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Teacher Classifications of Implementing Classroom Movement Integration in Elementary Schools

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Abstract

We explore the multifaceted role of elementary school teachers in implementing classroom-based Movement Integration (MI) to promote physical activity among children. While many factors and barriers can influence the successful execution of MI activities, understanding the nature and use of MI video resources remains unexplored. Therefore, we focus on exploring elementary school teachers' MI practices and their engagement with MI in order to identify teachers' different typologies. The research involved a mixed-methods design, predominantly qualitative, with teachers from a specific demographic. We identified three distinct teacher typologies: High-Engagement Providers (HEPs), Strategic Providers (SPs), and Reluctant Providers (RPs). The HEPs were highly engaged, incorporating multiple MI activities daily and effectively managing student behavior and motivation. Conversely, SPs acknowledged classroom management issues but attributed successful MI implementation to students' self-control and effective routines. However, RPs expressed reservations due to management challenges and potential distractions from academic tasks. Regardless of typology, all teachers accentuated the need for professional development opportunities to improve MI practices. We recommend providing training and support to enhance teacher self-efficacy in implementing MI and addressing challenges. Even though limitations exist regarding participant demographics, our study offers an initial in-depth exploration of teachers' MI implementation and may pioneer future studies.

Keywords:

Whole-of-school approach, teacher education, pedagogical practices, health promotion, technology

Introduction

Regular physical activity (PA) is universally recognized for school-aged youth's healthy growth and development (García-Hermoso et al., 2017; World Health Organization, 2020). PA provides many health benefits for children, including enhanced physical fitness (incorporating cardiorespiratory and muscular fitness) and cardiometabolic health (manifested through regulated blood pressure, glucose levels, and insulin resistance; Tambalis & Sidossis, 2019; Warburton et al., 2006). Furthermore, PA serves as a protective shield against the onset of unhealthy body weight (Janssen & LeBlanc, 2010; Schmidt et al., 2016; Trudeau & Shephard, 2008; Watson et al., 2017). Notably, fostering PA habits in children can yield substantial long-term benefits because early childhood is crucial for instilling enduring healthy practices (Eime et al., 2013). Even though PA offers an abundance of health benefits, alarmingly, many elementary-aged children in the United States cannot meet the national recommendation for the amount of PA. A study conducted by the National Physical Activity Plan Alliance (NPAPA, 2018) found that slightly more than 40% (42.5%) of children can attain a minimum of 60 minutes of primarily moderate-to-vigorous (MV) PA daily. Exploring strategies for improving PA involvement and integrating it within the classroom becomes crucial. Though much of the research explicitly mentions the United States, the issue of children's PA and thus the findings of this study have implications and relevance for all children and thus all countries around the globe.

Schools, widely present in society, critically promote children's growth and holistic development by facilitating PA. These establishments are hubs, offering access to many children and creating a supportive infrastructure for implementing programs that enhance health. Further, these institutions can profoundly influence the broader community by diffusing such programs (Carson et al., 2014; Institute of Medicine [IOM], 2013). Therefore, schools are crucial intervention sites to increase children's engagement in PA (IOM, 2013). Moreover, schools are cost-effective and can serve as ideal platforms for devising and implementing initiatives to address public health issues (McKenzie & Lounsbery, 2013).

Physical education lessons often are primary mediums for conducting PA in schools, with high-quality programs instilling enduring habits that positively impact long-term student health (McLennan & Thompson, 2015). The neglect of physical education in schools in many countries worldwide and perceived shortcomings in allocating curriculum time for physical activity (Hardman, 2008) is a cause for concern. For example, in the United States, only 15% of elementary schools mandate or recommend physical education three times a week throughout the academic year, and more than a third (35.2%) lack policies for regular recess (NPAPA, 2018). Additionally, research indicates that children spend most of their waking hours (80-93%) engaging in sedentary behavior (Turner et al., 2014), highlighting the insufficiency of current practices. This condition suggests the need for comprehensive initiatives to improve existing programs and explore opportunities for PA beyond traditional settings (e.g., Martin & Murtagh, 2017; McMullen et al., 2019).

The Comprehensive School Physical Activity Program (CSPAP), developed by the Centers for Disease Control and Prevention (CDC), is a holistic national framework that embodies a whole-of-school approach for school-based PA. CSPAP aims to advance multicomponent strategies for PA promotion within and beyond school environments (CDC, 2019). This program comprises five interconnected dimensions: 1) physical education, 2) in-school PA, 3) before and after-school PA, 4) staff engagement, and 5) family and community collaboration. CSPAP also intends to support youth in achieving the nationally recommended 60 minutes of daily MVPA by providing abundant opportunities for PA throughout the school day (CDC, 2019).

Movement Integration (MI) provides a complementary approach to integrating PA and bolsters the CSPAP framework regardless of intensity in daily classroom activities (Webster et al., 2015; Moon & Webster, 2019). This approach occurs within general education classroom settings at the elementary level and employs various academic subjects to integrate PA. The MI can manifest itself in teacher-led PA breaks between lessons, incorporating physically active learning experiences into curricular content, and incorporating movement into routine transitions (Moon & Webster, 2019). By strategically incorporating PA in these ways, MI reinforces the support system for student PA within the classroom, further solidifying the CSPAP model's comprehensive nature. Incorporating PA breaks throughout the school day and integrating them within the classroom can improve PA involvement. These breaks can be short, lasting five to ten minutes, where students engage in active games or exercises. Research has indicated that these brief bursts of PA can improve children's attention, concentration, and academic performance (Erwin et al., 2012; Foran et al., 2017; McClelland et al., 2015). Moreover, teachers can integrate movement into their lessons by using kinesthetic learning techniques. This approach involves incorporating physical movements into the learning process, such as enacting a story or using gestures to represent concepts. By combining PA with academic content, students are more likely to be actively engaged and better able to retain information (Norris et al., 2020).

Extensive research in recent decades has examined the efficacy of MI programs in promoting youth's daily MVPA. Previous studies have shown that MI has a positive impact on PA, as measured through step counts (Martin & Murtagh, 2017; Mahar et al., 2006). A comprehensive systematic review of 85 studies revealed that MI enables students to accumulate an average of 19 minutes of MVPA (Bassett et al., 2013). Moreover, compelling evidence affirms that even an average opportunity for MI daily can substantially curtail sedentary behavior and increase students' daily PA (Norris et al., 2020; Watson et al., 2017). In addition to promoting PA, MI has also been associated with improvements in academic performance (Donnelly

& Lambourne, 2011; Fedewa et al., 2015), including enhanced reading comprehension (Uhrich & Swalm, 2007) and mathematical achievement (Fredericks et al., 2006). While many studies on MI explore teacher-led strategies to promote children's PA, recent research has accentuated the benefits of incorporating PA facilitative equipment such as stand-biased desks or stability balls. Benden et al. (2014) and Swartz et al. (2019) have demonstrated that these interventions can positively impact student PA levels similarly. Fedewa et al. (2015) found that facilitative equipment can also have cognitive benefits. Additionally, research by Burgoyne and Ketcham (2015) suggests that PA facilitative equipment can improve classroom behavior. Overall, the literature provides compelling evidence for the effectiveness of MI in promoting daily MVPA and highlights the potential advantages of incorporating MI into classroom-based interventions. However, more precise information about these studies' specific benefits and opportunities would enhance the research in this area. For instance, the research could examine how MI increased youth participation in physical activities, promoted better health outcomes, or fostered lifelong habits of regular PA.

The role of classroom teachers in implementing MI is pivotal (Moon & Webster, 2019). Many studies identify multifaceted determinants shaping teachers' adoption of MI activities. These factors encompass various elements, including the recognition and value that teachers place on PA for their students (Allison et al., 2016), the empowering impact of administrative support (Calvert et al., 2019), and the enthusiastic readiness to integrate PA into the regular classroom schedule (Dinkel et al., 2017). Furthermore, the teachers' dedication to enhancing their knowledge and skills in implementing MI highlights their commitment to utilizing MI effectively (Benes et al., 2016). However, perceived impediments can hinder MI implementation. These obstacles can include time scarcity (Allison et al., 2016; Dinkel et al., 2017; McMullen et al., 2016; Perera et al., 2015), classroom management apprehensions (McMullen et al., 2014), constricted curriculum space (Masse et al., 2013), and decreased PA prioritization (Brown & Elliot, 2015; Cothran et al., 2010; Quarmby et al., 2019). The availability, or lack thereof, to resources for MI further exacerbates this challenge (Kennedy et al., 2019). Consequently, equipping teachers with specific resources to overcome these perceived obstacles could be a powerful strategy for enhancing the utilization of PA opportunities.

Given the substantial advantages of MI and the potential obstacles teachers may face in implementing it, critically evaluating the extent of MI utilization in classrooms is imperative. However, despite its importance, only limited research has been conducted to thoroughly understand the usage of MI video resources and its impact. A groundbreaking study, albeit with certain limitations, has provided valuable insights into teacher-led MI implementations of MI and their impact on PA intensity. By objectively evaluating teachers' MI practices and engagement, a study by Russ et al. (2015) has remarkably advanced the field of MI and CSPAP research, which has predominantly depended on self-reported data from teachers until now.

Providing comprehensive descriptions of the methods employed by classroom teachers to implement MI can offer valuable insights to teacher educators, enabling them to promote PA in school settings. By aligning resources with teachers' specific interests and needs, teacher educators can bolster their support for pre-and in-service teachers who adopt MI in their classroom routines. Moreover, researchers can provide customized MI training tailored to the distinct contexts of teachers and schools. This training ensures educators can access readily available resources tailored to their needs and circumstances. Therefore, the objective of our study encompasses three main aspects: (a) to explore teachers' perceptions (perceived barriers, benefits, and beliefs-importance) of classroom MI opportunities, (b) to investigate the actual implementation practices of MI in classrooms, encompassing classroom management, instructional techniques, and frequency of implementation, and (c) to identify different teacher typologies based on their MI practices and perceptions of using MI video resources.

Method

A mixed-methods research design (Fetters et al., 2013) focusing on qualitative methods was used to explore teachers' practices for implementing MI in classroom settings. A mixed methods design is particularly beneficial when investigating complex phenomena, processes, and systems (Fetters et al., 2013). Specifically, qualitative inquiry is inherently subjective because the researcher acts as the primary instrument for data analysis and interpretation (Creswell & Poth, 2017; Patton, 2015). As a physical educator and a generalist (i.e., a teacher who teaches every subject) elementary school teacher, the researcher had training and experience in managing active students in PA settings. These experiences may create a bias regarding what the teacher believes to be best practices for providing classroom MI activities to students, which may influence how these data were interpreted. Thus, the quantitative portion of the design was used to support the main qualitative methodology (Fetters et al., 2013). The participants in this study were graduates from different teacher education programs, and they had experiences different from the researcher in instructing and managing students. This method can allow for the understanding of how teachers approach the process of integrating MI into the classroom settings.

Participants and Settings

Purposeful sampling (Patton, 2015) was used to recruit teacher and student participants from two schools in a rural area of the southeastern United States. Slightly less than half of the students were female (46%). Races included in this district were African American (42%), Hispanic (18%), Caucasian (27%), Asian (8%), and other (5%). Approximately 93% of the students in this study were enrolled in the free or reduced-cost lunch program, indicating a high level of socioeconomic need. This study included twelve elementary school teachers who volunteered to take part, the majority of whom were female and identified as Caucasian. Teaching experience ranged from 2-29 years (*M* = 11.83; *SD* = 8.87).

Table 1

Participants

Teacher name*	Grade	Sex	Age	Teaching experiences years	Highest Education Level	Number of Students in Class
Andrews	1	F	28	2	M	20-22
Branden	1	F	54	29	M	18-20
Collins	2	F	24	2	B	22-25
Davis	3	F	38	10	M	20-22
Evans	1	F	31	7	B	20-25
Franklin	1	F	26	2	B	20-24
Gilbert	3	M	40	14	M	17-20
Hooper	2	F	47	20	M	18-22
Irving	2	F	30	5	B	18-22
Jones	1	F	45	25	M	20-22
Kelly	1	F	35	11	B	20-25
Lawson	2	M	46	15	B	20-23

Note: *Teacher's unique identification for coding, **Highest Education Level, Bachelors, Masters

Instrumentations

Interviews. In the qualitative portion of the study, data were collected through formal and informal semi-structured face-to-face interviews (Patton, 2015) in order to maintain consistency throughout the interviews, to enhance the integrity of the data, and to provide the possibility for follow-up questions. The teacher interviews, lasting 28-41 minutes, were focused on gaining understanding of the teachers' perceptions about MI as a teaching strategy and of general implementation of classroom MI activities (i.e., the teachers' perceptions of the MI videos used during the sessions, the teachers' strategic approaches when implementing MI activities, the barriers and/or challenges of using MI video resources, the teachers' professional or pre-professional training experiences related to classroom MI). The data from teacher interviews guided information on the nature of implementation of MI in each classroom, on the occurrences of MI activities in each classroom, and on the opportunities that teachers provided for students to be physically active. All interviews were audio-recorded and transcribed verbatim (Creswell & Poth, 2017; Patton, 2015).

Physical Activity. In the quantitative portion of the study, the frequency and intensity of PA was measured using wrist-worn ActiGraph GT3X + (Actigraph, Ft. Walton, FL) accelerometers. Accelerometers are widely accepted as the gold standard for measuring youth and adult free-living PA (Kelly et al., 2016; Troiano et al., 2014); they have been demonstrated as valid and reliable in a diverse range of populations and are used in the National Health and Nutritional Examination Survey study (Troiano et al., 2014). These devices mainly measure steps taken, distance traveled, calories burned, active minutes, hourly activity, and stationary time (Troiano et al., 2014). The minutes-per-classroom MI session and total school day of MVPA was used as the secondary outcome variable.

Supplementary Materials. Participant observations, field notes, and teacher fidelity-reports were used as supplementary evidence to interview and accelerometer data. Participant observations were conducted before, during, and after the MI activities on data collection days as well as on non-data collection days. The teacher fidelity reports included a record of the kinds of MI video activities that were implemented and the frequency with which these videos were used beyond the days of formal observations. The supplementary materials were coded by the researcher, categorically organized, and deductively integrated into teacher typologies in conjunction with the other primary data sources.

Data Collection

The study protocol was approved by the Institutional Review Board (IRB) of the author's university (Pro000097020). Prior to data collection, all teachers who participated in the study provided written informed consent. Participation in the study was voluntary, and those invited to participate had the right to refuse with no negative consequences. Prior to the start of the study, the researcher provided each participating classroom teacher with a two-hour information session for leading the classroom MI activities (i.e., instruction on the use of MI resources, classroom management, PA promotion strategy, the characteristics of the PA videos). Throughout the study, bi-weekly follow-up emails were sent to the teachers containing additional online resources (e.g., EduMotion, PowerUp Fitness), classroom management tips (Kounin, 1970), and reminders about MI sessions. Participating teachers were interviewed during the first month of the school year, and the initial classroom observations were scheduled after the teacher interviews.

After the teachers' assent was obtained and before the first formal classroom MI session, the researcher familiarized the participating teachers with the accelerometers. The participating teachers wore the accelerometers on observation days. At the beginning of each day where data was collected, the accelerometers were reset. During the MI activity in the participating classroom, the researcher entered the room as quietly and unobtrusively as possible and placed accelerometers on the teachers present that day. Each accelerometer was individually numbered and the teachers who received each number were documented. The observer also recorded the time the last accelerometer was placed on a teacher's non-dominant wrist. The same process for distributing accelerometers to teachers was repeated for the remaining participating classrooms. Once the accelerometers were distributed, the researcher began observation of the classrooms. In the classroom, the researcher sat to the side and completed a fidelity sheet that recorded the name of the video, the type of PA (e.g., fitness exercise, dance, yoga) and the start and stop times of PA. In addition, the teacher's instructional or managerial practices were recorded. Simultaneously, contextual observations of students' behavior were recorded by continually scanning the classroom. The total length of MI participation during each classroom MI session ranged from four to seven minutes, depending on the number of videos played consecutively. The number of MI sessions ranged from zero to ten in a week. Over the span of a school year, 45 observations were carried out and documented in detailed field notes. These observations were analyzed through a rigorous process of weekly researcher debriefings, thoughtful commentary, and ongoing evaluative coding to ensure their accuracy and validity, in line with Patton's (2015) recommendations.

Data Analysis

This study addressed a more robust and nuanced analysis of the research question by utilizing a mixed-methods approach. By incorporating both qualitative and quantitative data, as suggested by Creswell and Poth (2017), we provided a comprehensive understanding of the phenomenon under investigation. The researchers meticulously followed four rigorous procedures to establish the teacher typologies using all data sources. This approach further enhanced the reliability and validity of the findings.

The first step included analyzing and interpreting accelerometer data using the ActiLife 5.5 software and Matthew's (2005) cut points (Sedentary < 251 counts per minute [CPM], Light 251-760 CPM, Moderate 761-5724 CPM, Vigorous > 5724 CPM). This step examined the wear time and proportion of time spent in light, moderate, and vigorous PA (Trost et al., 2011). Descriptive statistics such as means and standard deviations were generated for the sample to determine MVPA. Specifically, the average percentage of time spent in MVPA (MVPA counts per minute/Total break counts per minute × 100) was used to measure the teacher's PA during the MI activities.

Secondly, all transcripts and interview notes were compiled into a Microsoft Word file to maintain consistency in the analytical work, as suggested by Patton (2015). As recommended by Clarke and Braun (2014), the thematic analysis approach was employed to code and analyze the qualitative data obtained from the participant interviews. Subsequently, a systematic interpretation was conducted, categorizing data into different types and themes. As a result of this analysis, three initial teacher typologies emerged.

Thirdly, constructing teacher MI implementation typologies reflected an iterative and meticulous process. This approach involved identifying and refining patterns, accommodating deviations from emerging trends, and integrating quantitative and qualitative results. The research approach encompassed an in-depth comparative analysis, where data obtained from one method were cross-examined with supplementary sources containing corresponding information (Lincoln & Guba, 1985). This process involved determining the frequency and intensity of PA and contrasting teacher fidelity reports with teacher interviews and participant observations. The researcher debriefed MI sessions, and external peers reviewed data and checked to ensure the consistency of categorizing teachers into specific types. In some cases, this review process resulted in the recategorization of the teachers (Prasad, 2005).

Finally, the researcher employed various strategies to enhance the credibility (and validity of the research findings and data triangulations by using multiple data sources, as posed by Creswell & Poth (2017) and Patton (2015). Member checks were implemented to heighten the trustworthiness and accuracy of the data. This step involved providing participants with their interview transcripts for review and potential clarification, thus ensuring that their recorded responses accurately mirrored their viewpoints and aligned with the guidelines outlined by Prasad (2005).

Results

Teacher typologies of MI implementation

Multiple data sources including teacher individual interviews, accelerometry, teacher reports, and observations were used for categorizing teacher typologies based on their perceptions and practices of classroom MI. Table 2 shows the summary of the results.

Table 2

Teacher typologies of MI implementation

Data Source	PA (Mean/SD)	Teacher Reports		Observation & Field note
Typologies	PA Intensity (PA time in MVPA, %)	PA Frequency (Days/Week)	PA Activities (Type and Intensity)	Teacher Participation & Student Engagement in PA
High-Engagement Providers	46.53 (40.95)	Multiple times daily (five days per week)	Various video types (dancing, jumping, dodging)	Frequent teacher participation and high student engagement
Strategic Providers	20.17 (12.11)	Once daily (three to four days per week)	Stretching with periodic higher intensity and dance (middle to low intensity)	Low teacher engagement and moderate-to-high student engagement
Reluctant Providers	17.35 (10.86)	Once daily (none or one day per week)	Did not offer MI opportunities or reported only using meditation videos	Low teacher engagement and low-to-moderate student engagement

Note: MI = Movement Integration; PA = Physical Activity

High-Engagement Providers (HEPs).

HEPs (*n* = 4) were characterized by the types of MI activities and the frequency of PA that they implemented. They delivered MI opportunities daily, including high intensity PA activities (e.g., dancing, jogging-in-place, and hopping). Participant observations and supplementary materials (teacher reports) showed that HEPs gave classroom MI opportunities for students multiple (1-3) times throughout the day. Many of these activities caused students to sweat and get drinks, and most students appeared to be engaged (greater than 85% per the observational notes). When students participated in MI activities, HEPs also had a high level of MVPA intensity (as indicated by the accelerometer data). Although these teachers successfully implemented active classrooms, they later admitted that they initially had apprehension about whether their students would benefit from "exercising or being physically active" in class. Ms. Andrews, a first-grade teacher in her second year who regularly utilizes MI activities in the classroom, expressed her initial reluctance to use the video resources when offering MI opportunities:

> *When I first saw the MI video resources, I didn't use them because I was too concerned. I thought, this is going to make my students even crazier... But when I started using it, I just realized that it had the opposite effect... The MI opportunities just helped the students calm down, be more focused, and get ready for the next learning activity.*

According to the teacher interviews and reports, despite some initial hesitancy, HEPs routinely implemented MI activities. In addition, participant observations revealed that the teachers were skilled managers and used effective proactive management strategies (e.g., established and used classroom rules and routines, used proximity control, and used pre-corrective statements) for successful MI that aligned with their classroom management for other class activities. Moreover, as evidenced in the following report from Ms. Branden:

> *I believe that effectively managing students is essential for delivering relevant MI opportunities. At first, it was difficult to manage the students, small space, limited time, active students... It was hard, but I think I was gradually learning good management skills such as using cues, making routines, keeping space clear... In the end, I was able to find a positive aspect where students were more focused during class and reduced off-task behavior.*

Another common feature of HEPs was their strong belief that students "need" more PA during the school day. During a participant observation, some students were happily and vigorously dancing in the back of the classroom. In an informal interview, Ms. Collins said, "Oh yes, they want to do this all the time. I know these children need to move actively, and so I am trying to let them do it as long as they are under control." Additionally, Ms. Davis, a second-grade teacher, designated a specific time period each day for providing students the opportunity to participate in MI activities. She felt the students in her class did not receive adequate daily PA time throughout the school day. She said during her interview:

> *Although maybe it is not a good option for me, I believe they need to get exercise every morning. We do not even start our work until 8:10 am, and because I want my students to wake up mentally and physically and get ready for the day, I will put on the MI videos and do it right along with them. It is like our class routine. We are calling it 'time for waking up our brain.'*

Similarly, Ms. Andrews shared, "I would say the biggest thing is engagement in their academic tasks, because the students can't just sit there and disengage if their main goal is to actively move around in the classroom and to engage with friends and with the content." These comments are representative of this typology insofar as these teachers frequently indicated their belief in the necessity of activity engagement in classroom tasks.

Strategic Providers (SPs).

The majority of teachers (*n* = 6) are categorized as SPs. The teachers in this group preferred to provide light-to-moderate PA (e.g., fitness exercise, stretching, yoga) over MVPA. When students participated in MI activities, SPs displayed a comparatively low level of MVPA intensity (as indicated by the accelerometer data). In addition, the teacher fidelity reports demonstrate there was inconsistent delivery as well as low frequency of MI. Even though they used video resources multiple times per week, sometimes daily, the implementation of MI was limited based on the classroom contexts. In other words, compared with HEPs, SPs did not establish MI as a daily routine in their classes nor did they employ effective management strategies. According to the individual interviews, this group of teachers tended to openly oppose the higher intensity PA video materials, and they were not committed to using those MI videos regularly.

Ms. Evans, a first-grade teacher in her seventh year who recently began including MI activities in her classroom, broadly supports the idea of classroom MI, but often avoids using the more active videos in her lessons. She stated, "I have learned that sometimes you can't do the fast-paced stuff. So, I have searched and found more of the reflective activities, and that gets them moving and stops them from thinking about school, and then they are able to come back down from that." This statement describes a general pattern for implementing MI into the classroom among many of the teachers in this type; SPs preferred to engage students in yoga, stretching, and other calming activities (from observations and teacher reports). These teachers did use higher-intensity PA videos on occasion; however, teacher interview data confirmed a general apprehension for showing any MI activity that would cause the students to "not come back" to engage in academic tasks.

Furthermore, SPs strategically showed and applied MI activities in appropriate contexts. When high-intensity MI activities were provided, it was typically immediately preceding recess time, at the end of the school day, or during the morning if students were especially tired. At least three teachers stated that toward the end of day was the best time to administer the higher intensity MI videos so that the teacher could "send the children home happy" (Ms. Franklin's interview).

During the observations, it was noted that SPs rarely (i.e., an average of two to three times per month) participated with their students, but when they did participate, they sometimes would become distracted by another task. These teachers also had difficulty finding effective management practices. As students participated in the MI activities, these teachers focused on preparing for the next learning task instead of the MI activities. In one instance when the researcher arrived for observations of classroom MI, second-grade teacher Mr. Gilbert said, "I'm glad you are here to observe; it gives me extra time to get my papers graded." SPs integrated the MI videos strategically to calm students, to get extra time to work, and to let the students experience joyful and meaningful MI activities just before going home.

Even though SPs' students seemed to be busy, happy, and engaged in good activities (Placek, 1983: 49), the teachers were not implementing appropriate management of classroom MI. For example, students were often grouped closely near the projector screen where they often bumped into one another without any intervention by the teacher (from Ms. Irving's observation note). Additionally, students were left to take initiative for the degree to which they would engage. When one student complained because he could not see a screen, Ms. Hooper replied, "If you cannot see, you just need to move up front."

The SPs also indicated that they do not regularly include MI activities due to a lack of time and training. Expressing the former concern, Mr. Jones stated, "I just would love to see them move more, but I don't have a lot of time." During her interview, Ms. Evans suggested that their lack of training precluded useful implementation of MI activities: "I don't understand how it [MI] would make my class better or what I could do to make it productive." However, a few weeks later, after the participant observation (during an informal conversation), Ms. Evans expressed, "I am very excited to learn more about how to add [MI activities] into my classroom and help my students engage with them." SPs stated a desire to learn more about not just how to increase the quantity of MI, but also how to properly incorporate MI into their classroom.

Reluctant Providers (RPs).

RPs (*n* = 2) were characterized as rarely providing (i.e., an average of one time per week) students with any form of MI in the classroom setting. Different data sources (teacher interviews, fidelity reports, and observations) showed that constant resistance and challenges categorized the teachers in this typology. It seemed that the teachers had difficulty getting the students to follow the instructions of the MI video resources. During scheduled observations and informal site visits, the researcher did not observe a RP teacher interacting with the students while the MI videos were playing unless a student engaged in off-task behaviors and needed redirection.

RPs also did not use proximity control and/or give effective instructional prompts for managing their students. As reported on the fidelity sheet, RPs tended to prefer stretching, yoga, or meditation activities with limited opportunities. In addition, as discovered in the interview data and observations, RPs seemed to express the similar fear of losing control as the SPs. RPs, on the other hand, tended to attribute their lack of classroom MI implementation to the nature of the resources and lack of opportunity or time. When asked why RPs do not implement classroom MI activities, Ms. Kelly, a first-grade teacher in her eleventh year, stated, "with the mix of kids that I get, I just found that the video resources were inappropriate for the classroom environment." During an observation, she sent students to the front of the classroom one student at a time, and the students gathered together just a few feet away from the screen. The wait time led to students pushing one another. The teacher expressed to the researcher, "We don't do MI in this class, because we have some kids who act a little crazy." The teacher exhibited frustration and seemed unable to use any classroom management strategies to help the students focus on the activity.

Mr. Jones was a second-grade teacher in his fifth year of teaching. He was reluctant to practice MI activities in the classroom because the notion of going "back to academic tasks" left students feeling less enthusiastic about academic work. In the interview, he explained:

> *What I find to be a struggle is the negativity that comes with [the realization that] 'now, we are done' [with PA when the MI video ends]. I hate this situation because ... it takes away from the essential purpose of the activity, which is getting [the students] up and moving, because [while they are participating in the PA] they are already thinking 'Oh, we are not going to get to do this all day,' so [the PA results in] a negative [overall disposition for the students]. The next task has a negative cloud over it.*

He later mentioned during an informal conversation:

> *We are trying to encourage reading and writing... and you want students to be excited about these tasks. Then all of a sudden I have to be the cheerleader for writing because the video contents are more fun and interesting.*

Mr. Jones offered a unique perspective. He is categorized as an RP, not because he was concerned about managerial issues like the other teacher in this category, but instead because he resisted providing MI activities as it competed with students' enthusiasm for learning other academic subjects. Aligning with previous studies, this research demonstrates that the teachers who find PA to be a low priority tend to not place importance on MI activities (Brown & Elliot, 2015).

Discussion

School environments are strategic venue for fostering PA among children (IOM, 2013). The CSPAP framework proposes a holistic approach to PA by promoting engagement before, during, and after the school day (CDC, 2019). According to Owen et al.'s (2016) meta-analysis of 38 studies, positive correlations existed between PA and students' academic achievements, school engagement, and favorable cognitive and emotional outcomes, including self-regulated learning. Even though research endorses MI within schools, a limited understanding of how teachers use video resources to implement MI in classrooms is present. Thus, we aimed to elucidate the nature and form of MI implementation. Utilizing a mixed-methods approach, we identified distinct typologies of teachers based on their implementation of video-based MI in the classroom. These typologies included HEPs, SPs, and RPs and were devised inductively by analyzing qualitative and quantitative data.

Teachers identified as HEPs organized several daily MI activities. These teachers effectively balanced behavioral expectations and academic goals while actively encouraging students to participate in MVPA opportunities during each session. Notably, students guided by HEPs exhibited higher engagement in PA intensity than their SP and RP classrooms counterparts. This finding aligns with prior empirical research accentuating the impact of different PA types on fulfilling students' daily PA needs (Watson et al., 2017). Moreover, this result reinforces the imperative to maximize student participation during typically brief classroom PA sessions (Calvert et al., 2019). Because these classroom PA sessions are inherently brief (Daly-Smith et al., 2018), teachers play a critical role in enhancing student PA engagement within these limited time frames.

This study reveals considerable variation in implementing MI video resources among teachers, all exposed to identical training. This diversity highlights the complex interplay of personal convictions regarding MI practices, classroom management strategies, and specific classroom contexts, which shape a teacher's pedagogical approach. For example, RPs resisted incorporating PA into their classrooms. This resistance primarily stemmed from concerns about managing student behavior post-activity and potential academic disruptions. Contrarily, SPs expected students to self-regulate their behaviors and did not attribute the limited opportunities for MI to student characteristics. Teachers categorized as RPs expressed an overall unwillingness to incorporate PA into the classroom either entirely or partially because they recognized that managing and/or calming the students following the activity might pose challenges and potentially divert their focus from academic tasks.

While teachers in all typologies voiced apprehensions about effective classroom management, SPs maintained that students can self-regulate. They recognized the importance of establishing clear routines and guidelines and holding students accountable, deeming it time-efficient. Existing literature corroborates that hurdle in classroom management, including chaotic behavior (e.g., rowdiness during MI) (McMullen et al., 2014), off-task student behavior (Burke et al., 2011), and transitions from PA back to academic tasks (Goh et al., 2017). Inconsistencies in management (e.g., clarity of instructions and routine reinforcement; Sylianou et al., 2016) can impede the implementation of MI. Intriguingly, Goh et al. (2016) reported that students who displayed the most disruptive behavior exhibited the most remarkable improvement in on-task behavior after engaging in intense PA. This finding has initiated debate and has required further investigation. In the context of our study, conceivably, students who experienced the least participation in MVPA might have exhibited the highest level of on-task behavior. This notion can influence future research in classroom behavior management and the implementation of MI.

Additional findings suggest that HEPs maintain active management with students throughout MI sessions. They perceive these segments not as "downtime" but as pivotal windows for student growth. The HEPs demonstrate the ability to address academic and health considerations throughout the school day, highlighting the potential benefits of employing strategic classroom management techniques. This finding aligns with the work of Routen et al.'s (2018) on the CLASS PAL (Physically Active Learning) Program, where similar strategic tactics were employed to manage and guide PA activities. This correlation implies that the methodologies utilized in PA activities can parallel teachers' management approaches for other classroom duties, thereby fostering a framework for smoothly integrating such activities into the daily school routine. However, despite the promising findings, acknowledging the concerns expressed by many teachers is crucial. Several studies confirm that teachers frequently complain about incorporating high-energy activities such as hopping or jumping. These concerns predominantly stem from fears of losing control of the classroom and possible delays in reverting to academic tasks (McMullen et al., 2014; Routen et al., 2018; Webster et al., 2015).

Our research findings posit that this initial reluctance to implement regular classroom MI fully can be reduced to some extent. Ten teachers from the HEP and SP groups overcame this reluctance by learning and implementing effective management strategies. These findings align with those of Moon et al. (2022), highlighting a significant positive correlation between MI and teachers' management practices. These practices included effective instructional, proactive, and reactive management strategies. The present study accentuates the importance of teacher management approaches in successfully implementing classroom MI activities. Future research could further investigate the effectiveness of different management approaches and techniques in fostering student engagement and compliance. In future studies, researchers could examine the impact of proactive and reactive management strategies on student behavior during MI activities and academic performance. Moreover, future research could explore the role of classroom climate and teacher-student relationships in facilitating MI implementation and fostering positive student outcomes. These studies can identify effective practices for managing and directing PA activities in the classroom, promoting the efficient and sustainable implementation of MI programs. Additionally, more research is needed to determine strategies for integrating MI into regular classroom routines.

Based on the results of our study, participating teachers suggest that schools have a vital role in addressing PA in youth development. Most participating teachers agreed that affording students with MI opportunities is essential. However, applying higher-intensity PA videos was frequently relegated to a select group of teachers (i.e., HEPs). Prior research (e.g., Perera et al., 2015; Routen et al., 2018; Stylianou et al., 2016) has also addressed this issue. A possible explanation for a few teachers' limited adoption of high-intensity PA videos daily is linked to an apparent deficiency of training in managing high-energy students during and after MI sessions. One could interpret this as a reflection of lower teacher self-efficacy, deterring the successful usage of high-intensity PA video resources (Michael et al., 2019). Empirical research indicates that a lack of pedagogical training substantially impedes the implementation of MI in the classroom (Van den Berg et al., 2018). While integrating PA into teaching resonates with many classroom teachers (Dinkel et al., 2017), an increasing body of research accentuates the merit of providing teachers with adequate learning opportunities and preparation for implementing MI (Tompkins et al., 2019).

Russ et al. (2015) emphasized that most professional development opportunities regarding MI implementation are often intermittent experiences rather than consistent, supportive efforts (McMullen et al., 2016). Brown and Elliot (2015) also proposed that teacher training programs adopt an inductive (or bottom-up) approach aligning with teachers' routines. Hence, teachers can support each other, and more experienced educators can mentor those who are less experienced in integrating PA into classroom routines (Skage & Dyrstad, 2019; Turner et al., 2019). Moreover, Stylianou et al. (2016) emphasized the importance of regular follow-ups, accountability, and administrative support in helping teachers enhance students' levels of PA in schools. Therefore, the quality of teacher training programs becomes a crucial factor in supporting educators in adopting MI practices. The field of MI training for teachers lacks extensive research, leaving critical questions regarding the quality and effectiveness of such training unanswered. Future research should identify and comprehend the most effective training methods or strategies, assisting them in developing the necessary skills to implement the MI program in their classrooms successfully.

