An interprofessional skills development program for pre-service school-based professionals

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Abstract: This article describes a pilot project conducted by an interprofessional team of faculty from Social Work, Education, Nursing, Counseling and Educational Psychology. University graduate students within these disciplines/programs were recruited to participate in a fully online, synchronous and asynchronous workshop focusing on interprofessional collaboration in the pre-kindergarten through 12th grade (PK-12) educational setting. First, faculty led a three-hour workshop via Zoom with didactic and interactive components to illustrate the value of interprofessional collaboration, build a culture of mutual respect, clarify professional roles, and highlight the importance of communication/teamwork. 15 students were then placed into mixed-discipline groups of five, with a member from each discipline, to engage in a series of four online asynchronous video discussions. Students completed a pre and post survey and participated in a focus group at the program's end. Results from analysis of this pilot demonstrated that tools and approaches utilized to support Interprofessional Education (IPE) in healthcare, translate well to the domain of PK-12 education, and can improve students' skills and attitudes toward Interprofessional Collaboration (IPC). A description of the project and materials are provided here for faculty seeking to facilitate collaborative interprofessional training among students of various disciplines preparing to work in the PK-12 educational setting.

Keywords: Interprofessional education, interprofessional collaboration, school health, school mental health, school counselling

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Introduction

Interprofessional collaboration (IPC) among professionals working in childhood education has been shown to offer several positive outcomes. Previous research has indicated that effective interprofessional collaboration in PK-12 (pre-kindergarten through 12th grade) schools can increase the delivery of mental health services to a wider range of students, with limited funding, and improve access and continuity of services (Mellin & Weist, 2011; Stone & Charles, 2018). Some findings have credited IPC with reducing student absences and disciplinary office referrals, and improving mental health outcomes, especially among high-risk students (Bates et al., 2019). More broadly, interprofessional collaboration has been shown to improve overall school climate, promoting a safe and positive school atmosphere that supports learning (D'Agostino, 2013). Researchers have identified barriers and facilitators to IPC in schools and developed models for IPC in this setting (Anderson-Butcher & Ashton, 2004; Berzin et al., 2011; Mellin, 2009).

Despite this, interprofessional *education* (IPE) with individuals preparing for careers in the PK-12 education system has received relatively little

attention. Researchers in healthcare have emphasized the importance of IPE during this pre-service period, in advance of graduation and licensure (Gergerich, Boland & Scott, 2018). This IPESH pilot integrates the existing evidence for IPC in PK-12 education with literature from healthcare supporting the importance of IPE during the pre-service period.

The Interprofessional Education for School Health and Wellbeing (IPESH) project was designed to pilot a fully online, blended (synchronous and asynchronous) model for interprofessional education, involving graduate students in education/educational leadership and school health/mental health fields. Faculty from Social Work, Education, Nursing, Counselling and Education Psychology facilitated the project. Graduate students were recruited from each of these four programs/disciplines for a semester-long interprofessional learning program. Research took place in the United States at New Mexico State University (NMSU) where the institution's Institutional Review Board approved the study. This project is presented here, with directions and materials, to facilitate replication by others seeking to prepare pre-service professionals for interprofessional collaboration in PK-12 education. The IPESH project objectives are as follows:

1. Participants will demonstrate increased positive interprofessional attitudes.
2. Participants will describe interprofessional roles on school-based teams.
3. Participants will utilize interprofessional collaboration to improve student outcomes.

Activity description

Recruitment and Organization

Students were identified through university departmental email list-serves (electronic mailing lists) and offered a small stipend and designation as an IPESH scholar for participating in the pilot. Upon being selected for participation, participants were emailed pre-questionnaires. Post-questionnaires were emailed to all participants in the final week of the semester/project. Thirty interested respondents were placed into an

intervention or control group, with efforts made to match the two groups based on representation of the different disciplines. Some students had experience in multiple fields (social work students who were former teachers) which was also considered in balancing the two groups. Once the IPESH intervention group was formed, students were placed into three interprofessional groups with five members, each representing a different discipline.

