The **OHIO** Journal of Teacher Education

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A MESSAGE FROM THE EDITOR

Dear OJTE readers,

The spring issue is packed with great articles. First, is an interesting take on bullying and PBIS. PBIS is ubiquitous at this point, and it is very interesting to see how the problem of bullying is dealt with using this framework. Secondly, we have an article by David Leitch addressing the issue of how COVID has impacted pre-service teacher attitudes towards students with disabilities. Dr. Hea-Jinn Lee, from OSU Lima shares his findings of a study he did looking at Pre-service teachers culturally responsive teaching (CRT). approaches in teaching mathematics to diverse learners. Finally, we have an enlightening article that looks at preservice teachers' evaluations of the experts' ideas on inclusion.

I encourage more of you in the state to submit to the journal. We are growing each year and our readership is increasing as well. We are wanting to house this journal somewhere so that these articles are more accessible and easier to cite. Anyone who might have some knowledge of where we might do this, please contact me at the email address below. Thank you and enjoy the journal!

Sincerely,
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IMPACT of PBIS on Bullying in Middle and Secondary School

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Abstract:

Bullying remains a problem as pervasive and complex with fatal and long-lasting impacts. This study investigated the effects of Positive Behavioral Intervention and Supports (PBIS) on bullying in middle and secondary schools. The qualitative case study used content analysis by reviewing 200 PBIS journal articles. The authors selected and used descriptive coding for ten peer-reviewed articles resulting in six overall themes: PBIS is a comprehensive multitiered framework, sustaining a positive school climate, punitive to proactive discipline approach, building a positive school community, responsive leadership, management, and monitoring, and adhering to a sustained and integrated system. PBIS is not a solution but provides a systemic framework to address bullying through a cohesive and holistic approach through a tiered interventions system.

Introduction

Bullying is a global problem. It happens in every country and every culture. The occurrence and impact of bullying vary depending upon multiple factors. Childhood bullying has long-lasting effects on health and academics. Bullied children often suffer in silence and are reluctant to disclose their experiences to their parents or teachers, fearing reprisals or shame (Wolke et al., 2015). Children spend quality time with their peers by the time they reach 18 years of age, and their experience from school is a decisive factor in forming their career and personality. Researchers posit school shooters have been victims of bullying (Raitanen et al., 2019; Abel, 2020). Therefore, it is imperative to address bullying in schools to prevent violence against the self and others. Many preventive programs administered in schools have resulted in positive prevention. Positive Behavioral Interventions and Supports (PBIS) is a framework capable of reducing bullying by planning prevention and intervention.

Statement of the Problem

The phenomenon of bullying gained international attention during the 20th century and subsequently became recognized as a global problem (Slattery et al., 2019). An alarming number of highly violent or fatal incidents in the USA are related to school bullying, such as shootings, stabbings, beatings, suicides, and homicides (Pugh et al., 2012). Researchers have consistently shown that addressing bullying calls for tremendous attention. It is significant because bullied individuals may experience a variety of adverse health, financial, and social outcomes. Bullying creates an opportunity for exposure to the stress of bullying, which can significantly harm the individual's psychological and physical health (Zarate et al., 2017). One in three children report being bullied at some point in their lifetime, and 10 to 14 percent experience chronic bullying lasting more than six months (Wolke et al., 2015). In addition, increased bullying has adversely

impacted the school environment, creating fear among the students who feel unsafe at school (De Shannon, 2017).

As school bullying research has multiplied, we have gained a greater understanding of this public health concern affecting many school-aged children. However, there is still a considerable amount of work to be done to translate it effectively into practice and policy. In addition, further research helps to determine which program components are practical and which may be ineffective or potentially harmful (Bradshaw et al., 2015). As a result of collective national and legal responses to bullying, schools have become more attentive and responsive to bullying incidents (Slattery et al., 2019). Therefore, the problem of interest is to explore the ways Positive Behavioral Interventions and Supports (PBIS) impacts bullying at the middle and high school levels.

Purpose of the Study

The purpose of this study is to explore how PBIS may prevent and impact bullying in middle and secondary schools. Schools face a pervasive social problem from bullying that has immediate and long-lasting consequences. Experts and researchers are becoming increasingly convinced that bullying affects a much larger group of students than initially thought (Pugh et al., 2012). The widespread prevalence and adverse outcomes of bullying have led to the development of several school-based bullying prevention programs (Bradshaw, 2015). The three-tiered public health model named PBIS is one of those interventions increasingly used to address issues in education and behavior. This study attempts to complement bullying prevention efforts in middle and secondary schools to optimize the impact of prevention programs to create a more student-friendly atmosphere.

Literature Review

Research and policies define bullying in a variety of ways. As a result, there are significant inconsistencies in how bullying is defined across research, legislation, and practice. Therefore, incoherency in providing a universal definition of bullying restricts the assessment and development of empirically suppo

interventions. For example, according to Florida statute, bullying includes cyberbullying and means systematically and chronically inflicting physical hurt or psychological distress on one or more students and may involve; teasing, social exclusion, threat, intimidation, stalking, physical violence, theft, sexual, religious, or racial harassment, public or private humiliation, or destruction of property (Fl Gen Stat § 1006.147(3)(a), 2018 as cited by Slattery et al., 2019).

Why do children engage in bullying? Youth bully to get what they want with a desire to demonstrate social prowess and to control the behavior of others because aggression is an aspect of functionality (Rodkin et al., 2015). Children with moderate positions on the social status system and attempting to increase their status may be motivated to aggress against others to establish their social position proactively. Aggressive children, especially those rejected and harassed, have a motivational stance characterized by frustration, hostile biases, and retaliation goals (Rodkin et al., 2015). Students from lower socioeconomic status and impoverished families are at a higher risk of being targeted and victimized by their school peers (Jones et al., 2015).

As per National Center for Education Statistics (NCES, 2022), about 22 percent of students ages 12-18 reported being bullied at school in 2019. Among students 12-18, 15 percent reported rumors, 14 percent were ridiculed, called names, or insulted, six percent were excluded from activities consciously, and five percent were pushed, shoved, tripped, or spit on. Moreover, four percent of students reported being threatened with harm, and two percent each reported being pushed into doing things they did not want to do and having their property destroyed by others deliberately. In 2019, the percentage of students who reported being bullied at school ranged from 27 to 28 percent for 6th, 7th, and 8th grades and from 16 to 19 percent for 9th, 10th, and 12th grades. For 7th graders, the percentage was higher than for 11th graders (28 vs. 22 percent), and for 11th graders, it was higher than for 12th graders (22 vs. 16 percent) (NCES, 2022).

Bullying is generally accepted in four forms: verbal, relational, physical, and electronic. An act of verbal aggression is characterized by verbal name-calling, verbal insults, and indirect actions such as spreading rumors behind someone's back. Physical bullying occurs when there is a power or status difference, leading to behaviors like hitting, pushing, and shoving. Relational aggression often manifests in rumors, gossip, or social exclusion due to damaged relationships or diminished social status. Finally, Cyberbullying or electronic aggression involves threats, harassment, and harmful actions via cell phones and the internet (Bradshaw et al., 2015).

There are two types of bullies: socially marginalized and socially integrated. Socially marginalized bullies are hyperactive, impulsive, and experience more peer rejection, academic difficulties, and a harsh home environment. Socially integrated bullies are socially intelligent and appear competent and well-functioning individuals; others may be less capable of recognizing bullying perpetration by them (Hymel et al., 2015; Rodkin et al., 2015).

The potential impact of bullying on the students helps to understand the importance of immediate intervention in every case of bullying. It is common for bullied students to decrease school attendance and academic difficulties. The same is true for students who demonstrate bullying behavior and face disciplinary actions, decreasing their chances of succeeding academically. Bullies and victims of bullying are at greater risk for poor academic outcomes, mental health problems, and future criminal behavior (De Shannon, 2017). Approximately 160,000 teens skip school to avoid bullying every day. The risk of bullying students skipping school and dropping out is higher than those who are not bullied (Abel, 2020). A longitudinal analysis found that being bullied regularly or severely at age 8 or 10 significantly increased the risk of psychotic symptoms by age 12 (Smith, 2011). Suicidal outcomes can be the most tragic consequences of inaction about victimization. According to an international meta-analysis of 11 studies, bullies and bully-victims aged 7-16 had more severe psychosomatic problems than their peers, significantly without involvement (Smith, 2011). A study of 37 school shootings in 2011 found that nearly 75 percent of shooters reported being bullied or threatened (Abel, 2020). The number of school shootings with causalities at public and private elementary

and secondary schools reached 93 in 2020-21, the highest number since 2000-01 (Report on Indicators of School Crime & Safety: 2021).

The Positive Behavioral Interventions and Supports (PBIS) framework helps prevent bullying-like behavior with a schoolwide approach (Pugh et al., 2012). Positive Behavioral Interventions and Supports are widely used alternative behavior management techniques in the United States. This model includes three prevention tiers. The primary tier is universal prevention provided to all students in the school. The secondary tier aims at targeted groups of children who need additional support. Finally, the tertiary tier supports those children who need special intervention and works around academic and behavior support (Oxley & Holden, 2021).

Research Questions

Through this study, the researchers investigated the impact of PBIS on bullying in middle and secondary school. To understand the impact of PBIS on bullying, the researchers used the following questions for the investigation.

1. In what ways, if any, does the implementation of PBIS affect bullying in the middle and high school levels?

2. In what ways, if any, does PBIS prevent bullying among middle and high school students?

Data Collection

To complete the study on bullying, the researchers used documents as a data source. The researchers used peer-reviewed journals from the websites like Google Scholar, ProQuest, Research Gate, Google websites, and the University database to complete this task. The researchers reviewed 200 peer-reviewed and nonpeer-reviewed journal articles on bullying, cyberbullying, shooting, middle and secondary school, and PBIS. The researchers selected ten peer-reviewed journal articles based on the authenticity, credibility, accuracy, and representativeness of the documents related to the research problem (Bowen, 2009). When using document analysis the sample size is considered less important regarding the depth and richness of the research covered (Armstrong, 2021). Concerning the number of documents to be studied, Bowen explains that "the consent should not be about 'how many' rather, it should be about the quality of the documents and the evidence they contain, given the purpose and design of the study" (Bowen, 2009, p. 33). The selected documents are well connected with the study topic after investigating its depth and richness, their purpose, audience, author credentials, sources of information, assessment procedure, context, and many more. Furthermore, Content analysis organizes data excerpts, quotations, or entire passages into major themes, categories, and specific case examples (Labuschagne, 2003, as cited in Bowen, 2009).

Analysis

As in any other qualitative study, the data collection and analysis occurred concurrently for this study. The researchers separately coded each article using a descriptive coding method (Saldana, 2016). Both researchers used this specific coding method as it was pertinent for the authors to summarize sections of the articles in a "word or short phrase" (Saldana, 2016, p. 102). Therefore, it was necessary to identify specific words or pieces of content indexed and quantify them to understand the context of the content. (Hsiu-Fang & Shannon, 2005). The researchers used descriptive coding to align with Tesch's action steps throughout the coding process (Saldana, 2016; Zhang et al., 2005). Following are the steps:

- The researchers carefully selected and finalized the content in the journals based on the investigation and research questions.

- The researchers read the ten articles and separately used descriptive codes resulting in eight themes.

- Next, the researchers assigned every text unit a category for systematic comparison.

- The researchers reviewed to ensure the coding was in line with the investigation.