In summary, the teachers in our study acknowledged the potential benefits of implementing MI in classroom settings. However, they also recognized various challenges that can impact MI implementation. The findings reveal that incorporating MI in the classroom is a viable approach to enhance students' daily PA, and the video resources provided valuable tools for implementation. However, the teachers noted the importance of school support in effectively and strategically utilizing MI. They also recognized that adopting MI would require changes in their instructional and management practices.

Our study has several limitations that should be acknowledged. Firstly, the sample comprised solely elementary school teachers instructing students in grades one through three. This limitation may have influenced the developmental characteristics of the students' and teachers' experiences with integrating MI into the classroom. Additionally, purposeful sampling, as outlined by Patton (2015), was employed to recruit teachers currently teaching in the field. While purposeful sampling can be valuable for specific target groups, it may limit the generalizability of the findings to a broader population of teachers. In our study, many participating teachers were directly known by the researcher and/or institution, limiting the generalization of the results compared to random sampling. Additionally, the participants in our study were drawn from a limited number of school districts. Consequently, the generalizability of the findings may be limited to teachers within those specific states and content areas represented. Another important limitation is the lack of gender balance in our study, with ten female teachers and only two male teachers participating. This gender imbalance could have influenced the results of the study. Additionally, this research only focused on implementing video-based MI activities. Teachers who utilize other types of classroom MI such as teacher-directed without technology resources, may have been reluctant to participate in our study. Despite these limitations, our research is an essential initial step in providing an in-depth analysis of teachers' implementation of MI and its impact on students' PA levels.

Implications

Drawing from the key findings of our research, we propose seven practical strategies for effectively integrating MI within educational settings. These strategies are articulated within the PREPACE guidelines, which represent the foundational elements for setting the pace of MI: (a) Professional development; (b) Resources center; (c) Enhanced training; (d) Peer mentorship; (e) Assessment; (f) Collaboration; and (g) Educator feedback.

a. Professional development: Focusing on classroom management during physical activities, the effective use of MI resources, and transition strategies from physical to academic tasks is vital in professional development sessions.

b. Resources center: Schools must create accessible MI teacher resources. This access can be through online repositories or physical centers stocked with videos, lesson plans, and activity guides suitable for various age groups.

c. Enhanced training: Enhancing teacher training to bolster their confidence and skill set in MI implementation is vital. The dynamic nature of education necessitates continuous refinements to MI training modules.

d. Peer mentorship: Beyond formal training, the value of cultivating a peer mentorship culture is evident. Seasoned educators—well-versed in MI—can guide newer colleagues, fostering an exchange of methodologies, best practices, and challenges.

e. Assessment: Regular evaluations of MI activities are indispensable. Such assessments bring to light both strengths and potential areas for refinement.

f. Collaboration: Given the varied MI implementation experiences across different classrooms and schools, this collaboration assumes paramount importance. Engaging educators, administrators, and policymakers in frequent dialogues can lead to mutual understanding and joint strategy-making. Moreover, it is crucial for the overarching education ecosystem, from education boards to curriculum designers, to embed MI activities as core components of daily lesson plans, making them an integral part of a student's academic experience.

g. Educator feedback: Actively collecting feedback from educators and students can fine-tune prevailing MI practices and provide insights into our dynamic educational environment's evolving needs and challenges.

Conclusion

This study highlights the central role of schools in promoting PA for children by emphasizing the imperative role of educators in implementing MI, given their direct interaction with students. The findings suggest that teachers recognize the potential benefits of MI in classroom environments. However, they also reported various obstacles, such as time constraints, classroom management concerns, and limited curricular space, which may hinder MI's successful implementation. Thus, ensuring easy access to MI resources can facilitate their utilization, accentuating the importance of equipping teachers with the necessary tools. Furthermore, our study emphasizes the importance of conducting further research to assess the effectiveness of various management strategies and explore methods for consistently integrating MI into classroom settings.

Our study highlights a pressing need for systemic reform in pre-and in-service teacher education, which should influence research and practice on several fronts. The curriculum should incorporate pedagogical strategies promoting MI to empower educators. This approach will enable teachers to provide meaningful classroom MI opportunities, increasing students' daily PA participation. Our study accentuates the strategic role of stakeholders, including administrators and educators, in fostering a robust learning environment where PA and movement are integral components. Their responsibility encompasses initiating endeavors that offer necessary training and support, yielding a more physically active and healthy learning atmosphere. By doing so, educators can leverage the numerous benefits of MI, transforming classrooms into spaces that encourage movement and cultivate healthy habits. Achieving this transformation necessitates a collective effort, underscoring the importance of collaboration among educators, administrators, and policymakers to overcome barriers and effectuate meaningful change. In conclusion, investing in fostering teachers' self-efficacy in implementing MI can improve children's health, well-being, and academic success.

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“Travelling to Greek Neighborhoods with English”: Design and Implementation of a CLIL Program at a Primary School

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Abstract

Content and Language Integrated Learning (CLIL) is an innovative approach which attempts to comprise holistic features, focusing on the meaning and at the same time providing opportunities for purposeful language use (Dalton – Puffer, 2007). Based on the triptych language of learning, language for learning and language through learning- this program aims at creating innovative educational escape rooms, in order to adopt CLIL, to develop skills in the target language (English) and at the same time to emphasize context and meaning. The program -designed for 5th grade students of a Primary School in Northern Greece- was piloted for 5 months, giving them the opportunity to “travel to Greek neighborhoods” and enganging them in the subjects of geography, history and culture, using English, -with great enthusiasm. Various web2 tools, videos, games, websites were incorporated in the escape rooms to provide authentic material so as to enhance authentic communication in the English language and also to use different types of context so as to support language and content knowledge. The program was assessed and evaluated using alternative ways and the results indicated the positive effects of CLIL on the students’ skills in English (TL) along with the significantly developed familiarization with the content through a creative, enthusiastic, motivating setting for students promoting active involvement and participation.

Keywords:

CLIL, Escape Rooms, Language Learning, Digital Educational Games, Pilot Study

Introduction

Defining CLIL

The term (CLIL) Content Language Integrated Learning was adopted in the 1990s as an umbrella term representing the attempt to use foreign language as a tool when learning a subject, so as language and subject to have a “joint curricular role” (Coyle, 2006; Eurydice, 2006; Marsh, 2012). It is a generic term describing “any learning activity where language is used as a tool to develop new learning from a subject area or theme”, (Coyle et al., 2009).

Nowadays, CLIL is considered to be an innovative approach practiced for decades in order to comprise holistic features, so as to emphasize on meaning as well as on content. Research proved the positive effects of CLIL on the target language (Griva & Deligianni, 2017a; Korosidou & Griva, 2013; Lasagabaster, 2008), as well as on the successful outcomes when implementing CLIL programs to young as well as to adult language learners (Coyle et al., 2009; Eurydice Report, 2006). Therefore, CLIL may be described as an influential, flexible and dynamic approach that can be used when teaching foreign language learners and can be adopted by all levels of education -from primary to secondary as well as university education (Coyle et al., 2009). CLIL may be modified to be used following students' age, abilities, needs and interests as it is suitable for various levels of complexity for different sectors (Coyle et al., 2009); that is mainly because of the various ways with which teachers may decide to adopt CLIL: from weak/soft CLIL to hard/strong CLIL, depending mostly on the subject taught through the target language (Ball, 2016), or even from 10-20 minutes language showers to a partial immersion model (where only 50% of the curriculum subject is taught in the target language), -according to the CLIL manual for E.U. for the CLIL4u project.

CLIL can be different for learners in many ways, according to Coyle, Holmes and King (2009); it surely is more interesting than a grammar-based lesson and therefore more motivating in terms of language learning. It may also be less conventional even for content learning since knowledge and skills can be transferred from one school subject to another and this may in fact be less time consuming and more interactive as it can have positive effects on communication –even cultural and intercultural communication-, especially when digital tools and information technologies are incorporated. Scaffolding and critical thinking also help CLIL learners feel better in terms of life skills and problem solving (Coyle et al., 2009).

Thus, benefits for language learning as well as for content learning, together with the need for higher levels of language competence and the promotion of multilingualism in Europe (Griva & Semoglou, 2013; Commission of the European Communities, 2008) have therefore placed innovative learning and teaching approaches into the curriculum. Nowadays, CLIL has been acknowledged as an innovative dual focused educational approach that has been gaining acceptance in Europe. CLIL is considered to be one of the main trends in education across Europe regarding Primary and Secondary education. However, Denmark, Finland, Turkey and Greece are the only countries that have not yet fully incorporated CLIL in public education, according to Eurydice (Eurydice, 2012). In Greece, Thessaloniki, a state experimental Primary School –supervised by the school of English, Aristotle University of Thessaloniki- following the contemporary European trend, in 2010-2011, started implementing CLIL from grade 1 to grade 6. In addition, CLIL programs have been piloted ever since in Greece in an attempt to increase the limited number of hours of English taught in the school curriculum as well as to provide input and outcomes for educational research carried out by state and private schools and/or teachers so as to determine and define the benefits for students.

CLIL in action

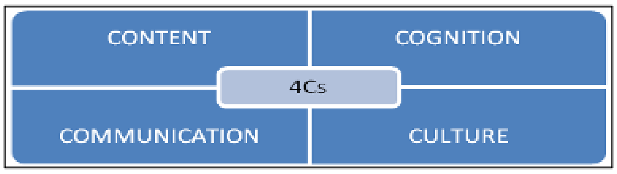
In addition, CLIL may as well involve projects, acting, puppets, science experiments, new technologies, etc. and in this way the curriculum subjects together with the language classes may be mutually enriched and further developed (Coyle, 2006); in this multisensory and multimodal way students may be easily stimulated -through meaningful and authentic learning materials- and engaged in authentic communication (Griva & Semoglou, 2013; Meyer, 2010).

However, according to several researchers, creating and adopting CLIL materials may not always be an easy task for teachers opting to successfully implement CLIL approach (Korosidou & Griva, 2013). Therefore, Mehisto, Marsh and Frigols (2008), in their attempt to ensure quality of learning, indicated that CLIL teachers need to consider the following characteristics: multiple focus, safe and enriching learning environment, authenticity, active learning, scaffolding and co – operation.

Also, in order for CLIL teachers to design and implement successfully their own program, the following 4 principles -and the way they are connected- need to be taken into account: Content, Communication, Cognition and Culture (Coyle et al., 2009).

Picture 1.

The 4Cs Curriculum



However, Competence, a 5th principle has recently been added to enhance the Cs framework and therefore, nowadays, the 5Cs curriculum has been introduced and mentioned -Content, Cognition, Communication, Culture, Competence-, when planning and implementing a CLIL program (Ball, 2016).

Also, when planning a detailed CLIL lesson, -based on the threefold role of language: language of learning, language for learning, and language through learning- teachers can adopt the 3As tool:

Analyse, Add, Apply, (Coyle, 2005), which operates in three stages:

- Stage 1: Analyse (Analyse the content for the language of learning).
- Stage 2: Add (Add language content for learning).
- Stage 3: Apply (Apply the content of language through learning).

Moreover, the Matrix mentioned above is considered to be an important CLIL tool regarding development of materials and their evaluation; it can be adopted in order for teachers to determine the way cognition and language are interrelated as well as to monitor and audit the developed educational materials (Coyle, 2005).

The CLIL pyramid, designed to visualize the quality of CLIL in terms of the Cs, when creating materials and designing activities, is also a different tool intended to build quality materials, starting with the content and the subject (Meyer, 2010).

Considering the CLIL tools mentioned above, it can be noticed that they may be used mainly for guidance and support in order to form a learning route determined by the content, by the curriculum subject in an attempt to serve the dual CLIL aim according to which content together with language learning may be integrated in an innovative, flexible and dynamic way.

Aims, characteristics and principles of CLIL can be strongly highlighted and emphasized when combined with techniques and environments that focus on holistic learning, learning through experience, authentic communication, critical thinking, scaffolding and higher order thinking skills. Although there is no specific methodology closely related to CLIL, however, according to the CLIL guidebook of the CLIL4U project of the E.U., there are approaches and settings that have common features, especially when emphasizing on co-operation, communication, motivation and active learning, such as content-based approach, task-based approach, game-based learning, gamification, web2 tools and digital environments.

Attempting to combine and stress the aforementioned, it can be said that planning and designing a CLIL program or lesson requires gifted, expert and trained teachers who are willing to take into account their students' needs, interests and background knowledge so as to have successful outcomes and results. Teachers adopting CLIL programs and projects need also to be creative in a way that they will be able to design their own materials or spend extra time to find and incorporate authentic materials –in a way that involves a pedagogical adaptation, especially when CLIL is initially implemented (Lasagabaster & Sierra, 2009) and follows the syllabus of the subjects-. CLIL also requires dynamic teachers who are willing to cooperate in a school or maybe teachers who are able to perform both content and language roles in order for students to be benefited (Pavesi et al 2001; Attard- Montalto &Walter, 2021).

The Program

The purpose of the program

Nowadays, in Greece, language teachers launched a significant number of projects in state Primary Schools attempting to incorporate together with the target language various school subjects: culture -multicultural and intercultural elements-, physical education, environmental studies, history, geography and maths (Griva & Deligianni, 2017b). The results indicated advantages in terms of the cognitive and linguistic development of the students involved in the target language as well as in the understanding of subjects of the existing national school curriculum (Korosidou & Griva 2013; Lasagabuster, 2008). Motivation and cognitive skills - of the CLIL students –especially when compared to those following traditional school curricula and teaching approaches- are also issues that recent researchers are dealing with (Mattheoudakis, Alexiou & Laskaridou, 2014).

Previous studies not only in Greece but also within the European educational context, have led to the need of a CLIL program aiming at investigating CLIL instruction implemented within the limits of a small state school, situated away from the urban state and private schools where students are less exposed to English as well as to further subject oriented knowledge and input.

The present program, attempted to serve the principles of CLIL with a focus on geography, history and aspects of culture of the 9 Greek Geographical districts. Through creating digital educational escape rooms, it aimed at developing primary school students' skills in English as a foreign language, as well as cognitive skills related to aspects of culture, history and geography.

The specific objectives of the program were set as follows:

- to enhance students' knowledge in terms of geographical, historical and cultural aspects,
- to develop students' cultural awareness and understanding.
- to increase their interest and motivation in terms of the English language,
- to improve student's ability to use English in order to communicate in authentic environments,
- to promote receptive and productive skills in EFL,
- to enhance their I.T. skills in digital settings.

Participants - Sample

The educational program "Travelling to Greek neighborhoods with English": Design and implementation of a CLIL program at a Primary School- was piloted with a small state Primary School in Northern Greece, with sixteen 5th grade students (10 to 11 years old) willing to overcome the "barrier" of living away from big cities and "demanding" to improve their knowledge through innovative, interesting, motivating new teaching and learning approaches and methods. More specifically, the program engaged sixteen Greek-speaking 5th grade students who had been taught English at school for five years, for 2- 3 hours per week, according to the state school curriculum, with the same English Teacher. Their competency in English as Foreign Language (EFL) was at level A1+, according to the CEFR (Common European Framework of Reference). Students attended twelve 3-hour sessions, from November 2021 to March 2022, without extending or altering the school timetable.

Design of the program

"Travelling to Greek neighborhoods with English": Design and implementation of a CLIL program at a Primary School was intended to create digital educational environments and educational escape rooms in order to promote students' skills in the target language (EFL) and at the same time to include context and meaning in terms of Greek cultural and historic aspects, of the 9 Greek geographical districts. Since CLIL -as an educational practice- can cover a wide range of approaches and models, the particular program was based on the principles of Game-based Learning and escape rooms which are interrelated in a way that emphasizes active involvement, motivation, needs and demands of the students by improving through scaffolding their language skills, their problem solving skills as well as their higher order thinking skills (Coyle et al., 2010; Lockhart Domeno & Lockhart Domeno, 2018). Also, design of the CLIL program was a process based on the principles of Theme-based approach, Game-based approach – gamification, Task-based framework, Educational Escape rooms (using Genially), various Web2 tools and Cultural elements. In addition, the Cs pedagogic framework was emphasized trying to reveal the interrelation between subject, language, thinking, culture and competences (Costa & D-Angelo, 2011, p. 6). CLIL tools were also taken into account in order for the learning route as well as design of the program to be additionally supported.

A Weak/ soft CLIL model was adopted for school timetable not to be altered or extended and to focus mainly on language learning (Ball, 2009; Bentley, 2009), so as to improve primarily students' English language skills and secondly students' competence in the subjects of geography, history and culture.

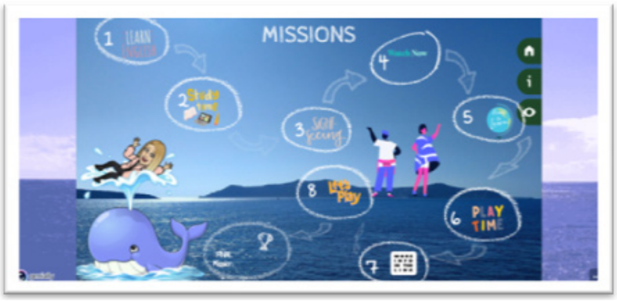
Implementation of the program

The CLIL program was launched in November 2021 in the English classroom or at the computer lab of the school, so as to use the available teaching aids (interactive whiteboard, projector, personal computers, etc). Interventions were implemented for five months, following CLIL principles combined with the principles of Game-based Learning and escape rooms, incorporating at the same time the Task-based Framework.

At first, the head teacher of the school, teachers and parents were informed and a consent form was send to parents, to be signed. Then, a Google Form pre-test was given to students to identify their needs in terms of the English language and their background knowledge regarding geography, local history and cultural aspects of the Greek geographical districts.

Implementation of the program involved twelve 3-hour sessions (36 hours), including a pretest, 11 escape rooms and a post-test. Pre and post-tests were created with Google Forms and were sent to students through emails. The 11 escape rooms were designed using the web2 tool Genially, a web platform intended to promote interactive learning by visualizing content in an interesting way that can motivate students and increase their participation and active involvement, especially when enriched with animation, movement, video, audio, quiz, games, infographics, escape rooms, presentations, etc. The platform provides teachers with the opportunity to design creative, innovative games for educational purposes. It also gives students the chance to enjoy learning in an interactive dynamic setting that improves digital competencies and learning outcomes (Genially, 2023).

Picture 2.
Screenshot from the escape rooms



Therefore, for the purposes of this program, apart from the pre and post-test, 11 escape rooms were created using Genially: one for Greece, one for each of the 9 Greek geographical districts (Central Greece, Aegean islands, Crete, Ionian Islands, Peloponnese, Epirus, Thessaly, Thrace, Macedonia), and additionally a Christmas escape room, focusing on the Christmas customs and traditions in Greece.

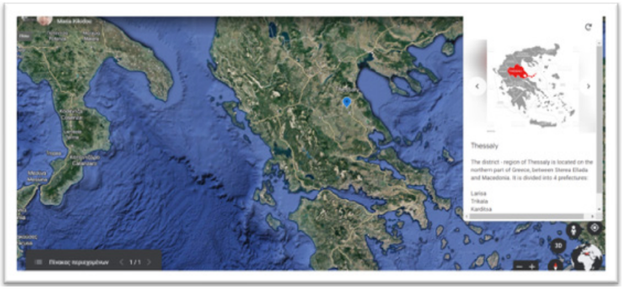
Table 1.
Escape rooms

Escape room 1	Greece (Travelling to Greece with Aris and Athena)
Escape room 2	Central Greece (Attica)
Escape room 3	Aegean islands
Escape room 4	Christmas (escape while travelling to Greece)
Escape room 5	Crete
Escape room 6	Ionian Islands
Escape room 7	Peloponnese
Escape room 8	Epirus
Escape room 9	Thessaly
Escape room 10	Thrace
Escape room 11	Macedonia

Each one of the 11 escape rooms was designed and carried out in 3 stages: Pre stage, Task cycle, Follow up stage (Willis, 1996). More specifically:

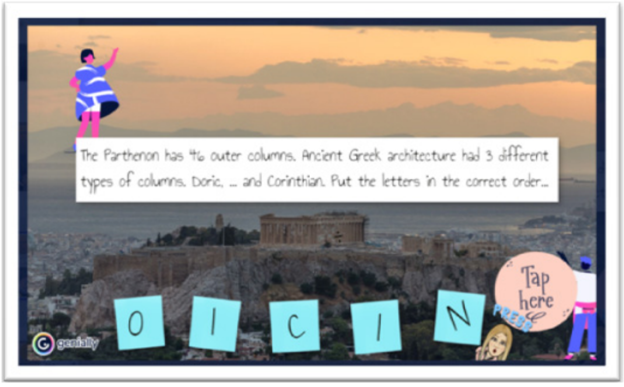
- Pre stage: was incorporated in the escape rooms as part of the missions and tasks of the game (including various tools such as Google Earth, videos, pictures, etc.). The basic aim of this task was to activate background knowledge as well to introduce new content, vocabulary and terminology in terms of history, geography and culture.

Picture 3.
Screenshot from the pre stage of an escape room



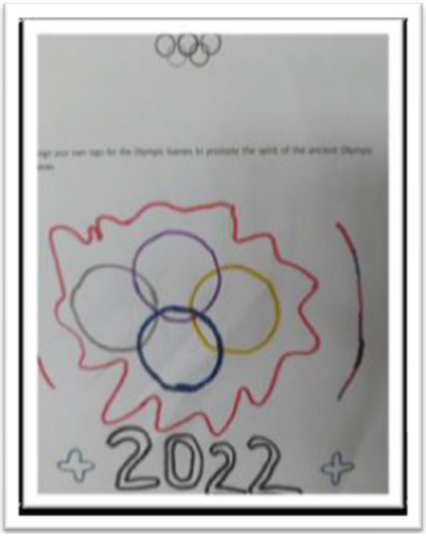
- Task cycle: during the main stage of each session students were put in the centre of the learning process which involved clues, missions, tasks, puzzles, digital games, web2 tools, videos, etc., for the "key" to be found so as to lead students to the next escape room. Task cycle attempted to involve students to authentic communication and meaningful interactions through problem solving and scaffolding and to engage them in a motivating, innovating digital setting.

Picture 4.
Screenshot from the task cycle of an escape room


The Parthenon has 46 outer columns. Ancient Greek architecture had 3 different types of columns. Doric, ... and Corinthian. Put the letters in the correct order...

Follow up stage: included assignments/activities designed to practice, revise and assess new structures, vocabulary and skills, creating at the same time the "collage of Greece" and revealing the historical, cultural and geographical elements of Greece that students came across with, during implementation of the program. Students, during follow up stage, were required to complete their small piece of a puzzle which was part of a big collage of artifacts and crafts, for the new knowledge to be practiced and immediate feedback to be given. Students were also engaged in presentations of their work and discussions related to the content they were taught about.

Picture 5.
Screenshot from the follow up stage of an escape room



Pre stage, task cycle and follow up stage were completed within a three hour intervention. Pre stage and task cycle were incorporated in the escape rooms. Extra educational and digital games were designed, and authentic materials were found in order to be included within the escape rooms -usually as part of the task cycle-, not only for educational purposes, but also to make the experience even more interesting and motivating for students.

Evaluation of the program

In order to evaluate the impact of each escape room designed and of each intervention implemented and to determine their added value on students' language skills and on content knowledge and cognitive skills, alternative instruments and tools were employed. Therefore, assessment of the program was based on alternative ways involving summative, formative and final evaluation and attempting to put students in the centre of the learning and teaching process. It was a significant part of the program which not only stressed the innovation of alternative evaluation in the educational process, but also, it noted and highlighted the importance of the outcomes in terms of design, implementation and feasibility. Therefore, the educational program was evaluated with:

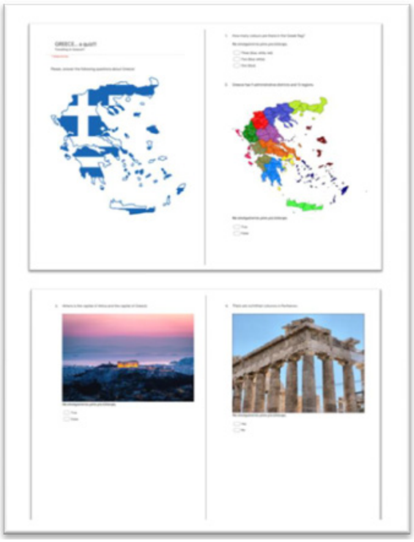
- Pre & Post-test (summative evaluation)
- Teacher's/ Researcher's journal (on going – formative evaluation)
- Digital Padlet (on going – formative evaluation)
- Satisfaction questionnaire – at the end of the program

Pre/post-test

Pre-test –which was designed with Google Forms as part of the summative evaluation of the program- was based on the content of the 11 escape rooms and it revealed students' needs and background knowledge in terms of geography, history and culture. The pre-test included 15 close type questions and pictures to be interesting for students, and two open questions at the end of the test, where students were requested to provide short answers. The post-test involved the same questions. It was carried out by the students at the end of the implementation of the program.

Picture 6.

Screenhot from the pre-test.



15 out of 16 students took part in the pre-test and 14 out of 16 students completed the post-test. Students' participation revealed their active involvement and motivation and furthermore, comparison of the results of both tests highlighted the trend of CLIL towards active development of language and content skills.

Table 2.

Question results of the Pre and post-test

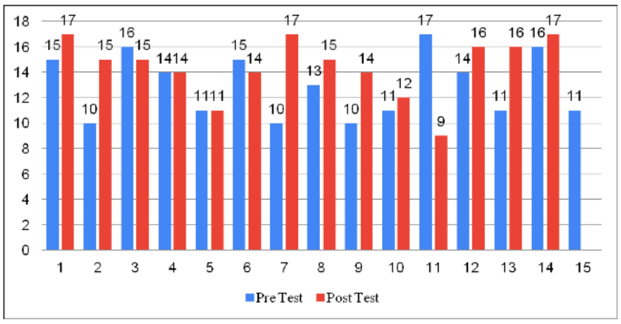
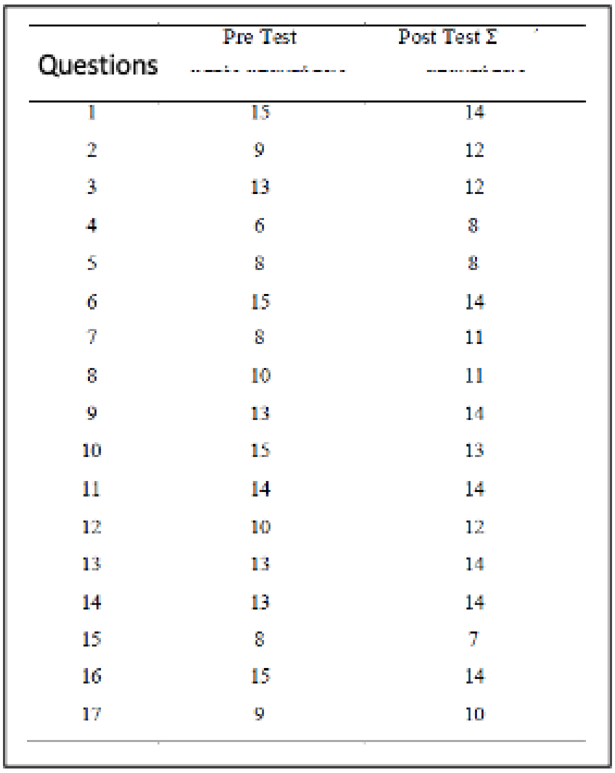


Table 3.

Correct answers (pre/post-test)



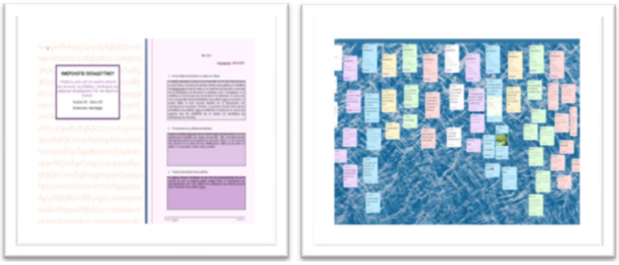
Questions	Pre Test	Post Test Σ
1	15	14
2	9	12
3	13	12
4	6	8
5	8	8
6	15	14
7	8	11
8	10	11
9	13	14
10	15	13
11	14	14
12	10	12
13	13	14
14	13	14
15	8	7
16	15	14
17	9	10

Teacher's/ Researcher's journal

Concerning Teacher's/ Researcher's journal, it can be said that it was in fact a qualitative self-reflective analysis, as part of the formative evaluation -which was mainly emphasized. Digital Padlet was also another tool used for the formative evaluation; students were writing their opinion in relation to the escape rooms.

Picture 7, 8.

Screenshots from the electronic researcher's journal and from the Digital Padlet.



More specifically, the researcher's journal included 4 different questions for each one of the escape rooms (Q.1. "Which of the aims of the CLIL lesson were achieved?", Q.2. Which was the most difficult part of the CLIL lesson?", Q.3. "Which activity was the best for students?", Q.4. "Would I change something?") and an extra reflective comment. The entries of the teacher/researcher were kept in the digital journal after the completion of each of the 3 hour sessions. Qualitative analysis of the journal was carried out to provide credible results for the success of the program, according to which the following typologies, categories/ subcategories and frequency of the entries were identified as follows, in the table below:

Table 4.

Journal Records

Questions	Categories	Frequency
1. "Which of the aims of the CLIL lesson were achieved?"	Vocabulary	8
	Missions/ activities/ worksheets	5
	Participation/ motivation	8
	Methodology/ Process/ School subjects/ Language	11
2. Which was the most difficult part of the CLIL lesson?	Vocabulary/ terminology	3
	Missions/ worksheets/ quizzes	6
	No difficulties	8
3. Which activity was the best for students?	Web 2/ Multimedia (Personal Computers/ Interactive white board, etc.)	3
	Escape room/missions/ Activities/ quizzes	10
	Location	4
	Sounds/ Songs	2
4 Would I change something?	No change	8
	Time/ Duration	2
	Content/Structure	4
	Missions/ Worksheets/ Quizzes	3

Researcher's/ teacher's journal was a time consuming process which however worked as a really useful tool in terms of reflecting and improving the educational implementation of the program. It therefore revealed that the aims of the program were achieved regarding methodology, participation/ motivation, vocabulary and activities. No problems were noted; on the contrary escape rooms and multimedia were identified as ideal for the purposes of the program. On the whole, the journal reflected that the program was an educational experience that did not require any alteration or modification.

Digital Padlet

The Digital Padlet was also a tool of the formative evaluation. Students, by the completion of each of the 3 hour session of the CLIL program, were required to participate by writing at the Digital Padlet their opinion in terms of the things they liked or did not like, of the best and the most difficult activity they came across with. Their attitudes were recorded successfully providing data for the CLIL program in a digital and fun way. The Digital Padlet was in fact an authentic, co-operative and communicative environment for students, which gave them the opportunity to reflect, to post and express their opinion and to be actively involved in the educational process. Their participation after each 3 hour session was impressive and their positive comments were encouraging and motivating.

Satisfaction Questionnaire

Picture 9.

Screenshot from the satisfaction questionnaire.

Satisfaction questionnaire -which was also employed- provided insights in terms of students' feelings and attitudes towards implementation and completion, at the end of the innovative program. Students were required to provide answers to 4 open ended questions (Q.1. "What did you like of the program?", Q.2. "Was there a difficult part?", Q.3. Was there anything else that you would like to do during this journey?", Q.4. Would you like to take part in a digital journey in Greece again?") in Greek. Students' answers were also recorded and analyzed in a qualitative way at the end of the program to determine attitudes, advantages and difficulties encountered. Results indicated that the program was successful, as described in the table below:

Table 5.
Satisfaction Questionnaire Records

Categories	Subcategories	Frequency
1. What did you like of the program;	Games/ quizzes/ worksheets	6
	School subjects (English, history, culture, geography)	2
	Songs/ videos	2
	Activities	4
	Other	3
2. Was there a difficult part?	No difficulties encountered	13
	Difficulties in terms of the terminology	1
3. Was there anything else that you would like to do during this journey?	To know more about other places/ to learn even more	2
	Escape room (outdoors/ Easter escape room/ other places), to create my own escape rooms	5
	No	3
4. Would you like to take part in a digital journey in Greece again?	Yes	13

Discussion - Limitations

The CLIL program, initially attempted to find out whether educational escape games can create the conditions for teachers to adopt CLIL approach and for students to be actively involved and motivated, so as to improve their skills both in English as a target language (T.L.) as well as in terms of the subjects of geography, history and culture. The twelve 3 hours interventions (completed following Willis's Pre stage and Task cycle with the 11 escape games and Follow up stage), the qualitative evaluation (through teacher's/ researcher's journal, Digital Padlet, satisfaction questionnaire) combined with the quantitative evaluation of the pre and post-test and the results of the previous research, indicated the contribution of CLIL and digital educational escape rooms to language and content learning.

More specifically, the results of the study revealed both language and content benefits for CLIL learners; it therefore highlighted the positive impact of CLIL on EFL students' performance as well as on the subjects of geography, history and culture in terms of content. Of course, it should be mentioned that students were motivated by the use of escape games that the CLIL program was based on, as indicated by the existing literature on game-based learning and gamification, following the principles of CLIL. Apart from the above, it should be noted that students managed to work as part of a team and collaborate for the purposes of the program. Finally, it can be said that this CLIL program added to our research-based knowledge and also that it has the potential to contribute to the improvement of English language skills along with subject matter by young students –especially in the current educational system in Greece.

In spite of the fact that the number of students involved was limited (16 students) and the difficulties that the researcher encountered (not available CLIL material, restricted time, restricted teaching aids, small sample and limited number of previous researches in Greece) were important, it should be noted that there is a need to introduce CLIL in State Primary School education; that is according to the results of this pilot study which indicated that in spite of the fact that its scale cannot be considered as broad enough to make generalizations, however, continuation of CLIL programs to other Greek Primary Schools should not be neglected. Therefore, the need to adopt innovative, dynamic teaching approaches, such as CLIL, should be considered as of great importance and thus, state should encourage teachers to be part of this hopeful trend that puts students in the centre of the educational process.

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The Challenge of Classroom Assessment: Analyzing the Discourses of Primary School Teachers from Chile

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Abstract

Research worldwide highlights the lack of teachers' assessment literacy and shows their beliefs and feelings about being unprepared to face classroom assessment. The same reality has occurred in Chile (Latin America), where participants in this investigation expressed their lack of assessment literacy during their tertiary education. Therefore, following the interpretative paradigm with a qualitative approach, this study tried to reveal how primary school teachers from Chile are prepared for classroom assessment, and if their knowledge of assessment literacy has an impact on their classroom assessment practices.

Primary school teachers and university tutor teachers were part of the study (*n* = 12). Tutor teachers also shared their university study program of the assessment module they taught, which was analyzed and compared with the participants' answers.

Semi-structured interviews were conducted. Themes and codes were defined to organize the data and were analyzed using the discourse analysis technique.

The findings of this study reveal that primary school teachers from Chile would prefer a better initial teacher education to improve their performance. Moreover, they manifested the necessity of ongoing support in their professional development to enhance their assessment literacy, and consequently, strengthen the quality of their teaching-learning process inside the classroom.