Participant demographics

Among interested respondents, individuals were placed in the IPESH (intervention) group in order to most effectively meet the goal of creating three interdisciplinary groups with representation from all participating disciplines in each group. While there was an over-representation of Social Work in one group, one of those individuals had prior experience as a classroom teacher helping to balance the representation of disciplines. In selecting control participants, efforts were made to create matched groups. However, this goal was not fully met due to limitations in the respondent pool. To address potential issues stemming from this reality, an additional T-test comparing the two groups prior to intervention was run to assess the potential impact of demographic differences between the two groups. Table 1 describes the characteristics of participants in each group.

Table 1
Participant Characteristics

Characteristic	IPESH participants	Control participants
Major/Program		
Social work	4	6
Nursing	3	1
Curriculum and instruction	2	2
School psychology	2	4
Educational leadership	3	0
Clinical mental health counseling	1	2
Degree sought		
Doctorate/PhD	5	4
EDS	2	4
Masters	7	5
Bachelors	1	2
Year in Program		
First Year	7	6
Second Year	3	7
Third or Beyond	5	2
Campus		
Main Campus	10	12
Online Campus	5	3
Self-Reported Race/Ethnicity		
Multi-Racial/Multi-Ethnic	1	3
Asian	2	1
White/Caucasian	8	7
Hispanic/Latinx/Mexican	3	4
Black	1	-
Self-Reported Gender		
Female/Woman	14	13
Male/man	1	1
Trans-man	-	1

Interprofessional Training Program

Online/Synchronous Workshop

The IPESH program began with student participation in a three-hour interprofessional workshop via Zoom, co-facilitated by two faculty members. The workshop included didactic and interactive components designed to introduce the Interprofessional Education Collaborative (IPEC) Core Competencies (values/ethics, roles/responsibilities, communication, teams/teamwork) (IPEC, 2016). Instruction for the first core competency (values/ethics) was relayed primarily through lecture. For the remaining three competencies, there were small group activities that have been used effectively for pre-service interprofessional education in health care (Gergerich, Boland & Scott, 2018).

Roles/responsibilities

To gain competency related to roles/responsibilities, students participated in an activity called Interprofessional Pictionary (University of Washington, n.d.). Participants were placed into groups with members from their same field of study. Each group was assigned a different profession represented in the project. Each group was then instructed to quietly draw a picture depicting the assigned profession without using words. Members of other groups then guessed what profession the picture was meant to depict. Through this activity and subsequent discussion, participants learn about various school-based professions, as well as common stereotypes or misconceptions related to each.

Communication

During the workshop, students were introduced to the Social Style Model, to highlight the implications for one's own communication style. There are four styles for this model (Analytical, Driver, Amiable and Expressive) with each style indicating an individual's tendency to be assertive or responsive when working with others (Tracom, n.d.). Faculty described common strengths, challenges, and responses to conflict for each style, then students met in their interdisciplinary groups to discuss their own styles and implications.

TeamSTEPPS is an evidence-based set of teamwork tools to enhance performance and patient safety in healthcare (Agency for Healthcare Research Quality, 2023), many of which translate nicely to the school context. To highlight the importance of communication, particularly

when there are differences of opinion, faculty explained the TeamSTEPPS tool called CUS which stands for (I am Concerned, this makes me Uncomfortable, this is a Safety issue); participants explored situations in which this could be utilized to improve communication in schools.

Teamwork

Students were given the opportunity to gain proficiency in teamwork by working through a case scenario together. In their interdisciplinary groups, students assessed a case for Michael, a 10-year-old with Attention-Deficit/Hyperactivity Disorder (ADHD), struggling through distance work during the pandemic. Participants were directed to apply the TeamSTEPPS Brief tool for this. This tool prompts them to clarify agreed upon goals, roles/responsibilities, identify how the workload will be shared among members, then identify a plan and resources. In order to consider what a team-debrief might look like, participants then explored the TeamSTEPPS Debrief tool which helps teams assess whether communication was clear, workload equitable, errors made or avoided, what went well and what should improve after.