- The researchers ensured the coding level was consistent throughout the text analysis by communicating over virtual meetings and emails.

- At this stage, the researchers explored the properties of eight original themes and their relationship to uncover patterns and dimensions based on the research topic.

- After reviewing the eight themes from the ten articles that the researchers analyzed, they discussed that two of the eight themes should be consolidated into two other themes.

- The researchers agreed that the documents through the descriptive coding process constituted in six thematic findings.

Results

The results are from the content analysis based on the ten peer-reviewed articles studied by the researchers to delve into how PBIS could prevent and impact bullying in school. From the several themes that emerged from the data investigated, the researchers finalized six themes based on the research questions and study perspective. The six significant themes that emerged included (1) PBIS, a comprehensive multitiered framework, (2) Sustaining a positive school climate, (3) Punitive to proactive discipline approach, (4) Building a positive school community, (5) Responsive leadership, management, and monitoring, and (6) Adhering to a sustained and integrated system.

Findings, Conclusions, and Implications

The primary theme that emerged from the study is that PBIS provides a general framework within which various interventions can be constructed using a multitiered approach. When many middle and high

school bullying prevention programs focus on reducing bullying behaviors, PBIS provides a supporting foundation for bully prevention interventions (Pugh et al., 2012). School administrators at the middle and high school levels can implement PBIS to improve school safety and prevent bullying behavior on three levels: primary (school-wide intervention reaching 80 percent of students), secondary (classroom or group intervention reaching 15 percent of students), and tertiary (individual intervention reaching five percent of students) (Wang et al., 2013).

The second theme generated from the study suggests that PBIS is a framework that can promote a positive school climate and reduce behavioral problems at the middle and secondary levels (Wang et al., 2013; Bosworth et al., 2014). Wang et al. (2013) define "school climate as the milieu created by interactions among and between adults and students and individuals' beliefs and attitudes" (p. 297). The Comprehensive School Climate Inventory (CSCI) finds the constructs of school climate as safety, teaching and learning, interpersonal relationships, and institutional environment (Center for Social and Emotional Education, 2003 as cited in Wang et al., 2013). A positive school climate creates the opportunity to navigate from punitive to proactive measures in addressing negative behavior, which is paramount for high school students that take rigorous advance placement courses and high-stakes tests for college admissions.

In earlier times and sometimes nowadays, disciplining took refuge in punishment. PBIS concentrates on the behavior and the environment with a continuum of positive and proactive supports rather than the individual. The practitioners work to change the person's environment with undesirable behaviors by redesigning their environment to reduce negative behaviors (Pugh et al., 2012). The principles and applications of Applied Behavior Analysis (ABA) (Horner et al., 2015), Social Learning Theory (Bosworth et al., 2014), Cognitive Behavior Therapy, Social Emotional Learning (Bradshaw, 2013), and Social-Emotional Skills help to reinforce desired behavior in those students seeking individual intervention.

Creating a positive school community is essential to combat bullying, particularly at the secondary level. The family has a role to play in disclosing bullying incidents and nurturing coping skills in their children (Bradshaw, 2013). As part of the PBIS program, school and

community-based prevention activities can be conducted involving teachers, parents, doctors, police, the media, youth, and adults. These stakeholders can intervene when they see bullying and participate in school-based prevention activities (De Shannon, 2017; Bradshaw, 2015; Smith, 2011). When secondary stakeholders intervene and remedy bullying among students may lead to a positive school culture based on protective "values" and norms that bullying is not acceptable at this institution (Hallinger & Leithwood, 1996, p. 109).

A responsive leadership, with efficient management and continuous monitoring, can provide the intended result in prevention efforts (Bosworth et al., 2018; Jones et al., 2015). School-wide implementation of PBIS at the secondary level is a team-based process. The school leadership, including the PBIS team, school staff members, and school counselors, have a significant role in high-fidelity implementation through ongoing progress monitoring (Bradshaw, 2013; Bosworth et al., 2014; Horner et al., 2015).

Bullying prevention should adhere to a sustained and integrated system. The success of a prevention program is in its continuity. In a prevention intervention system, the teachers are the main actors, and the momentum lies with them by updating their knowledge through training (Smith, 2011). Persevering with a single intervention program is more effective in a school than trying multiple programs. Fidelity leads to sustainability, and the quality implementation of a program must be sustained and integrated, involving local needs. Testing fidelity and outcomes should be based on valid, reliable, and efficient methods to ensure sustainability. (Bradshaw, 2015).

Conclusion

The multitiered framework functions as an umbrella to coordinate, implement, and monitor by harnessing a seamless system of support in preventing and intervening in bullying and a range of other behavioral and academic problems. The research suggests that bullying prevention programs at the middle and high school level can meaningfully impact bullying outcomes, provided the implementation quality is not

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compromised. Teaching, modeling, and reinforcing PBIS helps to change an undesired behavior to desired one through a positive school climate and proactive measures. As part of society, it is imperative for middle and high school students to have community involvement in developing an anti-bullying program. A sustained and integrated system with well-developed administrative support, efficient management, and relentless monitoring can help prevent bullying.

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Impact of COVID-19 Health Protocols on Preservice Teacher Attitudes Toward Individuals with Disabilities

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Abstract:

COVID-19 health requirements have had a significant impact on K-12 education, as well as pre-service teacher field experiences, often resulting in the removal of most face-to-face interactions. This study seeks to determine if the absence of face-to-face interaction within an introductory, undergraduate special education course affected attitudes of the students towards individuals with disabilities. The Multidimensional Attitudes Scale toward Persons with Disabilities (MAS) was administered to 161 undergraduate education majors, some having had a face-to-face experience and some who did not. Results suggest that students without the face-to-face contact did not see the same level of attitude improvement toward individuals with disabilities as their counterparts who participated in face-to-face experiences.

Keywords: Higher education, attitudes, disabilities, special education, Multidimensional Attitudes Scale toward Persons with Disabilities (MAS)

Introduction

Since the passage of federal special education legislation, schools have been encouraged, if not mandated, to develop inclusive educational formats which bring students with disabilities into the general education classroom (Warger & Trippe, 1982). Teacher education programs have adapted to these requirements by making a concerted effort to incorporate course requirements which improve pre-service teachers' attitudes towards students with disabilities and, thereby, increase the comfort level of those teacher candidates as they teach in an inclusive setting (Specht & Metsala, 2018). This study examines whether COVID-19 lockdown policies have hampered that process.

The introduction of inclusive education revealed a recognition that "pre-service teachers had concerns about working with students with disabilities" (Taylor & Ringlaben, 2012, p. 16). Possibly as a result of this reality, a body of research has developed exploring attitudes and perspectives of pre-service teachers toward those with disabilities, whether in or out of the classroom environment (Wilson & Scior, 2014). For example, Morin and Crocker (2014), found that contact between pre-service teachers and children with intellectual disabilities reduced interactional discomfort, increased reports of positive contacts, and strengthened the willingness for future interactions. Sokal et al. (2013) compared the outcomes of pre-service teachers when one group participated in an inclusive practicum while the other experienced a non-inclusive practicum. They noted that participants in the inclusive setting evidenced more significant growth in classroom management efficacy than their counterparts. Secondary education student teachers, when placed in an inclusive classroom, also saw improvement in their attitudes toward the special education population and a decrease in concern toward the inclusive framework (Golmic & Hansen,2012).

Introductory special education courses in teacher preparation curriculum, even without associated field experiences, have been found to improve attitudes toward those with disabilities (Brownlee & Carrington, 2000; Goddard & Evans, 2018). Ajuwon et al. (2012), for instance, identified a decline in anxiety and hostility toward students with disabilities after completing a special education course absent an embedded field experience.

Much has been written regarding the impact in K-12 education percipitated by COVID-19 health requirements (Daniunaite et al., 2021; Gill et al., 2022; Rahman & Chandrasekaran, 2021; Sijwali et al., 2021; Wu et al., 2021). Education departments within the university system were no less immune from the adverse ramifications of lockdown policies associated with COVID-19. For virtually all programs, the teacher pre-service model was

converted immediately to an on-line framework, resulting in the removal of pre-service teachers from the face-to-face field experiences (Mohebi & Meda, 2021; Shields et al., 2021). The lack of access to face-to-face field experiences also impacted non-clinical field experiences as local schools were either operating virtually or not permitting outside access to their classroom when students were present.

The COVID-19 health protocols did, however, create a scenario in which an embedded field experience within an introductory course in special education course could be examined for its efficacy in improving attitudes of pre-service teachers toward individuals with disabilities. During 2020-21 school year, no face-to-face field experiences were possible though core course content otherwise remained the same. The aim of this study, then, was to ascertain whether the absence of an embedded field experience in an introductory, undergraduate special education course would have a measurable impact on the attitudes of pre-service teachers towards individuals with disabilities.

Method

Participants

This study emerged from COVID-19 related policies when field experiences embedded in required courses were cancelled. In one such class, an introductory course to special education, students had been required to complete a 15 hour field experience in which they would select opportunities to assist individuals with disabilities in a variety of settings. The university made a public health decision to preclude pre-service teachers from engaging in the field experience. An alternative assignment was provided to these pre-service teachers requiring them to watch a documentory highlighting the life of a family with multiple adopted children. The children had a diverse range of disabilities. Both participant groups completed a journal related to either the documentary or the face-to-face field experience. This study, then, examines whether the elimination of the embedded field experience had a detrimental effect on the pre-service teachers' attitudes towards individuals with disabilities.

A total of 161 students, consisting of undergraduate, education majors from a Midwest university participated in the study. All were either freshman or sophomores who had not yet entered the Teacher Education Program (TEP) during which the students would complete their clinical experience and take upper-level education courses related to their specific majors. The introductory course in question was a requirement for entrance into the TEP. Of the total participants, 73 completed the course without an embedded field experience due to COVID-19 protocols while the remainder successfully completed the field experience.

Measure

As the educational system began to incorporate individuals with disabilities into the classroom, there has been a concerted effort to strengthen the pre-service teachers' attitudes toward the inclusive model that now is required by Individuals with Disabilities Education Act (IDEA) mandates. A variety of measures have been developed in recent years to assess the attitudes of future teachers (Antonak, 1982).

One measure, utilized in this study, is the Multidimensional Attitudes Scale toward Persons with Disabilities (MAS; Findler et al.,, 2007). The MAS was developed as a self-reporting instrument for the measurement of respondent's attitudes toward persons with disabilities. The MAS approach was to recognize the complexity of attitudes, resulting in a tool which adopted a multidimensional approach to its measurement.

Wager and Trippe (1982) summarized attitude as "involv(ing) how people think about, feel about, and are likely to behave toward the attitude object" (p. 247). These same components are fundamental to the framework of the MAS. The MAS was developed to address what Findler et al. (2007) felt were weaknesss in prior measures of attitudes toward the disabled population and sought to "…updat[e] and refin[e] existing scales, repor[t] the psychometric properties of the scales employed, us[e] indirect attitude measurement methods…and compar[e] self-reported attitudes with overt behaviors." (p. 167). The original instrument consisted of 34 total items with 16 in an affective subscale, 10 in a cognitive subscale, and 8 in a behavioral subscale.