Keywords:

Assessment Literacy, Classroom Assessment, Initial Teacher Education, Continuing Professional Development, Pre-Service Teachers, Primary School Teachers.

Introduction

Background

For 60 years, studies have revealed that teachers are not well prepared to make quality assessment; consequently, their assessment literacy impacts their classroom assessment practices (Campbell, 2013; Schelling & Rubenstein, 2023; Stiggins, 2004). In Chile, there are few studies addressing this issue (Ríos & Herrera, 2022; Roa, 2017); for that reason, this investigation aims to contribute to filling that gap by researching what is happening with the reality of Chilean primary school teachers, specifically regarding assessment literacy (AL) and classroom assessment (CA), and by exploring how they think they are prepared to face the challenge of CA.

On the other hand, this concern also comes from working for seven years in a public school in Santiago, where it was observed that the most challenging practice for teachers was CA (personal communication). Furthermore, teachers' national assessment outcomes show that 68% of teachers (in the last five years), obtained low scores in the assessment item (CPEIP, n.d.), a situation that is used by the public opinion (e.g. politicians, headteachers, students' families) to blame teachers for their low performance in the assessment area, and consequently, to justify the low student results on standardized Chilean tests under the same premise (Roa, 2017).

Therefore, this reality raises multiple questions such as: Why is it that different teachers of different generations have difficulties at the moment of assessment? How do schools take care of the teachers' concerns? How does the state accompany their teachers so that they can enhance their educational practices?.

Hence, this investigation focused on deepening the understanding of the issues in initial teacher education (ITE) and revealed a gap between teachers' acquisition of assessment literacy (AL) during ITE and how later, in their professional development, they are supported (or not), to continue to improve their AL.

Without going any further, this investigation focused on four research questions, but concerning this paper, this research will seek to answer two main questions that will give us hints about what is happening in regard to the acquisition of AL and how that knowledge impacts classrooms through the assessment practices developed by teachers.

1. How are primary school teachers from Chile prepared for classroom assessment?
2. What impact does teachers' assessment literacy have on teachers' classroom assessment practices?

By responding to these research questions, this study will suggest recommendations to strengthen ITE and encourage a continuous accompanying program in teachers' ongoing practices for the acquisition of solid assessment literacy knowledge.

Literature Review

Assessment Literacy

AL is a concept that has been addressed by several authors (DeLuca, 2012; Popham, 2014; Ruiz-Primo et al., 2010; Stiggins, 1995; Willis et al., 2013) who have drawn on it with slightly different views. For example, Stiggins (1995) established that those with a profound knowledge of AL can determine whether an assessment method is sound or unsound, as well as the proper moment to apply it. Similar to this definition, Ruiz-Primo et al. (2010) argued that it is essential for teachers to have substantial knowledge and skills in order to achieve successful classroom assessment. Furthermore, Popham (2014) claimed that AL is related to the capacity to understand the main concepts and procedures regarding assessment and how they impact educational decisions.

All of these definitions lie in the relevance of teachers having abundant assessment knowledge that they can apply in their teaching and students' learning assessment (McMillan, 2000; Volante & Fazio, 2007). Moreover, the definitions above show how the AL concept has been defined; however, it is still necessary to delve into it because AL needs to be considered not only as robust knowledge and skills about assessment in teaching and learning but also within a contextual framework. Therefore, it is essential to indicate that AL involves social practices within a dynamic context where teachers negotiate with their students to establish learning goals (Willis et al., 2013). Following this premise, the AL concept has evolved and can be considered a dynamic context that will constantly change, depending on the cultural or policy context in which it is being developed.

Furthermore, Xu and Brown (2016) elaborated a model that suggests a reconceptualization of AL. They named it "Teacher Assessment Literacy in Practice" (TALiP) because the practice context strongly links teachers' knowledge about assessment. The authors highlighted that the development of AL "needs to be situated within the requirements of different educational contexts, and, thus, will have different priorities at different times and places" (Xu & Brown, 2016, p.155).

This study will focus on Xu and Brown's (2016) ideas of AL because knowledge about assessment is necessary but not enough if approached out of context. After all, AL involves interrelated skills. Hence, situated processes are pivotal for the achievement of learning aims through effective and contextualized classroom assessment (Black & Wiliam, 2018).

Succinctly, a deep knowledge of assessment is essential to developing teaching and learning considering contextual factors (social, political and cultural), because knowledge about AL will be modified or adapted depending on the type of educational system in which teachers are developing their practices (e.g. rural, urban, private, public), which in turn will have a direct impact on the acquisition and development of AL (DeLuca et al., 2019).

Assessment literacy in teachers' initial education

It is vital to draw on how AL is approached during ITE and through ongoing professional practices as knowledge develops over time. Therefore, it is crucial to have a comprehensive understanding of what takes place in universities with the assessment module and what future teachers are learning about it. In the case of Chile, there is a lack of research on this issue; hence, this paper intends to fill that gap by exploring teachers' perceptions of their assessment learning experiences during their ITE.

As highlighted by Popham (2009), teachers learn little about educational assessment in universities because it is not usually required. In fact, he mentions that teachers should receive solid assessment knowledge during their initial education, not only a "brief mention of assessment in a course" (Popham, 2011, p. 265).

In order for teachers to have sound AL knowledge, tertiary education should encourage students to learn more about assessment, including developing assessment courses during their undergraduate years, as part of the curriculum, which would make them long to understand assessment more deeply (Willis et al., 2013). On the other hand, these courses must consider the barriers that could impact on their ITE, such as teachers' initial perceptions about assessment, or the recall of their own experiences, which can impact the acquisition of new knowledge; it has been highlighted that the affective dimension can have a strong influence on those perceptions (Coombs et al., 2018).

Research worldwide demonstrates the lack of AL that teachers receive during their ITE; consequently, this lack of training has a significant impact on their future practices as in-service teachers (Campbell, 2013; Coombs et al., 2018; Mertler, 2004). As a result, this situation represents an issue that diverse educational systems must face (Schelling & Rubenstein, 2023); therefore, not only must teachers develop AL, but those who educate them (e.g. tutor teachers) at universities and those who provide professional development in assessment for in-service teachers should also focus more on AL (Xu & Brown, 2016). Thus, other stakeholders need to develop AL too, such as school administrators, parents, students, and policymakers (Stiggins, 2014).

It would be expected that everybody in the educational communities would speak the same language regarding assessment, and they would support each other and really understand what assessment is about, to strengthen the teaching-learning process in schools, without forgetting that in-service teachers also need continued support and opportunities for ongoing development. Having that ongoing support, teachers could enhance their classroom practices, and as a result, students would be better taught (Popham, 2009).

In essence, the development of AL among teachers requires a comprehensive consideration of their prior beliefs and perceptions concerning assessment, along with the contextual factors of their work environment. Bridging theoretical concepts with practical applications in the classroom is also imperative. By recognizing the significance of assessment, learning conditions, ethics, feedback, and continuous reflection, teachers can refine and enhance their teaching methodologies. Thus, through participation in communities of practice and tackling challenging tasks, teachers can acquire new assessment knowledge, and improve their critical thinking skills and their AL.

Teachers' learning communities

The literature reviewed in this chapter reveals a lack of teachers' AL and hence, difficulties with CA. In order to face those situations, researchers and teachers acknowledge the need to acquire and deepen their knowledge about assessment, but in a collaborative context. By sharing classroom experiences in learning communities, they can critically reflect on their assessment practice make decisions and negotiate with their colleagues because they have a common language. This means that teachers can have a space (e.g. in the workplace) where they can reflect on their daily issues regarding assessment. Additionally, they will have opportunities for professional development, where they can acquire tools to support their classroom assessment practices through peer collaboration (Xu & Brown, 2016).

International studies show the relevance of ongoing learning opportunities for teaching when teachers are working at an educational establishment (Schelling & Rubenstein, 2023). Thus, schools should open up spaces to share assessment practices between colleagues to enhance AL through exchanging ideas about CA. In the Chilean case, it is essential that the government analyzes these practices in order to be able to implement something similar to improve classroom teaching and learning practices (López & Manghi, 2021).

Classroom assessment (CA) and learning

According to McMillan (2013, p. 4), "CA is a broad and evolving conceptualization of process that teachers and students use in collecting, evaluating, and using evidence of student learning for a variety of purposes". Moreover, CA is seen as a tool that teachers use in their classroom practices to gather data and information, allowing them to analyze students' learning and their own teaching practices, make decisions, and communicate students' achievements to them and their parents (Brookhart & McMillan, 2020).

For the purpose of this study, CA will be understood as an essential process that benefits students and teachers and that can happen at any moment of an instruction (before, during or after) (Campbell, 2013). Furthermore, CA can be approached with summative or formative methods, both of which serve to support student learning and which can be used in different ways in order to give teachers different perspectives and feedback to analyze both student progress and their own practices (Black & Wiliam, 2018).

For an effective CA, it is necessary to have a clear purpose for the assessment and to define clear and explicit expectations for the learning and its objectives, as well as have ongoing communication with students about their assessment results. Therefore, it is possible to establish coherence among the objectives of assessment, the procedures for assessment, and the teaching practices designed to attain those objectives (Villagra & Riquelme, 2023).

Although there is much theory about it, CA is a complex process that stresses many teachers worldwide. This situation reveals an issue because CA impacts students' learning and its environment (Coombs et al., 2018).

Regarding those difficulties, Stiggins (1995) exposed two barriers that teachers have to deal with to improve CA. The first one is about the anxiety teachers feel when they assess because they recall their own negative experiences as students, which is why sometimes they reproduce those same assessment strategies in the classroom. The second barrier is that teachers have insufficient time to assess their students properly.

In Chile, we can find those two barriers, because teachers feel exhausted due to the long working hours and class sizes, so they feel they do not have enough time to effectively do CA (Stiggins, 2014). For that reason, it is fundamental that teachers can count on support to overcome those barriers and improve their AL through professional development opportunities because CA impacts and guides students' learning process, thus teachers need to be clear on why and how they assess and use proper assessment strategies related to their learning goals.

Methods

This research aimed to explore how primary school teachers from Chile are prepared for CA, delving into their experiences, needs and demands concerning AL, and considering their thoughts and feelings regarding the whole picture of CA in the educational Chilean context. Hence, the study followed the interpretative paradigm with a qualitative approach to explore the perceptions of all the participants who were part of this investigation and to understand them holistically; considering their context and their lived experiences as teachers (Miles & Huberman, 1994). By examining their views on educational issues, such as CA and AL, the study aimed to focus on individual perspectives rather than generalizing broader issues (Denscombe, 2021).

To gain a deeper understanding of the participants' voices, the study adopted a qualitative approach to explore their "meanings, actions, attitudes and intentions"(Gonzalez et al., 2008, p.3). This approach enabled a holistic comprehension of these aspects as an integrated whole, rather than as isolated factors (Lincoln & Guba, 1985).

Through this paradigm and approach, this study will try to answer the following two research questions (RQ):

RQ1: How are primary school teachers from Chile prepared for classroom assessment?

RQ2: What impact does teachers' assessment literacy have on teachers' classroom assessment practices?

Sampling and Participants

In accordance with the ethical guidance of BERA (2011) and the research ethics committee of the IOE, emails were sent to the Heads of the Educational Departments from diverse Universities in Santiago (Chile) that offer the "Pedagogy in Primary Schools" program (publics and privates ones). These emails provided information about the study and requested permission to contact tutor teachers who teach the Assessment subject at these universities. The tutor teachers were invited to participate in the research by answering an interview.

Invitations were sent to thirteen Head of Department of various Universities in Santiago. The selection criterion to choose those universities was that their Pedagogy in Primary Education careers was accredited, because according to the National Accreditation Commission (Comisión Nacional de Acreditación - CNA, n.d.), "the career accreditation certifies the quality based on its established standards and the criteria established by the respective academic and professional communities".

This decision was made because in Chile, since 2016, law N°20.903, which created the "Teacher Professional Development System", indicates that all universities that have careers in Education, for teacher development, must be accredited (Consejo Nacional de Educación - CNED, n.d.).

Concerning the thirteen invitations, only five Head of Department replied and gave their permission to contact the tutor teacher of the assessment subject. Those five tutor teachers were reached by email and three of them responded positively by attaching a signed consent form to participate in the study. The three who agreed to participate include Pedro and Catalina, who teach at public universities, and José, who teaches at a private university. All three have a PhD in Education and between three to thirty years of experience working as tutor teachers in ITE assessment programs. Table 1 provides concise details about the tutor teachers and their respective universities.

On the other hand, social media (WhatsApp, Facebook, LinkedIn) were used to contact primary school teachers who studied at the Universities where tutor teachers teach (described above) and were currently working in a primary school.

Six primary school teachers who studied at the private university were invited to participate. Although all six agreed to take part, only three of them sent back a signed consent form. As a result, only those three were able to be included in the research.

Regarding primary school teachers who studied at the public universities, six of them replayed the email (three per public university) sending the signed consent form that allowed them to be part of the study.

The nine primary school teachers work in publics and privates urban primary schools in Santiago. These teachers have varying levels of experience, ranging from two to forty years. These criteria (years of experience) demonstrate that they already spent time putting into practice knowledge acquired at university or in courses during their work. Furthermore, the nine participants attended the Assessment module during their ITE. However, only five of them reported receiving ongoing support through various in-service training programs, not limited to assessment. On the contrary, four of them stated that they only received assessment training during their ITE and had to learn about it on their own (as in-service teachers). Only one teacher received a master's degree training, but it was not in the assessment field. Primary school teachers' information is provided in Table 2.

Data collection

Two semi-structured interviews with open-ended questions were created, one for the tutor teachers from universities and one for the primary school teachers. The interviews were selected as the main data collection instrument for this study, because is the most prominent tool in qualitative research (Punch, 2014). Moreover, interviews allowed the researcher to collect and get access to the diverse perspectives, thoughts and reality constructions of the participants; by asking them questions (Jones, 1985; Punch, 2014).

The questions were designed to collect information that would aim to answer the research questions. In fact, the decision was made because of the richness of this type of interview, as is more flexible with the order of the questions and the interviewer can modify or adapt it; and also, ask the participants for more information (Fielding, 1993). Furthermore, the participants can deeply address the different themes, develop their ideas, speak widely, and emphasise relevant points (Denscombe, 2021).

Table 1.
Tutor Teachers and Universities Information

Participant (Pseudonyms)	University	Years of accreditation	Years of experience as tutor teachers	Name of the subject they teach
José	Teach at a Private University	6 years	3 years	Assessment in elementary education
Pedro	Teach at a Public University (referred as PU N°1)	4 years	30 years	Assessment for learning
Catalina	Teach at a Public University (referred as PU N°2)	2 years	20 years	Educational Assessment

Note: Own work.

Table 2.
Primary School Teachers Information

Participant (Pseudonyms)	University	Working in a primary school	Years of experience as primary school teacher
María	Studied at a Public University	Yes	20 years
Ana	Studied at a Public University	Yes	40 years
Camila	Studied at a Public University	Yes	9 years
Trinidad	Studied at a Private University	Yes	5 years
Doris	Studied at a Private University	Yes	8 years
Marta	Studied at a Private University	Yes	12 years
Juana	Studied at a Public University	Yes	2 years
Francisca	Studied at a Public University	Yes	2 years
Josefa	Studied at a Public University	Yes	2 years

Note: Own work.

The interviews were conducted online using UCL Zoom. They were conducted in Spanish, as this was the participants' native language and is also that of the researcher. Moreover, this match in characteristics established an environment of confidence and trust as the participants and the researcher spoke the same language and all are teachers (Cohen et al., 2018).

The ethics committee of the Institute of Education and Society (IOE-UCL) approved this research. All of the participants signed a consent form, their identities (in terms of both their names and the names of their institutions) were anonymized and the information they gave in the interviews was kept confidential.

Pre-testing

To validate the interview process, a protocol was created with a peer from IOE-UCL, following the guidelines of Robson and McCartan (2015) and was then validated by two expert professors in assessment from UCL. This process allowed the researchers to modify the questions, change the order, clarify the ones that could induce an answer, and remove words or eliminate those questions that were not related to the aim of the study.

As a first step, we decided our questions criteria, defining what to avoid in our questions, the prompts, probes, and the interview structure (Arksey & Knight, 1999; Robson & McCartan, 2015).

Second, we sent each other our protocol interview and gave us feedback regarding the questions' criteria previously established.

Third, the interview's questions were modified following the feedback received; changing the order of some questions, clarifying the ones that could induce an answer, removing those that pointed to the same as others, and eliminating the ones that were not related to the aim of the study. As Punch (2014, p.160) pointed out: "To maximise the quality of the data, one can anticipate and stimulate the data collection procedures; this will show the value of pilot testing any instruments and the procedures for using them".

Summarising, this process allowed us to improve our interviews protocol and at the same time, validate it.

On the other hand, to ensure the credibility of the data analysis, the quality of the qualitative data analysis was assessed by the researcher together with a peer from IOE-UCL, by sharing conclusions and giving each other free access to the original data, adding to this exchange a brief of the data and their interpretations. The researchers gave each other feedback, by highlighting ideas or comments if they found something that was misunderstood. For this process, the data was anonymized to respect the identity of the participants.

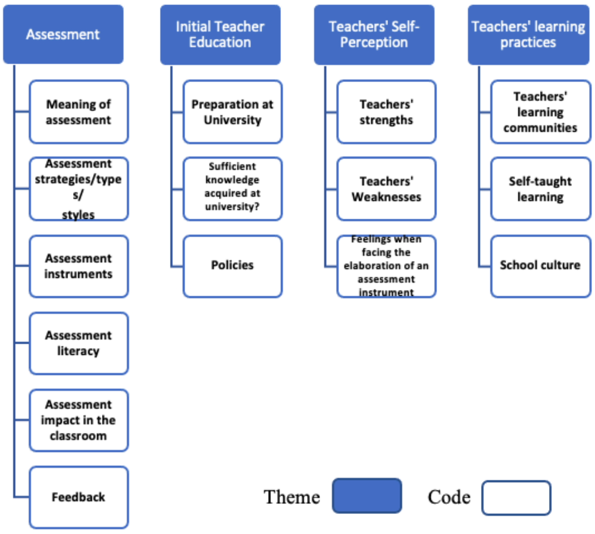
Data analysis

After completing the interviews, manual transcriptions were made and, when they had been completed, the interviews were listened to again to check the manual transcription's accuracy and amend it when necessary to ensure verbatim transcription. Previously, the participants had agreed to stay in touch by email if some doubt arose during the transcription and interpretation of the data; respondent validation was used and the accuracy of the data was checked with them if necessary, to ensure reliability (Denscombe, 2021).

The analysis of the university programs and the interviews was done using discourse analysis (Cohen et al., 2018). With this technique, meanings, categories, key issues and networks were analysed and interpreted, to deconstruct the data, read between the lines and look beyond the evidence (Denscombe, 2021).

Codes that emerged from the research questions were created before the analysis of the data. While reading the transcriptions, codes (labels) were decided on and these were then used in the analysis. Open coding categories were created to organized and group similar codes that had things in common, into themes, related to the research questions. The following themes and codes were defined (see Figure 1) to analyze, compare and reduce the data, to identify the key issues, and then to turn those into findings.

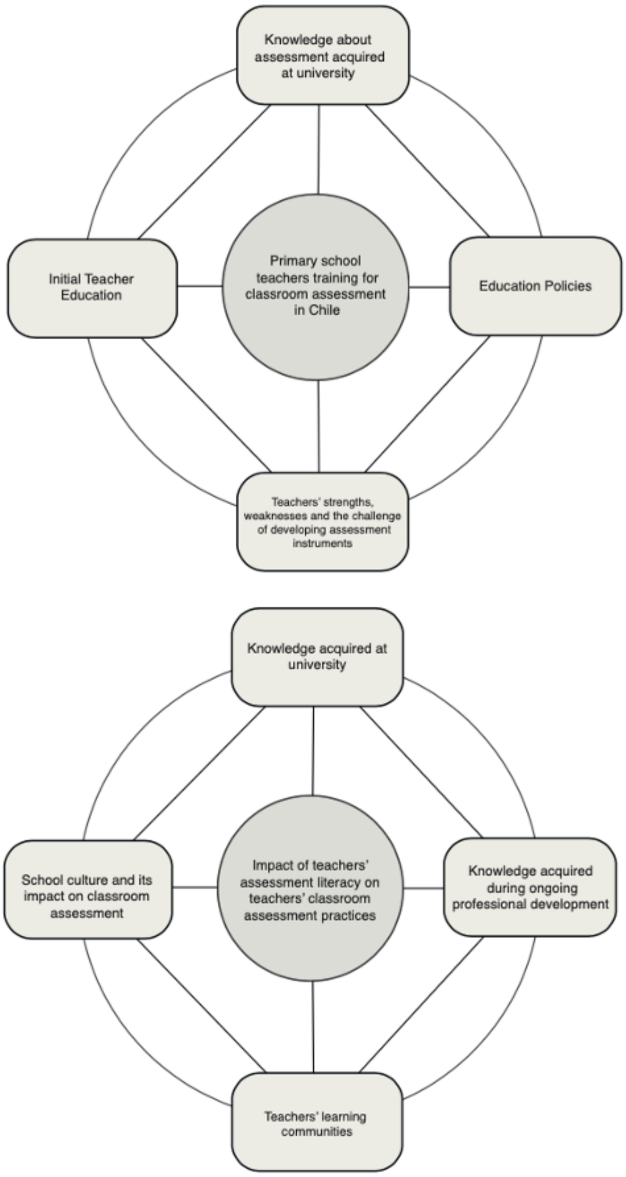
Figure 1.
Themes and Codes


Assessment
Meaning of assessment
Assessment strategies/types/ styles
Assessment instruments
Assessment literacy
Assessment impact in the classroom
Feedback
Initial Teacher Education
Preparation at University
Sufficient knowledge acquired at university?
Policies
Teachers' Self-Perception
Teachers' strengths
Teachers' Weaknesses
Feelings when facing the elaboration of an assessment instrument
Teachers' learning practices
Teachers' learning communities
Self-taught learning
School culture
Theme
Code

Findings and Discussion

Based on the interview data, two main dimensions and eight sub-dimensions (see Figure 2) were identified to provide a comprehensive response to the research questions. The evidence presented through this approach will contribute to fostering a discussion in the field of CA in Chile.

Figure 2.
Findings Scheme


Knowledge about assessment acquired at university
Initial Teacher Education
Primary school teachers training for classroom assessment in Chile
Education Policies
Teachers' strengths, weaknesses and the challenge of developing assessment instruments
Knowledge acquired at university
School culture and its impact on classroom assessment
Impact of teachers' assessment literacy on teachers' classroom assessment practices
Knowledge acquired during ongoing professional development
Teachers' learning communities

Note: Own work.

Dimension 1: Primary school teachers training for classroom assessment in Chile.

Reflecting on how to improve CA in Chile is a main issue, as well as exploring how ITE influences how assessment is approached at classrooms. This interest was the driver of this research. The four sub-dimensions presented below provide a more insightful picture of the issue.

Initial Teacher Education

It is known that during their ITE and continuing professional development (CPD), teachers should acquire and develop diverse skills that allow them to plan their assessment strategies, give effective feedback to their students, support them in teaching and learning, and so on (Brookhart & McMillan, 2020). Nevertheless, research worldwide shows that although this premise is the ideal, in practice the picture is very different (Mertler, 2003; Popham, 2011).

Based on the results of this study, it seems that the type of university where participants complete their ITE does not significantly impact their overall experiences.

Regardless of whether they had attended a public or private institution, individuals reported similar experiences from their respective programmes.

> *At the university, I had an assessment module where they taught me diverse assessment instruments; however, I feel that the assessment module could have been much more useful if it had been done parallel to a professional internship (Sofía).*

> *I feel like I had the tools to be able to assess but I had to look for more information elsewhere (by myself). I think that the assessment modules (that I had) were good, but I think I would have change the semesters were we had the module, that way, it would have coincided with the practice (internship) (Juana).*

These opinions reflect the answers of the majority of the participants. These teachers believed that they had learnt about assessment and received good knowledge about the different approaches (during ITE), but needed more practice linked to the theory. This is an issue that they repeated in their answers and is something that even the tutor teachers claimed: "They feel (students) that we lack space for us to discuss problems emerging from their practices (internships). Rather than the place or the quantity in the career, it is like being able to accompany the assessment practices better" (Catalina).

Moreover, in regard to the program (curriculum) of the assessment module of the public university where she worked, it mentions: "Theory will always appear linked to practice and from a historical and political contextualization of evaluation in childhood" (Public University Curriculum [PU N°2], June 2022). However, even though it is reflected in the study program, the participants still believed that this situation is due to a lack of practice during ITE, since the module is not taught in parallel with students' internships.

This is something that institutions that provide ITE should consider; since we cannot separate theory from practice, it is something that must be worked on together. Furthermore, the theory highlights the need to incorporate practices when pre-service teachers are learning about assessment (Schelling & Rubenstein, 2023; Xu & Brown, 2016) because the theory is necessary but not enough, since external factors as well as teachers' own beliefs have an impact on how CA practices are addressed when they become in-service teachers. According to Schelling and Rubenstein (2023) when teachers receive assessment training linked to the classroom reality, they find it more helpful and beneficial for them to apply that knowledge in practice.

In summary, the perceptions of primary school teachers and tutor teachers from universities are related, and point to the urgent need to increase internship opportunities, linking classroom practices with the ITE assessment modules and the knowledge they offer. It would be better if pre-service primary school teachers were to receive more specific knowledge about CA to be more prepared and have more tools to face its challenges.

Knowledge about assessment acquired at university

Even though some primary teachers believed that they had received good, general knowledge about classroom assessment, they felt that it was not sufficient: "No, it was not enough, and looking back it had a much bigger approach to summative assessment. Now while I'm working, I have learned more about other assessment types" (Sofía).

Participants thought that they had received little preparation at their universities to do CA. Still, with ongoing practice and collaborative work with their colleagues, they were improving their knowledge regarding AL and gaining tools to face the challenge of teaching.

Nevertheless, these responses highlight the complexity of acquiring knowledge about assessment at university and during professional development. A recent study conducted by Schelling and Rubenstein (2023) in the United States addressed this same issue and found that participants in their study, who were pre-service teachers, received only one course on assessment during their ITE program, as well as limited or no additional training in assessment during their professional development.

This reality is something that the institutions that provide ITE must consider by facilitating effective development of AL, since it is not possible for teachers to continue feeling that they are not prepared to face CA. Therefore, it is important that actions are taken in this regard to improve the quality of education that is given to future teachers, since their practices will have a direct impact on the development of the teaching-learning process in the classroom (DeLuca, 2012; Mertler, 2004).

Education Policies

This section seeks to show that not all of the responsibility regarding assessment practices in the classroom falls on teachers; national public policies and institutional policies (of schools) influence the acquisition of knowledge about assessment and how this knowledge is put into practice.

> *I think that it is important to analyze what happens with ITE (at universities), such as what are the mechanisms that are regulating what these programs offer, what happens with educational policies; for example, decree 67 is installed, but there is no associated training program (Catalina).*

In Chile, schools must consider in their practices decree 67 (Biblioteca del Congreso Nacional de Chile - BCN, n.d.-a), a law that seeks to improve practices in regard to formative assessment and includes assessment as a part of daily work in the classroom. However, in reality, many schools do not know how to put this new decree into practice, and the reasons for this are diverse, such as the lack of AL of the different stakeholders, the lack of accompaniment for its implementation in schools and the diversity of contexts between schools.

> *One thing is what the law says (Decree 67), and the other thing is how schools apply it. I have classrooms with 45 students and teach in eight grades, so I have more than 200 assessments to mark. By having a classroom with 45 you cannot spend the time that every student deserves (for feedback) because you do not have time (Josefa).*

In Chile, by law, schools should have a maximum of 45 children per classroom (Biblioteca del Congreso Nacional de Chile - BCN, n.d.-b); hence, according to the participants, the number of students per class is a major problem, as well as schools' infrastructure. They do not have enough space to work with that class size; consequently, they almost run out of space to move around the room, which clearly impacts the application of the decree.

The participants highlighted that schools and their internal policies do not consider a space to work deeply in their assessment; therefore, they do not have time to give effective feedback to their students (referring to formative assessment).

The perspectives of these participants align with previous studies that examine issues regarding CA in relation to national policies, regulations, and school environments (Scarino, 2013; Xu & Brown, 2016). Those studies identified the challenges that teachers encounter when attempting to adopt CA strategies or implement innovative approaches, as well as the obstacles they must overcome to do so. Consequently, incorporating strategies such as formative assessment or assessment for learning (AfL) (Popham, 2014) in the classroom presents a difficult task for teachers who rely on their determination and creativity to enhance teaching and learning processes.

Yet, despite teachers' will and the belief that AfL practices are beneficial, they need support to do this. There is an urgent need for necessary measures be taken, both at the macro level (public policies) and the micro level (schools) so that the accompaniment and support for teachers is real and sustained over time. Then, it will be possible to improve CA practices and, as a result, implementing new decrees that favor those practices will make sense and will be applied accordingly.

Teachers' strengths and weaknesses and the challenge of developing assessment instruments

Acknowledging strengths and weaknesses is necessary to improve teaching practices and to reflect critically on how they impact on the teaching-learning process.

Most of the participants highlighted creativity as a significant strength of primary school teachers. They also mentioned their ability to work collaboratively, their ethic at work, their sense of justice, and their dedication to their jobs. "I think that all primary teachers have this strength of doing diverse things, but by doing it, one gets very tired. Another strength is being able to work as a team and exchange opinions with the group" (Ana).

Regarding weaknesses, the participants felt insecure when they had to create an assessment instrument and manifested that elaborating on an assessment instrument was difficult for them. "What makes it most difficult for me is to make the rubrics. I feel that I am very insecure for the assessment process, assessment itself is what costs me the most" (Doris).

The feeling of insecurity and overwhelm that teachers felt when they faced the challenge of elaborating on an assessment instrument was repeated by five of the nine participants in this study. This could be the product of the ITE they received because they should not feel insecure if they have acquired a good base at university.

> *I love to create assessment instruments, first because I feel I have a good base (from university), then, when I have to face the construction of the material, I have the confidence to do it because I know that I am not so lost in time and space (Camila).*

These different lenses reveal that ITE is a factor that impacts AL and, consequently, the feeling that teachers have when they have to face the elaboration of classroom assessment instruments. Those who thought that they had received a solid knowledge of assessment at university felt more secure than those who had not. By contrast, as addressed in the literature review, there are diverse factors that influence AL, as well as ITE, such as teachers' experiences in their CPD and their own experiences as students, access to resources, and how the external and internal policies (national curriculum and internal school curriculum) contribute with materials to support the enactment of the curriculum, and hence, the creation of assessment instruments.

> *Although sometimes my coordinator checks my assessment instruments, I feel that I am missing the conversation with a peer because that is enriching. I feel that the assessment process is very lonely, and you also tend to make a lot of mistakes (Doris).*

Based on the participants' responses, it was found that teachers require assessment education, not only during their ITE but also during their CPD. This aligns with similar findings from studies conducted in Canada (Volante & Fazio, 2007; Deluca & Klinger, 2010). These studies emphasized the need for teachers to have better access to resources, opportunities, and support in their practices, because the lack of AL experienced by teachers can undermine their confidence while developing their teaching practices in the classroom.

Dimension 2: Impact of teachers' assessment literacy on their classroom assessment practices.

Based on the findings, it is evident that the participants strongly believed that their AL significantly impacted their CA practices. They acknowledged the importance of what they had learned at university and their CPD.

Knowledge acquired at university

Even though some primary teachers believe they received good but general knowledge about CA, they felt that it was not sufficient.

> *They were not enough (knowledge acquired at university), I think that assessment is something that should have much more transversality in the university. I think that this whole process (CA) could have been different if I had had more assessment tools during the assessment module (Sofía).*

Sofias' statement represents the perceptions of the majority of the participants and it reveals that the reality of Chile is similar to what happens in other countries, such as United States and Canada, where a study shows that during their ITE, teachers feel unprepared to face CA and that "assessment remains a significant gap in preservice programs" (DeLuca, 2012, p.577). Therefore, it would be important that actions be taken in this regard to improve the quality of education that is given to future teachers, since their practices have a direct impact on the development of the teaching-learning process in the classroom

Knowledge acquired during continuing professional *development:*

Regarding the knowledge that teachers can acquire during their professional development, the reality is not different from the one explained above. In fact, primary school teachers and tutor teachers agreed they need more tools and opportunities to enhance their AL.

> *I have not taken any course because we do not have much time, I have only educated myself in a self-taught way, the school has not sent us to training. I think that schools could train us more (Doris).*

> *CPD is necessary in order to be able to deepen and give meaning to the assessment practice and not only from university classrooms. In particular, much of the learning that we have had after our undergraduate education occurs within the framework of professional teaching development (in schools) (Pedro).*

Chile is having the same problems concerning ITE and CPD as other countries, no matter the differences regarding social contexts. A study from Australia reveals the necessity to enhance the quality and effectiveness of the ITE programs and teachers' practices during their professional development (Green et al., 2018), because teachers manifest their concern about the little connection between the theory and practices regarding classrooms' realities.

Thus, improving ITE and CPD is essential, due to the impact that they have on CA (Roa, 2017). By strengthening these areas, the teaching-learning process could be enhanced as a whole and benefit the entire educational community. As highlighted by Meriläinen and Piispanen (2022), pre-service and in-service teachers have varying needs, but the goal is the same: to make their teacherhood stronger. Hence, addressing these concerns necessitates a collaborative effort involving schools, learning communities, universities, and public policies at all levels (Mertler, 2003).

Teachers' learning communities

All of the participants manifested the relevance of collaborative learning in the process of improving their AL. "I am in a school where its strength is collaborative work. Sharing experiences makes us strengthen our knowledge in assessment and therefore improve the instruments we use for that purpose" (María).

Nevertheless, the programs (curriculum) of the assessment modules of the three universities did not refer to the relevance of promoting learning communities for professional development in schools, maybe because their focus is on the general proposes of the module. Albeit some schools are implementing learning communities, there are others that do not have the space for them, perhaps for diverse reasons, such as the variety of contexts, time or resources: "Assessment is a collaborative work and it must be collaborative, it makes it difficult for me to have to work alone because you need a peer from your area, a peer that makes you reflect on your own instrument" (Doris).

When it comes to the importance of learning communities for teachers and understanding the preferences of primary school teachers in Chile, it's essential for schools across the nation to create opportunities for educators to collaborate and develop their expertise by working alongside their colleagues.

Additionally, universities must prioritize this aspect in their programs to prepare future teachers for such collaborative environments, which will be critical for their professional growth. These communities can facilitate knowledge acquisition, sharing of experiences, and discussions on teaching and assessment practices. By fostering strong networking among colleagues, learning communities can promote continuous dialogue and self-reflection on daily teaching practices, ultimately enhancing their AL during professional development (Koh, 2011).

School culture and its impact on classroom assessment

Schools have their own diverse contexts, which gives rise to unique school cultures (Coombs et al., 2018). The participants in this study described these situations as issues that interfere with teachers' practices during CA. This is because some schools have curricula or guidelines that contradict what teachers have learned during their ITE.