Online/Asynchronous Discussions

After completing the 3-hour workshop, IPESH participants engaged in a series of four online asynchronous video discussions with their assigned interprofessional groups. For these discussions, students were presented with cases involving critical current issues in education. These included topics such as cultural and linguistic responsiveness, disability identification and assessment, student discipline and threat assessment, gender identity, parent engagement, and trauma (Appendix A1). Each discussion was introduced by a faculty member from a different discipline. They described their own prior work in schools, their perspectives on IPC, and then introduced the case. The faculty member then facilitated subsequent discussion. Using *FlipGrid*, students were prompted to post a video response to the case sharing initial reactions, their understanding of their own professional role in the case, and thoughts about how and with whom they might collaborate. Participants then listened and replied to other students' responses.

Materials and methods for assessment

Quantitative measure

Pre and post surveys were used to measure students' attitudes toward interprofessional collaboration using a modified version of the Interprofessional Attitudes Scale (Norris et al., 2015). Language for the survey was adapted to fit use in an educational setting. For example, exchanging the word 'client' with 'student.' IPESH participants and a matched control group of students from each discipline completed the pre and post survey, allowing for a comparison between the two.

The adapted survey (Appendix A2) included 35 items assessing attitudes toward interprofessional collaboration and education. Participants responded using a five-point Likert Scale with higher scores indicating more positive attitudes toward interprofessional collaboration and education. Descriptive statistics were run; Independent samples T-tests were used to determine if there was a significant difference in scores between the control/intervention groups while paired samples T-tests assessed changes in overall scores between pre/post survey administration.

Qualitative Measures

After completing the program, students were assigned to participate in a one-hour focus group with their interdisciplinary team members. The Principal Investigator and a Research Assistant utilized a semi-structured interview protocol to facilitate discussion in five areas: Values in interprofessional collaboration, professional roles, teamwork/communication, current issues in school health/wellbeing, and overall experiences in the IPESH program. The first three areas align approximately with the IPEC core competencies (Interprofessional Education Collaborative, 2016) with the areas of teamwork and communication combined due to limited opportunities for live team-based intervention. The fourth area (current issues in school health/wellbeing) was designed to identify current issues in education, which participants described as representing a critical need for increased interprofessional education and/or collaboration. Finally, focus groups also reflected students' overall experiences in the pilot and

key takeaways (Appendix A3). The PI left the focus group for this portion of the session which was facilitated exclusively by the research assistant. In all, three focus group sessions were conducted, with one participant completing an individual interview due to their inability to attend a group session.

Results

Response rates were 100% for participants who were selected for inclusion. This study included 15 participants in each group, all of whom completed the pre and posttest. One intervention group participant only completed the workshop and one group discussion, exiting the intervention early, however they still completed the post-survey. Participants were allowed the option to opt out of the surveys and/or the focus groups although all but one (who had exited the intervention due to personal circumstances) participated.

Quantitative data

Pre and post IPAS (revised)

Pre-program survey measures demonstrated generally positive interprofessional attitudes among both IPESH participants and control group participants. Prior to any statistical analysis, all four data sets (control pre-test, control post-test, intervention pre-test, and intervention post-test) were assessed for normality using the Shapiro-Wilk test which demonstrated no significant departure from normality. Results from paired-samples t-tests within the intervention group indicated that IPESH participants demonstrated attitudes that were significantly more positive following the pilot when compared to their initial scores (p-one tailed<.0001). Data from the control group, however, did not demonstrate any statistical difference between pre and post scores (p-one tailed=.3476). Independent samples t-tests demonstrated no significant difference in initial scores between the IPESH participant group and the control group (p-one tailed=.0971) while there was a significant difference between the groups post-intervention (p-one tailed<.0001). Synthesis of this data reflected a

Table 2

Means, Standard Deviations, and Paired Samples T-Test Results

Group	N	Pre-test Mean	Pre-test Std. Dev.	Post-test Mean	Post-test Std. Dev	Mean difference post-pre	t	df	P (one tailed)	P (two-tailed)
Control	15	160.9	8.79	159.9	7.85	1	.4	14	.3476	.6952
IPESH	15	164.6	6.02	173.5	4.16	-8.93	-7.75	14	<.0001*	<.0001*

Table 3

Independent Samples T-Test Results: IPESH Participants vs. Control

Comparison	Mean difference post-pre	t	df	P (one tailed)	P (two-tailed)
IPESH v. Control Pre-Test	3.67	1.33	28	.0971	.1945
IPESH v. Control Post-Test	13.6	5.93	21.27	<.0001*	<.0001*

measurable positive impact on interprofessional attitudes among IPESH participants.