Though the Findler et al. (2007) scale was deemed valid and reliable, Vilchinsky et al. (2010), conducted a confirmatory factor analysis to revalidate the MAS. Their review resulted in a 22 item measure which is the format used in this study. The measurement tool in this study was essentially identical to that created by Vilchinsky et al. though the primary character in the vignette was given a gender neutral name. One categorization of measurements identifies their data collection as either indirect (e.g., observations) or direct (e.g., opinion surveys) (Antonak & Livneh,2000). . Despite this binary categorization, there can be a merging of the two methods which is what is utilized in the MAS. This is conceptualized in the vignette which precedes the opinion survey. In the MAS, the respondents are directly asked their opinions but from the viewpoint of an outside observer which envelopes the indirect approach (See Appendix A).

Procedure

The approach of the MAS required respondents to read a vignette then predict what the character in the vignette would likely do, feel or think in regard to an individual with a disability. This compares to more direct

surveys which ask the respondent to identify their own personal response to the same scenario. After reading the
  Table 1.

Means and standard deviations

Variable	Field Experience (Yes or No)	N	Mean	Std. Deviation	Std. Error Mean
Rejection (pre)	Yes	88	1.64	.996	.106
Rejection (pre)	No	73	1.45	.898	.105
Rejection (post-)	Yes	88	1.27	.638	.068
Rejection (post-)	No	73	1.62	1.174	.137
Find Excuse to Leave (pre-)	Yes	88	2.03	1.094	.117
Find Excuse to Leave (pre-)	No	73	2.29	1.275	.149
Find Excuse to Leave (post-)	Yes	88	1.70	1.019	.109
Find Excuse to Leave (post-)	No	73	2.23	1.307	.153
Dwell on Reading News, Talking or Cell Phone (pre-)	Yes	88	2.38	1.289	.137
Dwell on Reading News, Talking or Cell Phone (pre-)	No	73	2.73	1.315	.154
Dwell on Reading News, Talking or Cell Phone (post-)	Yes	88	1.94	1.138	.121
Dwell on Reading News, Talking or Cell Phone (post-)	No	73	2.44	1.394	.163

vignette, each participant was to answer the 22 questions on a five-point Likert scale ranging from 1 (not at all) to 5

(very much).

Participants were required to complete the MAS questionniares on a pre- and post- basis with the

administrations on the first and last class of the semester. The course itself was an introduction to special education

which is required of all education majors. In its pre-COVID format, students did not receive credit for the course

unless they completed the 15 hour field experience. Due to COVID-19 policies, the field experience was removed during the entire 2020-21 school year.

The field experience could be completed in a school, home environment or any other setting in which individuals with disabilities needed the assistance of our students. It was the responsibility of the individual student to identify and select their field experience with the approval of the instructor. The students participated in activities such as tutoring, respite care and community day care programs. In addition to the actual hours, students in both groups needed to complete a companion assignment in which they were to link course content with field experience events.

Results

This study asks whether there is a statistical difference between the attitudes of pre-service education majors who completed a face to face field experience during an introductory course in special education compared to those who did not complete the field experience.

As noted in Tables 1 and 2, pre-service teachers without the field experience reported higher scores in three survey items. Specifically, students without the field experience component showed higher means in their responses to "Feelings of Rejection" (M= 1.62, SD1.174); "Finding an Excuse to Leave" (M= 1.70, SD= 1.079), and; "Dwelling on Reading News or Talking on their Cell Phone (M=2.44, SD= 1.394) (See Table 1).

A two sample t-test was performed to compare the effect of an embedded, self-selected field experience on preservice teachers' attitude towards people with disabilities. The test revealed that there was a statistically significant difference in preservice teachers' attitude towards people with disabilities in three attitude scale items between the group with embedded field experience and the group without embedded field experience. This suggests that the embedded field experience does have an impact on preservice teachers' attitudes toward people with disabilities. Those statistical differences included: "Rejection" between embedded field experience (M= 1.27, SD= 0.638) and without embedded field experience (M= 1.62, SD= 1.174; t(106)= -2.241, p= 0.027); "Find Excuse to Leave" between embedded field experience (M= 1.70, SD= 1.019) and without embedded field experience (M= 2.23, SD= 1.307; t(134)= -2.816, p= 0.006); "Dwell on Reading News, Talking or Cell Phone" between embedded field experience (M= 1.94, SD= 1.138) and without embedded field experience (M= 2.44, SD= 1.394; t(138)= -2.435, p= 0.016) (See Table 2).

These results allow for the rejection of the null phpothesis and conclude that the

attitude of preservice teachers with embedded field experience is significantly different from those without

embedded field experience in these three perspectives.

Table 2.

T-Test results

		Levene's Test for Equality of Variances		T-test for Equality of Means						95% Confidence Interval of the Difference	
						Significance					
						One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
		F	Sig.	t	df						
Rejection (pre-)	Assumed	2.403	.123	1.221	159	.112	.224	.184	.151	-.114	.482
	Not assumed			1.233	157.875	.110	.219	.184	.149	-.111	.479
Rejection (post-)	Assumed	24.311	<.001	-2.359	159	.010	.020	-.344	.146	-.632	-.056
	Not assumed			-2.241	106.348	.014	.027	-.344	.153	-.648	-.040
Find Excuse to Leave (pre-)	Assumed	4.049	.046	-1.401	159	.082	.163	-.262	.187	-.630	.107
	Not assumed			-1.381	142.733	.085	.169	-.262	.189	-.636	.113
Find Excuse to Leave (post-)	Assumed	4.951	.027	-2.881	159	.002	.005	-.528	.183	-.891	-.166
	Not assumed			-2.816	134.570	.003	.006	-.528	.188	-.899	-.157
Dwell on Reading News, Talking or Cell Phone (pre-)	Assumed	.001	.977	-1.704	159	.045	.090	-.351	.206	-.758	.056
	Not assumed			-1.701	152.406	.045	.091	-.351	.206	-.759	.057
Dwell on Reading News, Talking or Cell Phone (post-)	Assumed	6.537	.012	-2.481	159	.007	.014	-.495	.200	-.889	-.101
	Not assumed			-2.435	138.566	.008	.016	-.495	.203	-.897	-.093

Discussion

This study was constructed to answer a straightforward question. Specifically, does an embedded field experience in an introductory special education course have a measurable, positive impact on the attitudes of pre-service teachers toward individuals with disabilities? As a result of lockdown policies related to COVID-19, the study took on a new dimension which allowed for an investigation into the impact that the elimination of the field experience would have on pre-service teachers.

The results of the statistical analysis identified three of the twenty-two items in the MAS as having statistically significant differences between the two groups, in regard to their attitudes toward individuals with disabilities. Of the three statistically significant items, one fell within the affective subscale, two in the behavioral subscale and none in the cognitive subscale. It is not unusual for such attitudes to change during an undergraduate course (Destefano et al., 2001). However, the fundamental question is the extent of that attitude change when one group does not have the opportunity for personal interaction with the disabled population, and the possible implications of these results. The results may then help answer the larger question of how pandemic policies impact the development of pre-service teachers.

As an initial matter, it is notable that only three of 22 items were found to be statistically significant between the study groups. Consequentially, one could make an initial determination that the impact of a face-to-face field experience may not be substantial. As the results are broken down item by item, however, meaningful distinctions are evident.

From the affective scale, results indicated that students without the field experience felt a higher sense of rejection at being left behind by friends for 15 minutes. A feeling of rejection compares to other emotional or cognitive responses which would be directed at the child in the wheelchair. For instance, there could have been a feeling of compassion or a positive behavioral response. A higher rate of rejection

suggests when pre-service teachers have not had substantive, face-to-face interactions with individuals with disabilities tend to look inward causing negative, internal emotional reactions to being alone with the unfamiliar family. This certainly could be connected to an underlying feeling of discomfort due to lack of

prior interaction with the disabled population.

Respondents completing a field experience, on the other hand, may well be looking at the 15 minutes as an opportunity to interact with the child rather than an uncomfortable setting to endure. Prior studies have ascertained that increased social interaction with individuals with disabilities correlates with an improvement in the pre-service teacher's social competence with those individuals (Appl & Spenciner, 2008). Thus, it is possible that the embedded field experience elevates the comfort level for a pre-service teacher as they interact with the disabled and draws them away from self-reflective, negative emotions such as rejection.

It is notable that study participants had a change in attitudes reflected by two observable behaviors. Arguably, the act of getting up from your seat to remove oneself from an uncomfortable situation is a considerable step from remaining in your seat and feeling uneasy or thinking about leaving. Having two behavioral items identified as statistically significant may indicate that face to face interaction tends to move pre-service teachers away from feelings and thoughts toward deeds. The process of turning thoughts into action is not without its scientific support as research has linked the brain's basal ganglia as the conduit between emotions, thoughts and behaviors, such as habit formation (Humphries, 2014). Consequentially, the idea that affective and cognitive contemplations lead to behavioral outcomes supports the notion that the behavioral selections in the MAS are an extension of underlying thoughts and emotions. The differences in behavioral responses, then, could intimate that the field experience had a more significant impact than a change in emotion or cognitive reactions.

An examination of the two statistically significant behavioral responses illuminates some

similarities. All of the items in the behavioral subscale could be described as escape mechanisms.

However, "Find an Excuse to Leave" and "Dwelling on Reading a Newspaper" suggest the respondent is

attempting to escape the situation without offending the individual in the wheelchair. Whereas the

remaining behavioral subscale options, "Get Out", "Move Away", and "Move to Another Table" have an

escape component but risk offending the child and their family.

A plausible explanation for the difference between study group responses is that contact with

individuals with disabilities increases the sensitivity of the pre-service teacher to the possible affront

abrubtly leaving the table may cause. As Vilchinsky (2010) commented, "[e]ither consciously or

unconsciously, people try to overcome their negative automatic responses and behave in a friendlier

manner" (p. 169). In the instant study, it is conceivable that a completed field experience enhances the

ability to overcome negative emotions or thoughts and temper related behaviors.

Limitations

Due to the somewhat limited number of participants in each group, an examination of

demragraphic impacts upon group responses was not statistically reasonable. Further studies may

investigate the influence that gender, race or ethnicity may have on pre-service attitudes. In addition, this

study did not break down the findings by specific majors. For instance, there may be a difference between

responses of early childhood and middle childhood majors. Though prior studies have addressed these

characteristics, they have not done so in the context of field experience versus no field experience.

Another limitation was that the authors did not believe it ethical to have future cohorts of pre-

service teachers forgo the field experience for purposes of further study. As a result, the study had a finite

number of respondents without a field experience, essentially one school year. The decision was then

made to assess only one year of pre-service teachers with a field experience to create a relatively balanced

number of participants in each group.

Conclusion

Reflecting on the stated aim of this study, the absence of an embedded field experience in an introductory, undergraduate special education course did have a measurable impact on the attitudes of pre-service teachers towards individuals with disabilities. Though the effect was not particularly broad, the statistically significant differences were notable. The study yielded enough evidence to suggest that public health policies limiting face to face interactions of field experiences did have collateral, negative effects on attitude development of pre-service teachers towards individuals with disabilities.

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Preservice Teachers' Culturally Responsive Teaching (CRT) Approaches in Teaching Mathematics to Diverse Learners

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Abstract:

This study examined how preservice teachers integrate Culturally Responsive Teaching (CRT) strategies in their instructional design. CRMT approaches were measured using mathematics lesson design tasks for diverse learners, including an average performing student (neurotypical), a student with a mathematical learning disability (MLD), and an English Language Learner (ELL). The results of this study revealed that PTs adopted a greater variety of strategies for the neurotypical student than the student with MLD or ELL. The most adopted strategies were teacher-led instruction, language support, and student-engaged hands-on activities, whereas time support, emotional support, and identification of learner's needs were adopted least frequently.