> *I felt all the time like how do I do this to feel true to myself (regarding to what she learned about assessment during their ITE), if the school demands something very different from me, then how do I make strategies to get both things together? (Francisca).*

According to the participants, it is common for classrooms in Chile to face barriers when it comes to implementing innovative assessment practices. Teachers may have great ideas and a strong desire to innovate, but the unique contexts of their school cultures can impede their progress (according to the political, social and cultural context of each school).

Furthermore, teachers feel tension when they have to face those barriers, due to the lack of autonomy they experience within their schools. As a result, this situation represents a challenge because they have to try to adapt their own beliefs to the school's views regarding CA practices (Xu & Brown, 2016). A study conducted in Finland (Meriläinen & Piispanen, 2022) revealed that students often encounter traditional school cultures that do not align with the more comprehensive approaches they learned about in their ITE. Consequently, they may experience feelings of disappointment. In these scenarios, it is essential for teachers to receive support from the educational community to feel confident in their teaching practices.

Thus, in order to address this concern, schools should ask teachers to follow the school and national curriculum but allow them to have autonomy in terms of the teaching-learning processes or methods that they decide to follow in their classrooms. In the end, teachers are the ones that better know their students; therefore, they are the most suitable to decide the learning assessment practices according to the characteristics of their class and the purposes and learning objectives they have in their classroom.

Limitations

It is important to acknowledge the limitations of this study. On the one hand, due to the one-year time constraint, it was not possible to include a more diverse range of voices that could have provided valuable insights into the issue of CA and AL, such as headteachers, students and policymakers. On the other hand, the location of the participants was limited to Santiago de Chile, due to economic resources and the limited timescale of the research. It would be interesting to hear from rural teachers and those from other cities in the north and south of Chile, as their unique contexts and resources could shape their ideas about CA and AL.

Despite these limitations, rigorous processes were followed to ensure the validity and credibility of the interviews. The data obtained from the interviews provided key and valuable information to contribute to the assessment field in Chile. Additionally, participants from both the public and private sectors of tertiary education were included, to analyze ITE and the CPD of primary school teachers.

Conclusion

It is worth noting that primary school teachers in Chile experience insecurities and fears regarding CA. This research explored how they were prepared for it and found that in-service teachers, whether they had two or forty years' experience, felt that their ITE was insufficient. In addition, the study reveals that their professional development lacked necessary support and accompaniment from their superiors in the school and from the educational system as a whole. Therefore, it is vital to prioritize ongoing collaboration and support across all levels of the educational community and the educational system to ensure successful implementation of education reforms in order to improve CA processes.

Furthermore, the study highlights the following suggestions related to the two main approaches that the research discloses.

In terms of tertiary education, it has been found that universities often rely on highly skilled educators for assessment and even contribute to shaping educational policies. However, it is interesting to note the disparity between what experienced teachers teach to pre-service teachers and what pre-service teachers actually absorb, as the participants manifested a lack of preparation at university level. It is possible that there are a lack of implementation strategies in universities to establish a solid assessment program that is applicable to all modules that pre-service teachers must learn during their ITE. For that reason, it is recommended that tutor teachers take into account the diverse contexts of schools in Chile and the pre-existing beliefs of pre-service teachers about assessment in their teaching and module curricula, as these factors shape their AL. Additionally, ITE programs should increase their internship opportunities to bridge the gap between theory and practice and link the assessment module with other modules in the undergraduate degree.

By connecting modules and practices, pre-service teachers will have a better understanding of CA practices, and will know the different realities that schools have. As a result, they will be able to take those experiences and address them during their assessment modules.

In respect of the educational system, it should give assessment the attention and emphasis it deserves. Therefore, assessment should not just be seen as a way to hold schools or teachers accountable for their performance. The educational system should promote policies that support and assist teachers in their CPD, providing ongoing opportunities for improvement and the resources to enhance teaching and learning.

It is hoped that teachers in Chile will receive the necessary training and support to effectively face CA, and that they will not doubt their skills or feel overwhelmed, but instead, feel empowered to embrace and strengthen the assessment process.

On the other hand, it is essential to consider that assessment is a key aspect of the learning experience and that how it is perceived can influence teaching practices. Therefore, ITE and CPD should focus on learning-based assessment methods, such as AfL, rather than just teaching-oriented ones. Besides, there is an urgent need to continually innovate and update assessment approaches to promote a fair and equitable process to face the challenges and diversity of Chilean classrooms.

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Children’s Multicultural Education through Local-Dance Activities: Teacher's Thoughts and Involvement

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Abstract

Multicultural education for early childhood is important because it is considered a central idea in its contribution to the rapprochement of contemporary society. This qualitative study examines the thoughts of 71 teachers regarding their thinking and involvement in educational dance based on local cultural interventions as a new form of multicultural education for children. Observations of the multicultural learning process in several Kindergartens and Elementary Schools as well as in-depth interviews with teachers of children aged 6-9 years are data collection techniques to identify needs and problems related to multicultural education. These findings describe four categories related to multicultural education for children that can become a provision for 21st-century skills and illustrate the importance of educational dance as a tool for children's cultural dexterity in the future. Further research is recommended to develop products that can increase tolerance for diversity in children.

Keywords:

Children 6-9 Years Old, Local-Dance Activities, Multicultural Education

Introduction

Early childhood teacher preparation programs are needed in the current era of globalization, which is marked by increased interaction of people from different cultures (Nganga, 2016), to equip future educators with the knowledge and skills needed to meet their needs. changes in class demographics (Madrid Akpovo et al., 2018). Numerous teachers are underprepared when it comes to creating learning environments for students from different social and cultural backgrounds, according to some research (Gay, 2002; Smith, 2009). Multicultural education has not yet been fully understood, Teachers claim that increasing students' cultural sensitivity is a major benefit of multicultural education, but "undesirable student behavior" poses the greatest challenge in the use of multicultural education practices. So, some researchers decided that educators should receive comprehensive training in intercultural education, according to some studies conducted on the subject in Turkey (Başarır et al., 2014; Başbay & Kağnıcı, 2011; Kaya, 2014).

Not only in Turkey, research in other countries, as stated by Saint-Hilaire, (2014) in his research in New York, states that it is not easy to study multicultural education and pedagogy that can support relevant teaching. The teachers were initially confused and unsure about the nature of multicultural education, its aims and objectives, and the types of research projects that could be carried out in this field after reading the literature. There are so many different interpretations and definitions of multicultural education that it is difficult for educators to bring them all together and understand them to adopt related pedagogy or create a research agenda that aligns with them. Then the findings of Rachmadtullah's et al., (2020) study in Indonesia show that teachers play an important role in introducing multicultural education to elementary school students by fostering tolerance, respect, and respect for each other's differences. However, students will face social problems, therefore teachers need to develop gender sensitivity and anti-discrimination attitudes regarding differences in students' abilities.

In the context of Indonesia, which is full of diversity, education has a very strategic role in being able to manage diversity creatively. Local dance can be a creative choice because the diversity of local culture is very large and varied, it can be introduced to children starting from the philosophy of dance to its different benefits for both physical and psychological. Multicultural education needs to be given from an early age so that children can recognize and appreciate the rich cultural diversity of the archipelago so that from an early age children can appreciate differences and have a high tolerance attitude (Vittrup, 2016). Preparing teachers to use the principles of multicultural education, such as, the delivery of multicultural education requires challenging the dynamics of privilege and power in the classroom while recognizing and addressing the diversity of learning styles. Accurate and comprehensive content that acknowledges contributions is required. Teaching and learning materials must be varied and well filtered so as not to give rise to prejudice. To be accurate and comprehensive, content needs to be provided from multiple points of view and positions. Students need to be actively involved in the teaching and learning process, they need to go and help create situations where students can benefit from each other's perspectives and experiences. Teachers must teach children about social justice issues and model civic responsibility throughout the curriculum to prepare them to be engaged citizens in an egalitarian democracy. The curriculum needs to be continually evaluated for bias, correctness, and completeness, and this is a dilemma faced by many kindergarten and primary school institutions. Meanwhile, many teachers still lack knowledge about multicultural education (Ogletree & Larke, 2010).

Research in Singapore explains that teachers support the need for multicultural education in preschools and believe that it is important for children to learn and understand other cultures (Aghajanian, 2010). According to Malaysian research on multicultural education, instructors incorporate multicultural elements into their lessons in both monoethnic and multiethnic preschool settings. variety in terms of culture, ancestry, and language offers several chances to include different viewpoints, issues, and traits in preschool learning, enhancing kids' comprehension of accepting variety (Yusof et al., 2014).

The learning process, especially multicultural education for children, can be done in various ways, both in determining the content of learning such as materials, methods, media, and evaluation as well as the learning process. The heterogeneous cultural environment makes dance activities in the learning process in kindergarten (TK) and elementary schools a tool of multiculturalism. The practice of creating dance activities can be integrated into education in the early years as an innovative learning approach in a multicultural environment (Pollitt et al., 2021). Educational dance is a physical activity that can connect the body, mind, spirit, and environment (Deans, 2016).

Based on the facts of the problem and relevant research that has been described, no research has been found on multicultural education that is packaged in educational dance activities in early childhood learning. This study aims to examine teachers' thoughts and their involvement in local culture-based educational dance interventions to demonstrate the development of forms of multicultural education for children aged 6-9 years.

Theoretical Perspective

Children's Multicultural Education

The phrase "multicultural" seems to be the one that best describes the awareness of people and groups with various cultural, economic, and historical roots. The expression alludes to the harmonious coexistence of many ethnic groups, individuals who celebrate different holidays, and individuals whose customs have a long history. Teachers may eliminate mistrust and prejudice by teaching kids about the various traditions of other cultures (Prevots, 1991). There is universal agreement that a teacher's ability to support positive outcomes for all children depends on their level of multicultural understanding. According to Akiba (2011), intercultural awareness refers to the teacher's awareness, comfort, and sensitivity to issues of cultural heterogeneity in the classroom.

Children's multicultural education is carried out in three ways; first, the teacher's initial understanding, to deliver high-quality multicultural education in their classrooms, early childhood educators must possess a thorough understanding of multicultural education as well as correct awareness of and critical thinking about their own teaching). Second, the implementation of multicultural education such as individual adjustment education based on the cultural deficit concept, a generalized assimilative method, instructor uncertainty about cultural specificities, an inadequate approach to everyday routine life, teaching misunderstandings about foreign countries and cultures, and restricted material. Finally, and teacher difficulties, concerning the difficulties of the teacher, she was at a loss about how to practice multicultural education, and she felt the lack of a supportive system. They weren't sure about how to conduct multicultural education and were sorry about the absence of support from the principal, colleagues, and parents with whom they worked. As for the limited internal and external factors of the classroom context, preschool, and elementary school children view their peers from multicultural families negatively, and there is a lack of interaction between the internal and external components of the class (Kyun et al., 2015).

The interaction of internal and external components can depend on a multicultural educational approach. The idea that diversity begins with the individual is probably the primary distinction between the new and traditional approaches to multicultural and anti-bias education. Starting with the individual child, the new approach adds various ecological factors—such as family income, religion, race, nationality, race and family structure, language, abilities, and disabilities, and so on—that help shape the child's distinct identity. This stands in stark contrast to traditional models that typically view each child's identity as fixed and a product of the different social groups to which the child belongs, including gender, race, and ethnicity. Each of these ecological factors has a different impact on each child, and each is processed and integrated by each child to create his or her identity. Child identity is dynamic, and it is constantly changing throughout childhood and, indeed, throughout a person's life, and different ecological factors have different influences over time (Wardle, 2018).

Educational Dance Based on Local Culture

There are two educational terminologies in dance, dance education and educational dance. Students who receive professional training in particular dance genres or a general understanding of dance as an art form are taught dance education. Dance and music are closely related subjects in formal education because dance is now seen as an allied art form. Western dance forms had a big influence on early formal dance education, which made it a very technical discipline with a focus on routines and steps (Hagood & Kahlich, 2007). Dance education can be described as the sequential development through the exploration of time, space, and energy to express oneself (Koff, 2000). To put it another way, the goal of dance education is to help students become more aware of themselves through the development of self-expression and interpretation through movement.

Meanwhile, educational dance explains dance functions as an essential component of education and as a partner with other academic subjects and arts education. The intervention was founded on the educational dance methodology developed by Laban (1948), which starts with each individual's natural movements. Dancing is an educational modality that benefits children in many ways. Students learn through the dance processes and the performance experiences on a physical, social, emotional, and intellectual level. Within the confines of educational dance, dance plays many different roles, from straightforward, exploratory dance classes in elementary school to competitive dance performances in high school with an arts magnet, dance can take many forms. Dance can be used to incorporate science lessons, or it can be used to teach local dances as part of a social studies unit about the country (Kassing & Jay, 2020).

Talking about local dances in local cultures, research findings by Top et al., (2020) and related literature considered, it can be concluded that children in the age range of 6–7 years benefit from improved hand and body coordination when they participate in Turkish folk dances known as " Harmandalı." This dance is based on the principles of music and movement training. Folk dances are mainly based on musical compositions and rhythmic movement patterns. This local dance improves social inclusion, physical and mental health, social relationships, stress reduction, and happiness levels. They also foster traditional culture (Top et al., 2020).

Traditional dance or local dance is considered a type of cultural expression that combines social interaction, physical activity, and emotional and personal expression (Chatzopoulos et al., 2021). Together, these components create an overall experience that makes participants happy and more interested in participating, especially for kindergarten and elementary school. This type of dance allows self-expression and is based on structured movement patterns performed in time with rhythmic stimulation. Folk dances are an important component of society, performed at weddings, birthday celebrations and other important events. The psychosocial benefits of traditional Greek dance have been documented in several studies (Lykesas et al., 2017).

Several Warm-Up Protocols (Static, Dynamic, No Stretching, and Greek Traditional Dance) on motor skill performance in primary school Students present a positive effect on static flexibility so its use prior to exercises in artistic and rhythmic gymnastics is highly recommended. Overall, relevant data for the warm-up of children arise from Lykesas's et al., (2020) study that could be valuable to primary school physical education teachers and coaches who work with children, and they may contribute to further improving the quality of the lesson.

The advantages of implementing multicultural education through local dance as educational dance in kindergarten and elementary school are mentioned in several related studies. According to survey results by Masadis et al., (2019), teaching Greek dance cooperatively is the best way to help students in three elementary school grades acquire social skills, and traditional Greek dance is the best way to achieve this goal. Another advantage described in the latest research, regarding the influence of Turkish folk dance on manual abilities and body coordination in children aged 6-7 years, is that folk dance training given to participants aged 6-7 years has a positive effect on hand and body coordination, thereby increasing their hand and body coordination level (Top et al., 2020).

This study examines teachers' thoughts and their involvement in educational dance interventions based on local culture through the following research questions: (1) What is the form of integration of multicultural education in learning in schools? (2) How do teachers develop multicultural education for children aged 6-9 years in class? (3) Does the teacher involve local dance activities and music in multicultural learning? (4) How do teachers understand the pedagogy of equity in children's multicultural education?

Methodology

Research design

This study uses a qualitative method that aims to produce an in-depth description of the application of multicultural education through local dance activities in early childhood education practices which is examined from a whole, comprehensive, and holistic perspective. Qualitative research aims to gain a general understanding of social reality from the perspective of the participant's (Creswell, 2012). Data collection took place over two semesters from February to November 2022 in various regions of Indonesia (Jakarta, Cianjur, Bekasi, Yogyakarta, Bali, Makassar, Banjarmasin, and Padang).

Participants

The participants involved in this study were 71 kindergarten and elementary school teachers from various urban areas in Indonesia. They came from the community service program fostered by Universitas Negeri Jakarta (UNJ). Those who decide to participate in the research submit their consent letter and then their written narrative to the UNJ research center location. The demographic data about the participants in this research can be seen at Table 1.

Table 1.
Demographic Characteristics of Respondents

Variable	Characteristics	Sample Size (n)	%
Age	18-29 Years	28	39.4
	30-39 Years	32	45.0
	40-49 Years	11	15.4
Gender	Male	5	7.04
	Female	66	92.9
Education	Bachelor	53	74.6
	high school	18	25.3
Grades of Teaching	Elementary	41	57.7
	Kindergarten	30	42.2
Years of Teaching	1-3 Year	25	35.2
	3-5 Year	25	35.2
	above 5 years	21	29.5
Residential	Jakarta	10	14.0
	Bekasi	4	5.63
	Padang	19	26.7
	Cianjur	25	35.2
	Bali	6	8.45
	Makassar	4	5.63
	Banjarmasin	3	4.22

Research Procedure

The research procedure includes three steps which are the source of the research data. First, the research team conducted teacher training related to multicultural education for children through educational dance based on local dances (in approximately three months). The content of the teacher training program includes: (1) Knowledge strengthening program in multicultural education for children (such as regarding the dimensions of multicultural education and principles of multicultural education in kindergarten and elementary school). (2) Implementation of integration of multicultural educational content (teachers are taught several different approaches to integrating content about racial, ethnic, and cultural groups into the curriculum, especially through music and dance). (3) Teachers are invited to practice a transformational approach in bringing content about ethnic and cultural groups from the periphery to the center of the curriculum. (4) Through the project-based learning program, teachers are trained to compose dance creations of regional culture and carry out microteaching for their role in involving local dances in learning in elementary or kindergarten classes.

The training ended with an evaluation of teachers regarding the forms of multicultural education that had been implemented previously. Second, the research team conducted structured observations with stages, looked at the process of learning activities related to multicultural education, recorded educational dance activities, and checked the time duration and schedule for organizing multicultural education (during one learning semester). In the final step, the research team conducted in-depth interviews with some of the participants to obtain data in the form of the implementation of multicultural education through dance activities based on local culture and teachers' understanding of equity pedagogy. The interview was attended by 30 out of 71 participants who agreed to take part in the interview because of their interest in sharing their experiences in implementing multicultural education through local dance activities. Other participants were not willing to take part in the interview because they had certain activities and other reasons.

Before the interviews began, the research team ensured that participants' consent had been sought. Other steps were taken before the interview, such as explaining the research, outlining the risks, maintaining confidentiality, and giving consent. A slight risk is always anticipated for the participant. Pseudonyms were used after the data was aggregated and all demographic information was removed. Participants in this study were informed that withdrawals could be made at any time, and participation was completely voluntary. The participants were ensured to feel safe during the interview, as the interview was started by hiding their names.

The interview transcript was compared to the audio recording for accuracy. After each interview, researchers emailed participants a copy of the transcription results so they could confirm their responses. Participants also had to decide whether the findings applied to their situation. After the interview, the participants were publicly invited to talk with the researcher about the results. The interview forms processed by Google's administrative staff accurately captures the information. Audio recordings were played again within 24 hours of each interview to compare with written data. Participants will have access to the most recent research study publication (Patton, 2002).

Research Instrument

The questionnaire for the semi-structured interview came from a measurement instrument that had been validated by colleagues and educational dance experts from Jakarta State University, Makassar State University, and Lambung Mangkurat University, Banjarmasin. Interview data was collected through 30 questions, 10 questions to determine teachers' understanding of the dimensions of multicultural education and the principles of multicultural education in kindergarten and elementary school. 10 questions about how teachers are approaching differently to integrate content about racial, ethnic, and cultural groups into the curriculum, especially through music and dance. The last 10 questions regarding the experience of implementing multicultural education through regional dance after the teacher took part in the training and before the training. Within 45-60 minutes, we openly asked parents questions, starting with five administrative questions.

Data Analysis

Data analysis using the Miles et al., (2014) model with stages 1) condensing data, 2) presenting data, and 3) concluding. Research data validation was carried out by triangulation of techniques, sources, and time. Every piece of data is relevant to the research questions and aims to investigate various aspects of multicultural education, including teacher involvement, implementation strategies, and knowledge through local dance activities. Peer debriefing and member verification were utilized to provide clarification and guarantee the accuracy of the data gathered. Scholars additionally record data that deviates from the overarching theme. Codes are not forced by researchers to fit into specific categories. Peer debriefing allows researchers and outside sources to discuss discrepancies that contradict the themes and patterns identified through analysis of observation and interview data.

Members were able to verify the information provided by the participants during the interviews, even though their responses were similar in several instances. Once the process is finished, no more interviews or editing will take place. Triangulation is the process by which researchers compare data they have gathered from various sources or methods of data collection with one another. To find evidence to support the preliminary conclusions, the researcher went through all the data that had been gathered, including transcripts and notes from interviews. To enable transferability, researchers make sure their notes are detailed and rich. After analyzing the matrix and drawing connections within and between focus groups and categories, themes were developed from the data collection.

The main findings of this study address four categories related to the development of new forms of multicultural education and teachers' understanding of them. Triangulation data collection techniques, also known as field observation notes (FON), field interview notes (FIN), video documentation notes (VDN), and reflective journal notes (RJN) were used to analyze each finding. A summary of data analysis shown in Table 2.

Table 2.
Summary of Data Analyses

Educational Dance Activity	Data Description	Conclusion
Introduction to regional dances and their characteristics	The process of understanding multicultural education for children is carried out by the teacher by providing information about regional culture, the name of the school area, the basic movements of regional dances that have been modified according to the child's character, through a learning process arranged in lesson plans, with the aim that children know and learn and love culture own area. (FON, FIN, VDN, RJN).	Identification of Multicultural Education Integration Forms Through Educational Dance Activities
Demonstrating the basic movements of local dances that have been modified and adapted to the child's character	Demonstrating one by one the basic movements of local dances and explaining the philosophy of each regional dance movement. Instill attitudes from each philosophy of regional dance movements (for example, worship movements to honor God or breathing control patterns, movements that imitate farmers in planting rice and preserving nature, and other dance movements that show the potential strength of the region) (FON , FIN, VDN, RJN).	Culture-Based Learning Activities Can Be Developed According to Regional Potentials
Record the results of the evaluation of educational dance activities based on the basic movements of local dances	Noting the development of children's attitudes towards diversity and equality by introducing various kinds of local cultural diversity such as nature and existing traditions, especially those close to the child/child's home so that they love tradition and culture more so that it is embedded in the child until adulthood or does not forget his own culture wherever they will be. This is done through dance activities that show the characteristics of the area where the child lives. (FON, FIN, VDN, RJN).	Benefits of Educational Dance in Multicultural Education
Studying the benefits and impacts of educational dance on the development of children's attitudes that show character supports understanding of one's own cultural identity, cultural agility, and equality.	Children are taught to be able to respect each other's traits and attitudes between friends at school, children are also taught about the culture in the area where they live, are invited to maintain, and preserve it by learning together at school about their own regional culture. This activity is implemented through educational dance, by introducing ways of behaving when performing dance activities (collaboration, moving together, supporting each other, arranging dance formations with strong cooperation). (FON, FIN, VDN, RJN).	Understanding Equity Pedagogy in Multicultural Education

Findings

The findings from this study reveal the importance of having teachers who understand how to implement multicultural education in various forms of learning that interest children, have creativity in using the arts such as educational dance for children by utilizing local resources, and understand pedagogical equity to properly instill multiculturalism in children. In writing the training's evaluation results, the participants began to look open-minded about various forms of multicultural education in children's learning. After practicing implementing forms of multicultural education through dance activities based on the basic movements of local dances, the participants felt it was easy to introduce local culture and other cultures to children. Learning dance activities is very liked by children, and the results show children's interest in regional music creations that are modified with modern music.

The evaluation results on teacher training showed that participants did not understand the urgency of multicultural education in children's education. The training in this study aims to also look at the process of knowledge construction and the teacher's efforts in helping students to understand how knowledge is created and how that knowledge is influenced by race, ethnicity, and social class position of individuals and groups. Expressions that show this process are participant statements in interviews, such as:

> *The process of understanding multicultural education for children is where we as educators provide information about the culture of the area where our institution lives through a learning process arranged in lesson plans so that children know and learn and love the culture of their region (Participant (P7)).*

P7's explanation can be illustrated that multicultural education is applied only to introduce the local culture of the place where the institution is located or the area or area where early childhood lives. Participant understanding of multicultural education is still very limited. In line with that, the opinion of other participants (P12) explained that:

> *"In my opinion, the form of multicultural learning is teaching children to get to know about the culture in the area where they live, children are invited to maintain and preserve their culture by learning together at school about their own regional culture, multiculturalism is applied in just one learning theme..." (P12).*

P12's opinion explains that multicultural education in children begins with getting to know each other's culture. Instilling this attitude is carried out through learning activities that use cultural themes, so understanding teachers before training, explain that multiculturalism for children is the introduction of many cultures because the learning process for young children is the introduction stage.

However, after participating in the training, the participants' understanding had shifted, so that in an open session interview as a form of training evaluation for multicultural children's education programs for teachers, the participants' expressions changed to the following.

> *It turns out that introducing various kinds of local cultural diversity such as nature and existing traditions, especially those close to the child/children's residence so that they love tradition and culture more so that it is embedded in the child until adulthood or does not forget their own culture wherever they are later (P3). In my opinion, local cultural dance is an activity that can attract children's interest and seems to be more effective if it is included in daily activities. So far, we only teach dance when children perform art at the end of the year. In just one month, we sometimes close our eyes to children's joy when dancing (P8).*

The 24th participant (P24) said that multicultural education is more about efforts to introduce various local cultures that are close to children so that children love their own traditional culture more, after that they are introduced to other cultures so that children realize that various cultures need to be respected. The participant understood this before the training, however, she said that in the field he lacked knowledge of activities that could be used as a tool to teach multiculturalism to children.

> *..." in the span of one semester, children who are invited to get to know other cultures show an awareness that even in one country they have a different culture and realize that outside the country they even have a different physical appearance that they must respect. Introducing various cultures through various types of regional dances can develop children's minds so that they have noble character and are proud of the country's culture"... (P24).*

Understanding multicultural education for children is important because children absorb character education well in dealing with diversity. The process of implementing multicultural education through educational dance activities based on the basic movements of local dances is included by the teacher in the daily lesson plan, usually during circle time activities or morning meetings as a warm-up before the main learning activities. Some participants/teachers have found things that increase in children's attitudes after several months of participating in the dance activity program as a warm-up for other learning in class, such as being more agile, disciplined, tolerant, happy to work together, and happier in other learning processes.

> *According to the 15th participant "...the process of introducing national art and culture through dance has been successful for children because all children like activities with musical accompaniment and move happily. In addition, dance activities never make children bored, and some children even want to know the names of some of the movements and the stories behind each movement..." (P15).*

The results of the implementation of regional dance-based dance activities within one semester on the aspect of reducing prejudice are focused on looking at the characteristics of children's racial attitudes and strategies that can be used to help children develop more democratic attitudes and values. Prejudice reduction data collection was carried out by interviewing several early childhood children and observing children's activities in dancing activities. To find out the introduction of children to multicultural education, it is obtained through questions about art, culture, language, food, customs, habits, and physical characteristics of children from every ethnic group in Indonesia. From some of these questions, children know more about dance from various regions compared to children's knowledge of language, food, habits, customs, and physical characteristics from other regions. It is known, when the children were asked to name the regional dances being performed, almost all the children knew the origins of the dances being performed. In the process of observing dance activities, children were asked to demonstrate regional dances, and almost all children were able to demonstrate regional dance moves.

Based on observations on early childhood dance activities, the characteristics of children's attitudes in understanding cultural diversity through dance activities. Children quickly understand and recognize cultural diversity through dancing activities. In the sense of the word dance movement activities have a strong dance power for children in understanding cultural diversity. This is due to the uniqueness of Indonesian traditional dance which has its characteristics and becomes the attraction of dance for children to learn more deeply. Indonesian traditional dance movements can be developed according to the motor skills of early childhood so that these dance movements are easier for early childhood to learn and dance.

Equality pedagogy is the basis for educators or teachers in implementing multicultural education for children. That is, by mastering education, teachers are expected to have the right strategy for implementing multicultural education in learning. Teachers can facilitate the academic achievement of students from diverse racial, ethnic, and social class groups.

Discussion

Identification of Multicultural Education Integration Forms Through Educational Dance Activities

Teachers view multicultural education as a foundation of social tolerance and training to recognize other cultures when thinking about it is investigated. Multicultural education also refers to teaching in local languages, teaching about local values, and restructuring the education system through cultural structures. Teachers view multicultural education as an educational model that will reduce prejudice and can create a strong social or school cultural structure without requiring absorption into other cultures but also involves teaching programs and educational activities. Targeted to everyone from a distinct culture or arranged according to several civilizations. In this way, it can be claimed that teachers are aware of the multicultural education concept and need to be trained to apply it to classroom instruction. Utilizing a framework like that of (Banks & Banks, 2010) and a multifaceted, reforming procedure will make it easier to discover differences.

Teachers after attending the training were finally able to evaluate the idea of multicultural education in terms of differences and emphasized that social structures are not homogeneous, that various structures coexist, and that they pay attention to multicultural education so that this structure survives and maintains its integrity. It can be said that teachers' conceptual knowledge about multicultural education, which is based on diversity and cultural differences has increased. Regional and national cultures must coexist and maintain their viability throughout the world. The instructor from the research team made a similar comment.

One of the objectives of the training is expecting teachers to be able to voice demands for educational equity, reforming the education system, protecting social integration, and preserving regional values. Teachers are also required to be more creative in creating forms of multicultural education for children. Local culture-based dance activities have demonstrated the effectiveness of cultivating character values to tolerate cultural diversity. Teachers see it as cultural values that find their way into the school system in all its forms, along with self-acceptance without becoming absorbed if take this viewpoint a little further. Instilling character values through dance instruction, according to the teachers, can help children's attitudes toward multiculturalism. Children's intercultural education can be improved with the use of educational dance, a new kind of stimulation (Prevots, 1991).

Culture-Based Learning Activities Can Be Developed According to Regional Potential

A regional culture that can be generated via a variety of activities is typically used to measure the strength of the regional potential. A particularly effective activity for introducing local culture is educational dance. Dances that incorporate politeness practices are one way that the influence of polite culture can be seen. The fundamental movements of local dances can be used to develop a variety of humanitarian behaviors. Researchers believe that educational dance needs to be incorporated into the children's curriculum around the age of 6 to 9 years because the natural potential of the area can also be taught through the basic movements of dance, especially after observing teachers' comprehension of dance.

Politely and interactively, the multicultural curriculum promotes variety and broadens kids' perspectives on the world and its inhabitants. According to researchers, teaching about culture can help students overcome bias, boost their self-esteem, and perform better in society (Davidson & Davidson, 1994). All humans, regardless of culture, like dancing. Since young children learn best via involvement, movement, and constructive practice, educational dance and cultural training are natural (Lutz & Kuhlman, 2000).

Benefits of Educational Dance in Multicultural Education

The idea of educational dance for multicultural education can be advocated as a method of teaching dance to different social groups of children. Using different dance styles from other regions as a teaching approach also helps students gain a deeper understanding of the people of the area. The research team has looked at the writings of Ballengee-Morris and Stuhr (2001) to provide a brief overview of the idea of multicultural educational dance. Ballengee-Morris and Stuhr (2001) discuss multicultural arts and visual culture education, arguing that because art is a social and cultural expression of life and death, it is about life, from conception to death, and about how to live and learn about this complex, ambiguous, and multidimensional process. The complexity of people's culture in the context of their lives is addressed by this conception. The research team sees that educational dance is an appropriate artistic tool for children's multicultural education.

The advantage of educational dance activities in multiculturalism is that it encourages children to learn more complex information about history, society, culture, and human political experience through art and visual culture (watching regional dance art culture). These activities also help children understand and function in ways that are fulfilling, democratic, socially responsible, and meaningful in their families, communities, states, nations, and the world is the goal of this study. Students are also engaged to become advocates of social reconstructionist ideas through an integrated curriculum and classroom teaching practices. Vissicaro (2004) is interested in intercultural educational dance, more specifically teaching different dance styles from around the world. Ethnic culture is the focus of Vissicaro's multicultural educational dance perspective, and the purpose of studying it is to have an impact on the growth of people's knowledge systems to understand other people's cultures.

Vissicaro (2004) asserts that dance is regarded as a human cultural phenomenon that is made up of individuals' perceptions of their surroundings, traditions, and cultures. She promotes multicultural educational dance to study dance both practically and conceptually, to consider different points of view, and to learn about people. The ideas of multicultural art and visual cultural education, multicultural art education, and multicultural educational dance—all of which were discussed above—are all examples of effective teaching strategies that show how to acquire knowledge of various and diverse cultural productions, such as dance, art, and visual culture, to comprehend people better. We concur with these academics since, as Banks and Banks (2010) noted, one of the objectives of multicultural education is to enhance respect and tolerance by understanding individuals and their cultures. As a result, teachers are urged to aid pupils in developing an understanding of various cultures by using the arts, especially dance, as a teaching tool.

Presenting educational dance for multicultural education for children as a concept that includes a variety of dance teaching methods. In dance topics, the participation of all students is required. According to Gollnick and Chinn (2006), instructors must support diversity in the classroom regardless of the social group affiliation of their students, including those with disabilities. Practically speaking, while considering how to teach dance to students and how they acquire dance as a subject, we consider dance as an individual expression and offer dance forms using aspects of dance such as movement, energy, time, and space. Dance can also be used as a teaching tool to help students of all backgrounds understand ideas and procedures from other academic fields, including the discipline of dance itself. It's important to encourage teachers to experiment with different methods of teaching dance.

Understanding Equity Pedagogy in Multicultural Education

Researchers see that teachers are expected to work with children from diverse cultural backgrounds, but despite attempts by educational programs to integrate cultural perspectives into the curriculum, teachers are sometimes insensitive to the cultural backgrounds of their students, sharing them, and practicing with key components of their pupils' identities. This results from the attitude of teachers and their uncertainty about how to handle the various cultural backgrounds of their students. They use a one-size-fits-all methodology, and these measurements reflect what they call mainstream society. Most teachers think that good teaching is transcendent and identical for all students, and under no circumstances, do all students have the same experience at school (Gay & Howard, 2000). Therefore, training to increase teachers' understanding of equity pedagogy is urgent, especially for teachers in rural areas. Equity pedagogy is a deliberate effort made by educators to create their instructional strategies to take into account the needs of various cultural variances and learner learning styles (Banks & Banks, 2010).

It is easier for teachers to locate the movement for children's rights in underrepresented groups and comprehend its aims to enhance racial relations and assist all students in acquiring the knowledge, attitudes, and skills required to participate in cross-cultural interaction and personal, and social action (Parker, 2003), but research in the field has not focused on all these issues. In schools in urban areas with very diverse student numbers, all the young people that teachers must adopt are grouped not only by different skin color and physical characteristics but also by different cultural origins. For example, elementary school children who are second-generation immigrants from the same country have a different cultural experience from elementary school students who have recently immigrated.

Conclusion

Although this study used training to increase teachers' understanding of the pedagogy of equality in multicultural education, the evaluation results were still low. This can be seen from the percentage of teachers who answered the posttest questions in the training activities which answered correctly as a whole which is still below 70%. This data collection was carried out before the introduction of educational dance activities based on multicultural education. After the teacher's initial understanding of the pedagogy of equality in multicultural education was known, a stimulus for cultural-themed educational dance activities for teachers was carried out during the three months of training. After being stimulated through educational dance activities based on multicultural education, the teacher is very enthusiastic in the process of this activity, the teacher is even able to create motion creations based on traditional dance movements from several regions. It can be concluded that local dance activities can train and develop teacher creativity, especially in carrying out multicultural education that is integrated into learning.