Table 2 provides descriptive statistics including means and standard deviations for overall interprofessional attitude scores among both the control group and the IPESH participant group as well as results from paired samples t-tests between pre and post intervention scores within each group. Table 3 reports results of independent samples t-tests between the control and participant groups both before and after intervention.

Herzog (2008) has explored the accuracy of small sample sizes (fewer than 20) in t-tests for limited interpretations in pilot studies, noting that while they can justify tentative conclusions, larger samples are needed justify funding decisions or make more robust statistical claims. Additionally, Van Voorhis et al. (2007) has explored rules of thumb for sample size suggesting that a minimum of 7 per group for t-tests is necessary for adequate analysis, albeit at lower power and smaller effect size. As such, the analysis used provides helpful insight into the between-group differences noted in this pilot, especially when triangulated with qualitative results, although the strength of the statistical analysis is a limitation.

Qualitative data

Focus group sessions were recorded and transcribed. Qualitative data was then coded using thematic analysis (Braun & Clarke, 2012). Focus group data was coded in aggregate (rather than discretely by group). Initial coding was closed, placing responses into one of the five areas addressed in the interview protocol; subsequently, responses within each category underwent open coding. Codes identified within each category were confirmed or revised with a second researcher. Because there was significant overlap for open codes among categories, a final review consolidated codes across categories. This resulted in six primary themes describing the impact of participation in the IPESH pilot: 1) Value of Interprofessional Perspectives and Community, 2) Understanding of Professional Roles, 3) Interprofessional Collaboration Improving PK-12 Student Outcomes, 4) Communication Barriers and Facilitators, 5) Improved Skills and Confidence for IPC, and 6) Systemic Barriers to IPC.

Value of interprofessional perspectives and community

The most prevalent theme revealed participants' appreciation for exploring different professional perspectives and the development of an interprofessional community. Students described rethinking their own practice because of hearing other participants' considerations and 'perspectives I hadn't even thought of.' Students also described a sense that their professional toolbox was expanded and that they were now more likely to seek out or consider the perspectives of other professionals.

Some participants described how the IPESH project created a learning community among the different disciplines they hoped would remain after the pilot. One participant explained, 'it kind of feels like an island a lot as a teacher. But working with everyone made it feel like these are people you can go to and work with instead of just around.'

Understanding of professional roles

Participants often described the project's impact on their understanding of roles for the other disciplines represented in their group. Students said it was valuable to learn about roles from representatives of the profession directly, rather than being told about them. One participant said, 'I think that was what was…most valuable to me…not just to hear about what a teacher would do but put myself in the shoes of a teacher…' Some students described misconceptions that had been corrected during the project: 'for some reason you know I had a misconception of what the social worker did and what they can even do for the school system, so it was a big takeaway for me.' Some participants addressed the reality of role overlap, noting that their role understanding had both grown and been complicated by learning the range of knowledge/skills in other fields.

Interprofessional collaboration improving PK-12 student outcomes

Participants also often commented on ways they viewed IPC as critical for improving PK-12 student outcomes. Several participants reflected on how improving IPC could help address resource gaps. Conversely, it was noted that existing gaps in resources also inhibit IPC. One student lamented, 'Getting this perspective from you all…I just realized that there is so much more that we could be doing for our students, but we are just not because of those more logistical or financial factors.'

Communication barriers and facilitators

Participants often reflected on how communication in schools can support

or inhibit IPC. The complex realities of school schedules were identified as barriers to interprofessional communication and IPC. Additionally, the confidentiality of health and mental health services was often described as a barrier to communication between providers and teachers. One student preparing to be a teacher commented, 'I have a couple of kids that receive psych services, but I don't know anything about their situation. I don't know anything about how I can assist those students.'