Key words: mathematics teacher education; culturally responsive teaching; preservice teacher education

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Introduction

Responding to fast growing diversity in the student population, Culturally Responsive Teaching (CRT) has become one of the approaches to respond to calls for *access*, *equity*, and *empowerment* for each and every student regardless of their personal background or characteristics (NCTM, 2010; 2017). While a large body of literature concerns culturally relevant or culturally responsive pedagogies in education settings (Gay, 2010; Ladson-Billings, 2001), very little attention was given to culturally responsive mathematics teaching (Thomas & Berry, 2019). Hence, this study examined how a group of preservice teachers (PTs) integrate CRT approaches in their mathematics lesson design.

Culturally Responsive Teaching (CRT)

The concept of culturally relevant pedagogy, initially defined and introduced to education by Ladson-Billings (1994) aimed to connect historically marginalized students to their schooling and learning experiences with their cultures and communities. Ladson-Billings (1994) described culturally relevant teaching as "a pedagogy that empowers students intellectually, socially, emotionally, and politically by using cultural referents to impart knowledge, skills, and attitudes" (p. 382). In particular, Ladson-Billing (1995) proposed three tenets of culturally relevant pedagogy: achieving academic success, developing cultural competence, and developing a critical consciousness. Following Ladson-Billings, Gay (2010) proposed "*culturally responsive pedagogy*" to improve students' achievement by teaching from their own cultural viewpoints, which includes utilizing prior experience, cultural knowledge, frames of reference and performance styles to make learning more relevant and effective for students. As such, both theoretical strands viewed the cultural relevance and responsiveness as a vehicle for learning and proposed to bridge home culture and school culture in order to empower students from diverse backgrounds and eventually to achieve education equality and social justice.

Teachers have more success when they teach through the lens of the students' cultural framework and provide learning contexts relevant to students' knowledge, interests, and experiences,

because student learning is comprised of many factors, including culture, language, and social class (Gay, 2010; Ladson-Billings, 1994, 2001). To be successful with culturally responsive teaching, teachers should understand and respect students' cultural beliefs and values. Recognizing the whole person and teaching students to capitalize on their cultures by integrating their cultures into daily instruction rather than incidental celebrations of heritage and cultures should be the goal (Hall, 2021). However, teachers should not simply incorporate students' familiar aspects but develop specific instructional knowledge, procedures, and dispositions (Aguirre, 2012; Rajagopai, 2011). Regardless of the subject area, approaches that are considered culturally responsive include developing materials that are relevant to home experiences, modifying instruction to meet students' prior knowledge, providing context for instruction that is familiar, using cooperative learning strategies, using model-based approaches, and encouraging instructor reflections about how students are progressing (Bransford, 2000; Eglash et al., 2006; Villegas & Lucas, 2002).

Culturally Responsive Mathematics Teaching (CRMT)

Specific to teaching mathematics, Averill et al. (2009) suggest, "teachers can use children's cultural capital to stimulate mathematics learning or ignore it and actively deplete motivation to learn, thus adding another barrier to achieve" (p. 159). As classroom environment and personal interactions can either reduce or enhance students' learning of mathematics, students will feel more comfortable learning the content when they feel comfortable with how the teacher talks and discusses the material (Hackenberg, 2005).

Research on highly successful mathematics teachers of traditionally underserved students found that a relationship and trust are central to culturally responsive mathematics teaching (CRMT) (Bonner, 2014). Wager's (2012) study on the ways elementary school teachers incorporated out-of-school mathematics practices into their lessons showed how the teachers linked their students' shared experiences to mathematics lessons. Some of the examples include currency translation, measuring a soccer field where students play after school, and word problems based on shopping. Hubert (2014)

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similarly found that high school students at risk demonstrated more positive attitudes and interests toward mathematics after CRMT strategies such as caring, home-like environment, increasing participation, and technology integration were implemented. Furthermore, utilizing culturally connected chanting, storytelling, using students' native language, singing, and integrating students' interests and local knowledge in solving mathematics problems are suggested.

Activities that address neurodiverse students, such as those with mathematical learning disabilities, include integration of music and art forms from the home culture into mathematics, scaffolding, overt modelling, flexible grouping, and open discussions (Shumate et al., 2012). Examples of this type of instruction could be measuring angles and distance turned during traditional dances, structuring group work in a way that gives all students a voice in the discussion, and direct modelling of mathematical processes. Other studies suggest that mathematics teachers should understand traditional mathematics as presenting knowledge as a discrete, external commodity given to students but also understand and value non-traditional (Non-Western, Indigenous) views which recognize the meshing of ideas, people, and material conditions (Gutiérrez, 2018; Lakoff & Núñez, 2000; Mukhopadhyay & Roth, 2012). For example, ratio and proportion can be taught while building a fish drying rack (Kisker et al., 2012).

In general, implementing CRMT approaches should include a respect for students' learning abilities and a capacity to provide rigorous and high-level mathematics, an ability to be reflective, being conscious of biases and being ready to deal with the emotions of resistance (Bottoms et al., 2017; Gay, 2013; Jones, 2004). When students are perceived as individuals with unique abilities and backgrounds the teacher can move from the deficit mindset and focus on ways of engaging the student with mathematical concepts (Yeh, et al., 2020).

Method

Research Question

While there is increasing emphasis on CRT approaches in teaching mathematics, more

knowledge is needed concerning how teachers apply CRT in their instructional design for diverse learners (Averill et al., 2009). Hence, this qualitative study examined how groups of preservice teachers (PTs) integrate CRT strategies in their mathematics lesson design for three different learners. The research question guided the study was *"What culturally responsive teaching approaches do preservice teachers use to teach mathematics to diverse learners?"*

Data Collection

Participants of the study (N=17) were undergraduate PTs enrolled in the early childhood licensure program (ECE, grades PreK-3), and the majority identified as Caucasian with one identifying as Hispanic. The study took place at a small midwestern university in the United States. Although PTs in the study learned about teaching diverse learners using CRT approaches throughout the teacher education program, it was not known what types of instructional approaches they apply in their own teaching. Thus, the researchers adopted a vignette activity approach to present targeted classroom experiences to PTs, which would help PTs connect K-12 classrooms (practice) and learning from university courses (theory) (Jeffries & Maeder, 2011). For this study, researchers provided three different learner profiles, an average performing student (neurotypical, named John), an English Language Learner (ELL, named Marina), and a student with a mathematical learning disability (MLD, named Liam). First, PTs were asked to develop a plan to teach multiplication (a 3rd grade mathematics content standard) for a neurotypical student. Once they completed the first part, PTs were asked to modify their lesson to address the needs of an ELL and a student with MLD.

Data Analysis

Using multiple-coding steps (Creswell, 2015), the content of 17 lessons for three different learners were inductively analysed. This inductive analysis approach involves multiple reasoning steps to develop 'categories into a model or framework that summarizes the raw data and conveys key themes and processes' (Thomas, 2006, p. 240). Thus, the following steps were taken in analysing the PTs' lesson content. First, the researchers read the raw data separately. During this initial process,

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each researcher identified processing codes (first-level code). These processing codes were composed

of a word or a phrase. Second, researchers, as a group, compared their own processing codes and

reached a consensus on a set of common processing codes through discussions. Those processing

words included 'demonstration' 'modelling' 'manipulatives' 'videos' 'anchor charts' 'drawings'

'students' first language' 'real-life examples' and 'students' interests.' Third, based on the processing

codes, researchers reread the data and identified the patterns, i.e., interpretive codes (see Table 1).

Finally, we tallied the frequencies of each patten (interpretive code) to further find out types of

instructional strategies that the PTs adopted for different learners.

Table 1.
PTs' Instructional Approaches: Interpretive Codes and Description

| *Interpretive Codes*		*Description (Using PTs' language)*
Teacher-led instruction	Teacher-led instruction	Teachers demonstrate step-by-step solution, modelling how to use visual aids and manipulatives, explaining concept conceptually and procedurally
Hands-on activities	Hands-on activities	Students engage in problem solving activities, using manipulatives
Group work	Group work	Teachers use centers/stations, discuss grouping strategies, peer teaching
Using Resources	Non-digital (conventional) resources	Teachers use conventional instructional resources such as whiteboard, worksheets, flash cards, checklists, facts table, number charts, etc
	Digital resources	Teachers utilize videos (some with subtitles in Spanish), digital content, digital devices such as ipad, calculator, google translator, etc
Relating and understanding learners	Relating to student's background	Teachers use objects that students are familiar with or like including food items, pictures, and more
	Identifying learner's needs	Teachers attempt to identify student's strengths and weaknesses
Assessment	Assessment	Teachers use formal or informal assessment means, such as quiz and exit ticket, as well as have students share their solutions to the whole group to check correctness/accuracy.
Additional support	Language support	Teachers accommodate their approach based on student's needs, e.g., lesser problems, vocabulary cards, translated worksheet in their home language, simple words, verbal directions, prepared handout/notes, etc
	External support	Teachers provide additional support through ESL specialist, outside of the classroom, or one-on-one tutoring
	Emotional support - Caring	Teachers respect students' feelings and needs for emotional support
	Time support	Teachers support students through time management, slower pace, more wait time, or additional time.

Development of Instructional Approaches   39

The research question was to investigate how PTs utilized CRMT strategies in lesson

development to teach three different learners. A total of 210 strategies were identified in the

participating PTs' lesson designs. PTs adopted a greater variety of strategies for John than for Liam

or for Marina. Approximately, 46% of the total instructional strategies used in each lesson plan were

for the neurotypical student John, 26% for Liam, and 28% for the ELL, Marina. On average, 12.5

strategies were used by each PT, in which 5.7 strategies were for the neurotypical student, 3.2

strategies for the student with MLD, and 3.5 strategies for the ELL.

Regarding the specific instructional approaches used (Figure 1), the results indicate PTs' high

reliance on the teacher-led instruction over other strategies. In our study, the expression 'teacher-led

instruction' does not imply no involvement of student or a simple one-way information sharing.