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Evaluation of the Intensive English Language Teaching Programme for the Fifth Grade according to Students' Views

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Abstract

In the academic year 2017-2018, the Ministry of National Education in Türkiye launched intensive English as a foreign language program specifically designed for fifth-grade students in middle school. This study, employing a quantitative research design methodology, aims to assess the program's effectiveness from the perspective of fifth-grade students and include sixth, seventh, and eighth-grade students who have previously undergone this program. The study adopts the CIPP (Context, Input, Process, and Product) evaluation model developed by Stufflebeam (2003) to achieve this goal. Data were collected through a comprehensive questionnaire consisting of 31 questions, administered to 208 students enrolled in a secondary school in Diyarbakır, Türkiye. Statistical analyses, encompassing both descriptive and inferential methods, were conducted using the SPSS software. The findings indicated an overall positive attitude among students towards the program, with female students expressing more favorable opinions than their male counterparts. Furthermore, it was observed that fifth and sixth-grade students held more positive views compared to seventh and eighth-grade students. Consequently, the study suggests that certain adjustments and refinements may be necessary for the program.

Keywords:

Curriculum Evaluation, English as a Foreign Language, Fifth Grade English Programme

Introduction

In the twenty-first century, proficiency in the English language has become indispensable due to its status as the world's universal means of communication. The significance of acquiring a foreign language is growing steadily, primarily due to increased interconnectivity and exchange of ideas between nations (Yolcu & Dimici, 2021). Recognizing English as a global lingua franca is widespread, acknowledging its pivotal role in facilitating communication among diverse nations (Darama et al., 2018). Consequently, English ranks among the most sought-after foreign languages worldwide. Like many other countries, Türkiye places a premium on English language acquisition, with it being the most commonly pursued foreign language (Kayabaşı & Köse, 2018).

The aspiration to acquire proficiency in a foreign language is steadily rising (Demirtaş & Erdem, 2015). Throughout its history, Türkiye has undertaken various initiatives and research endeavors in foreign language education, reflecting its commitment to this crucial aspect of global communication (Kırkgöz, 2007; Yalçınkaya & Taşdemir, 2019).

Foreign language education in Türkiye has its roots dating back to the Ottoman era (Yaman, 2018). Since the establishment of the Republic, Türkiye has implemented various programs to enhance proficiency in foreign languages (Aksoy et al., 2018). Given its current global dominance, English has emerged as a paramount foreign language in the Turkish context (Darama et al., 2018). A significant turning point occurred in 1997 when a substantial educational reform was introduced (Haznedar, 2010). As part of this reform, English became a compulsory foreign language in the 4th-grade curriculum, starting from the 1997-1998 academic year. In 2006, further educational revisions were made to the English curriculum (Yaman, 2018), with the Ministry of National Education (MONE) developing a new educational framework. This new curriculum placed greater emphasis on holistic and communicative teaching approaches (Haznedar, 2010).

In 2012, MONE in Türkiye initiated the "4+4+4" program, encompassing all grade levels. The Common European Framework gained prominence with this program, and communicative teaching methods received increased attention (Yaman, 2018). Consequently, English became an integral part of the elementary school curriculum, starting from the second grade in 2013 (MONE, 2013). This shift towards earlier foreign language instruction aligns with research findings highlighting the advantages of language acquisition during childhood (Lightbrown & Spada, 2013). It is widely recognized that commencing language learning at a young age, preferably during childhood, is essential for developing accurate pronunciation and fluency. Studies have demonstrated that children exposed to a language from an early age exhibit higher fluency rates and accurate pronunciation (Lightbrown & Spada, 2013). This phenomenon is supported by Krashen's critical age hypothesis, which posits that there exists a critical period for language development (Williams & Burden, 1997). Consequently, foreign language education has gained increased attention within early childhood education, with Özkan et al.'s (2018) study providing evidence in favor of this hypothesis. Their results underscored the benefits of commencing foreign language education at an early age, highlighting its positive impact on students.

Despite numerous attempts to reform the English curriculum, Demirtaş and Erdem (2015) have noted that none of these efforts have yielded success. However, in 2017, the Ministry of National Education (MONE) made a pivotal decision to introduce a novel and intensive foreign language program for fifth-grade students (MONE, 2017). It has now been five years since this initiative was launched, during which a multitude of studies (Dilekli, 2018; Şahin & Göksoy, 2019) (Yolcu & Dimici, 2021) have been conducted to elucidate and assess the program while gauging public perceptions of it. As the details of these studies might be seen in the following section (literature review), these studies focus on teachers' and administrators' views on the program. However, the number of studies investigating the attitudes and opinions of students, who are at the focal point of the education process, towards the program is almost negligible. Therefore, this study focuses on the views of all students who are still going through and have gone through this program. Demirtaş and Erdem (2015) suggest that the curriculum assessment is indispensable because it serves as a guiding framework for instruction. So, this research endeavor seeks to elucidate the effectiveness of the program and its progression since its initial implementation to acquire valuable insights into its impact.

Theoretical Framework

The term "curriculum" encompasses the educational journey we embark upon. In educational science, it boasts a multitude of interpretations owing to its extensive literature. Kelly (2009) notes the manifold explanations and uses of the term "curriculum." He conceives of it as the entirety of a student's knowledge and practical experience through exposure and preparation. Wiles (2008) observes that within the education literature, four distinct interpretations of curriculum exist. For some, it may denote only the written component of education, while others, in line with many academics, perceive it as an amalgamation of school experiences. The third conception regards it as a plan replete with objectives and goals, and the final interpretation portrays it as the guiding framework one must follow to attain these goals.

On the other hand, evaluation involves gauging the success of a targeted area. Within the educational context, it assumes various definitions. White (1971) defines evaluation as assessing something's worth, essentially determining whether that entity is effective or not. Thorpe (1988) further elaborates, stating that evaluation entails the comprehensive analysis of all facets of an implementation undertaken to ascertain the program's effectiveness. When these two terms, curriculum and evaluation, are intertwined, they give rise to the concept of "curriculum evaluation." This concept stands as a pivotal element within the curriculum (Darama et al., 2018). Curriculum evaluation, as per White (1971), is the process of constructing and reconstructing the curriculum. It serves as a critical tool for determining whether a curriculum accomplishes its intended objectives and provides valuable insights into identifying shortcomings within the curriculum (Darama et al., 2018).

Curriculum evaluation is a multifaceted endeavor, and over the years, researchers have devised various models to assess curricula (White, 1971). Among the array of models, four have garnered particular attention within the research community. These models include Tyler's objective model, Stake's responsive model, Scriven’s goal-free model, and Stufflebeam’s CIPP model (2003), as Anh (2018) discussed.

This study employs Stufflebeam’s CIPP model (2003), which stands for Context, Input, Process, and Product. Notably, this model places a significant emphasis on the process evaluation aspect (Darama et al., 2018). Stufflebeam (2003) himself underscored that curriculum evaluation should be viewed as a means "to develop, not to prove." The primary aim of the CIPP model is to assess various elements within the curriculum (Darama et al., 2018). The first dimension of the model is context evaluation, which serves the purpose of assessing the readiness of the physical and educational environment that the curriculum operates within (Stufflebeam, 2003). This dimension focuses on providing insights into the educational surroundings (Stufflebeam, 2003). Following context evaluation, the next crucial dimension is input evaluation. According to Darama et al. (2018), input evaluation is regarded as the cornerstone of curriculum evaluation. It is aimed at comprehending the needs and requirements of the curriculum and plays a pivotal role in grasping the essential changes that may be necessary (Stufflebeam, 2003). The third dimension within the CIPP model is process evaluation, which entails the observation of the implementation procedures (Darama et al., 2018). As argued by Darama et al. (2018), gathering feedback through process evaluation is of paramount importance as it aids in determining whether any adjustments are needed. Finally, the last dimension in the model is product evaluation. This dimension involves the assessment of outcomes emerging from the educational setting (Stufflebeam, 2003). Product evaluation is instrumental in helping researchers ascertain the overall success or efficacy of the curriculum in question.

Literature Review

The domain of curriculum evaluation has been a subject of extensive research across various educational contexts. Numerous studies have been conducted, spanning a broad spectrum of educational disciplines. To illustrate, Abat (2016) conducted a comprehensive examination utilizing the CIPP model to evaluate the 9th-grade mathematics curriculum. The outcome of this study revealed a prevalent sentiment among teachers that additional materials and resources are required to enhance the curriculum.

Notably, foreign language programs have been a focal point of inquiry. Darama et al. (2018) employed the CIPP model in their investigation, soliciting teachers' perspectives regarding the 5th-grade English curriculum. The findings underscored a sense of dissatisfaction among educators. While recognizing that teachers possessed a sound grasp of the curriculum, the study identified specific areas for improvement that left teachers less than satisfied.

The evaluation of foreign language curricula has spanned educational levels, from elementary school to university programs. Yalçınkaya and Taşdemir (2019) investigated the middle school foreign language curricula. Participating teachers expressed concerns regarding the suitability of the curriculum for students' proficiency levels. They also highlighted that the curriculum's content intensity tended to sideline the development of speaking and listening skills.

Further examinations were conducted by Erdem and Toy (2017), who undertook a needs analysis on the 5th-grade curriculum. Their study illuminated teacher discontent stemming from factors such as class size, the absence of curriculum materials, and the scarcity of textbooks. This dissatisfaction echoed the findings of Demirtaş and Erdem (2015), whose research revealed negative teacher perceptions of the revised 5th-grade curriculum. Teachers emphasized the difficulty students encountered in achieving the intended skills.

The studies on curriculum evaluation also extend to English preparatory programs, which have received notable attention. Sağlam and Akdemir (2018) explored student perspectives toward university preparatory programs and unearthed a generally positive outlook among students, irrespective of gender differences. Similarly, Şen Ersoy and Yapıcıoğlu (2015) and Kayabaşı and Köse (2018) reported similar findings, particularly with regard to student motivation and their willingness to participate. These studies underscored that participants exhibited higher levels of motivation when attending preparatory classes on a voluntary basis.

The evaluation of the 5th-grade extensive foreign language class curriculum has been the subject of numerous studies, each employing various models and approaches. Demirtaş and Erdem (2015) conducted a study revealing that teachers harbored negative sentiments toward implementing 5th-grade intensive foreign language classes. They further noted that teachers felt inadequately informed about the implementation process. Similarly, Dilekli

(2018) reached comparable conclusions, uncovering negative perceptions among teachers. Notably, Dilekli (2018) highlighted that teachers often attributed these negative perceptions to subpar school conditions, which they believed hindered the effective execution of language skill development.

In contrast, Yolcu and Dimici's (2020) study presented a different perspective, demonstrating that teachers, administrators, and students held positive views regarding the implementation of the program. Students, in particular, expressed their satisfaction with the acquisition of speaking skills. However, even within the context of favorable teacher attitudes, Özkan et al. (2018) identified five critical shortcomings related to the implementation: technological inadequacies, a dearth of instructional materials, constraints in-class hours, deficiencies in planning, and concerns about class size.

Conversely, Kambur's (2018) study provided a contrasting viewpoint, with teachers expressing contentment with the allocated class hours. Şahin and Göksoy (2019) delved into the issues plaguing the 5th-grade intensive foreign language class program, citing challenges such as a shortage of instructional materials, insufficient teacher training, deficiencies in the DyNed and EBA programs, a lack of proficiency in Turkish grammar, uninformed parents, and inadequacies in lesson planning. Moreover, class size emerged as a significant concern, as underscored by Kayabaşı and Köse (2018) and Kambur (2018).

In another study conducted by Berkant and colleagues (2019), technical difficulties encountered by teachers were documented, further highlighting the complexities involved in curriculum implementation. Dilekli (2018) underscored the critical importance of curriculum content in this multifaceted landscape of curriculum evaluation.

The participating teachers consistently cited the curriculum's content as excessively demanding for students, resulting in a distancing effect on the part of teachers from actively engaging their students in English language use. Dinçer and Koç (2020) echoed this sentiment, contending that the implementation's content was indeed intensive. Despite their positive attitudes, teachers identified various issues, including a burdensome curriculum, insufficient support for professional development, and the inadequacy of teaching materials.

Moreover, the literature has underscored concerns regarding the appropriateness of the curriculum for students' proficiency levels. Several studies have indicated that teachers believed the learning outcomes of the implementation did not align with the students' skill levels (Kayabaşı & Köse, 2018; Berkant et al., 2019).

In contrast, Aksoy et al. (2018) recognized both advantages and disadvantages stemming from the implementation. They noted advantages such as the accumulation of past experiences, early exposure to English, positive impacts on students' academic achievements, extended language exposure, improvement in the four language skills, and heightened motivation for language learning. Interestingly, the study also identified certain drawbacks, including a decline in students' motivation and adverse effects on their performance in other subjects due to the implementation.

Furthermore, the literature has highlighted a range of adverse outcomes associated with the implementation, including insufficient instructional materials, a shortage of teachers, inadequate physical conditions, deficiencies in teacher quality, and limitations within the existing curriculum.

As mentioned previously, several studies have been undertaken to gain deeper insights into the implementation of the fifth-grade intensive foreign language program. The primary objective of this study is to assess the effectiveness of this implementation and to gain a comprehensive understanding of the perspectives held by students. Notably, a substantial portion of the existing research has predominantly focused on exploring the viewpoints of teachers, with comparatively limited exploration of students' perspectives. Consequently, the primary aim of the current study is to ascertain the viewpoints of students concerning the fifth-grade intensive foreign language class implementation.

Research Questions

The primary objective of this study is to tackle several critical questions concerning the fifth-grade implementation of the fifth-grade intensive foreign language class. More specifically, the study aims to address the following research questions:

1. What are the overall impressions of students participating in the fifth-grade intensive English as a foreign language program?
2. Are there variations in students' perspectives on the fifth-grade intensive English as a foreign language program based on their grade levels and gender?

Method

Study Group

The selected study group for this research is a middle school located in Diyarbakır, Türkiye. All students were duly informed that their participation in the study was entirely voluntary. A total of two hundred-eight students willingly elected to take part in this study. Of the 208 students who participated, 96 were girls, constituting 46.2% of the sample, while 112 were boys, representing 53.8% of the participants.

The participants in this study encompassed students from various grade levels within the middle school. Since the intensive English program had been implemented since the 2017-2018 academic year, all secondary school classes had exposure to this program at the time of data collection. Taking this into account, the study was conducted with all secondary school students, recognizing that involving the opinions of students who had experienced the program in previous years would enhance the comprehensiveness of data collection. Specifically, there were 47 students from the 5th grade, accounting for 22.6% of the total; 45 students from the 6th grade, comprising 21.6%; 55 students from the 7th grade, constituting 26.4%; and 61 students from the 8th grade, making up 29.3% of the cohort.

The ages of the participants spanned from 10 to 13 years old, with the following breakdown: 23 students at the age of 10 (11.1%), 23 students aged 11 (17.3%), 55 students aged 12 (26.4%), 49 students aged 13 (23.6%), and 45 students aged 14 (21.6%).

Data Collection Instrument

Data collection for this study was conducted through the utilization of a questionnaire that was initially formulated by Karataş (2009). Subsequently, Arap (2016) further refined and developed this questionnaire. For the current research endeavor, Arap's 2016 version, initially designed for the tertiary level of education, was utilized. However, recognizing the different educational contexts of our study group, some questions were judiciously omitted to align with their level of comprehension and experience. The questionnaire itself is structured around a 5-item Likert scale, ranging from "totally disagree" to "totally agree," encompassing a total of 31 questions. Importantly, all questions within the questionnaire are presented in the students' native language. To facilitate the organization and analysis of the data, the questions are categorically divided into four distinct dimensions, corresponding to Stufflebeam’s CIPP model, as previously elucidated. These dimensions encompass context, input, process, and product evaluation. The questionnaire comprises five questions for context evaluation, six for input evaluation, six for process evaluation, and 14 for product evaluation. In order to assess the reliability of the questionnaire, the Cronbach's alpha test was meticulously executed. The resulting statistics yielded values of 0.73 for context evaluation, 0.84 for input evaluation, 0.79 for process evaluation, and 0.91 for product evaluation. These results are deemed highly satisfactory, particularly in light of the recommended minimum alpha level of 0.70, as advocated by Pallant (2013), signifying the robustness and internal consistency of the questionnaire.

Data Analyses

Subsequent to the data collection process, a thorough examination was carried out to identify and rectify any errors, including issues related to spelling, duplication, or missing data. When errors were detected within the questionnaires, these erroneous responses were systematically excluded from the dataset. Following this meticulous review, all collected data were meticulously transferred to an electronic database utilizing SPSS version 27. Further scrutiny of the data was undertaken to identify and rectify any potential errors or inaccuracies. With the dataset now prepared, the subsequent step involved the analysis of the results. The analytical process encompassed three distinct phases. Firstly, the descriptive statistics of students' perspectives regarding the program were presented in tabular format, offering a comprehensive overview of the participants' opinions. Subsequently, two statistical analyses were conducted to address the second research question: an independent sample t-test and a one-way ANOVA. The outcomes of these analyses were meticulously examined and subsequently presented in tabular form to facilitate an understanding of the research findings. It is important to note that while the questionnaire employed a 5-item Likert scale for data collection, the presentation of results in the tables has been succinctly summarized into three categories. Specifically, the percentages of responses categorized as "totally disagree" and "disagree" have been amalgamated under the "disagree" category. In contrast, the percentages of "totally agree" and "agree" have been consolidated into the "agree" category, streamlining the presentation of data for clarity and interpretability.

Results and Discussion

The results of the study are presented according to two research questions.

Students’ overall opinions about the implementation

The first research question of the study aims to assess the overall orientation of students' perspectives, as positive or negative in general. Consequently, prior to conducting descriptive analyses of the 5-point Likert scale items, agree and strongly agree responses were combined to represent a positive viewpoint, while disagree and strongly disagree responses were combined to signify a negative viewpoint. This categorization is illustrated in the tables provided below. Table 1 shows the general opinions of students toward the content dimension of the implementation. The table shows the percentages, means, and standard deviation of each question regarding the content dimension.

Table 1.

Students' opinions on the context dimension of the implementation

Context / Percentages	Disagree	Neutral	Agree	Mean	sd
1. What I learned in the program is suitable for my preliminary knowledge of English.	26	19.2	54.8	3.42	1.47
2. The total course hours of the program are sufficient.	31.7	10.1	51.8	3.43	1.59
3. The textbook used in the program is suitable for my level.	29.4	18.8	50.8	3.30	1.59
4. The textbook attracts my attention.	42.3	17.8	40	2.90	1.48
5. The content in the textbook is understandable.	34.1	21.6	44.2	3.16	1.51

Table 2.

Students' opinions on the input dimension of the implementation

Input / Percentages	Disagree	Neutral	Agree	Mean	sd
6. The visual and auditory materials used in the program make it easier for me to learn.	25	20.2	54.8	3.40	1.37
7. The visual and auditory materials used in the program are of the quality that will attract my attention.	28.9	26	45.1	3.15	1.40
8. The visual and auditory materials used in the program have a positive effect on my language skills.	25	25	50	3.34	1.34
9. The worksheets distributed in the program make it easier for me to learn.	19.4	13.9	56.7	3.38	1.47
10. The worksheets distributed in the program have the quality of attracting my attention.	30.8	21.2	48.1	3.20	1.43
11. The worksheets distributed in the program have a positive effect on my language skills.	29.8	19.2	50	3.34	1.44

When the table is analyzed, it can be seen that students mostly have agreed with all items except for item 4. When looking more closely at the content dimension items, it can be understood that more than half of the students agreed (54.8%) that the program suited their previous learning experiences. It is encouraging to see that slightly more than half of the students believe that the program aligns with their prior learning experiences. This suggests that a significant portion of the students feel that the curriculum is in harmony with their existing knowledge, potentially fostering a sense of continuity in their language learning process. They (51.8%) had positive opinions about class hours. That means the implementation is above some students' level, and they need more time to be ready for it. The fact that over half of the students hold positive opinions about the allocated class hours is noteworthy. This indicates that a substantial portion of the students feel comfortable with the pace of the curriculum. However, it's essential to recognize that nearly half of the students may perceive the curriculum as being somewhat challenging, suggesting the need for additional support or adjustments to cater to different learning speeds.

Half of the students believed that textbooks were at their level, but nearly one-third of the students (29.4%) stated the opposite. The findings regarding textbook suitability are mixed. Half of the students believe that the textbooks are appropriate for their level, which is a positive sign. However, almost one-third of the students disagree, indicating that there may be significant variations in students' language proficiency levels within the same grade. These differences should be considered in curriculum planning to ensure that all students can access the material effectively. The content of the book is also seen as suitable according to nearly half of the students (40%), but more than one-third of the students (34.1%) stated the opposite. Similarly, the perception of content suitability within the textbooks is split. While a notable portion of students find the content suitable, more than one-third disagree. This underscores the importance of providing differentiated instruction or supplementary materials to address the diverse needs of students in the classroom.

Almost half of the students (40%) stated that the textbook got their attention; however, almost half of the students (44.2%) disagreed and did not find the book interesting. The results regarding students' engagement with the textbook are intriguing. Roughly 40% of the students find the textbook attention-grabbing, indicating that the material resonates with them. Conversely, a slightly larger group disagrees, suggesting that a substantial proportion of students may not find the book particularly engaging. This divergence in opinions underscores the need for pedagogical strategies catering to students' varying learning styles and interests. This finding carries significant implications not only for educators but also for textbook developers and researchers. The perspectives of students hold considerable importance and should be given due regard in the educational landscape. Textbooks, being a cornerstone of the teaching process, warrant careful consideration and periodic revision to ensure their efficacy. When students express dissatisfaction with the primary teaching materials—namely, textbooks—it can have broader ramifications for the entire lesson. Such discontent may lead to a disengagement from the learning experience. Therefore, the selection of teaching materials assumes paramount significance. Educators must exercise conscientiousness in their choices, considering their students' varying levels and capacities.

More critically, the chosen instructional materials should possess the capacity to capture students' attention and establish meaningful connections between the content and the learners. This linkage is pivotal for fostering an environment of active engagement and effective learning within the classroom. The results are in accordance with some previous research, and some are not. The previous research stated general satisfaction of the participants (Aksoy et al., 2018; Dinçer & Koç, 2020; Yolcu & Dimici, 2021). Even though the participants of the current study agreed with the level of implementation, some studies found the opposite (Yalçınkaya & Taşdemir, 2019; Dinçer & Koç, 2020). Teachers thought class hours were enough (Kambur, 2018), whereas parents found them too much (Yalçınkaya& Taşdemir, 2019). Like the students in the current study, Dilekli (2018) stated that teachers think textbooks do not attract students' attention.

Table 1 shows students' general opinions toward the implementation's input dimension. The table shows the percentages, means, and standard deviation of each question regarding the input dimension.

When the table is analyzed, it can be seen that students mostly have agreed with all items. When examined more thoroughly, it becomes clear that more than half of the students (56.7%) felt that worksheets and audio-visual resources (54.8%) made learning more straightforward. One-fourth of the students disagreed with their friends and did not think these materials (25%) and worksheets (19.4%) made learning more manageable for them. This result can indicate that these materials might not be at the students' level; therefore, they do not make learning easier. It's worth noting that when materials are too challenging, they can indeed hinder the learning process. Half the students thought these materials (50%) and worksheets had a positive impact on their language learning. This is an encouraging finding as it suggests that these resources contribute positively to language development. However, a significant portion, roughly one-fourth, of the students disagree with their peers regarding the positive impact of these materials and worksheets on their language skills. This dissent may be linked to the level of appropriateness of the materials. When materials are too advanced, they may not positively affect language skills and might even hinder progress. These materials (45.1%) and worksheets (48.1%) attracted nearly half the students' attention.

Although nearly half of the students gave their attention, nearly one-third of the students did not find them attractive. It can be deduced that materials have some problems getting students' attention. When students become disengaged from the lesson, their motivation diminishes as well. These results can result in failure, so teachers and material designers must be more careful when developing a material. They will lose their whole purpose if the materials do not get attention. Materials needing to be more appealing may be primarily due to their inability to accommodate different learning styles. Even though visual and auditory learners can benefit from and enjoy these materials and worksheets, kinaesthetic learners seem to be ignored. Many students who did not find the materials attractive might be these learners. Individual differences were not taken into consideration while designing and choosing materials for the lesson. The activities and materials must be for all learning types. When the table is analyzed more closely, it can be seen that students with neutral opinions towards the input dimension are nearly one-fifth of the whole participants. Although half of the students favor these materials, this number of students cannot be ignored. From these results, it can be argued that all materials need revising and should be designed more carefully while considering students' opinions and learning styles. Materials used for implementation were found to be insufficient, inadequate, and inappropriate by most of the previous research (Aksoy et al., 2018; Şahin & Göksoy, 2019; Dinçer & Koç, 2020). Dilekli (2018) stated that the materials used for the implementation did not attract students' attention.

Table 3 shows students' general opinions towards the implementation process. The table shows the percentages, means, and standard deviation of each question regarding the process dimension.

When the table (Table 3) is analyzed, it can be seen that students mostly agreed with all items. A significant majority of students (approximately 60%) agree that there is sufficient practice for learning situations within the curriculum. This positive feedback suggests that the curriculum effectively incorporates practical exercises that enable students to apply

Table 3.

Students' opinions on the process dimension of the implementation

Process / Percentages	Disagree	Neutral	Agree	Mean	sd
12. Adequate practice is given for each new subject learned in the program.	29.8	19.7	59.5	3.27	1.48
13. During the program, the subject is repeated when necessary.	24.1	21.2	54.8	3.45	1.48
14. Reinforcing assignments are given on the topics we cover in the program.	26.9	15.9	57.3	3.43	1.41
15. There are activities in the program in which we can work in pairs or groups.	38	20.7	41.4	3.03	1.36
16. There are activities in the program which allows me to use all my language skills.	36.1	21.6	42.3	3.00	1.40
17. Sufficient time is spent in the program to solve my problems related to English.	30.3	22.6	47.1	3.26	1.48

their language skills in real-life scenarios. More than half of the students (around 55%) express agreement that necessary repetitions are integrated into the curriculum. This acknowledgment of repetition is encouraging, as it indicates that students recognize the value of reinforcing their language skills through repeated practice. Roughly 41% of students agree that pair and group work activities are incorporated into the curriculum. While this percentage is lower than some other aspects, it still signifies that a substantial portion of students recognize the inclusion of collaborative learning experiences, which can enhance language acquisition through interaction and communication. At this point, it should be emphasized that collaborative learning positively affects the learning process and academic achievement levels of secondary school students in general. From this point of view, the fact that classroom activities should encourage co-operative and interactive learning as much as possible has also been revealed by the findings of other studies in the literature (Altun, 2017).

Approximately 42% of students believe that the curriculum's activities allow them to practice all language skills effectively. This suggests that students perceive a holistic approach to language learnincog, encompassing listening, speaking, reading, and writing skills. Almost half of the students (around 47%) feel that sufficient time is allocated to address issues related to English similar to the previous studies in the literature (Erdem & Toy, 2017; Aksoy et al., 2018; Darama et al., 2018). This indicates that students appreciate the consideration given to addressing challenges or questions they may have regarding the language. Although the participants of this study believed that skill studies were enough, previous research had the opposite results. Yalçınkaya (2019) stated that there was insufficient time for speaking and listening activities. Dilekli (2018) and Aksoy et al. (2018) revealed that skill studies cannot be achieved well enough because of the physical conditions.

Table 4 shows the general opinions of students towards the process dimension of the implementation. The table shows the percentages, means, and standard deviation of each question regarding the process dimension.

When the table is analyzed, it can be seen that students have agreed with most of the items. Students mostly disagreed with items 23 and 27. A significant majority of students (approximately 56%) believe that the knowledge they acquire in the program serves as a foundational basis for their future learning. This recognition of the curriculum's role in building a strong educational foundation is encouraging. Over half of the students (around 54%) feel that the program encourages them to learn English. This positive influence on motivation and engagement is vital for effective language acquisition. The majority of students (approximately 56%) express positive thoughts regarding the impact of project assignments. This indicates that project-based learning activities are perceived as effective in enhancing their learning experience. A significant majority of students (around 57%) agree that their vocabulary has expanded as a result of the program. This is quite encouraging on behalf of language learning since vocabulary growth is a fundamental component of language development. About half of the students (around 48%) state that the program has instilled in them the habit of studying English. This is a positive outcome as it promotes self-directed learning. However, it did not give them the habit of working with a group, as indicated by many students (41.4%). Almost half of the students (49.6%) stated that there has been an improvement in their reading skills. A majority of students (approximately 51%) perceive improvements in their writing skills, indicating that the program has been effective in developing their ability to express themselves in writing. More than half of the students (54.8%) considered their listening skills to be developed as well. Only speaking skills were

Table 4.

Students' opinions on the product dimension of the implementation

Product / Percentages	Disagree	Neutral	Agree	Mean	sd
18. The program formed the basis for my future English learning. (to the next grade or high school classes)	26.4	15.9	56.2	3.52	1.48
19. The program encouraged me to learn English.	30.3	14.9	54.1	3.34	1.48
20. The project assignments given in the program affected my language skills positively.	25.9	17.8	55.8	3.49	1.41
21. The program has increased my English vocabulary.	22.1	20.7	57.2	3.54	1.36
22. The program gave me the habit of studying English.	28.4	23.6	48.1	3.32	1.40
23. The program gave me the habit of working with a group.	41.4	26.0	32.7	2.89	1.48
24. At the end of the program, my improvement in English reading skills is positive.	30.8	19.7	49.6	3.22	1.44
25. At the end of the program, my improvement in English writing skills is positive.	26.9	21.6	51.4	3.32	1.34
26. At the end of the program, my improvement in English listening skills is positive.	30.8	14.4	54.8	3.31	1.47
27. At the end of the program, my improvement in English speaking skills is positive.	32.7	19.2	28.1	3.18	1.49
28. At the end of the program, my improvement in English grammar skills is positive.	32.7	17.8	49.5	3.23	1.45
29. The knowledge I gained about the language at the end of the program is positive.	28.3	16.8	54.8	3.36	1.47
30. The language skills I gained at the end of the program are positive.	26.9	18.3	54.8	3.45	1.47
31. The program is complementary to my other courses.	33.2	27.4	39.4	3.07	1.47

seen as not developed. Notably, a significant portion of students (around 33%) disagree about improving their speaking skills. This suggests that speaking skills require additional attention and instructional focus. Approximately half of the participants (49.5%) regarded their English grammar as improved. Students (54.8%) had positive thoughts about their knowledge of English. This indicates a sense of accomplishment and confidence in their language abilities. They (54.8%) also had positive thoughts regarding the skills they gained. Most students (39.4%) agreed that the program complements other courses. Similar results were reported in the literature. For example, Aksoy et al. (2018) expressed that the implementation positively impacted future studies. This correlates with the current study, with more than half of the students agreeing on it. As stated above, skills studies needed to be seen more by the previous research. School conditions were seen as responsible for this result (Yalçınkaya & Taşdemir, 2019; Dinçer & Koç, 2020), but the current study showed that students think that their skills were improved except for the speaking skill. Yolcu and Dimici (2021) had opposite results in terms of speaking skills that students expressed positive thoughts on their speaking skill development.

Students' opinions about the implementation in terms of their gender and grade

Table 6 shows the opinions of students in terms of gender. The table shows the percentages, means, and standard deviation of each question regarding the process dimension.

When Table 5 is analyzed, it can be deduced that gender has a significant role in students' opinions regarding the implementation. It can be seen that girls had more favorable opinions towards the implementation. Female students had more positive opinions about the content of the implementation, with a mean of 3.47. Compared to male students, female students had more positive thoughts about input, with a mean of 3.50. Regarding the process items, female students had more positive opinions, with a mean of 3.46. Again, female students had more positive attitudes considering product items, with a mean of 3.56. Possible reasons for these gender-related differences could include varying levels of exposure to English language and materials outside of school, differences in learning styles and preferences, or even societal and cultural factors that influence attitudes towards language learning. It is essential to acknowledge that individual differences

Table 5.
Students opinions on the implementation in terms of their gender

	Gender	Number	Mean	sd	*t*	*p*
Context	Female	96	3.47	1.02	2.83	0.00
	Male	112	3.05	1.05		
Input	Female	96	3.50	1.07	2.54	0.01
	Male	112	3.13	1.03		
Process	Female	96	3.46	0.96	2.97	0.00
	Male	112	3.05	1.02		
Product	Female	96	3.56	0.97	3.71	0.00
	Male	112	3.07	0.94		

P<0.050

Table 6.
Students opinions on the implementation in terms of their grades

		Sum of Squares	df	Mean Square	F	Sig.
Context	Between Groups	17.20	3	5.73	5.425	0.00
	Within Groups	215.692	204	1.057		
	Total	232.900	207			
Input	Between Groups	6.810	3	2.270	2.027	0.111
	Within Groups	228.423	204	1.120		
	Total	235.233	207			
Process	Between Groups	11.122	3	3.707	3.729	0.012
	Within Groups	202.820	204	0.994		
	Total	213.942	207			
Product	Between Groups	8.208	3	2.736	2.891	0.036
	Within Groups	192.109	203	0.946		
	Total	200.318	206			

*The difference caused by 7th and 8th grade students in all part within each gender group can be significant, and not all female students or male students will share the same perceptions. As educators and curriculum developers, understanding these gender-related differences can help tailor teaching approaches and curriculum materials to better suit the diverse needs and preferences of students, ultimately enhancing the effectiveness of language education for all. Further research may go deeper into the specific factors contributing to these gender-related variations in opinions. Even though the current study found differences in terms of gender, Sağlam and Akdemir (2018) found the opposite result: they did not find any significance.

Table 6 shows the opinions of students in terms of grades. The table shows the percentages, means, and standard deviation of each question regarding the process dimension.

When Table 6 is analyzed, it can be deduced that grade also has a role in students' opinions regarding the implementation. Except for the input dimension, there is a difference between groups among the other three dimensions. Post Hoc Tukey HSD test was conducted to find out which groups make a difference and determined that 5th and 6th-grade students had more favorable opinions towards the implementation than 7th and 8th-grade students. Students who are still taking the programme and students of the year immediately after the programme seem to have more positive opinions about the programme, which is a very interesting finding.

Conclusion

In this study, fifth-grade intensive language class implementation was tried to be evaluated using Stufflebeam's CIPP model according to students' perspectives. All four parts of the model were analyzed. At the end of the study, it was deduced that students generally had a positive attitude towards the program. They had positive opinions about all four dimensions. Even though students thought positively about the program, they did not find the textbooks interesting. Time for the course and repetitions were seen enough. Students stated that the implementation gave them the habit of studying English rather than in groups. Language skills were viewed as developed except for speaking skills. Female students had more positive thoughts than male students. It was also seen that 5th and 6th-grade students had more positive thoughts than 7th and 8th-grade students regarding three dimensions: context, process, and product. It can be deduced from the results that the implementation is considered beneficial by slightly more than half of the students. However, one-third of the students had negative opinions towards the implementation.

The current research provides new information to the literature and has some suggestions for teachers and implementation decision-makers. First of all, students did not find the textbooks interesting and only had mediocre reviews for the materials used in the class. MONE only allows the use of their textbook in the classroom. Decision makers should take this opinion and make textbooks more enjoyable for the students. Teachers can also bring different materials to attract students' attention. MONE should give some space for teachers to be autonomous in material choosing so that teachers can diversify their choice of materials and enrich the learning environment. Secondly, some students believed the implementation needed to be more suitable for their level. Schools can provide a placement test to see students' level. Students can be divided into level groups, as suggested by CEFR.