Improved skills and confidence for IPC

Importantly, students often commented that participation in the IPESH program had increased their skills and confidence in IPC. They described feeling more prepared to be 'vocal' and 'proactive' in communication. One participant expressed increased confidence in reaching out to school-based health and mental health professionals. Three participants noted that there is a hierarchy among professionals, that negatively impacts IPC in real school settings, but that they did not experience hierarchy in the IPESH program.

Systemic barriers to IPC

Participants readily noted that substantial barriers exist within school systems that threaten the prospect of IPC. They described the 'siloing' of professionals, and the term 'island' was used repeatedly in dialogue. Two students noted that 'systems are not in place' and that schools lack administrative support for IPC. One student stated, 'this course has really helped me realize about the lack of collaboration that was happening at the school that I was working at.'

Discussion

This pilot addresses a gap in previous research and literature regarding pre-service training for interprofessional collaboration in schools. While other studies have explored in-service or professional development for current professionals, the authors are not aware of research documenting pre-service training for this population. Additionally, existing research has often focused on the interactions between one profession and teachers (Friedman et al., 2023; Gherardi et al, 2021) rather than considering the full range of school-based professionals collectively. Finally, much research

looking at pre-service pilots is somewhat out of date, and cannot speak to the potential uses of online education to facilitate interprofessional training (Papa et al., 1998)

At the conclusion of the IPESH project, faculty and researchers were pleased that the model had been successful in its goal to provide quality interprofessional education to pre-service school-based professionals. For those who wish to replicate the project, however, there are some components that might be considered for modification.

One component that others may wish to modify for future iterations of this program involves the assessment measures and procedures used. For instance, the IPESH research team chose to slightly revise the IPAS measure for the pre and post surveys, which was not a validated instrument as such. At the time of this project, the research team was unaware of any validated instrument for measuring interprofessional knowledge, attitudes, and/or skills, specific to school-based professionals. There were, however, others that were specific to use in healthcare including the Attitudes Towards Health Care Teams Scale (ATHCT), and the Teams Skills Scale (TSS), (Heinemann, Schmitt, Farrell & Brallier, 1994).

A second aspect of measurement that may be considered for modification involved focus group composition. Interprofessional teams were kept together for participation in the focus groups. Alternatively, it might be interesting to have discipline-specific focus groups, which could potentially elicit different insights about the process and experience.

One final consideration is the need to update program components over time. For example, the Interprofessional Education Collaborative first adopted its core competencies in 2011, but revised them in 2016 and 2023 (IPEC, 2023). Another ever-changing element for such a program includes the cases and critical issues addressed in the team discussions.

Limitations

While the sample size was sufficient to meet the parameters of the statistical tests used, the small sample size limits the strength of the statistical analysis. The IPESH program was a pilot intended to assess impact and feasibility. Positive results from the pilot warrant further exploration with larger samples. Additionally, the tool used was a modified version of a validated instrument. Larger testing to validate the resulting tool is also warranted.

Additionally, we acknowledge that participants were not blinded to the intervention or fully randomized. While intervention participants were selected from a pool of volunteers to avoid self-selection bias, the necessity of working to balance intervention and control groups among the different professions represented prevented truly randomized groups.

One of the PI's co-facilitated focus groups, leading to the possibility that their involvement influenced responses. Researchers sought to address this through having the final portion of the focus group facilitated by only the research assistant after the PI had left the meeting. This portion of the focus groups involved gathering feedback on the program itself (versus the core areas of interprofessional collaboration). However, it is important to acknowledge the potential for positive response bias.

Conclusion

In the context of healthcare, interprofessional collaboration has become a critical component for training, professional development, and practice (Health Professions Network Nursing and Midwifery Human Resources for Health, 2010). Research has established that effective interprofessional collaboration (IPC) improves patient outcomes (Earnest & Brandt, 2014) and that involving students in pre-service interprofessional education (IPE) improves collaboration among team members (Rider et al., 2019; Boland et al., 2016; Lingard, 2012). For professionals working in PK-12 education, the positive impact of interprofessional collaboration has been established (Bates et al., 2019), however research examining the effectiveness of pre-service interprofessional education for this population has been relatively limited.