Examples of the 'teacher-led instruction' in the study include the teacher (PT) acting as a main agent

of the instruction, providing instruction, guidance, and facilitation. Also, most PTs explained the

multiplication concept through drawing/demonstration and used a transition, from the concrete

modelling to abstract symbolic, which is developmentally appropriate. Therefore, we interpreted such

teacher-led instruction approach as culturally responsive. Overall, the most adopted strategies were

teacher-led instruction (38.6%), language support (15.2%), and student-engaged hands-on activities

(13.8%), whereas time support (0.5%), emotional support (1.0%), and identifying learner's needs

(1.0%) were adopted least frequently.
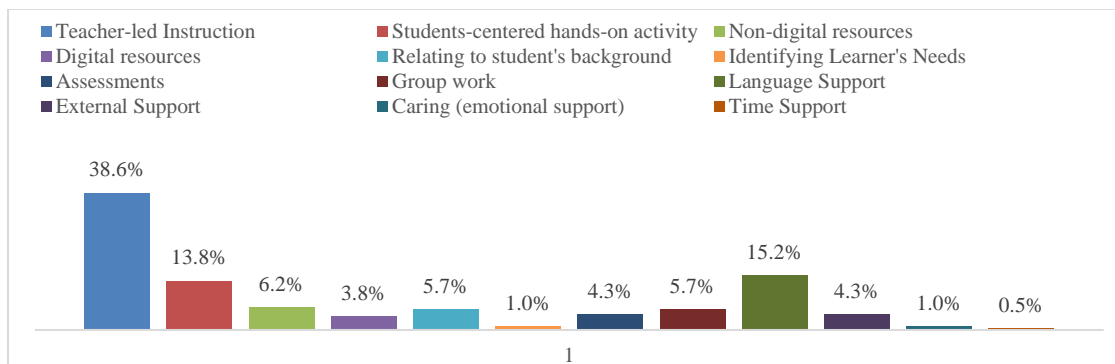
Figure 1.
Instructional Strategies used for All Three Learners

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## Comparing Instructional Approaches Used for Different Learners

CRT Approaches for Teaching a Neurotypical Learner (John)

Figure 2 depicts overall instructional approaches used for teaching John (neurotypical student). PTs used teacher-led instruction (54.6%) the most followed by hands-on activities (12.5%) and using conventional/digital resources (11.3%). However, no PTs discussed how they would provide additional supports such as (math) language support, external support, emotional support, or time support.
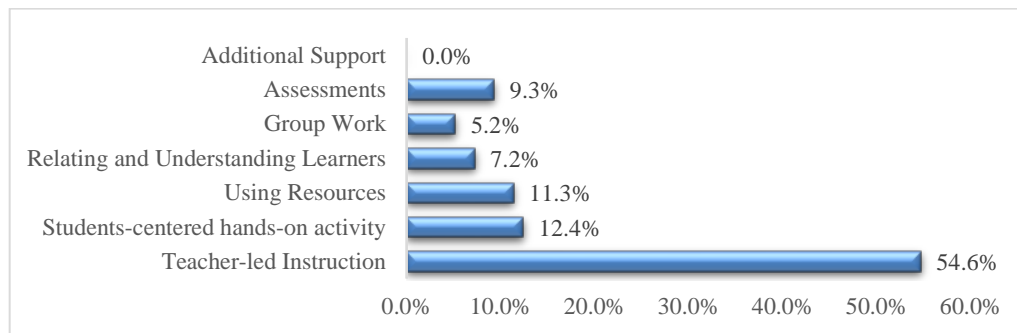
Figure 2.
CRT Strategies Used for the Neurotypical Student, John

A closer examination of the instructional approach used for John showed a tendency to adopt the sequence of initially teacher-led followed by co-constructed with peers or a teacher and finish with student independent practice. Figure 3 is an example of common instructional plan developed by the PTs. First, PTs modelled how to use math manipulatives, pictures, or real-life objects to visualize a multiplication problem or explained grouping and repeated addition to introduce the multiplication concept. Second, PTs have students work either in group or in pairs to solve multiplication problems. Most PTs expected their students to solve math problems by following the problem-solving strategies that the teacher just demonstrated. Last, PTs ended their instruction by checking the answer as a whole group or checking individual student's progress.
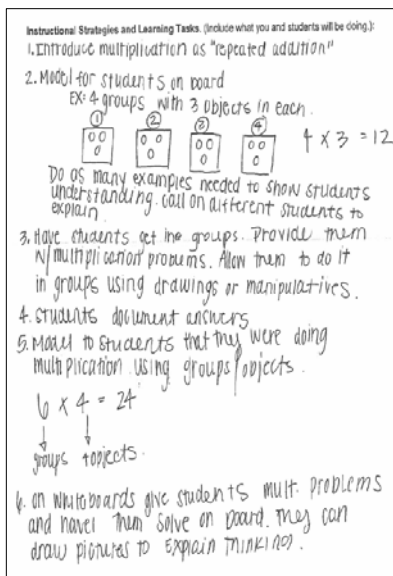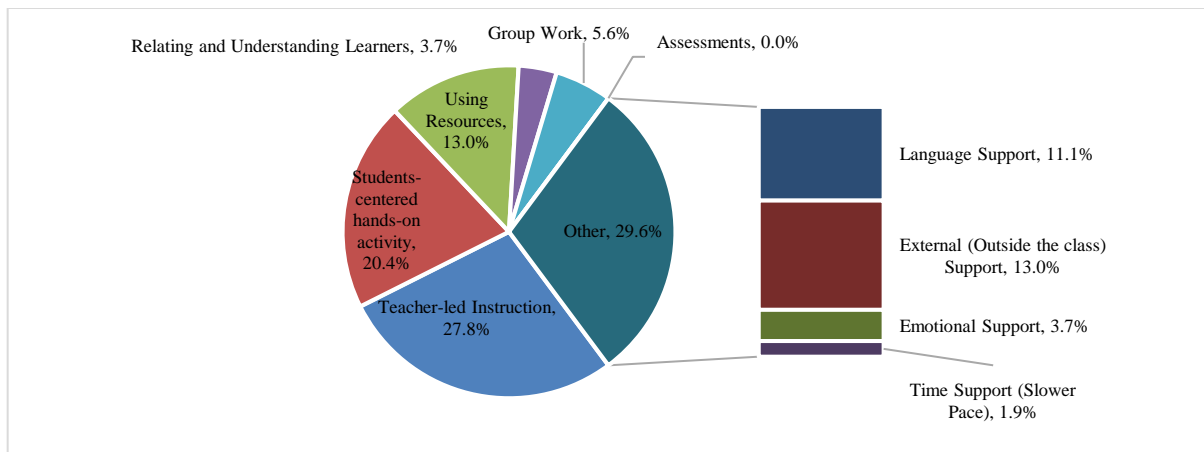
Figure 3.
Instructional Plan for John (PT # 6)

CRT Approaches for Teaching Student with Mathematical Learning Disability, Liam

For Liam, the PTs adopted teacher-led instruction (27.8%), hands-on activities (20.4%), and additional support more frequently than other approaches. Unlike for John, the PTs considered external support including helping Liam outside of the classroom or teaching him one-one-one (13%) and (mathematical) language support (11%) (Figure 4).

PTs' efforts to draw on students' backgrounds, interests, and needs for instruction were often found in their plans for Liam. For instance, PT # 8 tried to connect her instruction to Liam's background in developing math problems, "He will be provided with manipulatives and more simple problems. These problems will be related to his life, they will incorporate his likes and interests so he can better understand and relate to the problems." Another example exhibited a PT's understanding of Liam's needs, while expecting him to learn the main mathematics concept of the lesson. She noted "I would provide Liam with a calculator and number card because basic facts are a strength for him. He is still doing the work along with the class but able to perform" (PT #4). Identifying learner's needs and relating to a student's background led PTs to consider ways to support students: (mathematical) language support, external support through aids, emotional support, and support with extended time or controlling teaching pace.
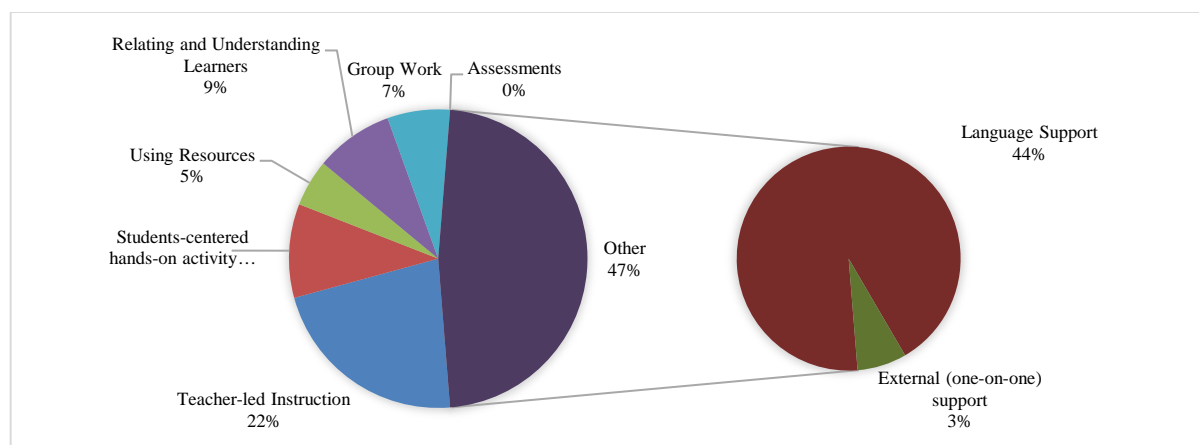
Figure 4.
CRT Strategies Used for the Student with Mathematical Learning Disability, Liam

CRT Approaches for Teaching the English Language Learner, Marina

Unlike for John or Liam, providing additional support, including language support (44%) and one-on-one instruction (3.4%) were the most frequently employed approaches in teaching Marina followed by teacher-led-instruction (22%) (Figure 5). Language support with literacy-related strategies such as home language translations and English labels were used more often for Marina than for other learners, possibly due to PTs' efforts to address Marina's language barrier. Most PTs suggested supporting Marina using both English and Spanish to help her participate in the class, interact with other students, and connect with Marina's culture. For instance, PT #3 noted that "The word problem needs to be something she [Marina] can connect to. Instead of cookies, use some type of food/snack she understands or can relate to. Have the word problem in both English and Spanish to allow her to understand and make connections between the languages." Even though 'cookies' are loved by most young learners regardless of their cultural backgrounds, the fact that this PT tried to think outside of what is familiar to U.S. students and consider cultural differences in material choice is noteworthy. learners, possibly due to PTs' efforts to address Marina's language barrier. Most PTs suggested supporting Marina using both English and Spanish to help her participate in the class, interact with other students, and connect with Marina's culture. For instance, PT #3 noted that "The word problem needs to be something she [Marina] can connect to. Instead of cookies, use some type of food/snack she understands or can relate to. Have the word problem in both English and Spanish to

allow her to understand and make connections between the languages." Even though 'cookies' are loved by most young learners regardless of their cultural backgrounds, the fact that this PT tried to think outside of what is familiar to U.S. students and consider cultural differences in material choice is noteworthy.

Figure 5.
CRT Strategies Used for the English Language Learner, Marina

Discussion

The results of our analyses of lesson development shed light on a few salient issues that need further discussions. Almost all PTs included explanations of the multiplication concept to the class through modelling or demonstration for John. However, no PTs described how conceptual explanation of multiplication will be explained differently to Liam and Marina. Lesson plan ideas focusing on mathematical strategies were primarily discussed in their plan for John, and no content differentiation or product differentiation for Liam and Marina was considered by PTs. Instead, they focused on differentiating process - discussing how they would support Liam and Marina in response to their needs through modified instructional approaches.

Liam did get the PTs thinking about how they could help him access the material because it was stated that Liam had a mathematical learning disability. While teacher-led was the most used strategy there were some PTs who considered group work, supporting him emotionally and accommodating teaching pace (more time). Yet, there was still an overwhelmingly deficit mindset,

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with remediation being top priority and utilizing his strengths were considered only by 2 PTs.

Marina's needs also could have been addressed in more proactive ways. The PTs frequently mentioned 'Spanish translation' 'English labelling' 'both language use in directions.' Their language support strategies in combination with using manipulatives and digital resources (instructional clips) appeared that they are indeed in the right direction in terms of language support for ELs. However, unlike language support that dominated their lesson design for the ELL, taking into consideration cultural backgrounds was not well demonstrated in their lesson design. Although several PTs mentioned in their lesson design that they would take examples that are culturally relevant to Marina (EL), they did not specify what those are. Furthermore, there was lack of support for academic mathematical discourse including math content-specific vocabulary as well as task and problem-solving relevant expressions.