Despite providing information on the research done on the program, the current study has some limitations. First, the global pandemic (Covid-19) has affected students' attendance. Therefore, the participants of this study are limited. Since the current study only gathered data from Diyarbakır province, it was limited to that province. The current study also gathered data from only one school. Future studies can be expanded to more schools and provinces, even schools from different regions.

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Implementation of Informal Formative Assessment in An Elementary Math Classroom: A Case Study

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Abstract

A large body of research has shown the effectiveness of formative assessment on student learning. Yet research on teachers' implementation of formative assessment is relatively underdeveloped. In addition, there has been a lack of effective instruments for observing teachers' formative assessment practices. This study focuses on the ongoing informal formative assessment and explores the nature of one experienced elementary teacher's formative assessment practices by drawing on a sociocultural perspective and the tool of Formative Assessment Rubrics, Reflection, and Observation Protocol. Primary data sources include classroom observations, interviews, and artifacts. Using inductive and deductive coding approaches, the study found the importance of creating a classroom culture of valuing and foregrounding student ideas when teachers communicate learning targets and elicit students' thinking. In addition, the study sheds light on the teacher's questioning practice with variations during informal FA. The study has implications for future research.

Keywords:

Informal Formative Assessment, Implementation, Sociocultural Perspectives, Mathematics

Introduction

As an essential component of core teaching practices and high-leverage teaching practices (Gotwals & Cisterna, 2022; Polly et al., 2016), formative assessment (hereafter FA) has received more and more attention in teaching and teacher education. FA, which refers to assessment for learning in the study, is "a planned, ongoing process used by all students and teachers during learning and teaching to elicit and use evidence of student learning to improve student understanding of intended disciplinary learning outcomes and support students to become self-directed learners" (Council of Chief State Officers [CCSSO], 2017, p.2). If used effectively, FA can improve student achievement (Black & William, 1998a; 1998b) and "provide teachers and their students with the information they need to move learning forward" (Heritage, 2007, p.140). Researchers noted the positive effects of using FA on student achievement in math (Klute et al., 2017; Pinger et al., 2018; Silver & Smith, 2015). The use of FA received the highest score in math classrooms compared to other subjects like literacy and arts when assessing the effects of FA on students' learning outcomes (Lee et al., 2020). Moreover, the informal FA, which is a "socially situated activity", allows teachers to gather reliable and solid evidence on students' learning continuously in their daily class activities (Ruiz-Primo, 2011, p.16).

However, there seems to be a gap between research advocating the effectiveness and significance of FA and the understudied situation concerning classroom teachers implementing FA (Box et al., 2015). Compared with the body of research investigating the effectiveness of FA, studies assessing how classroom teachers perform FA, including informal FA, are still underdeveloped due to the complexities of implementing FA (Philhower, 2018; Veon, 2016). Previous studies have found that teachers face challenges when incorporating FA into their classrooms. These challenges can include struggling to implement FA effectively or only utilizing it to a limited extent (Bennett, 2011; Van der Kleij et al., 2018). Factors that influence a teacher's implementation of FA include their (a) knowledge and skills in providing effective feedback and asking the right questions to facilitate classroom discussion, (b) collaboration opportunities between teachers, and (c) teacher beliefs and self-efficacy in using assessment for learning (Schildkamp et al., 2020; Yan et al., 2021). Meanwhile, classroom teachers' FA practices are understudied because there is a lack of effective tools to observe these practices accurately (Yan & Pastore, 2022). More specifically, there is a need to assess the degree to which teachers prioritize students' ideas and contributions during FA. Nonetheless, questions concerning teachers' understanding of FA and how teachers perform FA coherently (or not) have been raised. Consequently, it is the role of this research to further uncover the "black box" of teachers' FA practices in classrooms.

The study focuses on the teacher's informal FA. Drawing on a sociocultural perspective of FA, which emphasizes student involvement and students co-constructing knowledge during the interaction, and the observation and reflection tool of the Formative Assessment Rubrics, Reflection and Observation Protocol (FARROP) (Wylie & Lyon, 2016), the study investigates an experienced elementary teacher's FA practices in a fifth-grade math class. This study concerns informal FA in-moment use in the math classroom. Specifically, the following research questions guide this study:

1. What is the nature of an elementary teacher's informal FA practices during a math unit on division with whole numbers and decimals?
2. What interactions and practices are connected to the elementary teacher's informal FA in her fifth-grade math classroom?

Conceptual Framework and Literature Review

Assessment From a Sociocultural Perspective and The Characteristics of Formative Assessment

The notion of FA in this study refers to assessment for learning (Schildkamp et al., 2020), which is "part of everyday practice by students, teachers, and peers that seek, reflect upon and respond to information from dialogue, demonstration, and observation in ways that enhance ongoing learning" (Klenowski, 2009, p.264). According to teachers, FA "allows them to be responsive to students' needs in the moment and plan accordingly" (Martin et al., 2022, p.421). The conceptualization of FA can be associated with different underlying theoretical perspectives (Briggs et al., 2012; Janeth, 2019). From a sociocultural perspective, assessments "recognize the importance of sociocultural activity as a vehicle for integrating these desired outcomes, and it anticipates the variability in performance that can occur across particular situations" (Smith et al., 2004, p.40). In other words, FA is based on the underlying assumption students construct knowledge through social interactions (Black & William, 2009; Gipps, 1999). Both teachers and students are jointly responsible for the quality of learning and teaching during FA (Kim, 2019).

In addition, to leveraging student participation experiences during FA, it is important to create a classroom culture characterized by openness and acceptance, in which students feel safe and comfortable working with teachers and their peers (Box et al., 2015). In the meantime, the use of FA, in turn, can enhance the collaborative learning environment and empower student-teacher relationships (dos Santos Barreto & de Oliveira Soares, 2020). Performing effective FA from sociocultural perspectives echoes Crossouard's (2009) work in prioritizing students' roles. According to Crossouard (2009), effective mathematics instruction demands that teachers use learner-oriented tasks and activities to support students in becoming powerful mathematical thinkers.

Regarding the characteristics and process of FA, Black and Wiliam (2009) categorized FA into five stages: (1) clarifying and sharing learning intentions and criteria for success; (2) engineering effective classroom discussions to elicit evidence of student understanding; (3) providing feedback that moves students' learning forward; (4) activating students as instructional resources for one another; and (5) activating students as owners of their learning. The Council of Chief State School Officers (CCSSO, 2017) pointed out that effective FA should embed the following five essential practices in the classroom: (1) clarifying learning goals and success criteria; (2) eliciting and analyzing evidence of student thinking; (3) engaging in self-assessment and peer feedback; (4) providing actionable feedback; and (5) using the evidence and feedback to move student learning forward. The FA process, based on the above definitions, can be categorized as three questions that teachers and students should ask themselves: "Where are we going?" "Where are we now?" and "How do we get to where we are going?" (Gotwals & Ezzo, 2018). These questions are more closely examined in the following paragraphs.

Where Are We Going? Articulating Learning Targets

Clear learning targets can guide both teaching and learning (Konrad et al., 2014). The National Council of Teachers of Mathematics (NCTM, 2014) pointed out that communicating learning targets can guide teachers' instructional decision-making and promote students' awareness of learning ownership to move their current learning forward. Without clearly communicating learning targets to students, teachers are unlikely to assess students effectively and accurately (Chappuis et al., 2009; Marzano, 2013; Moss et al., 2011).

Where Are We Now? Gathering Evidence About Student Learning

When teachers provide students with opportunities to fully demonstrate what they have learned, the critical data that teachers gather can inform student-teacher interactions, and, thus, help teachers and students pinpoint the gap between what students are expected to learn and what they currently understand (Heritage, et al., 2009). Usually, evidence of student learning consists of everything students do such as group conversation, asking and responding to questions, or even students' confused looks (Leahy et al., 2005). In a mathematics class, there are various opportunities for a teacher to collect and gather evidence of student learning. This study focuses on teachers gathering student learning evidence using questioning practices in whole-class discussions. The moment-by-moment basis of FA allows teachers to collect real-time, rich, and flexible data via conversations and interactions (Heritage et al., 2009).

How Do We Get There? Actions Based on the Evidence of Student Learning

There are two aspects regarding teachers' actions after gathering the student learning evidence: (1) feedback to students and (2) instructional modification. The format of feedback to students can be one-to-one, group-based, or whole-class-based. Usually, a teacher's response to a student's written work is one-on-one and often occurs after the student has turned in their work; but feedback during classroom discussion can be given immediately (Black & William, 2009).

According to Hattie and Timperley (2007), teachers' feedback can be categorized into four levels: (a) feedback not explicitly tied to assessment tasks (e.g., good job); (b) feedback relevant to student task performance; (c) feedback about task processing; and (d) feedback for student self-regulation. When students receive feedback (e.g., at the process level) with "cues to directions for searching and strategizing" or that "leads to further engagement with or investing further effort into the task," they feel more powerful and confident (Hattie & Timperley, 2007, p.102). Teachers should provide feedback to students that is clear, practical, transparent, useful, easy to understand, timely, and consistent (Wiggins, 2012). This will ensure that the feedback is effective for students' learning. The study examines how teachers provide feedback to students during classroom discussions.

Informal Formative Assessment and Its Implementation in Math Classrooms

Informal FA is a socially situated "assessment conversation" (Ruiz-Primo, 2011, p.16). Usually, informal FA is more spontaneous and can occur in various student-teacher interactions, such as whole-class, small-group, or one-on-one settings (Ruiz-Primo & Furtak, 2007). Studies have revealed that FA holds significant promise in aiding student learning. As a result, it has gained more and more attention from educators and researchers. During informal FA, teachers gather information and react to it "on the fly" by considering students' responses (Ruiz-Primo & Furtak, 2007; Ruiz-Primo, 2011). Using informal FA allows teachers to gather reliable and solid evidence on students' learning by drawing on their daily class activities and reacting to students' responses using flexible and multiple modes of feedback (e.g., oral text, written text, and visuals; Ruiz-Primo, 2011). In addition, informal FA allows teachers to explicitly elicit students' thinking and recognize students' language use in an unobtrusive manner (Ruiz-Primo & Furtak, 2007; Ruiz-Primo, 2011).

To better illustrate the informal FA process, researchers proposed four discourse moves: (a) teachers asking questions, (b) students responding, (c) teachers recognizing students' responses, and (d) teachers using the information they collected to support student learning (Ruiz-Primo & Furtak, 2007). The core of the discourse moves during informal FA, to a large extent, echoes the higher-level questioning patterns that Herbel-Eisenmann and Breyfogle (2005) proposed, where listening to students' responses and reacting to students' ideas are highlighted.

According to Herbel-Eisenmann and Breyfogle (2005), three types of questioning patterns govern the student-teacher interactions in math classrooms: Initiate-Response-Evaluate (IRE), funneling and focusing patterns. Funneling questioning "occurs when the teacher asks a series of questions that guide the student through a procedure to a desired end" (Herbel-Eisenmann & Breyfogle, 2005, p.485). The focusing questioning, in contrast, requires teachers to listen to students' responses and provide students with opportunities to explain their thinking, rather than rushing to obtain a desired answer (Herbel-Eisenmann & Breyfogle, 2005). Teachers should actively engage with students' thinking and emphasize their role in constructing knowledge. Failure to do so can lead to missed chances for assessing students' understanding (Box et al., 2015).

Yet, when it comes to the implementation of informal FA in elementary classrooms, teachers' FA practices tend to be inconsistent (Veon, 2016). For example, teachers were likely to use FA to elicit students' responses and clarify expectations more frequently than to analyze students' responses (Veugen et al., 2021). In addition, when providing follow-up instructions, teachers, sometimes, did not fully react to students' ideas after diagnosing gaps in students' thinking (Fobes et al., 2015). Therefore, to have an in-depth understanding of teachers' informal FA practices, it is crucial to examine the interactions between teachers and students. This includes observing how teachers recognize and respond to students' responses.

Methods

According to Yin (2003), a case study is an empirical inquiry that explores contemporary phenomena in real-life contexts. I adopt an exploratory case study to investigate the nature of one focal teacher's implementation of informal FA in a natural setting. An exploratory case study is often used to answer "what" and "how" questions and to "explore any phenomenon in the data which serves as a point of interest to the researcher" (Zainal, 2007).

Context and the Participant

The School Site

The school where the focal teacher worked is in a college town in the upper Midwestern United States, with forty percent of the student population in Rochester Elementary (pseudonym) receiving free or reduced lunch. The school provides education for students from preschool through to fifth grade. This school adopted a math program called Math Expression, which is an inquiry-based K-6 curriculum built on National Science Foundation (NSF) funded research. This curriculum highlights learning math through real-world situations and multiple ways to solve problems.

The Focal Teacher

Mrs. Grey (pseudonym), the focal teacher, has been teaching for over 20 years in elementary and middle schools in urban and suburban areas. I chose Mrs. Grey's math class because of its inquiry-based math curriculum, where a rich math discussion is highly advocated. This context allows me to see how Mrs. Grey brings the math discussion to her class and how well she performs informal FA. In addition, a teacher's teaching experiences and reflection on their instruction are fundamental for supporting students' learning. I chose Mrs. Grey as my focus teacher due to her extensive teaching experience and reflectivity. Mrs. Grey connects her teaching practices with current research and seeks self-improvement in her teaching methods. For example, she conducted action research to investigate gender equity issues in her math class, presented her research at conferences, and mentored intern teachers from the local university. Mrs. Grey's extensive teaching practices allowed me to observe how an experienced elementary teacher performs informal FA, and to examine how findings in the study may inspire novice elementary teachers' FA practices.

Data collection

Before data collection, the study first gained an Institutional Review Board (IRB) approval from a large research university in the Midwest of the United States. After receiving approval for the study, I collected consent forms from the classroom teacher and students' guardians. Primary data sources that I gathered included classroom observations, interviews, and artifacts. I visited Mrs. Grey's math class for a whole unit for around six weeks to observe Mrs. Grey's informal FA practices continuously. I've observed the class twelve times. Each observation lasted around an hour. In total, about twelve lesson hours were observed. The math unit focuses on division with whole numbers and decimals.

Class observations

The fifth-grade math classroom that I observed had twenty-nine students, with seven of them being multilingual learners. Before my observation, the classroom teacher informed all the students about my presence. However, one student's parents decided not to participate in my study. To ensure the student's privacy, the teacher placed the student on the right side of the classroom, away from the camera's view. During my observation, I adopted a direct observation approach (Yin, 2003) and sat in the back of the classroom without interventions on Mrs. Grey's instruction. The class observations allowed me to better understand the context of Mrs. Grey's informal FA. It also gave me clues and enlightenment on what follow-up questions to ask about her teaching practice. All the classroom observations were conducted in the same class, and video recorded. In addition, I took field notes about the teacher's instructional moves and her interactions with students in the math class. In total, I collected 12 teaching videos, with each of the videos lasting around 65 minutes.

Interviews

I first conducted semi-structured interviews with the teacher: prior to, in the middle of, and at the end of her unit teaching. The semi-structured interview protocol includes fifteen questions. The foci of the interview questions are (1) Mrs. Grey's professional learning opportunities on classroom assessment; (2) Mrs. Grey's understanding and perceptions of FA; and (3) the challenges that Mrs. Grey might encounter when assessing her students. Then I conducted modified stimulated recall interviews (Sherin & van Es, 2005) and asked questions about the specific instructional moves made by Mrs. Grey during her informal FA. The instructional moves that I selected focused on Mrs. Grey's questioning practices. All the interviews were conducted in person. I audio-recorded all the interviews using recording software on a password-protected computer. Each interview lasted approximately 30 minutes.

Data analysis

In the study, I used an inductive coding approach (Strauss & Corbin, 1998) to identify emergent themes. I used a deductive coding approach, which refers to an approach that "employs the ideas from a theoretical framework or other driving ideas" (Galman, 2016, p.24), to look for patterns in Mrs. Grey's informal FA practices. To ensure the reliability of the qualitative data, I employed data triangulation. This involved utilizing multiple sources of data in my study, which included field notes, video recordings, and interviews. The inclusion of these various sources enabled me to gain a thorough understanding of Mrs. Grey's FA practices. In the meantime, it allows me to see potential conflicts and consistency of my observation notes, my analysis of Mrs. Grey's FA practices, and her understanding and reflection upon her instructions.

Deductive coding

Why I used FARROP in deductive coding

Using the FARROP (Wylie & Lyon, 2016) as an analytic tool enabled me to observe Mrs. Grey's informal FA practices more explicitly and concretely based on its predeveloped dimensions. According to the FARROP (Wylie & Lyon, 2016), FA consists of 10 dimensions. Each dimension includes five levels concerning how well a teacher implements FA. The five levels include "not observed," "beginning," "developing," "progressing," and "extending". The ten dimensions of FA can be integrated into three stages of FA: (1) Where are we headed, (2) Where are we now, and (3) How do we close the gap? Naturally, each stage does not represent a linear process, rather they are coherent and systematic cycles (Gotwals & Cisterna, 2022).

As Table 1 shows, the FARROP dimensions I and II answer the first question concerning where we are headed; dimensions III, IV, and V answer the second question of where we are now; and dimensions VI, VII, and VIII answer the third question of how to close the gap. Dimensions IX and X can be incorporated into each stage of FA.

During the data analysis, I did not include the FARROP dimensions V and VII. Dimension V was not included because Mrs. Grey's whole-class discussions did not present much evidence of students' performing self-assessments. Dimension VII was not included because the definition of "descriptive feedback" in the FARROP rubric (Wylie & Lyon, 2016) focuses on formal written feedback, while this study concerns Mrs. Grey's informal FA, which is primarily oral-based and spontaneous.

How I coded data using the FARROP protocol

For Mrs. Grey's informal FA practices, I concentrated on the whole class discussion. The whole class discussion is also what I was able to best hear with the videos I collected. I first went through each video and noted instances of each dimension of FA. For example, I identified sentences such as "I can...," "Today we will talk about...," and "Our goal is..." as evidence of whether Mrs. Grey communicated learning targets with students explicitly in each lesson. I then wrote notes about what happened. Sometimes I transcribed the conversation between Mrs. Grey and her students. Following that, I used the FARROP to determine the level of Mrs. Grey's practice across lessons. For example, I noticed a "progressing" level in her practice of clarifying learning targets. Similarly, drawing on the FARROP protocol, I marked Mrs. Grey's expertise levels in other dimensions of FA and entered them into a spreadsheet. See Table 2 for an example of the marked expertise levels of Mrs. Grey's FA practices.

In light of the levels that I marked in each teaching video, I compared and looked across all the recorded lessons for patterns and themes that illustrated how well Mrs. Grey enacted informal FA through the math unit. I wrote memos about the cross-video analysis to document preliminary findings on Mrs. Grey's informal FA practices. An overarching pattern that emerged was the wide range of Mrs. Grey's expertise levels in implementing informal FA. These variations include her practices in communicating learning targets and eliciting student thinking using questioning techniques.

Inductive coding

To make sense of patterns generated from deductive coding, I first conducted open coding (Strauss & Corbin, 1998) to look for emerging concepts and categories that might explain the ranges and variations in Mrs. Grey's informal FA practices. To do so, I moved iteratively between the field notes, interview transcripts, and teaching videos, and labeled concepts in the margins of the interview transcripts. Following

Table 1.
Dimensions of FA According to The FARROP (Wylie & Lyon, 2016)

Teachers' Expertise Levels in Performing FA	Dimensions of FA (FARROP, Wylie & Lyon, 2016)	FA Process
Not observed	i. Learning goals	Stage 1: Where are we going
Beginning	ii. Criteria for success	
Developing	iii. Tasks and activities that elicit evidence of student learning	Stage 2: Where are we now?
Progressing	iv. Questioning strategies that elicit evidence of student learning	
Extending	v. Self-assessment	
	vi. Extended thinking during discourse	Stage 3: How do we close the gap?
	vii. Descriptive feedback	
	viii. Peer feedback	
	ix. Using evidence to inform instruction	Embedded into all three stages
	x. Collaborative culture of learning	

Table 2.
A Sample Cross-Video Analysis Using the FARROP (Wylie & Lyon, 2016)

Observation Dates / Dimensions	Communicating Learning Goals (Including Success for Criteria)	Tasks and Activities to Elicit Evidence of Learning	Questioning Strategies to Elicit Evidence of Learning
Video (Feb.13)	Beginning	Extending	Between Progressing and Extending
Video (Feb. 14)	Not Observed	Extending	Progressing
Video (Feb.19)	Beginning	Extending	Between Progressing and Extending
Video (Feb. 20)	Between Developing and Progressing	Extending	Progressing
Video (Feb.22)	Progressing	Extending	Between Developing and Progressing
Video (Feb.26)	Not Observed	Between Progressing and Extending	Developing
Video (March 4)	Progressing	Progressing	Progressing
Video (March 5)	Developing	Progressing	Between Developing and Progressing
Video (March 6)	Progressing	Extending	Between Developing and Progressing
Video (March 7)	Extending	Extending	Between Progressing and Extending
Video (March 8)	Developing	Between Developing and Progressing	Between Progressing and Extending

this, I categorized those concepts into groups based on the common purpose of Mrs. Grey's instructional moves. Using concepts that emerged from the open coding of the interview data, I returned to the teaching videos and looked into interactions between Mrs. Grey and her students. I transcribed video clips in which I found higher and lower levels regarding how Mrs. Grey communicated learning targets and elicited student thinking during her informal FA practices. I then used the interview data, field notes, and video transcripts to make sense of Mrs. Grey's lower and higher practices. The inductive coding showed two themes emerging from Mrs. Grey's informal FA practices: (a) Valuing students' ideas, and (b) funneling questioning.

Findings

My observation aligns with Mrs. Grey's comment in which she stated, "Discourse in our classrooms is a huge part of that formative assessment......to drive instruction and make decisions for the next day". The discourse that Mrs. Grey mentioned aligns with the nature of informal FA for being socially situated and assessment-conversation-based. According to Mrs. Grey, using class discussions allows her to understand student learning in an "organic way." It can also develop students' skills in "discourse capacity."

Below I first illustrate what Mrs. Grey values in implementing informal FA. I then illustrated what her informal FA practices looked like and how her practices aligned (or did not align) with her reported values.

Create a Classroom Culture of Valuing Student Ideas

One theme that emerged from the interview data was Mrs. Grey's intention to create a classroom culture that values student ideas and contributions. Mrs. Grey believed that only in a classroom where students feel that teachers value their contributions will students feel safe and comfortable to participate. When I asked Mrs. Grey how she supported students participating in class discussions, she said,

> *The other thing that I've given them is there are times when I ask questions and their response is a question. So they know that I do not expect them to give me an answer every time they need clarification. It's safe to say I need to know more about and then take charge of the conversation that way, you know, that's a valuable contribution. As they know I value it, and their peers value it, it is all about practice and helping them feel comfortable with that. [Interview on March 13, 2019]*

According to the interview excerpt, Mrs. Grey attempts to create a classroom culture of valuing students' ideas in a variety of ways, for example, allowing students to respond with questions and acknowledging students' ideas.

Enactment of Informal FA

I explored two specific aspects regarding Mrs. Grey's enactment of informal FA. The first one is on how Mrs. Grey communicated learning targets with students, which covers the FARROP dimensions I and II (i.e., clarifying learning goals and criteria for success). The second aspect is about how Mrs. Grey elicited and responded to students' ideas, which covers the FARROP dimension IV (questioning strategies), and dimension VI (extending students' thinking during discourse). The FARROP dimension X (collaborative culture of learning) was integrated into both two aspects of Mrs. Grey's informal FA implementation.

These two practices emerged, through analysis, as the main ways in which Mrs. Grey enacted informal FA. In the descriptions, I identify the relationships between higher levels of these informal FA practices and how Mrs. Grey used these practices to create a classroom culture that values student ideas. Conversely, I provide instances of lower levels of informal FA practices in Mrs. Grey's class and how those practices might not foreground students' ideas.

Communicating Learning Targets With Students

Mrs. Grey's practices of communicating learning targets with students ranged from "not presenting at all" to "extending." The overall trend of Mrs. Grey's practices in communicating learning targets was between "developing" and "progressing" (see Table 2). In some cases, Mrs. Grey demonstrated higher-level practices, in which she foregrounded students' ideas and provided opportunities for them to internalize learning targets. However, in some lessons, she demonstrated a lower-level practice, in which students did not receive sufficient opportunity to express ideas and internalize learning targets.

Higher-level practices of communicating learning targets

In the higher-level practices, Mrs. Grey not only made connections to students' prior learning experiences, but she also provided students with opportunities to internalize learning targets. According to the FARROP (Wylie & Lyon, 2016), the opportunity for students to internalize learning targets includes debriefing the purposes of a lesson and creating spaces for students to create learning targets with the teacher. In the study, the approaches that Mrs. Grey created opportunities for students to internalize learning targets are (1) activating students' prior knowledge and introducing students' ideas to the class discussion, (2) reviewing and revisiting what students learned at the end of lessons, and (3) supporting students' learning autonomy. Below I explain how Mrs. Grey communicated learning targets with students using three examples.

Table 3.

I Believe That Someone Said Yesterday...

Transcripts	Comments
Mrs. Grey: Okay, we will take a look at page 223. At the top of page 223, why did they give us this information (circled 1,715 ÷ 35 = 49), Lucas (non-EBs, a pseudonym)? Lucas: Because all of those are similar, (paused), they are [the] same numbers but put decimals in different places.	
Mrs. Grey: So I can and you can right away put 49 on the top of them. And I believe that someone said yesterday that the strategy they used is to ignore the decimal and figure out where it goes later. Whole class: Hmm.	Mrs. Grey introduced a student's idea that was discussed yesterday.
Mrs. Grey: So that is what we're going to practice today. So if I am looking here (circles the divisor of 35) and 35 is my divisor and 17 is the whole part of my dividend, do I know how big the magnitude of my equation is going to be? Nisha, what would you know about 17 divided by 35? Whole class: It cannot be divided.	Drawing on the student's ideas that they discussed yesterday, Mrs. G pointed out that this would be the focus of today's lesson.
Mrs. Grey: You can divide. What do you know about that, [Nisha], I just wrote 17 divided by 35 in a different form to help you. Nisha: < > Mrs. Grey: Say it again. Nisha: 7 multiple 5 is 35.	
Mrs. Grey: That is true. The 7 multiple 5 is 35. But I do not know whether that can help us to figure out how big our answer should be. I have 17 divided by 35. Tasnime, do you have ideas about that? What do you know about 17 divided by 35? Tasnime: < >	
Mrs. Grey: (Walks toward Tasnime trying to hear what she said) Maybe equal to 49? Okay, other thoughts about this, 17 divided by 35 (Mrs. Grey points to 17 in the divisor of 17.35), Franklin? Franklin: 17 divided by 35, then, um (paused). Mrs. Grey: How many 35s in 17? Franklin: Less than 1.	
Mrs. Grey: Less than 1, right? How do we make the 49 less than 1 in decimal form? Tasnime, how to make the 49 less than 1? (Waits for a few seconds) Where do I put the decimal? After the 9, between the 4 and 9, or in front of the 4? Tasnime: In front of the 4. Mrs. Grey: In front of the 4. Does it make sense, Tasnime, that the seventeen thirty-fifth (i.e., 17/35) is about half (Mrs. G wrote down 17 ÷ 35 ≈ ½)? Whole Class: Yeah. Mrs. Grey: It does, right? So 49 hundredths (i.e., 0.49) is our answer making sense. How about the next one?	
Videotaped on March 7, 2019	

Example 1: Introducing Students' Ideas Into Class Discussions

Table 3 shows how Mrs. Grey built on students' knowledge activation and guided students to think about learning targets.

In this example, Mrs. Grey intended to guide students to learn the learning target. Instead of simply posting the lesson focus on the whiteboard or briefly mentioning it, Mrs. Grey began by discussing a math task in the student's activity book. Mrs. Grey first invited Lucas to think about the math task's clue (Mrs. Grey circled 1,715 ÷ 35 = 49 on the whiteboard). Then, Mrs. Grey progressed a further step based on Lucas's response and intentionally introduced Lucas's idea to the whole class before she told the class what the learning target was. By doing so, students could feel that Mrs. Grey valued their contributions because she remembered what students had said in the previous lesson. In the meantime, the way that Mrs. Grey foregrounded students' ideas played a role in capturing the students' attention.

Example 2: Revisiting and Reviewing Learning Targets.

Another approach that Mrs. Grey used was reviewing and revisiting the learning target. In the conversation episode presented in Table 4, Mrs. Grey asked her students to reflect on what they had learned at the end of the lesson.

This example shows that Mrs. Grey guided students to reflect on what they learned. She first explicitly asked students reflective questions such as "What is the purpose of what we did today." This move provided students with opportunities to revisit the learning goal of this lesson. Then, Mrs. Grey guided students to think about the algorithm method (i.e., digit by digit) that they learned. To further check students' thinking, she invited more students, for example, Tasnime and Greg, to join the conversation. After hearing Tasnime's responses, Mrs. Grey revoiced Tasnime's answers. Next, she invited Greg to think about whether there is only one way to place the decimal. The purpose of this invitation was to emphasize that students can use multiple ways (i.e., different algorithm methods) to solve division problems, which is an essential component of this lesson's learning goals.

Example 3: Supporting Student Learning Autonomy.

Mrs. Grey's practice of presenting learning targets was

Table 4.
What Is the Purpose of What We Did Today?

Transcripts	Commentary
Mrs. Grey: Before you put your pencils down, I am going to ask you what is the purpose of what we did today. What did you get out of it? Lucy (non-EBs, a pseudonym), what did you get out of it? Lucy: I think what I got out of it is how to use my decimal what (paused) what to do.	Mrs. Grey asked students to reflect on the lesson's purpose and what they had learned at the end of today's lesson.
Mrs. Grey: It was what to do with them. We did not figure any problem out from the top to the bottom, right? Whole Class: Yeah Mrs. Grey: We used our? Lucy: I used digit by digit. Mrs. Grey: We used the way to figure out every digit with the decimal and some that we did not with the decimal. So we did compare problems as you were saying.	Mrs. Grey guided students to think about one of the algorithm methods – digit by digit – that they practiced, which is an essential component of the math curriculum.
…… Mrs. Grey: Awesome. Tasnime, what did you get out of what we did today? Whole Class: Where to move [when] dividing by the decimal? Mrs. Grey: So you know where to put the decimal? Whole Class: Yes	Mrs. Grey invited another student, Tasnime, to share her takeaway.
Mrs. Grey: Awesome. Is there just one way, Greg (non-EBs a pseudonym)? Whole Class: No ……	Mrs. Grey invited student Greg to join to show that there are multiple ways to solve the division problem.
Mrs. Grey: We went back and forth, some [algorithm method] worked better than some others. But they [the algorithm methods] work for all of them [the division problems].	Mrs. Grey provided a brief conclusion.
Videotaped on March 7, 2019	

Table 5.
Who Is in Charge of Your Learning?

Transcripts	Comments/Notes
Mrs. Grey: Fifth graders, what are we doing right now? What are we doing right now in this math class? Whole Class: Dividing.	
Mrs. Grey: We are dividing a decimal by decimal number, right? What part of the lesson? Who is in charge of your learning? Student A: You. Student B: No, yourself. Student C: Oh. Student D: Ourselves.	Mrs. Grey invited students to think about their learning autonomy.
Mrs. Grey: We just had an amazing discussion about a couple of them. It is your responsibility to attend to that discussion, right? Whole Class: Yes.	Mrs. Grey talked about how to be a student.
Mrs. Grey: You learn only if you are willing to think about it. I am not in charge of your learning right now. I am facilitating your learning. And I asked you questions trying to let you think. And I have been doing that since September. You probably do not remember what math was like before you came to Mrs. G's class. Whole Class: It was bad. Mrs. Grey: I would not say it was bad. I would not say that. It is just not feeling like this. We are talking about math right now. And if you are not listening, you are not talking about it either, right? Whole Class: Yes.	Mrs. Grey explained to the students the purpose of her question.
Videotaped on March 7, 2019	

not limited to focusing on the math content. There were moments when she encouraged students to think about learning autonomy. Through a conversation presented in Table 5, Mrs. Grey asked students to reflect on who was in charge of their learning and encouraged students to think about how to become responsible and independent thinkers.

As the excerpt shows, Mrs. Grey invited students to think about their learning autonomy by asking "What are we doing right now in this math class?" and "Who is in charge of your learning"? After noticing that some students still perceived the teacher as the authority figure to charge their learning, Mrs. Grey then communicated with students about how to become a self-regulated student and, in the meantime, stated her role as a facilitator.

Lower-level practices of communicating learning targets

There are some instances where students did not have sufficient opportunities to internalize learning targets during Mrs. Grey's informal FA. In the lower-level practices, I noticed that how Mrs. Grey communicated learning targets with students was brief and vague, for example, simply positing the criteria for success on the slides. There was no further discussion on "why" students are expected to learn the lesson's content, and "how" students could achieve the learning goal. The assessment conversation in Table 6 presented an example of the teacher's lower-level practice of communicating learning targets.

In this conversation, Mrs. Grey verbally presented learning targets near the beginning of the lesson. However, there was no further explanation of why the estimation was important. In addition, the connection between today's lesson and students' learning in a larger scope was not addressed. The variations of Mrs. Grey's practice in communicating learning targets can be influenced by contextual factors such as limited instructional time. During my interviews with Mrs. Grey, she said,

> *I think that it would be helpful to provide learning targets. It always comes down to time and how much time I have to get things done. This year we have never had as many snow days as we have had. We have missed ten days of school. That is two weeks of instruction in the heart of our instructional time......As an instructor, I am nervous about the impact that's going to have. [Informal Interview on March 26, 2019]*

Based on the interview excerpt, it is clear that Mrs. Grey understands the significance of communicating learning goals to students. However, it seems that she had to find a way to manage her instructional time while consistently delivering the learning targets.

Eliciting Student Thinking Using Questioning Practices

The previous section focused on Mrs. Grey's practices of communicating learning targets, namely "Where are we going". This section addresses two main points: "Where are we now," which involves gathering evidence of student learning, and "How do we get there," which emphasizes teachers providing feedback to move student learning forward. Specifically, this section focuses on how Mrs. Grey elicited students' thinking using the questioning strategy.

According to Mrs. Grey, the questioning practices not only help her to "understand where students are at their day" but also help students to "understand that they might not understand" (interview on March 13, 2019).

In Mrs. Grey's classroom, the questioning strategy has two purposes: gathering evidence of student learning and providing feedback on students' responses. The follow-up questions asked by Mrs. Grey can also be seen as her way of giving feedback to the students. A "funneling" questioning pattern emerged through the inductive coding. To recap, the "funneling" questioning pattern refers to teachers guiding students to a desired end by asking a series of questions (Herbel-Eisenmann & Breyfogle, 2005). Mrs. Grey's "funneling" questioning practices ranged from a lower level to a higher level, depending on how much she incorporated students' ideas.