Quantitative findings from this study indicate that participants have improved attitudes toward IPC. Qualitative findings suggest that participants experienced increased in role understanding and self-efficacy related to IPC and that the pilot spurred their commitment to IPC in their future careers. Researchers for this pilot aim to offer sufficient details of this interprofessional educational program and evaluation methods so that others may replicate the process. Materials required to replicate this collaborative interprofessional training may be found in the Appendix A(4).

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Appendix A

Appendix A(1): Discussion Prompts

Discussion Prompt #1: Welcoming Students Back to School

It is fall 2021. After a successful vaccination campaign in which the vaccine has been offered to all eligible adults, COVID-19 case rates are low enough that schools are reopening for in-person classes for all students that wish to attend. Unfortunately, there has been continued political unrest since President Biden's inauguration on January 20th. Although racial justice work has continued through the spring and there have been some policy gains (Albuquerque now has a functioning rapid response team to respond to emergency calls that require social services or mental health supports) there have been two new high profile police killings of unarmed black men over the summer which has led to increasing tensions between police and many communities of color across the country. As you go back to school, what are your biggest concerns for students as they return? What fears and anxieties do you have? What are your priorities as a professional (i.e. what are the key areas that you want to focus on in supporting students and/or staff)? Who else will you need to work with to address concerns that might lay beyond your priorities or expertise? What challenges to this collaboration do you anticipate and how might we mitigate them?

Record a Flipgrid video (3-5 minutes) briefly introducing yourself and then responding to the prompt above. In the week that follows, reply to at least two peers in your group using the "comment" option.

Discussion Prompt #2: Interprofessional Collaboration in Assessment and Family Engagement

Leo is a five-year-old student who is entering kindergarten; his parents immigrated from Mexico prior to his birth and their primary language is Spanish. Leo is bilingual. He is an avid reader and is already reading somewhat fluently in both English and Spanish. However, he struggles significantly to participate in class. In particular, he struggles with transitions and social interactions and demonstrates a range of repetitive motor behaviors (flapping, unusual movements with his fingers etc.) These impact his participation significantly in both academic and social activities in school. When his teacher meets with his mother, mom shared that he has always had behavior problems at home and that she has been told by therapists in the community that is was likely due to her divorce from Leo's father two years ago and her permissive parenting. She feels that school, too, can be too lenient on him and that this is why he struggles there. She is very resistant to the idea that he might receive any behavior "intervention" or special services, repeatedly noting how smart he is and that he just needs better discipline. She shares that Leo's father feels the same way.

How do you understand the key needs and possible underlying reasons for those needs in Leo's case? What supports, services or approaches could benefit him? How might you work with the family in this case? Who else would you be working with and how? Are there resources that you know about that would be relevant? (If so, mention them in your response or post them in a written comment).

Discussion Prompt #3: Case Scenarios with TeamSTEPPS

Case Scenario: Michael is a 10-year-old student in 5th grade at Hawthorne Elementary. Prior to the pandemic, he attended Hawthorne for two years and struggled behaviorally. He exhibited significant challenges with impulse control and was very reactive, escalating into shouting, throwing objects, and attempted physical alterations with staff when redirected. He has a twin brother who does well in school although you are aware of chronic housing instability and his mother (who has sole custody) has disclosed mental health concerns which have been evident in some parent-school interactions. While she has positive relationships with school staff generally, when Michael struggles, he also escalates and has shouted obscenities or even become aggressive with staff who have discussed concerns with her in the past. She has refused to sign consent for Michael to receive any school-based mental health services in the past. However, prior to the pandemic she had agreed for him to be evaluated by his pediatrician and begin taking medication for a subsequent diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD).

This year, Michael signs on to distance learning sessions sporadically; perhaps two or three times per week and has submitted minimal work. His mother has been largely disengaged and the school has struggled to communicate with her. One week, during distance learning, Michael shows his class several small white pills and says they help him "be good". He says that he used to take one each day, but he decided to take more today because he kept getting in trouble "really bad" at home. He tells his teacher that he's really going to try to do better on his work from now on.