Conclusion

Based on our findings, we would like to make suggestions that could be integrated into teacher education program curricula to prepare our future and present teachers to meet diverse learners' needs and encourage academic success. First, the lack of integration of students' cultural context can be addressed by connecting math instruction with students' cultures, cultural practices, home, and community resources (Kress, 2005; Yeh et al., 2020). The first step toward this goal is to find out what cultural resources are available in their households, communities, and out-of-school activities that they are engaged in. Researching various ways that Funds of Knowledge can be identified and utilized in the school curriculum are a good place to start (Hogg, 2011). Second, the lack of cultural emphasis can be undertaken by researching math discoveries and contributions that were made by non-western or historically marginalized groups. Although this is a small step, it empowers students and helps them develop a healthy identity which will, in return, help them academically engage and succeed. Also, math story problems and real-life examples surrounding gender or racial issues may help raise critical awareness of disparity issues. For example, Leonard et al. (2010) showed some

examples of how mathematics teaching can raise the critical consciousness of social injustice using the topics such as '(a) problem solving and the Underground Railroad, (b) algebra and the displacement model; (c) geometry, resource allocation, and South Central Los Angeles, and (d) calculus and the distribution of wealth' (p. 265).

While it may be challenging to teach CRMT when PTs have very little experience with diversity themselves and their surrounding communities reflect little diversity, scenario-based case studies similar to our vignette activities and social justice lesson plans in methods courses could address this gap. Striking down deficit mindsets and recognizing diverse learners' strengths should be also a priority for teacher preparation. It is important for teacher educators to continue to model the value of CRT in teaching mathematics and encourage other instructors to infuse this pedagogy in all courses.

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Preservice Teacher Researchers Collaboratively Evaluate the Experts on Inclusion

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Abstract:

Cross-university pairs of teacher education candidate researchers (TECR) viewed Ted Talks on inclusion and used the Classroom Culture Characteristics for Inclusion (3CI) instrument to identify specific components of inclusion. Additionally, teams wrote a personal definition of inclusion and highlighted their major takeaway. The TECR reflections and 3CI responses were coded and evaluated. This evaluation formed the basis of post-research discussions and provided a model for future assessment of inclusion. The use of research-based evaluation criteria is encouraged when determining the components of inclusion in a classroom, school, or lecture.

Pre-Service Teacher Researchers Collaboratively Evaluate the Experts in Inclusion

For a classroom setting to be effective, teachers must be able to identify, define, and apply the essential characteristics of inclusion. Inclusion has multiple definitions that are often vague on the specific components or teacher behaviors that foster an inclusive environment. It has no one definitive definition or single means of employment. Successful implementation varies depending on the environment and context that best supports all students, including those with disabilities and other diverse learning needs (Ballard, 2012; Das, Kuyini, & Desai, 2013; Mastropieri & Scruggs, 2010). It is seen as "an educational system that includes all students, and welcomes and supports them…inclusive education means all children learn together in the same schools (UNICEF, nd., Inclusive Education)." It is a "trifold of physical integration, social integration, and instructional integration (Friend & Bursuk,2015; authors, 2020)" and the "full-time membership of students with disabilities in their chronologically age-appropriate classrooms with the necessary supports and services (Downing, 2010, p.7)." Inclusion "involves supporting students with disabilities through individual learning goals, accommodations, and modifications… (and) held to the same high expectations as their peers (IRIS, and, pg. 1)." It is not a one-size-fits-all approach but an ability to implement and adjust strategies to respond to the needs of the students (Agbenyega & Deku, 2011; Alhassan, 2012; Das, Gichuru, & Singh, 2013).

Interstate Teacher Assessment and Support Consortium (InTASC), a governing body for higher education teacher preparation programs, advocates for inclusion and states candidates need to create a learning environment that "ensure(s) inclusive learning environments" and "support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation (Council of Chief State School Officers, InTASC, 2013, p.8)." They must be able to "uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress" and "uses evidence to continually evaluate his/her practice… and adapts practice to meet the needs of each learner (p. 9)." Assessments such as the Classroom Culture Characteristics for Inclusion (3CI) can help

prepare teacher education candidates (TEC) to meet these challenges while developing a deeper

understanding and growth in inclusive practices.

Classroom Culture Characteristics for Inclusion (3CI)

Defining inclusion provides an overview of its basic premise. However, TECs need further

direction for identifying the specific characteristics, supports, classroom environmental factors, teacher

behaviors, lesson components, and delivery methods that make inclusion effective. The Included

Classroom Characteristic Check Sheet was developed and later revised and renamed as Classroom Culture

Characteristics for Inclusion (3CI) (see Appendix 1) to help clarify concepts and further support the

identification of specific components of inclusion. Under its original name, the instrument was introduced

and validated for *Inclusive Education a Systemic Perspective* (Howley, Faiella, Kroger, & Hansen, Eds.,

2020). The 3CI is a tool used by TEC to identify the research-based best practices model in their K-12

classroom lab or experiential learning opportunities. It makes concrete the innocuous phrase "I know it

when I see it" by examining inclusion through five components documented to facilitate an effective

inclusive environment: differentiation, classroom environment, teacher disposition, delivery method, and

lesson component (authors, 2020). These components are the basis of the 3CI. Each of the five components

further identifies specific characteristics (56 in total) that facilitate an effective inclusive environment. It is

not an exhaustive list of characteristics but serves as a guide for TEC to better understand and identify

specific practices modeled in field experiences. Each component and characteristic was "determined

through a review of the literature on the best practices of inclusive education …and are supported by

federal, state, and professional standards." The 3CI aligns with the standards addressed in the InTASC

(authors, 2020).

Inclusion requires constant internal assessment to be effective (Muskin, 2016). The 3CI fosters

TECs' ability to critically assess by providing a menu of different research-based practices rather than a

one size fits all approach. The instrument has been used since 2015 in multiple universities and presented

at international professional conferences to further TECs' understanding of inclusion in practice in general and special education classrooms. It allows candidates to identify the specific teacher behaviors that support research-based best practices. The 3CI was expanded during the Covid Pandemic to supplement and support candidate growth when placements in K-12 classrooms were limited.

Collaboration

Collaboration is also a critical and necessary skill for teachers. According to the Merriam-Webster online dictionary (2022), it means "to work jointly with others" and "to cooperate with an agency or instrumentality with which one is not immediately connected." Working with those who are not immediately connected is necessary for teachers to build effective relationships with caregivers, community members, school personnel, and agencies. Ensuring TEC can do so effectively is mandated through state and professional standards. For instance:

Standard 6 of Ohio's Standards for the Teaching Profession requires teachers to be able to "collaborate and communicate," "share responsibility," and to do so "effectively."

Council for Exceptional Children (CEC), the accrediting body for special education, mentions the need for collaboration nine times in their seven Initial Preparation Standards and corresponding key elements. In part, it requires beginning teachers to be proficient at using "theory and elements of effective collaboration" and do so "in culturally responsive ways."

The pandemic negatively impacted the teacher education programs' ability to foster and promote collaboration, particularly beyond the classroom and university, to "an agency or instrumentality with which one is not immediately connected."

The pandemic also severely limited TECs' opportunities to observe and participate in K-12 classrooms. Learning from professionals in the field for our TECs about inclusion and collaboration was hindered. This dearth of experiences led us to seek alternative ways to bolster experiential learning

opportunities for our TEC that highlighted the components of inclusion and a means to collaborate with "an agency or instrumentality with which one is not immediately connected."

Origins

During the Covid Pandemic of 2021, two Mid-Western universities collaborated on a project with primarily TEC student researchers using the 3CI to evaluate the diverse voices of experts on inclusion. Since the pandemic negatively impacted TECs' opportunities to be physically present in classrooms, this project developed as an alternative method to identify best practices in inclusion and foster cross-university collaboration. It involved students from two universities in different cities independently and collaboratively exploring the meaning and components of inclusion as identified in the 3CI in eight diverse TedTalks about inclusion (see Appendix 2).

Research Design

The structure of the project was developed with guidance from *Living the Question: A Guide for Teacher-Researchers* (Shagoury & Power, 2012) and an alignment to the needs of our students in facilitating a more concrete understanding of inclusion. The authors developed the research question and sub-questions from the literature and the 3CI.

The nine TEC from University A paired with nine TEC from University B. These TEC Researchers (TECR) were instructed to view a TedTalk video assigned by the authors and to use the 3CI instrument to identify the specific components of inclusion the TedTalk speaker directly or indirectly references in the video. The videos assigned were selected based on expertise, different perspectives, and diversity in ethnicities and race groups. Independently, outside of class time and before meeting with their cross-university partner, each TECR viewed their assigned TedTalk, wrote a summary of it, and identified six components of the 3CI the speaker directly or indirectly references in the video.

The cross-university partners then met via ZOOM at a jointly agreed-upon time to discuss their findings and develop a shared definition of inclusion. During this meeting, each team was tasked with jointly developing a Google Slide that included the following:

· Names and introductions for all team members

· Each partner six components of the ICS they identified in the video.

· The team's joint definition of inclusion

· What did you learn from this project about inclusion

· What did you learn about cross-university collaboration

Each partner then independently debriefed their experience in class to share the various components of inclusion and the experience of cross-university collaboration. The researchers then coded the team definitions, categories of 3CI, and the key takeaways. The accumulated coding was evaluated for frequency under the five main categories in the 3CI and the 57 subcategories. These results formed the basis of post-research discussions on the implications of inclusion, collaboration, and the findings of this study.

Research Question

Can TECR collaborate to evaluate a lecture to determine the expert's view of the essential components of inclusion as referenced or defined in the 3CI?

Subquestions

Data Analysis-What class trends are noticeable in the analysis of the written response "Pick ix 3CI characteristics addressed in the assigned TedTalk"?

Data Analysis-What trends are noticeable in the analysis of the team of TECR's definition of inclusion.

Conclusion: What were the primary TECR teams' takeaways on inclusion and collaboration?

Conclusion: Can an instrument, such as the 3CI, help TEC further evaluate an expert's opinion of an inclusive environment by recognizing and identifying the specific components addressed?

Results

The finding from each team was analyzed through a mixed-method approach. The authors tabulated the frequency of the categories and components identified by the TECR and coded the shared definitions and independent takeaways. Table 1, Frequency of Components and Characteristics, identifies each characteristic's frequency and the corresponding totals for each overarching component identified in the videos. Overall, the components of Classroom Environment (n=27) and Teacher Behaviors (n=25) were explicitly identified most often in the individual and team analysis, while Supports (n=10) and Delivery Method (n=10) were identified the least often. Characteristics of Perseverance (n=9) and Heterogeneous Grouping (N=6) were the most abundant characteristic, while six others also ranked high (n=5): Assistive Technology Available to all Students; Clear rules and expectations; High Behavior and Academic Expectations; Quality Teacher Student Relationships; Leadership of Caring Authority; and Knowledge of Student Beyond Academics.