Higher level practices of funneling questioning in eliciting student thinking

In the higher level "funneling" questioning practices, Mrs. Grey listened to students' responses intentionally and provided students with opportunities to express their thinking. Here I consider Mrs. Grey's questioning practices to show a higher level "funneling" questioning pattern, rather than the "focusing" questioning pattern because opportunities to excavate the students' deeper thinking are still missed occasionally during Mrs. Grey's informal FA practices.

Table 7 shows how Mrs. Grey created opportunities to illustrate students' thinking when they were discussing the math division task of 1,715 ÷ 3.5.

In this example, Mrs. Grey began by posing a few targeted questions, such as "How can I make this close to 6?" These questions helped clarify her initial query, which was "What is the significance of this?" After receiving a response from the student, Mrs. Grey followed up with another question: "Why do you believe it is encompassing the entire thing?" This allowed for the collection of evidence regarding student learning and fostered student participation. Kevin, one of the students, provided an answer to her "why" question. After Kevin responded, Mrs. Grey affirmed his thoughts by saying, "So you want me to do this? Is that what you mean?" She then drew on

Table 6.

Our Goal Is To Use Estimation to Solve Longer Division Problems

Transcripts	Comments
Mrs. Grey: We will talk more today about using estimation to solve larger problems. Tasnime, would you be able to help me? (Managing student behavior). So our goal is to use estimation to solve longer division problems. I want to start by looking at the top of page 190. [1]Whole class: Nine	Mrs. Grey presented the focus of today's lesson at the beginning of the lesson.
Mrs. Grey: Ninety-nine. So if you'd like to have it close where you are on page 199. On page 199 it shows you heard me use the word forgiving (this word may not be recorded and transcribed accurately) to describe the expanded form algorithm you can use, right? Whole class: Uh-huh.	Mrs. Grey transitioned to discussing a math task in a student exercise book. No further explanation about the learning target was offered.
Mrs. Grey: If we look here, using the traditional algorithm, and we have 93 left in our divisor as 85 (managing student misbehaviors), what's wrong here, Greg? Whole class: Hmm… (paused) Mrs. Grey: 85 times 5 is 425, right? That was where this came from. [2]Greg (student): Oh, he put the [3]< > in the wrong place.	Mrs. Grey did not create an opportunity for students to internalize learning targets in the discussion.
Mrs. Grey: No, it is okay. If we were using the expanded form algorithm that we have been using, it looks like this, right? But those used the digit-by-digit algorithms. If 85 is my divisor (Mrs. G writes 5,185 ÷ 85), how many 85s in 51? (Ms. Grey continued to discuss the division problem posted at the top of the student activity book).	
Videotaped on February 20, 2019	

Table 7.

Why Do You Think It Is Wrap a Whole (i.e., Rounding Up)

Transcripts	Comments
Mrs. Grey: How about number 5? If we are thinking about the whole number 17 divided by 3, what would that be about, Kevin (non-EBs, a pseudonym)? 17 is close to 18, right? And 18 divided by 3 is 6, right? How could I make this close to 6? Am I going down or wrapping it [490] whole? (Mrs. G and the students were talking about whether to round 490 up to 500 or go down). Whole Class: Wrap a whole.	Mrs. Grey initiated questions.
Mrs. Grey: Why do you think it is wrap[ping] a whole? Kevin: Because it is not close to the actual answer. Mrs. Grey: I would disagree that it is not close to the actual answer. Kevin: I mean 100 away, 110 away.	Mrs. Grey asked students to explain why they think it is wrapping a whole. Then Mrs. Grey provided negative feedback showing she disagreed with students' ideas.
Mrs. Grey: So you want me to do this? Is that better? Whole Class: Yeah. Mrs. Grey: But is it useful for reasoning what the answer is? Student A: No. Student B: Just to leave the number. Student C: 18 is too big. Whole Class: Yeah.	Mrs. Grey verified the student's ideas. Then Mrs. Grey led the student to reflect on whether his answer was useful.
Mrs. Grey: When I did that (Mrs. G writes 1,700 ÷ 3), I would still say (Mrs. G writes 1700 ÷ 3 estimated to 600). Do you like that better? Whole Class: Yes.	
Mrs. Grey: So Lucy (non-EBs, a pseudonym), if that is the case, does 490 check out? Whole Class: No	Mrs. Grey invited another student Lucy to join the conversation.
Mrs. Grey: (Mrs. G writes 490 × 35 = 1,715.0) Could I do this (Mrs. G writes 4 × 5 = 2.000) to save myself time? Whole Class: Yes.	Then Mrs. Grey guided students' reasoning from a "time-saving" perspective.
Mrs. Grey: I heard someone say yes, explain why that saves my time to know 490 is the correct answer, Lucy. Lucy: Because it was close. It is the closer, the better, 1,700.	Mrs. Grey asked Lucy to explain her ideas.
Mrs. Grey: We knew that 49 times 35 was 1,715. So we're not distributing what our numbers are, it is the magnitude of our numbers, how large the number is with the power of 10, and how small it is with the power of 10. Alright, how about number 6?	
Videotaped on March 7, 2019	

Kevin's responses and asked the entire class to reflect on whether Kevin's idea would help find the answer. When Lucy expressed agreement, Mrs. Grey promptly invited her to elaborate on her ideas to delve into Lucy's thinking.

Overall, in the above assessment conversation, Mrs. Grey created multiple opportunities to invite students to contribute to the class discussions. She foregrounded students' ideas and used higher cognitive demand questions when eliciting students' thinking. According to Mrs. Grey, using probing questions is a good way to support students' engagement and participation. She stated,

> *I think the key to a strong lesson and student engagement is knowing what questions to ask them so that you do not give them the answer.....a lot of the practices that you see in my classroom have developed into being very strong because of that work, the ideas that you can ask probing questions of students, not leading questions but probing questions, to get them to connect what they need to connect to be successful with math. [Informal Interview on February 22, 2019]*

Lower-Level Practices of Funneling Questioning in Eliciting Student Thinking.

In the lower level of funneling questioning practices, Mrs. Grey tended to ask students lower cognitive demand questions such as factual questions. Usually, general evaluative feedback was presented to students to progress them toward the right answer. Students did not seem to have enough opportunities to express their thinking. Table 8 shows an example of Mrs. Grey's lower-level funneling questioning practice. During the conversation, Mrs. Grey walked students

Table 8.
What Goes into My Thinking Bubble?

Transcripts	Comments
Mrs. Grey: What goes into my thinking bubble, Tasnime? (Students and Mrs. G were working together to look for the answer to the math problem of 1,533 ÷ 21.) Tasnime: 20. Mrs. Grey: 20, great job. So I am thinking 20, that is super close, right? Tasnime: Yeah.	Mrs. Grey initiated a factual question. Then Mrs. G provided general positive feedback.
Mrs. Grey: And 15 is too small for 21, so this is (Mrs. G circled 153, the dividend is 1,533) what we are looking at. We are looking for a three-digit subtraction problem, right? Tasnime, how many twos in 15? (Wait for Tasnime's response). Tasnime: 6.	Mrs. Grey explained the procedure, followed by another factual question.
Mrs. Grey: Oh, that is 12. Can we get another one? Tasnime: 7.	Instead of pointing out that her answer was wrong, Mrs. Grey guided the student to give another answer.
Mrs. Grey: 7, right? So we do 21 times 7, which is 147. Do you think that is close enough? Tasnime: Yeah.	Mrs. Grey revoiced the student's response and led Tasnime to reflect on her answer.
Mrs. Grey: But that is 7, right? We need to scale up by 10 (Mrs. G added a 0 behind 147). Would we have 70 up here (the quotient place)? Does that look good? Then we are going to subtract, 13 minus 7? Tasnime: 6.	Mrs. Grey explained why they were doing subtraction at this moment, with a follow-up factual question.
Mrs. Grey: Thank you. Now Moiz, what is next? Moiz: Ah, 21 times 3. Mrs. Grey: Oh, tell me how you got that, Moiz? Moiz: Yeah. 3 times 1 equals 3; 3 times 2 equals 6 (doing the multiplication of 21 times 3).	Mrs. Grey invited Moiz to participate in the conversation. Then Mrs. Grey asked Moiz how he got his answer.
Mrs. Grey: Awesome. Moiz, can I use my estimation skills too? How many 2s in 6? Moiz: 3. Mrs. Grey: 3, Awesome. So that is 3 [added 3 at the quotient place]. So what is our quotient, Moiz? Moiz: 73. Mrs. Grey: So smart.	Mrs. Grey asked a factual question about the quotient. Then Mrs. Grey offered evaluative feedback that was not relevant to the math task.
Videotaped on March 5, 2019	

through solving a division task (i.e., 1,533 ÷ 21) to obtain the desired answer.

In this dialogue, Mrs. Grey constantly took the role of "leading" the discussion rather than "facilitating" the discussion when she interacted with students. Limited opportunities were provided to the students such as Moiz to express their thinking. In this case, the teacher's questioning practices are considered to be at a lower level.

Discussion

Responsive teaching demands teachers to maximize students' learning opportunities. An essential aspect of this approach is emphasizing the significance of students' motivation and involvement in both teaching and assessment (Alic et al., 2022; Andrews & Bandemer, 2018; Herbel-Eisenmann & Breyfogle, 2005; Leenknecht et al., 2021). Regarding the teacher-student interactions during informal FA, findings in the study shed light on the importance of teachers foregrounding students' ideas. The study's findings on emphasizing students' ideas are aligned with the FA underlying theory of students constructing knowledge through social interactions (Black & William, 1998a; Pryor & Crossouard, 2008; Janeth, 2019). As Mrs. Grey mentioned, students were more at ease engaging in assessment discussions and expressing their thoughts when they perceived that teachers valued their input.

Findings in the study also provide insights into how teachers support students to internalize learning targets. Previous studies have addressed the importance of clarifying learning targets in FA (e.g., Moss et al., 2011). Unfortunately, there have not been many studies that thoroughly examine how teachers communicate learning targets with students. In this study, Mrs. Grey valued students' ideas and supported students' internalization of learning targets from three perspectives: (1) bringing students' prior ideas to the current assessment conversation, (2) revisiting learning targets at the end of a lesson, and (3) discussing the ownership of learning with students during the assessment conversation. Mrs. Grey's approach in communicating learning targets with students can contribute to the existing research on the use of FA.

In addition, Mrs. Grey's instructional methods provide valuable insights into the effective utilization of questioning practices to elicit students' thinking. According to Mrs. Grey, in the realm of assessment conversations, employing probing questions such as "how" and "why" can effectively facilitate students' engagement and participation. Mrs. Grey's comment aligns with the current research work by Park and colleagues (2020), which emphasizes the importance of utilizing open-ended follow-up questions. Moreover, Mrs. Grey's questioning practices illuminated the importance of involving students by listening to students' responses and asking follow-up questions based on students' ideas. A funneling questioning pattern was found in Mrs. Grey's informal FA practices when eliciting students' thinking. Compared with the traditional IRE pattern, funneling questioning provides a better space for students to explain and justify thinking (Herbel-Eisenmann & Breyfogle, 2005). Yet, there is still room for Mrs. Grey to improve her FA practices. To better elicit students' thinking, the study suggests that Mrs. Grey level up her questioning practices and bring more practice of focusing questioning to her classrooms. This is because funneling questioning can still limit opportunities for students to make contributions to the assessment conversations since "it directs their thinking in a predetermined path based only on how the teacher would have solved the problem" (Herbel-Eisenmann & Breyfogle, 2005, p.486). The utilization of the focusing questioning contributed to students' learning outcomes and confidence (Alic et al., 2022; Hagenah et al., 2018). To enact the focusing questioning, it requires teachers not to rush to get desired answers but to listen to students' responses and give students enough space to justify their thinking (Herbel-Eisenmann & Breyfogle, 2005; Andrews & Bandemer, 2018). Meanwhile, teachers need to understand the conceptions and misconceptions that students may have, plan tasks, and develop purposeful questions (Andrews & Bandemer, 2018).

In terms of the overall enactment of FA, Mrs. Grey's informal FA practices showed a consistent pattern in the following two aspects: (a) using math tasks to elicit students' learning evidence, and (b) creating a collaborative culture of learning. However, there seemed a larger variation in Mrs. Grey's practices of communicating learning targets compared to her practices in gathering students' learning evidence. The study is not alone in showing teachers' uneven and incoherent implementation of FA practices. Polly and colleagues (2016) found teachers struggled with aligning their FA practices with the mathematics standards and using the assessment data to inform instructions. The uneven implementation of the different stages of FA calls for further discussions on teachers' FA professional development. Mrs. Grey reported that her practices of communicating learning targets were influenced by her instructional time. To gain a better understanding of FA implementation, it is crucial to systematically examine the factors that may influence teachers' decision-making regarding when and how to choose to communicate learning targets with students.

Conclusion and Implications

This study examines how an elementary teacher tried to prioritize students' ideas using an exploratory case study approach. It provides insights into how the teacher employed informal FA, specifically looking at the teacher-student interactions. During the study, it was observed that Mrs. Grey tended to use funneling questioning when eliciting students' thinking. Though not intending to generalize the study's findings, it is crucial to conduct further empirical research to explore how elementary teachers implement questioning techniques to elicit students' thinking during FA. Given the benefits of using focusing questioning, the study recommends that teachers bring more focusing questioning practices in order to provide students with more meaningful assessment experiences. In addition, it is suggested that teachers conduct action research to reflect on their beliefs concerning the preparation for meaningful assessment conversations in math classrooms. This includes planning math tasks and the development of questions that prioritize students' thinking (Andrews & Bandemer, 2018).

Another essential feature of high-quality FA is the use of self and peer assessment, including peer feedback, to foreground students' participation (Black & William, 1998a; Black & Harrison, 2001; Leenknecht et al., 2021; Wylie & Lyon, 2016). Research has shown that student-initiated self-assessment enhanced the effectiveness of FA (Lee et al., 2020). Yet, elementary teachers had difficulty in incorporating self and peer assessment, partly due to their concerns about the objectivity and reliability of these assessments. (Volante & Beckett, 2011). With a focus on the whole class discussions, this study did not show clear evidence of the teacher using self and peer assessment while enacting the informal FA. As such, one potential limitation of the study is that it lacks a self-assessment and peer assessment component when examining the teacher's FA practices. Furthermore, the findings of this study may only represent a portion of the teacher's teaching practices since I observed only one math unit in the participating teacher's class. As the topic of the math content can influence a teacher's practices, the study proposes that future research including a longer classroom observation, such as an entire academic semester, to gain a more comprehensive understanding of how teachers implement FA.

Footnotes

[1] I used "whole class" instead of specific student name in the transcripts when most students in the math class responded to Mrs. Greys questions together.

[2] All students' names used in the tables are pseudonyms.

[3] < > refers to a missing word or phrase that could not be identified.

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Challenges in Implementing Indonesian Language Teaching Materials in Elementary Schools

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Abstract

The success of the learning process greatly depends on the smooth functioning of its components. This study aims to shed light on the challenges faced by elementary school teachers when implementing teaching materials in the Indonesian language learning process. The research employs a descriptive design by utilizing quantitative methods, questionnaires as the research instruments. The questionnaires used are teacher challenges (14 items) and proficiencies questionnaires (13 items) on a Likert scale, which was presented using Google Forms and distributed through WhatsApp groups. The sample comprised 94 respondents, elementary school teachers from many regions in Sumatra, Indonesia. According to the research findings, it can be deduced that elementary school teachers encounter various difficulties when teaching Indonesian language. These challenges encompass the impact of the local or mother tongue on the learning process and the complexities associated with dynamic language development. Moreover, the study employed factor analysis to pinpoint four specific areas that teachers can enhance, as they significantly improve the obstacles they face. These factors consist of ensuring adequate learning resources, enabling teachers to develop teaching materials that align with the existing curriculum, enabling teachers to design teaching materials based on students' characteristics, and fostering the ability of teachers to establish a positive and captivating learning environment.

Keywords:

Teachers Difficulties, Teaching Materials, Learning Indonesian, Elementary Schools

Introduction

Indonesian language learning in elementary schools does not always go smoothly. There are obstacles in the learning process experienced by teachers and students with different backgrounds and conditions (Amelia et al., 2023). These obstacles can also have an impact on the students' learning outcomes, which may not be optimal. Several studies have shown that both teachers and students face challenges (Basuki et al., 2017; Fauziah et al., 2018; Maghfiroh et al., 2019; Oktadiana, 2019; Saugadi et al., 2021). There are still some teachers who are not proficient in delivering Indonesian language lessons in the classroom (Praheto et al., 2020; Setiawan et al., 2021). The low competence of teachers can be a factor influencing suboptimal learning outcomes (Hidayati & Wuryandari, 2012). Therefore, teachers must continue to strive to improve their success in teaching Indonesian language in schools, such as implementing effective, innovative, active, creative, and enjoyable teaching innovations, specifically in speaking skills.

The implementation of innovative learning activities will create a classroom atmosphere that is not confined to a rigid and monotonous environment (Kalyani & Rajasekaran, 2018; Khairnar, 2015; Magulod Jr, 2018). Students will be encouraged to engage in more discussions, interactions, and dialogues so that they can construct their own concepts and principles of knowledge, rather than being spoon-fed or lectured (Praheto et al., 2020). Students also need to be accustomed to expressing different opinions, so that they can become intelligent and critical individuals (Setiawan et al., 2021). Additionally, each student has their own learning style. According to Barbe and Milone Jr (1980), there are three learning styles: visual, auditory, and kinesthetic. Among these, the most common categories are visual (30% of the population) and mixed (30%), followed by auditory (25%), and kinesthetic (15%) (Persellin, 1992). This piece of data suggests that teachers need to vary their instructional methods to increase the chances of understanding for each student's learning pathways.

Speaking is an activity that always fills various areas of human life, including in the fields of economy, law, politics, and education. This activity can take place transactionally or interactionally (Ochs & Schieffelin, 2008). Through language, individuals can convey ideas, thoughts, feelings, or information to others, both orally and in writing (Aji & Budiyono, 2018; Daely, 2015; Syahrul, 2017; Thalib, 2018). This is in line with the notion that language is a communication tool among members of society in the form of sound symbols produced by human speech organs (Al Farizi, 2019). In the field of education, particularly in Indonesian language education, language learning is divided into four language skill aspects: listening, reading, speaking, and writing. Ultimately, the goal is to guide students to be able to use language for learning, express ideas fluently and clearly, and communicate effectively with others (learning to use language, learning about language, and learning through language) (Al Farizi, 2019; Barnawi et al., 2019; Fhonna & Yusuf, 2020).

The use of various innovative techniques and methods can certainly create a conducive learning environment (Khairnar, 2015). In this context, students are directly involved in absorbing information and expressing their understanding based on their individual abilities. Through dynamic learning processes, it is expected to foster oral communication among students, facilitated through listening, speaking, reading, and writing skills, thus avoiding a monotonous learning atmosphere (Ramadhan et al., 2019). The success of a learning process will be achieved when the components of learning run smoothly. During the teaching process, teachers still face difficulties in implementing instructional materials. This is due to their lack of proficiency in using technology and inadequate facilities and infrastructure (Ramadhan et al., 2018). Additionally, teachers' ability to keep students focused during the learning process is often lacking (Yusuf et al., 2018).

One important element in the learning process is instructional materials. The weakness in Indonesian language learning lies in the emphasis on speaking aspects rather than using the language in writing or reading, which is one of the reasons why Indonesian language learning does not achieve the intended goals in learning and everyday life (Nurdiyanti & Suryanto, 2010). Tsou et al. (2006) revealed the difficulties teachers face when teaching storytelling in English to elementary school students in Taiwan, indicating the need for innovation in using technology such as websites. Instructional materials play a crucial role in the learning process, so teachers must use instructional materials effectively to overcome such problems/issues in their teaching activities. This is in line with the opinion of Farhatin et al. (2020) that instructional materials are one of the supporting elements in the learning process, as they serve as a source of teaching and learning and as a guide for educators and students.

Moreover, in an effort to develop instructional materials, a teacher should refer to the Core Competencies and Basic Competencies for the alignment between the content and the Indonesian language curriculum syllabus of 2013 (Khairunnisa & Mayrita, 2019). The Indonesian language curriculum syllabus of 2013 distinguishes between Core Competencies, which are broad educational goals ecompassing various aspects of personal and societal development, and Basic Competencies, which are specific learning outcomes tailored to individual subjects or areas of study. Azmi (2022) stated that instructional materials should be tailored to the Basic Competencies that are related to language politeness in primary schools. Furthermore, the instructional materials used by teachers should display the competencies that students will acquire for use in the learning process, aimed at planning and examining their application in the learning process (Dafit & Mustika, 2021).

Therefore, instructional materials serve as tools to support teachers in the learning process, and they should be engaging to make the learning process active and effective (Nurdiyanti & Suryanto, 2010). The instructional materials used in the learning process play a crucial role in the intellectual, social, and emotional development of students across all subjects (Arif & Iskandar, 2018). One way to develop instructional materials is by designing thematic instructional materials based on local wisdom to overcome challenges faced in schools (Meilana & Aslam, 2022). It cannot be denied that learning can now be done online, thus requiring teachers' creativity in developing electronic instructional materials to assist students in online learning (Afifulloh & Cahyanto, 2021). Teachers need to develop instructional materials using an approach and media that aim to make the learning process easily understandable and capture students' attention (Amelia et al., 2021). When developing instructional materials, a teacher must determine the success of the learning process through materials designed in accordance with the current curriculum (Magdalena et al. 2020).

Thus, engaging teaching materials used in the learning process will make students more creative and enthusiastic about learning. During the implementation of teaching, teachers often use worksheets as a guide, and the lack of creativity in teachers' application and development of interesting teaching materials is due to teachers' limitations as well as inadequate facilities and infrastructure. Nuraini and Abidin (2020) affirm that the learning difficulties of elementary school students in general can be attributed to students' shortcomings in understanding the Indonesian language. Furthermore, Saja'ah (2018) adds specifically through their findings that difficulties with the Indonesian language can affect the elementary school mathematics learning process. Therefore, this research is conducted to examine the difficulties faced by teachers/educators in implementing teaching materials in Indonesian language learning activities at elementary schools. Specifically, this study aims to address various research inquiries, such as: 1) What difficulties do elementary school teachers encounter when developing learning materials for the Indonesian language? 2) What abilities do teachers bring to the table in the process? 3) What are the primary factors that teachers should prioritize to enhance their proficiency in creating learning materials for the Indonesian language?

Methods

Research Design

The method used is a descriptive design by utilizing quantitative methods, with questionnaires as the research instruments. This research endeavors to answer several research questions, including: 1) What difficulties do elementary school teachers encounter when developing learning materials for the Indonesian language? 2) What abilities do teachers bring to the table in the process? 3) What are the primary factors that teachers should prioritize to enhance their proficiency in creating learning materials for the Indonesian language?

Research Context

Despite Indonesian being the national language of Indonesia, it is not directly taught to children due to Indonesia being a country with over 700 languages spoken, which is equivalent to 10% of the world's languages (Eberhard et al., 2021). Javanese and Sundanese are the most widely spoken, with 84 million and 34 million speakers respectively, while Madura, Minangkabau, and Buginese each have approximately 6 million speakers. In this research, it involves elementary school students who come from an area where Minangkabau is the predominant everyday language, which presents a unique challenge for teachers to introduce formal Indonesian language. The variables discussed are the difficulties experienced by teachers in preparing learning materials for the Indonesian language and the proficiencies possessed by teachers.

Data Collection

This research technique was conducted using a survey collection method, with questionnaire sheets as the research instruments. The questionnaires were distributed from December 2022 to January 2023 through a Google Forms application, with the link shared via a WhatsApp group. In this research, two questionnaires were used, namely the challenges questionnaire (14 items) and the proficiencies questionnaire (13 items). The validity test results for all items in both questionnaires showed that the Pearson correlation value was greater than rtable (0.194), indicating validity for all items. Meanwhile, the reliability test results are shown in Table 1. Based on the data in Table 1, it can be stated that all items are reliable because α (Cronbach's alpha) > 0.80 (good reliability). This research instrument utilized the Likert scale to gather data accurately, as the answer choices for each question ranged from very positive to very negative or vice versa. The Likert scale is used to measure the opinions, perceptions, and attitudes of individuals or groups towards social phenomena (Teddlie & Tashakkori, 2009). This study employed a closed-ended questionnaire that provided answer options, allowing respondents to mark the appropriate answer choice on the Google Forms platform as a survey related to the investigated phenomenon. The answer alternatives in this survey were: Disagree (D), Somewhat Disagree (SD), Agree (A), Strongly Agree (SA). The answer scores in this research were as follows: 1 (Very Low), 2 (Low), 3 (High), 4 (Very High) (Yusuf, 2016).

Table 1

Reliability Test Results

Questionnaire	Item No.	α
Challenges		
	1	0.870
	2	0.858
	3	0.856
	4	0.869
	5	0.863
	6	0.854
	7	0.863
	8	0.859
	9	0.873
	10	0.863
	11	0.858
	12	0.855
	13	0.856
	14	0.861
Proficiencies		
	1	0.880
	2	0.849
	3	0.852
	4	0.844
	5	0.847
	6	0.840
	7	0.844
	8	0.851
	9	0.844
	10	0.841
	11	0.848
	12	0.841
	13	0.839

Participants

The sample consisted of 94 respondents who are elementary school teachers in Sumatra, Indonesia. This research employed purposive random sampling technique, supported by careful considerations. Purposive sampling is a sampling method where decisions are made based on criteria believed to be in line with the characteristics of the target population (Heale & Twycross, 2015). The criteria for sample selection in this study are respondents who are elementary school teachers teaching at elementary schools located in West Sumatra Province, Indonesia. In this study, the consent form is filled out before the respondents answer the questionnaire. In this consent form, the respondents declare that they are participating voluntarily and are informed that all of their responses will be kept confidential and used only for the purposes of this research.

The respondent characteristics provided in Table 2 reveals certain tendencies and dominances. The data indicates a higher representation of women, constituting the majority of respondents with 82 individuals (87.2%). Men, on the other hand, make up a smaller portion, comprising only 12 respondents (12.8%). In terms of age groups, the largest group consists of individuals aged 36-45 years, with 34 respondents (36.2%). Following closely, the 26-35 years age group has 32 respondents (34.0%). The 22-25 years age group and the 46-55 years age group have 12 (12.8%) and 16 (17.0%) respondents. In terms of educational background, the majority of respondents hold a Bachelor's degree, with 87 individuals (92.6%). A smaller proportion, 6 respondents (6.4%), possess a Master's degree. Only 1 respondent has a Diploma, representing 1.1%. Regarding years of teaching experience, the largest group comprises those with 0-10 years of experience, with 55 individuals (58.5%). The next highest category consists of individuals with 11-20 years of experience, with 31 respondents (33.0%). A smaller portion of respondents, 7 individuals (7.4%), have 21-30 years of teaching experience. Only 1 respondent reports having 31-40 years of experience, representing 1.1%. Finally, in terms of employment status, civil servants dominate, with 60 individuals (63.8%). The remaining portion consists of contract teachers, with 34 respondents (36.2%).

Table 2

Respondent Characteristics

Demographic Information	f	Percentage (%)
Gender		
Women	82	87.2
Men	12	12.8
Age Group		
22—25	12	12.8
26—35	32	34.0
36—45	34	36.2
46—55	16	17.0
Educational Background		
Diploma	1	1.1
Bachelor’s degree	87	92.6
Master’s degree	6	6.4
Years of Teaching Experience		
0—10	55	58.5
11—20	31	33.0
21—30	7	7.4
31—40	1	1.1
Status		
Civil servant	60	63.8
Contract teacher	34	36.2

Data Analysis Techniques

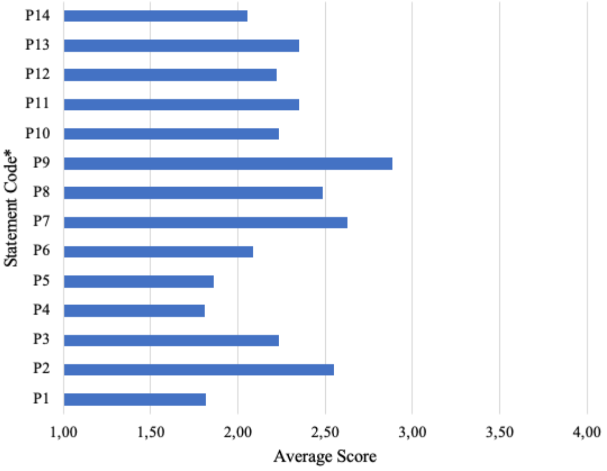
The data from the questionnaire was analyzed through several steps. First, respondents’ answers were categorized and calculated as percentages to determine their perspectives on the difficulties in implementing Indonesian language teaching materials in elementary schools. The data was analyzed by describing the findings obtained through the questionnaire and described through descriptive statistics (Sugiyono, 2017). In addition, factor analysis was conducted to determine the dominance aspect contribute to the teacher challenges.

Results

Teacher Difficulties

Figure 1

*Difficulties faced by teachers (*see Table 3)*



Based on Figure 1, the teacher difficulties can be identified. In addition, the whole responses from respondents are presented in Table 3. The highest-rated challenges include the influence of the mother tongue on the learning process (P9), with a rating of 2.88. This suggests that the teachers find it challenging to manage and mitigate the impact of the local language on effective instruction. Another significant difficulty is the perception that the subject matter taught in elementary school is too complex (P7), with a rating of 2.63. This indicates that the teachers struggle to present complex concepts in a way that is understandable and engaging for young learners. Additionally, there is a perceived abundance of Indonesian language content (P8), with a rating of 2.49, which may pose difficulties in balancing the curriculum and managing instructional time effectively. Inadequate facilities and infrastructures also present a significant challenge (P2), with a rating of 2.55, suggesting that the lack of resources and infrastructure hinders the teacher's ability to deliver optimal instruction. Additionally, the lowest faced difficulty (1.81), relates to the struggle of involving students in implementing instructional media (P4). This indicates that the teacher has relatively less difficulty engaging students and incorporating technology or media into the learning process. These identified difficulties shed light on the areas where the teacher may require additional support and resources to enhance their instructional practices and create a conducive learning environment.

Table 3

Respondents' Responses on Teachers Difficulties

Code	Statements	Response Percentage (*N* = 94)			
		D	*SD*	*A*	*SA*
P1	I am not able to use technology yet.	46.81	27.66	22.34	3.19
P2	Inadequate facilities and infrastructure.	9.57	32.98	50.00	7.45
P3	I am not yet capable of developing engaging teaching materials.	17.02	44.68	36.17	2.13
P4	I am not yet able to create lesson plans according to the characteristics of the students.	37.23	47.87	11.70	3.19
P5	I am not yet capable of understanding the concepts of teaching materials.	32.98	50.00	14.89	2.13
P6	I only use worksheets as teaching materials.	24.47	43.62	30.85	1.06
P7	The subject matter in elementary school is too complex.	3.19	35.11	57.45	4.26
P8	There is too much Indonesian language content.	8.51	37.23	51.06	3.19
P9	The influence of the mother tongue language still affects the learning process.	2.13	18.09	69.15	10.64
P10	Lack of attention from other subjects.	13.83	50.00	35.11	1.06
P11	Difficulty in providing understanding to the students.	10.64	44.68	43.62	1.06
P12	I have difficulty using varied teaching methods.	19.15	40.43	39.36	1.06
P13	It is not easy for me to direct the students' focus in learning.	11.70	41.49	46.81	0.00
P14	I struggle to involve students in implementing instructional media.	26.60	42.55	29.79	1.06

Note: D=Disagree, SD=Somewhat Disagree, A=Agree, SA=Strongly Agree

Teacher Proficiency

Figure 2

*Teacher proficiency (*see Table 4)*

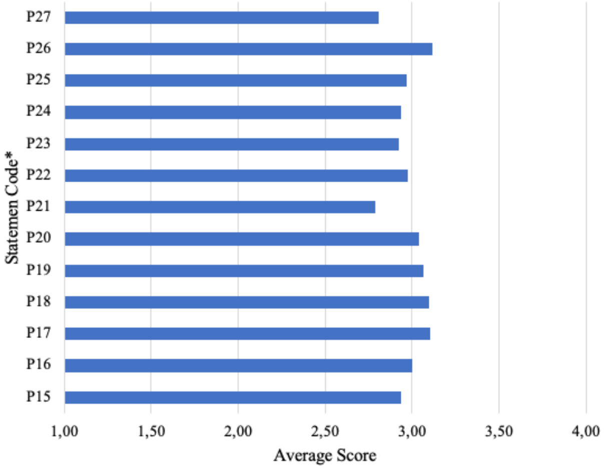


Figure 2 highlights the teacher proficiency in several areas. Moreover, the details regarding respondents responses on proficencies are summarized in Table 4. Firstly, the teacher excels in creating a pleasant learning atmosphere (P26), with a rating of 3.12. This proficiency indicates their ability to establish an environment conducive to learning, fostering positive interactions and student engagement. Additionally, the teacher demonstrates expertise in capturing student interest (P17), with a rating of 3.11. Their skill in making learning engaging and captivating contributes to a motivated and enthusiastic student body. Furthermore, with a rating of 3.10, the teacher displays competence in designing lesson plans in accordance with established guidelines, ensuring adherence to prescribed educational standards (P18). These strengths collectively indicate the teacher's ability to foster an enjoyable learning environment while effectively structuring their teaching approach. Conversely, the data reveals a lower teacher proficiency in the area of dynamic language development (P27), scoring 2.81. This suggests that the teacher faces challenges in promoting a fluid and evolving language learning experience. It implies the need for further attention and growth in this particular aspect to enhance language development opportunities for the students. Overall, the data underscores the teacher's strengths in creating a pleasant learning atmosphere, captivating student interest, and designing lesson plans effectively. However, it also highlights the potential for improvement in promoting dynamic language development within the instructional framework.

Table 4

Respondents' Responses on Teachers Proficiencies

Code	Statements	Response Percentage (*N* = 94)			
		D	*SD*	*A*	*SA*
P15	I use various teaching materials.	0.00	13.83	78.72	7.45
P16	I provide learning materials according to the characteristics of the students.	0.00	9.57	80.85	9.57
P17	I can make students interested in learning.	0.00	2.13	85.11	12.77
P18	I create lesson plans in accordance with the applicable rules.	0.00	2.13	86.17	11.70
P19	I collaborate with the students in the learning process.	2.13	2.13	82.98	12.77
P20	I can understand the concepts of teaching materials.	0.00	3.19	89.36	7.45
P21	Adequate learning resources.	5.32	19.15	67.02	8.51
P22	Collaboration among teachers in developing teaching materials.	1.06	7.45	84.04	7.45
P23	I always create creative and innovative learning using the teaching materials I create.	0.00	14.89	77.66	7.45
P24	I am able to develop teaching materials according to the current curriculum.	0.00	12.77	80.85	6.38
P25	I design teaching materials based on the characteristics of the students.	0.00	10.64	81.91	7.45
P26	I can create a pleasant learning atmosphere.	0.00	2.13	84.04	13.83
P27	Dynamic language development.	0.00	22.34	74.47	3.19

Note: D=Disagree, SD=Somewhat Disagree, A=Agree, SA=Strongly Agree.