Small Interprofessional Group Activity (TeamSTEPPS – Brief): Discuss the concerns presented in the situation. Use the BRIEF checklist to analyze the situation and plan for intervention.

- Who is on the team?
- What are the agreed upon goals?
- Are roles/responsibilities understood?
- How will workload be shared among team members?
- What is the plan?
- What resources are available?

Whole Group Discussion Questions

- What was your plan? What role would various team members have?
- What do you think could be the outcome of your plan? (Be prepared for various possible outcomes)
- How did you establish a plan and roles? Were there any challenges that you encountered?

Discussion Prompt #4: Case Scenario Continued

The teacher asks other students to log off and keeps Michael online to do more assessment. He explains that he has been taking (at least) three pills each day this week but sometimes forgets how much. She decides to ask him to stay online while she contacts her administrator and the nurse, but he signs off while she is calling. They decide that this situation requires an immediate reaction. They request that the school nurse contact the mother in order to describe what has happened and work with her to receive immediate medical evaluation. However, mom does not respond. The nurse and social worker plan to go to the home immediately (it is around the corner from the school) but also feel that calling an ambulance is warranted due to their uncertainty about the situation. They arrive at the home before the ambulance to find mom and the boys. Mom is not aware of anything that is happening and is confused and upset as to why people are at her house. She is more upset when she learns that an ambulance is coming. Paramedics eventually check Michael and feel that he is ok to be at home. Mom refuses to allow Michael to speak further with paramedics or school staff without her there and asks everyone to leave. Eventually a CYFD report investigation occurs. Concerns are substantiated due to neglect/risk of harm but the school receives no further information and Michael is less engaged in online learning than ever before.

Whole Group Discussion Questions

- What now? What would your team do next?

Small Interprofessional Group Activity (TeamSTEPPS – Debrief)

- Was communication clear?
- Were roles/responsibilities understood?
- Was situational awareness maintained?
- Was workload distribution equitable?
- Was task assistance requested/offered?
- Were errors made? Avoided?
- Were resources available?
- What went well?
- What should improve?

Appendix A(2): Adapted Survey

Interprofessional Attitudes Scale (Adapted for Schools)

Participants were asked to respond to each of the below statements, indicating level of agreement (strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, strongly agree).

Shared learning with other school-based professionals before graduation will help/has helped me become a better team worker.

Shared learning will help/has helped me think positively about other professionals.

Learning with other college/university students will help/has helped me become a more effective member of a school-based team.

Shared learning with college/university students from other school-based professions will increase/has increased my ability to understand student needs.

K-12 Students would ultimately benefit if school-based professionals worked together to meet student needs.

Shared learning with other school-based professionals will improve/has improved my communication with students and families.

Shared learning with other school-based professionals will improve/has improved my communication with other school-based professionals.

It is not necessary for school-based professionals from different fields to learn together.

Shared learning will help me understand my own limitations.

In the following question, the term "student(s)" refers to k-12 students you serve in your profession.

1. Establishing trust with students is important to me.
2. Establishing trust with students' families is important to me.
3. It is important for me to communicate compassion to my students.
4. It is important for me to communicate compassion to my students' families.
5. Thinking about the student as a whole person is important in ensuring their success in school.
6. In my profession, one needs skills in interacting and co-operating with students.
7. In my profession, one needs skills in interacting and co-operating with students' families.
8. It is important for me to understand student perspectives.

In the following question, the term "family" refers to families of k-12 students you serve in your profession.

9. It is important for me to understand family perspectives.
10. Students/School-based professionals from other disciplines have prejudices or make assumptions about my discipline.
11. I have prejudices or make assumptions about students/school-based professionals from other disciplines.
12. Prejudices and assumptions about students/school-based professionals from other disciplines get in the way of education and student supports.
13. Prejudices and assumptions about students/school-based professionals from other disciplines get in the way of effective collaboration in schools.
14. Prejudices and assumptions about students/school-based professionals from other disciplines limit efforts to build effective and supportive schools.