Table 1 Frequency of Components and Characteristics

Classroom Culture Characteristics for Inclusion (3CI)									
Supports		**Environment**		**Teacher behaviors**		**Lesson Components**		**Delivery method**	
Explicit language	0	**Clear rules expectations**	5	**Leadership caring authority**	5	Prior learning	4	Motivational activity	0
Instructional material	1	Established routines	2	**Perseverance**	9	Data driven instruction	4	Direct instruction	0
Multiple means presented	1	Schedule posted	1	Teachers' responsibility	4	Interest options	1	**Collaboration**	6
Use of organizers	0	**Behavioral expectations**	5	Direct verbal communicate	0	Learning options	3	Real life connections	1
Assisted technology	5	Accessible Room	3	**Beyond academics relationship**	5	Cooperative team planning	2	Supports incorporated	2
Specific communication	3	**Teacher student relationships**	5	Specific feedback	2	Culturally responsive	2	Teacher behaviors incorporated	0
		Student peer relationships	4					Co teaching	1
		Actively engaged	1						
		Represents diversity	1						
	10		**27**		**25**		**16**		**10**

Regarding the teams' definitions of inclusion, the dominant themes were the quality of relationships and supporting students. The importance of relationships was identified in all definitions by all teams. Student-peer relationships were identified by all eight teams, and teacher-student relationships by seven. Teams mentioned "making sure that all people are welcomed," "valued," "treated with dignity, respect," "recognizing others' strengths rather than their weaknesses," and developing "genuine partnership(s)." The definitions included not just students with disabilities but also "race, gender, religion," "ability, or appearance," and "seeking similarities" while providing a "sense of belonging."

Five teams identified providing students with the necessary support, making it the second most prevailing theme. They identified the need for "equal opportunities no matter (the differences)," "setting students up for success," and "support (them) to reach their peak." Specific behaviors such as "incorporate

intentional and data-based instruction to support all students" and providing "additional support and resources" for those needing it were identified.

In response to *What did you learn from this project about inclusion,* TEC responded with overarching concepts as well as components of Environment (teacher-students and student-peer relationships), Teacher Behaviors (perseverance), and Delivery Methods (instructional supports and collaboration). They stated they learned inclusion was an "umbrella term that includes everyone" in "every part of our society." It is "about being able to change" and a "celebration of diversity put into action." Inclusion characteristics were seen as interrelated. Knowledge of students was necessary to "support them in our classrooms" and "adapt the material(s)" and "membership, relationships, and skills are...interrelated components." Teachers need "to gain knowledge and understanding of a different way of viewing the world" in order to "educate students on how to be respectful and kind towards others inside and out of the classroom." Inclusion is "not easy to accomplish and takes a lot of like minded people that want to accomplish."

TEC also called for more effective implementation and evaluation of inclusion in school. "Access is not inclusion," and "separate is not equal." There was a call for "more schools (to) put inclusion into action" because "specific inclusion strategies are successful…so we need to evaluate why… schools are not doing…things to create a more inclusive environment."

TECs responded to the question *What did you learn about cross-university collaboration?* by stating they found the experience "interesting," "neat," "a cool way to meet other people from different schools," a "good experience," and "helpful." Overall, the components of Support (characteristics of communication), Delivery Method (real-life connections) were identified. As one TEC stated

When working with our classmates, we tend to have similar ideas as we have all been taught the same material in the same classes. Working with someone from a different university brings in fresh ideas and a different viewpoint than your own. It also taught us the problem-solving skill of how to work with

someone you've never met. Others agreed and stated it "offer(ed) a different perspective on important topics and concepts," caused "routines to change," made them "to think differently or deeper about a topic," and "talk about and think of things that (they) had not thought of before." It allowed them to "mix ideas, have a strong dialect with one another, and work actively to solve any task given," which "forces you to be much more responsible."

Communication was also a reoccurring theme. It was seen as "the biggest part of any collaboration." TEC felt the "need to communicate very well to get the assignment done" and to do so "earlier rather than later."

Discussion

The 3CI was designed to identify components and characteristics of inclusion modeled in a classroom setting. This project expanded its use to analyze diverse opinions on inclusion through cross-university collaboration. In response to the research question, *Can TECR collaborate to evaluate a lecture to determine the expert's view of the essential components of inclusion as defined in the 3CI?* the answer was yes. The TECRs could use the 3CI to identify specific components and inclusion characteristics. They then used that information to develop definitions and identify the main takeaways collaboratively. The authors coded the definitions and the takeaway using the 3CI categories. They compared the results to the TECR codes for the videos to determine the primary takeaways on the nature and importance of inclusion. The need for quality relationships prevailed when comparing video, definition, and takeaways. TECRs determined that quality relationships (caring, supportive) between every student and teacher were the primary component of successful inclusion. Student supports incorporated into lessons was the only other characteristic to emerge from all three measures. Noticeably absent from all three measures was incorporating an Introduction Motivational Activity or Hook before a lesson.

The teacher-as-a-researcher format was very useful and easily adapted to the pandemic restrictions. This approach also fostered a cross-university collaboration to ensure TECs experienced working jointly with others that were "not immediately connected." The TECs were able to gain experience in research, inclusion, and collaboration virtually.

The authors would encourage using the C3I to determine the components of inclusion in a classroom, school, or lecture alongside the manifestation of TECR. As stated by one of the TECR- "When we talk about inclusion in our classes it is always in reference to education and schools. Inclusion should and needs to be incorporated into every part of our society."

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Appendix A

ePortfolio Scoring Rubric

An adaptation and integration of the 2013 Danielson Framework, 2022 CAEP standards, InTASC standards, ISTE standards, and OSTP

DOMAIN 1: Preparation

The candidate presents artifact(s) and accompanying descriptions, which demonstrate that he/she has command of the subject he/she teaches. These artifacts are assessed according to the following criteria:

Standard	Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
InTASC 4 CAEP R1.2, R1.3 Danielson 1a OSTP 2.1, 2.2, 2.4, 2.5	The candidate exhibits wide knowledge of key concepts in the content area and how these topics relate within the field itself and also to other content areas/fields. The candidate demonstrates significant understanding of needed prior learning and prerequisite relationships in the content area. The candidate demonstrates familiarity with several effective teaching strategies in the content area and demonstrates awareness of potential student misconceptions.	The candidate exhibits solid knowledge of key concepts in the content area and how these concepts relate to one another. The candidate demonstrates satisfactory understanding of essential prior learning and prerequisite relationships in the discipline. The candidate shows his/her familiarity with effective teaching strategies in the content area.	The candidate shows that he/she is aware of key concepts in the content area but displays a lack of understanding regarding how these concepts relate to one another. The candidate indicates some understanding of essential prior learning, but such knowledge may be inaccurate or incomplete. The candidate reflects some familiarity with appropriate teaching strategies in the content area.	The candidate displays content errors and little understanding of essential prior knowledge necessary to student learning in the content area. The candidate shows no understanding of teaching strategies suitable to student learning in the content area.

Score:_____

DOMAIN 2: Classroom Environment

The candidate presents artifact(s) and accompanying descriptions that demonstrate his/her belief in the importance of creating a classroom environment with norms that value learning, hard work, perseverance, and respect. These artifacts are assessed according to the following criteria:

Standard	Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
InTASC 3 CAEP R1.3 Danielson 2a, 2b OSTP 1.3, 5.1, 5.2, 5.3, 5.4, 5.5	The candidate demonstrates significant understanding of the importance of establishing positive social interaction and active engagement in the classroom in order to create an environment where there is a shared belief in the value of learning and where students feel valued and comfortable taking intellectual risks. The candidate conveys	The candidate demonstrates satisfactory understanding of the classroom as a place where learning is valued by all. High expectations for both learning and hard work are the standard established for most students. The candidate demonstrates an effort to create an environment where students understand their responsibility as learners and put forth effort to learn.	The candidate demonstrates minimal understanding of classroom culture. Task completion rather than the quality of the work completed is the focus of the classroom. The candidate conveys expectations for learning that are minimal.	The candidate fails to demonstrate an understanding of the importance of establishing positive social interaction and active engagement in the classroom to create a classroom culture committed to learning. The candidate conveys low or no expectations for student achievement.

significant expectations for learning for all students and insists on hard work, responsibility and ownership on behalf of all students.			

Score:_____

DOMAIN 3: Planning, Instruction & Assessment

The candidate presents artifact(s) and accompanying descriptions that demonstrate his/her ability to design coherent, developmentally appropriate instruction with effective assessment. These artifacts are assessed according to the following criteria:

Standard	Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
InTASC 1 CAEP R1.1, R1.2, R1.3 Danielson 1e, 3c OSTP 1.2, 1.5, 4.1, 4.3, 4.5, 4.6	The candidate creates instructional activities that follow a clear, appropriate sequence. These activities are aligned to measurable learning goals and standards and are designed to engage students in developmentally appropriate & high-cognitive demand activity. The learning activities are appropriately differentiated for individual learners. Student voice/choice is included in the learning activities.	The candidate creates instructional activities which are mostly aligned with measurable learning goals and standards. The activities are arranged in a sequence fitting to the students. The learning activities represent cognitive challenge. There is some differentiation for different types of students.	The candidate presents instructional activities which are somewhat aligned with the learning goals and standards. However, the sequence of activities is either unclear or uneven, and the level of challenge is inappropriate (either too easy or too challenging). There is minimal differentiation for different types of students.	The candidate presents instructional activities that are poorly aligned with the learning goals and standards. The activities do not follow an orderly sequence are not designed to engage students in active learning, and have impractical pacing/timelines. Differentiation does not occur.
InTASC 6 CAEP R1.3 Danielson 1f OSTP 3.1, 3.2, 3.3	The candidate demonstrates that all the instructional goals are evaluated by an assessment plan with clear criteria for appraising student work. All assessment methods indicate modification for individuals or groups of students as appropriate. Formative assessment is thoroughly planned for, included, and well-designed. The candidate shows a clear plan for analyzing and using assessment data to inform instruction.	The candidate demonstrates that most instructional goals are evaluated by an assessment plan with criteria for appraising student work. Some assessment methods have been modified for individuals or groups of students as appropriate. Formative assessment is included and adequately designed. The candidate shows a satisfactory plan for using assessment data to inform instruction.	The candidate demonstrates that a few of the instructional goals are evaluated by an assessment plan. The criteria for appraising student work are minimal. A few of the assessments have been modified for individuals or groups of students. Formative assessment is not included, or it is not adequately designed. The candidate shows a vague plan for using assessment data to inform instruction.	The candidate does not demonstrate that instructional goals are evaluated by an assessment plan with criteria for appraising student work. Assessments have not been modified for individuals or groups of students. Formative assessment is not included, nor is a plan for using assessment data to inform instruction.

Average Score for both rows: _____

DOMAIN 4: Professional Responsibility

The candidate presents artifact(s) and accompanying descriptions that demonstrate his/her belief in the importance of engaging in professional learning and using evidence to continually evaluate progress. The candidate seeks appropriate leadership roles, collaborates with others, participates in professional community, and demonstrates professionalism. These artifacts are assessed according to the following criteria:

Standard	Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
InTASC 9 CAEP R1.4 Danielson 4e OSTP 7.2	The candidate engages in ongoing professional learning and presents detailed reflections on how this learning can be employed to improve his/her teaching practices.	The candidate engages in some professional learning and presents reflections on how this learning can be employed to improve his/her teaching practices.	The candidate participates to a limited extent in professional learning and presents vague reflections on how this learning can be employed to improve his/her teaching practices.	The candidate engages in no professional learning to increase knowledge or skills.
InTASC 10 CAEP R1.4 Danielson 4f OSTP 7.1, 7.3	The candidate demonstrates that he/she can be depended on to uphold the highest standards of honesty and integrity, take a positive leadership role with colleagues, and work faithfully and ethically to serve ALL students and school communities.	The candidate demonstrates high standards of honesty and integrity and shows a desire to actively and ethically serve students and school communities.	The candidate conveys the importance of serving students and school communities honestly and ethically.	The candidate fails to convey the importance of serving students and school communities honestly and ethically.

