build evidence of IPE effectiveness for both pre-service education students and the preK-12 students that they will be serving
- dissemination of formal research and programme successes to both academic and local community audiences as a method of increasing advocacy and building evidence for IPE implementation
- engaging in effective partnering strategies within the college as well as in the community and schools

Vital at the organisational level is a space for interprofessional collaboration to develop and thrive. IPE, by definition, cannot exist solely within a single profession. Thus, effective partnering with faculty from other education-based disciplines is imperative. This means that faculty members need to engage with each other and develop both common and parallel goals and objectives. For example, in the project highlighted above, both the SC and ECE students had learning outcomes related to being able to navigate the IPE process. SC students, however, also had learning objectives related to advocacy for the profession, consultation and conducting classroom observations, while ECE students had learning objectives related to effective communication about their target child and writing sections of a mock IEP. These were developed through continual conversations between the two instructors. The project as a whole was co-developed, but individual instructors maintained responsibility for operationalising how students would be evaluated.

IPE is a system built in the health fields but with potential to transform the way we train future educators. Elementary and secondary school pupils would benefit from a trained cadre of professionals who both specialise in their own fields and also know how to work effectively with other educators. This would allow the educational team in each school building to provide well-coordinated academic, career, physical and social/emotional support to pupils. Once exposed to such a process, even in a small, introductory way, the educators-in-training themselves recognise the value of it. Let us conclude with the words of Claire, one of the SC students who participated in the interprofessional project described here. In her reflection, she commented:

I am amazed that school counsellors-in-training and special educators-in-training do not have more interaction in classes or through classroom projects like ours. It seems like common sense that school counsellors and special educators would take similar classes and engage in more conversation before practicing in the schools. Why haven't projects like this been more commonplace in school counsellor and special educator training?

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