It is important for school-based professionals to:

15. Respect the unique cultures, values, roles/responsibilities, and expertise of other school-based professions.
16. Understand what it takes to effectively communicate across cultures.
17. Understand what it takes to effectively communicate between professions.
18. Respect the dignity and privacy of k-12 students/families by maintaining confidentiality.
19. Maximize k-12 student support by facilitating sharing of information between professionals where possible.
20. Facilitate the provision of culturally responsive opportunities for learning and student support in k-12 schools.
21. Work with district or state-level administrators and policy makers to make schools more effective and supportive.
22. Work on projects that equip schools to provide holistic student supports.
23. Work with legislators to develop laws, regulations, and policies that help ensure that schools are effective and supportive.
24. Work with non-educators to equip schools to support students.
25. Focus on families and communities, in addition to individual students, to ensure that schools are effective and supportive.
26. Be advocates for student well-being.

Appendix A(3): Focus Group Semi-Structured Interview Questions

Opening: This focus group is an opportunity for us to reflect on experiences during the IPESH project as a group and for the project facilitators to learn about your experiences. A few norms might be important in helping us to have a great dialogue. This session is being recorded so that the project facilitators can review to record themes that emerge in our discussion. If there is anything that you do not want to be included in their analysis, please reach out by email and we can work together to address that. If this data is used in research, direct quotes may be shared but they will be de-identified. The recording itself will not be shared with anyone other than the principal investigators and research assistant. As we talk, we'd like as many diverse perspectives as exist to be represented. You are not required to share but are encouraged to do so in response to the questions. Please share your thoughts and experiences whether they are similar to or different than those that others are describing. Please feel free and encouraged to express divergent opinions. Please also feel free and encourage to describe neutral or negative experiences. We want to understand if and how this project might have influenced you and really value your honest, open feedback. In an effort to encourage this, the first part of the discussion will be facilitated by the researcher which will focus on the general experiences with the program and content-related experiences. At that point, the research assistant will facilitate the final portion of the dialogue in which you are encouraged to share your experiences with the format, presentation, and logistics of the project and offer feedback for improvement. Are there any questions before we get started?

Review the various activities in the project over the semester.

What do you think you will take away from this experience?

Probe for:

Value of Interprofessional Collaboration

Has this project influenced your thinking around the importance or interprofessional collaboration in schools? How?

Professional Roles

Has this project influenced your understanding of your own role as a school-based professional? Has it influenced your understanding or perceptions of the other professions that were represented? How?

Social Styles

Has this project influenced your understanding of your own social style or the ways in which social styles impact communication on interprofessional teams? How?

Communication Tools

What was your experience of communicating with people from other professions during this project?

Current Issues

Which of the modules seemed the most relevant or impactful to you and why? What will you take away from the discussions of the issues that were presented?

Questions about format/logistics/feedback

Looking back, how valuable was the workshop in introducing you to the concept of interprofessional collaboration in schools? (ask them to rate 1-5 with 5 being most impactful)

- What did you find the most valuable?
- What suggestions would you make to improve the content of the workshop?
- What suggestions do you have relating to format or logistics?

Looking back, how were the Flipgrid dialogues in exposing you to opportunities for interprofessional dialogue on current issues in education? (ask them to rate 1-5 with 5 being most impactful)

- What did you find the most valuable?
- What suggestions would you make to improve the content of dialogues?
- What suggestions do you have relating to format or logistics?

What are your thoughts on the overall value of this experience to you as a current or future school-based professional? What suggestions do you have for improving the impact of this experience?

Appendix A(4): Required Materials

- Faculty Representatives: (Social Work, Education, Nursing, Counseling and Education Psychology).
- Student Participants for Small Groups: (ideally groups of 4-5 with one from each discipline)
- Zoom: (access for 3-hour workshop)
- Interprofessional Pictionary
- Social Styles Inventory
- TeamSTEPPS CUS, Brief and Debrief

- Workshop Activity - Case Scenario with TeamSTEPPS (Appendix A)
- (4) Asynchronous Flipgrid Discussion Prompts (Appendix A)
- Flipgrid
- Focus Group prompts (Appendix A)