Average Score for both rows: _____

DOMAIN 5: Diversity

The candidate presents artifact(s) and accompanying descriptions that demonstrate his/her ability to create culturally responsive, inclusive learning environments where all students are afforded access to high standards and meaningful learning. These artifacts are assessed according to the following criteria:

Standard	Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
InTASC 2 CAEP R1.1, R1.2, R1.3 Danielson 1b OSTP 1.1, 1.2, 1.3, 1.4, 1.5	The candidate uses understanding of individual differences and diverse cultures and communities to create responsive and inclusive learning environments that support each learner in achieving high standards. The candidate examines any personal biases as he/she plans instruction for diverse learners.	The candidate uses understanding of differences to create responsive and inclusive learning environments that support most learners in achieving high standards. The candidate addresses any personal biases as he/she plans instruction for diverse learners.	The candidate uses understanding of differences to create inclusive learning environments that support some learners in achieving high standards.	The candidate does not create inclusive learning environments that support learners in achieving high standards.

DOMAIN 6: Technology

The candidate presents artifact(s) and accompanying descriptions that demonstrate his or her ability to use and share e-learning tools that maximize deep learning on behalf of students. These artifacts are assessed according to the following criteria:

Standard	Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
InTASC 7 CAEP R1.3 ISTE 2.4 OSTP 6.3, 7.3	The candidate dedicates a significant amount of time to collaborating with colleagues and students to improve practice, discover and share e-resources and ideas, and solve problems.	The candidate dedicates a satisfactory amount of time to collaborating with colleagues and students to improve practice, discover and share e-resources and ideas, and solve problems.	The candidate dedicates minimal time to collaborate with colleagues and students to improve practice, discover and share e-resources and ideas, and solve problems.	The candidate does not dedicate any time to collaborating with colleagues or students to improve practice, discover and share e-resources and ideas, and solve problems.
InTASC 8 CAEP R1.3 ISTE 2.5 OSTP 4.7	The candidate creates innovative, standards-aligned learning activities that integrate digital tools and resources to maximize active, deep student learning.	The candidate creates original learning activities that integrate digital tools and resources to engage active student learning and adequately align with content area standards.	The candidate creates learning activities that integrate digital tools and resources and somewhat align with content area standards.	The candidate creates learning activities that integrate digital tools and resources that do not deepen student learning and are not aligned with content area standards.

Average Score for both rows: _____

Grammar, Spelling, & Writing Mechanics

Professional writing is critical to the field of education. As such, the candidate's writing across all the artifacts in the ePortfolio will be assessed using the following criteria:

Distinguished (4)	Proficient (3) (TARGET)	Basic (2)	Unsatisfactory (1)
The writing is clear, well-developed, and free or almost free of errors.	The writing is clear. There are occasional errors, but they do not disrupt nor confuse the reader.	The writing has many errors that are distracting to the reader. Editing is needed.	There are so many errors that the reader is confused. Significant revision and editing are needed.

Score:_____

OVERALL SCORING	
SUBMISSION 1: Application to Program	**SUBMISSION 2: Application to Student Teaching**
Domain 1 (Preparation) / 4	Domain 1 (Preparation) / 4
Domain 2 (Classroom Environment) / 4 Domain 3 (Planning, Instruction, Assess.) /4	Domain 2 (Classroom Environment) / 4 Domain 3 (Planning, Instruction, Assess.) /4
Domain 4 (Professional Responsibility) / 4 Domain 5 (Diversity) / 4 Domain 6 (Technology) / 4	Domain 4 (Professional Responsibility) / 4 Domain 5 (Diversity) / 4 Domain 6 (Technology) / 4
Grammar, Spelling, & Writing Mechanics /4	Grammar, Spelling, & Writing Mechanics /4
Total / 28	Total / 28

Appendix B

ePortfolio "Look Fors"
A guide to assist with reliable ePortfolio evaluation

Domain 1: Preparation (or Command of Content Knowledge)
To Score a 3: In his/her reflection, the candidate articulates how the chosen artifact displays his/her knowledge of the important concepts in the discipline, **as well as** relationships or connections between important concepts in the field. The candidate **also** discusses how the artifact showcases his/her familiarity with effective pedagogical approaches in the content area. The candidate's artifact aligns with this written reflection.
To Score a 4: All the criteria to score a 3 are met, **PLUS** the candidate presents in his/her reflection a more overt examination of the content-specific prerequisite relationships and cognitive structures (teaching and learning processes or frameworks) that need to be enacted to ensure understanding. **In addition**, the candidate reflects on potential student misconceptions.

Domain 2: Classroom Environment
To Score a 3: In his/her reflection, the candidate articulates how the chosen artifact demonstrates his/her philosophy and/or intent to create a classroom environment and/or culture where learning is valued by all. The candidate discusses how the artifact demonstrates his/her high expectations for both learning and hard work **and** how the artifact promotes students growing in their understanding of their role as learners, who are expected to expend effort to learn. The candidate's artifact aligns with this written reflection.
To Score a 4: All the criteria to score a 3 are met, **PLUS** the candidate discusses how the chosen artifact reflects the importance of establishing positive social interaction and active engagement in the classroom so that students are comfortable taking intellectual risks.

Domain 3: Planning, Instruction, and Assessment
To Score a 3:
Part 1: In his/her reflection, the candidate discusses how the learning activities in the chosen artifact align with the instructional goals and standards and how the activities follow an organized sequence suitable to the students. The candidate **also** discusses the presence of sufficient challenge in the activities, **as well as** the incorporation of differentiation to promote student learning. The candidate's artifact aligns with this written reflection.
Part 2: In his/her reflection, the candidate discusses the assessment plan he/she created in the chosen artifact. This plan includes several assessments, including formative assessments. The candidate describes how he/she will use assessment data to inform instruction and/or next steps. The candidate **also notes** how the assessments have been modified for various students as appropriate. The candidate's artifact aligns with this written reflection.
To Score a 4:
Part 1: All criteria to score a 3 are met, **PLUS** the candidate discusses how the activities are sequenced to engage the students in high-level cognitive activity **and** how he/she provides the students with some opportunity for choice within the activities.
Part 2: All criteria to score a 3 are met, **PLUS** the candidate presents such clear benchmarks for evaluating student work that there are no gaps or ambiguity on behalf of the reader regarding the assessment plan. This criteria **also includes** considerable detail regarding needed differentiated assessments for individual students.

Domain 4: Professional Responsibility
To Score a 3:
Part 1: In his/her reflection, the candidate articulates how the artifact demonstrates his/her involvement in professional learning and how this learning can be employed to improve his/her teaching practices. The candidate's artifact aligns with this written reflection.
Part 2: In his/her reflection, the candidate discusses how the artifact demonstrates his/her high standards of honesty and integrity and how the artifact showcases his/her desire to actively and ethically serve students and school communities. The candidate's artifact aligns with this written reflection.
To Score a 4:
Part 1: All criteria to score a 3 are met, **PLUS** in his/her reflection, the candidate discusses his/her efforts to engage in ongoing professional learning.
Part 2: All criteria to score a 3 are met, **PLUS** the candidate, in his/her reflection, describes how he/she will take a positive leadership role with colleagues and work faithfully and ethically to serve

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ALL students and school communities.

Domain 5: Diversity

To Score a 3: In his/her reflection, the candidate articulates how the chosen artifact demonstrates his/her understanding of learner differences and individual needs and how he/she used this knowledge to create a responsive and inclusive learning environment that enabled students to meet high standards. The candidate **also** addresses any personal biases or misconceptions that he/she may have had in either the artifact itself **or** in his/her

To Score a 4: All the criteria to score a 3 are met, **PLUS** the candidate's examination of learner differences **extends beyond** just personal and cognitive needs to an examination and responsiveness to cultural and community needs, assets, and weaknesses.

Domain 6: Technology

To Score a 3:

Part 1: In his/her reflection, the candidate discusses how the chosen artifact demonstrates the time and effort he/she spends (or will spend) with colleagues and students to improve practice, discover and share e-resources and ideas, **and** solve problems. The candidate's artifact aligns with this written reflection.

Part 2: In his/her reflection, the candidate explains how the chosen artifact showcases his/her ability to align instruction with content area standards **and** use digital tools and resources to engage active student learning. The candidate's artifact aligns with this written reflection.

To Score a 4:

Part 1: All criteria to score a 3 are met, **PLUS** the candidate, in his/her reflection, makes evident that the time and effort he/she invests to improve practice, discover and share e-resources and ideas, **and** solve problems with **BOTH** colleagues and students is not merely sufficient, but significant.

Part 2: All criteria to score a 3 are met, **PLUS** the candidate articulates how the e-resources employed maximize and deepen student learning in a way that couldn't be achieved without using such a tool.

Domain 7: Grammar and Mechanics

To score a 3: Both the ePortfolio written commentary and the collection of artifacts contain occasional errors, but they do not distract the reader or obscure meaning.

To score a 4: The writing in the ePortfolio commentary and the artifacts is free or almost free of errors.

PUBLICATION GUIDELINES

for the OHIO Journal
of Teacher Education

The following guidelines are presented for publication opportunities for OJTE (the OHIO Journal of Teacher Education.

The OHIO Journal of Teacher Education provides a forum for the exchange of information and ideas concerning the improvement of teaching and teacher education. Articles submitted should reflect this mission. Their focus should concern concepts, practices, and/or results of research that have practical dimensions, implications, or applicability for practitioners involved with teacher education. The journal is regional in scope and is sent as a benefit of membership in the Ohio Association of Teacher Education.

Manuscripts are subject to review of the Professional Journal Committee (co-editors and editor consultants). Points of view are those of the individual authors and are not necessarily those of either Association. Permission to reproduce journal articles must be requested from the editors.

MANUSCRIPT GUIDELINES

Content: Journal issues may be "thematic" or "open." Currently, all future issues are designated "open."

Length: Manuscripts, including all references, bibliographies, charts, figures, and tables, generally should not exceed 15 pages.

Style: For writing and editorial style, follow directions in the latest edition of the Publication Manual of the American Psychological Association. Omit the author's name from the title page. Include an 80-100-word abstract.

Please do not use auto-formatting when preparing the manuscript!

Cover page: Include the following information on a separate sheet attached to the manuscript: title of the article; date of submission; author's name, author's terminal degree; mailing address, e-mail address, business and home phone numbers, institutional affiliation; and short biographical sketch, including background and areas of specialization.

Submission: Submissions must be word processed using Microsoft Office Word (Microsoft Excel tables are permitted). Submit the manuscript as an attachment to an e-mail to OJTE@xavier.edu

EDITORIAL PROCEDURES

Authors will be notified of the receipt of the manuscript. After an initial review by the editors, those manuscripts which meet specifications will be sent to reviewers. Notification of the status of the manuscript will take place after the deadline date for each issue. The journal editors will make minor editorial changes; major changes will be made by the author prior to publication. Manuscripts, editorial correspondence, and questions can be directed to Dr. Thomas Knestrict at OJTE@xavier.edu.

IMPORTANT DATES OF NOTE:

August 7, 2023   Closing date for acceptance of manuscripts for Fall Journal 2023

Publication date: April 2023

MEMBERSHIP

Interested in becoming a member of OATE (Ohio Association of Teacher Educators)? Please visit the following website for current information: https://sites.google.com/site/ohioate/home

Additionally, information about OCTEO (Ohio Confederation of Teacher Education Organizations), Fall and Spring OCTEO Conferences, and presentational opportunities, can be found at the following site: www.ohioteachered.org.

Our organization looks forward to your interest in OATE and OCTEO in 2023.