Factor Analysis

This stage was conducted to test the correlation of the defined variables and to assess the suitability of a variable that will be analyzed using factor analysis, specifically by using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity, as well as by examining the Measure of Sampling Adequacy (MSA) value. The KMO and Bartlett's test in factor analysis are conducted to examine the correlation between variables because the desired outcome in factor analysis is a high correlation among variables. If the KMO value is greater than 0.60 and the p-value (Sig) of Bartlett's test is less than 0.05, it indicates a high correlation among variables, and the process can be continued. Table 5 shows the results of the KMO and Bartlett analysis. Based on the analysis results, the obtained KMO value is 0.775 > 0.60, and the Sig p-value (Barlett value) is 0.000 < 0.05. This indicates that the indicators are correlated, allowing for further processing.

Table 5

KMO and Bartlett Test Results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.775
	Approx. Chi-Square	1286.641
Bartlett's Test of Sphericity	df	351
	Sig.	.000

MSA is a test used to measure the homogeneity between variables and perform variable screening so that only qualifying variables can be further processed. The MSA value, as determined by the anti-image correlation value, ranges from 0.5 to 1.0, with the following criteria: MSA = 1 indicates that the variable/item can be predicted without error by other variables; MSA > 0.5 indicates that the variable/item can be predicted and further analyzed. MSA < 0.5 indicates that the variable/item cannot be predicted, will not be further analyzed, and will be excluded from the other variables. The anti-image correlation values for each item can be seen in Table 6.

Factoring or extraction process is the process of separating variables that meet the correlation of MSA values. The method used is Principal Components Analysis (PCA). Table 7 shows the contribution of the extracted indicators, indicating the values of the indicators towards the formed factor. The greater the contribution of a variable, the stronger the relationship with the formed factor.

Table 6

Anti Image Correlation Values

Indicator	MSA Value	Indicator	MSA Value
P1	0.634	P15	0.852
P2	0.780	P16	0.764
P3	0.867	P17	0.809
P4	0.652	P18	0.793
P5	0.767	P19	0.800
P6	0.772	P20	0.834
P7	0.658	P21	0.810
P8	0.557	P22	0.816
P9	0.849	P23	0.808
P10	0.583	P24	0.758
P11	0.749	P25	0.746
P12	0.809	P26	0.914
P13	0.728	P27	0.773
P14	0.775		

Table 7

Contribution of Extraction Result Variables

Communalities

Indicator	Initial	Extraction
P1	1.000	.750
P2	1.000	.741
P3	1.000	.627
P4	1.000	.765
P5	1.000	.746
P6	1.000	.698
P7	1.000	.810
P8	1.000	.655
P9	1.000	.707
P10	1.000	.668
P11	1.000	.764
P12	1.000	.703
P13	1.000	.798
P14	1.000	.770
P15	1.000	.676
P16	1.000	.671
P17	1.000	.727
P18	1.000	.692
P19	1.000	.564
P20	1.000	.731
P21	1.000	.718
P22	1.000	.781
P23	1.000	.610
P24	1.000	.714
P25	1.000	.699
P26	1.000	.623
P27	1.000	.794

Furthermore, a more specific extraction result is conducted using the PCA method, as shown in eigenvalue ≥ 1, as summarized in Table 8.

Table 8

PCA Extraction Results

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.091	29.965	29.965	3.520	13.036	13.036
2	3.147	11.654	41.619	3.131	11.597	24.633
3	1.968	7.290	48.910	3.081	11.412	36.045
4	1.461	5.409	54.319	2.855	10.575	46.620
5	1.362	5.046	59.365	1.993	7.382	54.002
6	1.123	4.159	63.524	1.788	6.621	60.623
7	1.050	3.887	67.411	1.563	5.788	66.411
8	1.005	3.720	71.132	1.275	4.721	71.132
9	.837	3.100	74.232			
10	.798	2.954	77.186			
11	.720	2.667	79.853			
12	.719	2.662	82.515			
13	.624	2.313	84.828			
14	.499	1.848	86.676			
15	.459	1.702	88.378			
16	.433	1.604	89.982			
17	.415	1.536	91.518			
18	.381	1.412	92.930			
19	.320	1.184	94.114			
20	.279	1.033	95.146			
21	.274	1.014	96.160			
22	.250	.928	97.088			
23	.217	.802	97.890			
24	.191	.708	98.599			
25	.163	.603	99.202			
26	.113	.418	99.620			
27	.103	.380	100.000			

Table 9 shows the number of extracted factors. Out of 27 extracted indicators, eight factors were formed. All of the eight formed factors have eigenvalues > 1, as seen in the total factor column.

Table 9

Number of Extraction Factors

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.091	29.965	29.965	3.520	13.036	13.036
2	3.147	11.654	41.619	3.131	11.597	24.633
3	1.968	7.290	48.910	3.081	11.412	36.045
4	1.461	5.409	54.319	2.855	10.575	46.620
5	1.362	5.046	59.365	1.993	7.382	54.002
6	1.123	4.159	63.524	1.788	6.621	60.623
7	1.050	3.887	67.411	1.563	5.788	66.411
8	1.005	3.720	71.132	1.275	4.721	71.132

Subsequently, factor rotation and rotated factor loadings were performed in this study because each factor was able to accurately explain the variability of the initial variables, as shown in Table 10.

Table 10

Rotation Outcome Factor Groups

Factor Group	Indicators
1	P21, P24, P25, P26
2	P12, P13, P14, P15
3	P1, P3, P6, P7, P9
4	P16, P17, P18, P19, P20, P27
5	P4, P5
6	P2, P22, P23
7	P8, P10
8	P11

The loading factor identifies the correlation between variables and the formed factor. A higher loading value indicates a stronger relationship between the variable and the factor. If the loading factor is negative, it indicates a negative relationship between the indicator and the underlying latent construct. In other words, as the indicator value increases, the latent construct value decreases, and vice versa. It suggests an inverse association between the indicator and the construct being measured. Table 11 shows the interpretation results of the loading values for each indicator.

Table 11

Indicator Interpretation Results

Indicator	Factor Group	Eigen values	Loading Factor	% of Variance	Cumulative %
P21	1	8.091	0.710	29.965	29.965
P24			0.793		
P25			0.815		
P26			0.703		
P12	2	3.147	0.671	11.654	41.619
P13			0.787		
P14			0.810		
P15			0.729		
P1	3	1.968	0.648	7.290	48.910
P3			0.555		
P6			0.713		
P7			0.715		
P9			0.697		
P16	4	1.461	0.428	5.409	54.319
P17			0.695		
P18			0.560		
P19			0.454		
P20			0.684		
P27			0.741		
P4	5	1.362	0.837	5.046	59.365
P5			0.698		
P2	6	1.123	-0.606	4.159	63.524
P22			0.753		
P23			0.533		
P8	7	1.050	0.645	3.887	67.411
P10			0.683		
P11	8	1.005	0.692	3.720	71.132

Based on Table 11, the magnitude of variance for each factor as well as the overall factors formed can be explained. Factor 1 accounts for 29.965% out of 100% of the total variance, meaning that 29.965% of the variance can be explained by Factor 1 based on the contributing indicators (which are the dominant factors) of Factor 1. Factor 2 accounts for 11.654%, meaning that 11.654% of the variance can be explained by Factor 2 based on the contributing indicators of Factor 2. Meanwhile, for variance values below 10%, they are as follows: Factor 3 = 7.290%, Factor 4 = 5.409%; Factor 5 = 5.046%; Factor 6 = 4.159%; Factor 7 = 3.887%; and Factor 8 = 3.720%. Collectively, they explain a total of 29.51%. Therefore, it can be concluded that Factor 1 is the dominant factor that includes the following indicators: sufficient learning resources (P21); teachers' ability to create teaching materials in line with the current curriculum (P24); teachers' ability to design teaching materials based on students' characteristics (P25); and teachers' ability to establish a positive learning environment (P26).

Discussion

Based on the findings, the first research question is addressed that the challenges faced by teachers are the impact of the mother tongue on the learning process. Uzakova (2022) stated that the mother tongue acquired at home holds immense significance and serves as the basis for all subsequent language development. Parents, family members, and early childhood professionals have the greatest influence on the growth and preservation of the primary language. In regards with the current study, several studies have been conducted on the influence of the local language, particularly Minangkabau, on the learning of the Indonesian language. Jannah and Anggraini (2023) have researched code-switching and code-mixing of Minangkabau language in the process of learning Indonesian. Additionally, Susmita (2015) conducted a similar study on code-switching from Minangkabau, Kerinci, and Melayu Jambi languages to Indonesian. The purpose of code-switching from the local (traditional) language to Indonesian in Indonesian language learning is to facilitate better understanding and mastery of the Indonesian language by students (Cahyani et al., 2018).

Language acquisition for children, as demonstrated by Kelly and Megan (2019), states that the learning of English for children accustomed to using Spanish should be supported by parental involvement. The children's use of either English or Spanish language depends on their conversation partner and conversational goals. Elmar et al. (2012) suggest that early fostering of language acquisition during preschool is crucial, especially for children with a Turkish language background who need to master the local language, which is German. Furthermore, Tihana

(2016) highlighted the importance of overt subject pronouns in ambiguous forward and backward anaphora sentences in the context of Italian language acquisition for children with a Croatian background. Milan et al. (2021) demonstrate the relationships between the development of first language skills in monolingual children (whose first language is Slovak) and bilingual children from the Roma-Slovak community (whose first language is Romani). They found that the progress in first language acquisition among Roma-Slovak bilingual children depends on the specific type of Roma community in which the child resides. Furthermore, in other languages like Icelandic, as Thordardittir and Juliusdottir (2013) observed, the process of acquiring Icelandic as a second language seems to happen at a slower pace compared to the acquisition of English. This could be attributed to the grammatical complexity of the Icelandic language and its relatively low global economic significance. To address the challenges faced by students learning in a multilingual environment, Wedin and Wessman (2017) propose that promoting language policies that challenge power hierarchies is essential for driving social change. This approach encourages social fairness and encourages active participation in policy-making processes, which can potentially redefine what is achievable in education. Therefore, it can serve as a potent tool for improving schools.

In this research, the proficiency that most teachers possess is their excellence in creating a pleasant learning atmosphere. This particular situation can be achieved by implementing suitable learning model or media. Arga et al. (2020) emphasize the importance of using learning instruments or media that can enhance the pleasant atmosphere. A positive learning environment can enhance student motivation and persuade students of the advantages of this lesson for their future (Silalahi & Hutauruk, 2020). However, since in this study, respondents have revealed that they have already mastered this technique, they can focus on enhancing or addressing other teaching skills/ aspects.

This study’s results of the factor analysis on teacher difficulties suggest that Factor 1, which comprises indicators such as adequate learning resources, teachers' ability to develop teaching materials according to the current curriculum, teachers' ability to design teaching materials based on students' characteristics, and teachers' ability to create a pleasant learning atmosphere, is the most influential factor. This means that these aspects play a significant role in determining the challenges faced by teachers. Learning resources in language learning can take the form of learning media. According to Zamzamy (2021), it is evident that learning media and teaching materials have the potential to enhance students' interest and enthusiasm in learning. However, this effectiveness is dependent on various factors, including the level of familiarity with specific technologies.

Conclusion

Based on the findings, the primary challenge faced by elementary school teachers is the impact of the mother tongue on the learning process. Furthermore, the ever-evolving nature of language development presents a challenge that can be surmounted through an understanding of technological advancements and an adaptation to students' needs. Through factor analysis, this study has identified four key factors that teachers can enhance, as they significantly influence the challenges encountered. These factors encompass the availability of sufficient learning resources, teachers' capacity to create teaching materials that align with the current curriculum, teachers' ability to tailor teaching materials according to students' characteristics, and teachers' proficiency in establishing a positive and engaging learning environment.

The findings from this research offer valuable recommendations for the professional development of elementary school teachers. It is advised that elementary school educators elevate their competence by formulating effective lesson plans that are closely attuned to students' requirements. Additionally, teachers may consider code-switching to the local language as a strategy for overcoming obstacles in teaching Indonesian. Furthermore, educators can enhance their technological proficiency to provide high-quality learning resources and media.

In this study, several limitations can be explained as follows. The scope of respondents involved in this research consists of elementary school teachers in the Minangkabau ethnic region, so the findings of this study are limited to the issues faced by teachers in that specific environment. Different issues may be encountered in environments with different ethnic or cultural backgrounds in Indonesia. Furthermore, this study does not address on-site incidents related to the difficulties of using the Indonesian language in other subjects experienced by students.

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Acute Effects of 5-Minute Dance Active Break on Executive Functions, Mathematics, and Enjoyment in Elementary School Children

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Abstract

Active breaks (AB) are short periods of physical activity in the classroom. The purpose of this study was to compare the acute effects of 5-minute dance break with an aerobic and a sedentary group on the executive functions, math performance and enjoyment of elementary school children. A total of 67 children (10.41±.13 years) of three fifth grade classes were randomly assigned to the three groups: dance (21 children), aerobic (24 children) and control (22 children). At the beginning and at the end of the intervention, all participants completed the Flanker task, the Digit Span test, the tower of London and a math test (mental calculations). In addition, the dance and the aerobic group were evaluated on their enjoyment level and physical activity intensity. At the end of the intervention both the dance and the aerobic group showed significant improvement in inhibition compared to pre-test. Moreover, the dance group showed higher levels of enjoyment compared to the aerobic group. The findings of the study suggest that even 5-minute dance break may positively affect children's inhibition and enjoyment. Children's enjoyment is crucial for AB participation and affects their academic performance. Therefore, children's enjoyment should also be considered in AB planning, and dance could be a suitable alternative compared to other AB physical activities (aerobic/strength activities).

Keywords:

Active Break, Executive Functions, Enjoyment, Mathematics, Elementary School

Introduction

Executive functions (EF) refer to a set of cognitive processes that are crucial for goal directed behavior (Baggetta & Alexander, 2016). According to Diamond (2013), there are three core EF: (a) working memory (ability to retain information in the brain and process it), (b) inhibition (ability to focus on a task by resisting impulses and distraction interference), and (c) cognitive flexibility (ability for quickly and flexible thinking to solve problems). EF assist young children in processing and learning new information and are related to mathematics and language abilities (Allen & Dowker, 2022; Micalizzi et al., 2019; Rocha et al., 2019).

Recent studies reported that long-term regular physical exercise is beneficial not only for health-related variables (e.g. physical fitness, reduced obesity or bone health), but also for cognitive performance across different age groups (Liu et al., 2020; McPherson et al., 2018; Watson et al., 2017). The association between physical activity and cognitive performance is supported by evidence that motor and cognitive activities activate the same brain regions (McPherson et al., 2018). The mechanism underlying the positive effects of physical activity on cognitive performance is hypothesized to be the link between physiological arousal and cognitive functioning (Li et al., 2017). It is suggested that moderate to vigorous physical activity increases oxygenation and releases neurotransmitters that enhance attention, improving cognitive functions and overall school performance (Layne et al., 2021; McPherson et al., 2018).

Currently, active breaks (AB), i.e. short periods of physical activity inside the classroom, performed as a break from the lesson, are receiving great attention in the education field (Masini et al., 2020). The AB studies can be classified in two categories: (a) studies that investigate the effects of repeated, long-term AB (chronic AB, short physical activity bouts performed in multiple sessions per week and last several weeks or months), and (b) studies that investigate the acute effects of a single bout of physical activity inside the classroom (Donnelly et al., 2016). Regarding the effects of chronic AB, there is a consensus that they improve children's academic and behavioral outcomes (Egger et al., 2019; Mavilidi et al., 2022; Pesce et al., 2021; Vazou et al., 2021). However, the studies investigating the impact of a single session of exercise on cognitive functions have produced conflicting results. Some studies reported improvements in children's cognitive functions compared to the sedentary control group (Drollette et al., 2014; Ma et al., 2015; Schmidt et al., 2016), whereas other studies reported worsening effects (Egger et al., 2018; Gallotta et al., 2015), and others depicted no differences between AB and the sedentary control group (Calvert et al., 2019; Haas et al., 2022; Mavilidi et al., 2020; Yamazaki et al., 2018).

Possible explanations for the inconsistent results of the studies with a single bout of AB may be the duration and the type of AB interventions (e.g., aerobic, with or without cognitive engagement). For example, Howie et al. (2015), reported that durations of 10 and 20 min of moderate-to-vigorous intensity of AB improved math performance in 9 to 12 years old children compared to seated students (control). In contrast, there were no differences after the 5-min AB between the two groups (Howie et al., 2015). However, another explanation for the conflicting findings could be the level of enjoyment of the children in participating in AB. Most AB interventions include aerobic movements (e.g. marching/jogging on the spot, star jumps, various forms of hopping, push-ups), and these activities may not be appealing enough for children to initiate participation (Haas et al., 2022; Howie et al., 2015). The effectiveness of any survey depends directly on pupils' interest to participate, and many teachers reported that pupils are not interested in engaging in physical activities inside the classroom, such as running or jumping on the spot, because they do not find them appealing (Dinkel et al., 2017). Moreover, children's enjoyment is not only crucial for AB participation, but also determines the level of engagement in subsequent academic tasks and affects their academic performance (Brand & Ekkekakis, 2018; Özerk, 2020; Stevens et al., 2020). Hence, when developing an AB content, it is crucial to take into account not only the physical parameters of the AB (such as duration and intensity), but also the affective domain of the children (i.e., the appeal of the physical activities).

Dancing is a popular activity among children and combines physical activity with enjoyment (Chatzopoulos, 2019; Mouratidou et al., 2008). Moving in sync with the beat of the music has a positive influence on affective arousal and enjoyment (Bigliassi et al., 2017). Dancing activities are supposed to challenge both motor and cognitive systems (Kapodistria et al., 2021; Syarah et al., 2021). More, specifically, dancing requires learning new movements (mental effort), and synchronizing them with the music, and therefore it requires high cognitive engagement. Shen et al. (2020), reported that 8 weeks (3 times a week) of street-dance training improved the cognitive function of preschool children, and Zinelabidine et al. (2022) showed that an 8-week aerobic dance program improved cognitive performance in elementary school children. Moreover, Vazou et al. (2020), showed that a rhythmic program (moving to the beat with whole body movements, clapping and drumsticks) improved EF after 7 weeks (30 min, twice per week). While the results of studies regarding the positive chronic effects of dancing (i.e. long-term interventions) on cognitive function are consistent (Oppici et al., 2020; Rudd et al., 2021), there is no unanimity among the limited number of studies examining the acute effects of dance in the classroom (Liu et al., 2020). Fiorilli et al. (2021) compared the acute effects of a creativity program with a sedentary group, and reported significantly better performance of the dance group in attentive skills and math performance (each session lasted 15min). On the contrary, Egger et al. (2018) reported no significant effects of an acute dance program (20 min duration, consisting of the movements jump up, spin around and sit down in sync with the music) on the executive functions of second graders (7-9 years old). However, most of the primary school teachers are unwilling to implement active breaks of such long time durations in the classroom (Campbell & Lassiter, 2020; Chorlton et al., 2022; Dinkel et al., 2017). The biggest barrier in implementing AB of 15-20min is time in relation to curriculum pressures (tight academic schedule), and the majority of the teachers reported that AB durations of more than 5min are not feasible (Chorlton et al., 2022).

The aim of the present study was to compare the acute effects of a brief (5min) dance AB with an aerobic group (e.g., marching in place, star jumps), and a sedentary group on the EF, math performance and enjoyment in elementary school children. The first hypothesis was that the two intervention groups would perform better in EF and math compared to the sedentary one (control). The second hypothesis was that the dance group would perform better in EF and math compared to the aerobic group, because dancing is more mentally demanding than aerobic movements (e.g., running). This hypothesis was based on recent reviews which reported that cognitively challenging ABs ("mindful physical activity") showed better results compared to "plain" aerobic-exercise (e.g. star jumps, "mindless physical activity") (Diamond & Ling, 2019; Paschen et al., 2019). The third hypothesis was that the dance group would enjoy the participation in the AB more compared to the aerobic group, because dancing is more appealing than doing running or jumping on the spot.

Method

Participants

The sample size of the study was calculated using G*Power (version 3.1), by choosing in the field "Statistical test": "ANOVA, repeated-measures test, within-between interaction" (Faul et al., 2007). For the calculation of the sample size were used the following parameters: effect size f = 0.20 based on the meta-analysis of Greeff et al. (2018), α = 0.05, power = 0.8, number of groups = 3, number of measurements = 2, and correlation among repeated measures = 0.5. According to the analysis of G*Power, the optimal sample size is 66 children. Moreover, a dropout rate of 10% was considered, therefore, the minimum sample size should have consisted of 72 participants. The original convinience sample included 73 children from three fifth grade elementary classes of the same district. The classes were randomly assigned to the three conditions: dance, aerobic and control (Excel formula RAND). The data of seven children were excluded from statistical analysis because they did not took part in all requiered procedures (e.g. familiarization, pre- and post-testing). Therefore, the final sample size conprised 67 children (37 boys, 30 girls, age =10.41±.13 years). The dance group consisted of 21 children (12 boys, 9 girls, age =10.40±.24 years), the aerobic of 24 children (13 boys, 11 girls, 10.42±.14 years) and control 22 children (12 boys and 10 girls, age=10.39±.13).

According to the quardian reports the children were free of acute musculoskeletal injuries and had no diagnosed learning disabilities. The research was conducted in accordance with the ethical guidelines of local University. Informed consent was obtained from the guardian of the children, which also gave their oral assent. No child withdrew because of injury or any other adverse experience.

Measurements

The measurements were administered in the same fix order in all three groups: inhibition (Flanker-test), working memory (Digit-test), cognitive flexibility (tower of London), mathematics test, and enjoyment and intensity (conducted only in the dance and aerobic group). All measures were conducted in the computer classroom (one-two classrooms away from their classroom, transition time ~ 3-4min). The measurements were conducted by trained post-graduate students blinded to the treatments.

Inhibition

Inhibition was assessed with a computerized Flanker task with a fish as stimuli, using the Psytoolkit software (Stoet, 2010, 2017), (https://www.psytoolkit.org). The modified Flanker task with the fish differs from the adult version, as fish are used instead of arrows (Christ et al., 2011). There were two conditions with congruent and incongruent trials. During both conditions, five fish appear on the screen. On the congruent condition, all fish point in the same direction (left or right), whereas on the incongruent condition, the middle fish (target) and the flanking fish point in opposite directions. Children are instructed to indicate whether the target fish displayed in the center of the five fish is pointing either left or right, ignoring the direction of the other four fish. In case the target fish pointed left they had to press the A letter of the keyboard (the key was red colored), if the target fish pointed right, they had to press the L letter (the key was blue colored). There were a practice round consisting of eight trials, and two blocks of 32 trials with an equal number of congruent and incongruent stimuli presented in a randomized order, with a rest period of 30 sec between the two blocks (total 64 trials). Children were required to respond to the target as fast and accurately as possible. The task was presented as a game in which the children had to feed the hungry central fish (target). Following response execution, feedback was presented on the screen as either a smiley face (correct response) or a frowning face (incorrect response or no response). Incorrect trials, fast (< 200 ms), slow (> 3000 ms), or extreme responses (3 SDs from each children's mean reaction time) were not analyzed (McDermott et al., 2007). Mean reaction time (RT) of correct trials was used for statistical analysis. High RT scores indicate poor attention control.

Working memory

Working memory was assessed with the Digit span test using the Psytoolkit software (Stoet, 2010, 2017), (https://www.psytoolkit.org). Numeric sequences are displayed on the screen, starting with two digits. The task requires participants to remember these sequences by clicking with the mouse the digits from a circle of digits. Two trials were administered for each sequence length; if participants were correct on either trial, then they advanced to the following sequence with the number of digits increasing by one. The task is ended when the children failed on two trials of the same length. Score is computed by counting the number of recalled digits in the presented order (Jones & Macken, 2015).

Cognitive flexibility

Cognitive flexibility was assessed using the Tower of London test (ToL) of Inquisit (Millisecond Software, www.millisecond.com) (Anderson et al., 1996). The test was downloaded on the computers of the school. On the screen is showed a set of three pegs and three colorful discs. Children are asked to arrange the three discs on the 3 provided pegs in a specific solution pattern, following specific rules (e.g. to move only one disc at a time, must be accomplished in a predetermined number of moves). The task consists of 1 practice and 12 trials with an increasing level of difficulty. The score of the correct configurations was used for data analysis (0-12 points). The test takes appr. 10min to complete.

Mathematics test – Mental calculation

The aim of the study was to examine the effect of an active break on mathematical performance. To achieve this, we employed a mathematics test that includes mental calculation tasks, as mental math is a fundamental topic in the mathematics curriculum worldwide (Lemonidis et al., 2018). To provide a tangible outcome for teachers, a timed mathematics test was administered. The children were asked to mentally calculate a series of 15 number operations: 5 additions, 5 subtractions, and 5 multiplications (Table 1) (Ligouras, 2012). All operations can be performed using holistic computation strategies, as the digits of the numbers are close to ten (7, 8, and 9). Our number system is based on 10, therefore the children have developed a strong intuition for numbers around 10, and it is easier to make calculations more intuitive. Moreover, when the digits of the numbers are close to 10, their magnitudes are similar, which makes mental calculations simpler (e.g. addition, subtraction or multiplication). The test requirements are age-related and structured according to the mathematics curriculum of fifth grade elementary school (Ligouras, 2012).

Table 1
Mathematics test

Nr	Addition	Subtraction	Multiplication
1	48+19	42-25	8*25
2	39+27	71-59	9*21
3	69+56	80-28	12*18
4	88+45	93-37	19*30
5	147+58	167-99	15*49

The operations in each column of the table have an increased difficulty: the first two operations are easy, the next two have a medium level of difficulty, and the last operation is difficult. For example, in the addition operations, the first two calculations yield a sum <100 (48+19, 39+27, easy calculations), the next two calculations yield a sum >100 (69+56, 88+45, medium difficulty) and the last operation is an addition with a three-digit number (147+58, difficult).

In the subtraction column, two operations are selected with a small difference (42 – 25, 72 – 59), two with a larger difference (80 – 28, 93 – 37), and one with a three-digit subtractor (167 – 99). Therefore, the first 2 operations are easy, the next 2 moderate, and the last one difficult. For the multiplications, 2 operations were chosen with a single-digit multiplier (8 * 25, 9 * 21) and 3 with double-digit multipliers (12 * 18, 19 * 30, 15 * 49), of which the last one is considered more challenging because 3 digits are larger than the number 3. Overall, each column of operations includes tasks of 3 difficulty levels.

The reliability of the test was determined by the test-retest method in a pilot study with 16 fifth grade children. The group was retested one week after the initial test and the intraclass correlation coefficient was very good ($ICC_{2,1}$=.88). The children of the reliability measurements were not included in the main study.

Enjoyment

The enjoyment of the physical activity was administered only in the dance and aerobic group, and was measured using the "interest – enjoyment" subscale of the Intrinsic Motivation Inventory (IMI) (McAuley et al., 1989). The "interest – enjoyment" subscale consists of four items (e.g., "I enjoyed the active break activities very much"), with a Likert scale from strongly disagree 1 to strongly agree 7. The questionnaire has been validated for the Greek population with fifth grade elementary school children (age 10 ± 0.5 years) by Diggelidis and Papaioannou (1999). Cronbach's α in the current study was acceptable for both groups (α > .77).

Physical activity intensity

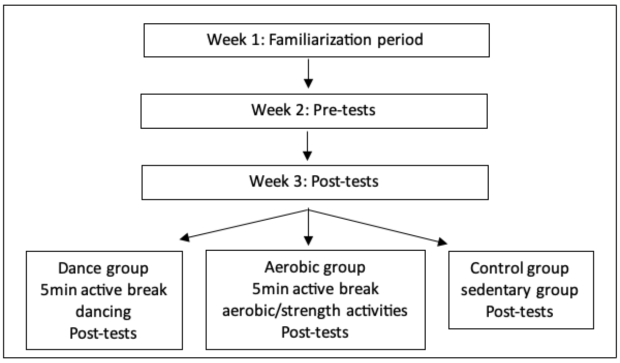
The physical activity intensity of the two ABs groups was assessed using five Polar running watches (Polar model M200). Five children were randomly selected (Excel formula RAND), and the watches were placed before the start of the lesson. In the analysis was used the average heart rate (beats per minute, bpm) during the 5min of the AB (Antonopoulos et al., 2014).

Procedures

The total duration of the study was 3 weeks, and the three experimental conditions took place in the classroom. According to the school program, the scheduled time duration of the mathematics lesson consisted of 90min (10:00-11:30 a.m.). In the first week, all children were familiarized with the computerized testing procedures in the computer classroom, which was near their classroom. The pre-tests were administered during week 2 and the post-tests in week 3. Specifically, during week 2 children completed the pre-tests in the middle of the mathematics lesson (10:45 a.m.). In week 3 children from both intervention groups (dance and aerobic) completed the post-tests after the active break in the middle of the lesson. The children in the control group also completed their post-tests in the middle of the lesson in week 3 (without active break). The duration of the dance and aerobic active break was 5min.

Figure 1

Summary of study design



Intervention

The study included three groups: the dance group, the aerobic group, and the sedentary group (control). The classroom environment of the three classes was similar regarding class size, set-up, and teacher experience. Each class had its own teacher, with a teaching experience of 15 years. The content of the mathematics lesson during the intervention, was the same in all three classes and included the recapitulation of the topic "mental calculations" (part of the mathematics syllabus for fifth grade, second semester).

The content of the two AB programs (dance and aerobic activities) was selected by the study's authors, who are professors at the local university specializing in these fields, in collaboration with an experienced physical education teacher with dance qualification. The activities of the dance and aerobic groups were projected in pre-recorded videos with children of similar age (one boy and one girl), and the physical education teacher with dance qualification physically participated to encourage participation.

The choreography in the dance group and the activities in the aerobic group were demonstrated by the same instructor (a physical education teacher with dance qualification), and children were asked to copy the movements. The title of the song in the dance group was "Dance Monkey", by Tones and I (producer Konstantin Kersting), and the choreography was based on basic Zumba steps, e.g. toe tap, heel touch, tap side, lunges, various forms of march and jumping (https://www.youtube.com/watch?v=GRM9h8EQ6Bw).

The activities of the aerobic group were designed to maintain moderate to vigorous aerobic activity, and included aerobic and strength activities performed in minimum space, such as running on the spot, various forms of jumping, squat, and lunges (Fiorilli et al., 2021; Howie et al., 2015; Katsanis et al., 2021). Both AB groups finished with a stretching cooldown of deep breathing while holding the "Palm tree pose" (standing with separated feet and arms stretched overhead) (Chatzopoulos et al., 2015). The seated group (control) followed the regular mathematics lesson on the same topic, just like the two AB groups (mental calculations), and in the middle of the lesson performed the tests, except for the enjoyment test.

Statistical Analyses

Data was analysed using a two-way mixed ANOVA repeated measures design with the between-subject factor group (dance, aerobic and control group), and the within-subject factor time (pre vs. post). Homogeneity of variances (Levene) tests were conducted for all dependent variables. If the assumption of sphericity was violated, the Greenhouse-Geisser correction was employed. In the case of significant interaction, post hoc tests were conducted with Sidak correction to identify significant differences. The level of enjoyment expressed by the children participated in the dance and aerobic group was tested using t-test for independent samples. The physical activity intensity of the ABs was tested using the Mann-Whitney U- test.

Effect sizes of ANOVA are presented as partial eta square values (η_p^2 small effect: .02; medium effect: .13; and large effect: .26) and for t-tests as Cohen's d values (small effect: .2; medium effect: .5; large effect: .8). Effect size of the Mann-Whitney U- test was calculated using the formula $r = z/\sqrt{n}$, (z: standardised test statistic, n: total number of the sample for Mann-Whitney) (r=.1 small effect, .3 moderate effect and .5 and above large effect). All statistical analyses were conducted using IBM SPSS (version 28). Statistical significance was set at p≤.05.

Results

Table 2 presents the descriptive statistics for the dependent variables.

Table 2

Mean and SD of the dependent variables in pre- and post-tests

Task		Dance	Aerobic	Control
Flanker	Pre	844.46±159.91	817.79±154.82	836.22±162.59
	Post	833.28±173.24*	805.79±155.03*	814.13±157.32
Digit	Pre	4.04±.97	4.29±1.04	4.45±1.14
	Post	4.09±.83	4.41±.88	4.50±.91
Tower of London	Pre	8.42±1.20	9.04±.90	8.86±.94
	Post	8.57±1.16	9.16±.81	8.81±.85
Math	Pre	7.04±2.85	7.54±3.34	8.59±3.24
	Post	7.28±2.98	7.70±3.36	8.68±3.19
Enjoyment	Post	5.51±1.47	4.45±1.57	
Heart Rate	Post	126±7.58	139±8.6	

*: Significant difference between pre and post-test (p<.05).

Inhibition

At the beginning and at the end, there were no significant group differences (*F* = .17, *p* = .84, η_p^2 = .005, and *F* = .30, *p* = .73, η_p^2 = .009 respectively). There was a significant interaction between group (dance, aerobic and control) and time (pre- and post-test) of measurement (*F* = 3.64, *p* = .03, η_p^2=.10). At the end of the intervention the dance and the aerobic group performed significantly better compared to the beginning (t=2.2, *p*=.032, Cohen's *d*=.38 and t=2.48, *p*=.016, Cohen's *d*=.49 respectively). Whereas control group showed no significant improvement (t=.97, *p*=.33, Cohen's *d*=.33).

Working memory

At the beginning and at the end, there were no significant group differences (*F* = .80, *p* = .45, η_p^2 = .02, *F* = 1.27, *p* = .28, η_p^2 = .03 respectively). There was no significant interaction between group (dance, aerobic and control) and time (pre- and post-test) of measurement (*F* = .18, *p* = .83, η_p^2 = .006).

Cognitive flexibility

At the beginning and at the end, there were no significant group differences (*F* = 2.10, *p* = .13, η_p^2 = .06, *F* = .24, *p* =. 11, η_p^2 = .06 respectively). There was no significant interaction between group (dance, aerobic and control) and time (pre- and post-test) of measurement (*F* = .94, *p*= .39, η_p^2 = .02).

Mathematics test – Mental calculation

At the beginning and at the end, there were no significant group differences (*F* = 1.34, *p* = .26, η_p^2 = .04, *F* = 1.08, *p* = .34, η_p^2 = .03 respectively). There was no significant interaction between group (dance, aerobic and control) and time (pre- and post-test) of measurement (*F* = .35, *p* = .70, η_p^2 = .01).

However, according to the post hoc tests, the improvement (intra-group difference) between pre and post testing in the dance group was marginally not statistically significant (*p* = .06). The intra-group differences (comparison between pre- and post-measurement) for aerobic and control group were not significant (for aerobic *p* = .15 and control *p* = .45).

Enjoyment

Enjoyment was administered only in the two ABs conditions (dance and aerobic). Independent t-test revealed that the dance group enjoyed more the activity compared to the aerobic group (*t* = 2.30, *p* = .02, *d* = 1.52).

Physical activity intensity

The Mann-Whitney *U*- test showed that the aerobic group had a significant greater heart rate compared to dancing (*U* = 2.5, Z = 2.09, *p* = .03, *r* = .25). The maximal heart rate of children 10 years old is 210 (220—10). Therefore, the dancing activity elicited 60% of the maximal heart rate, and the aerobic activity 66%.

Discussion

The aim of this study was to investigate the immediate effects of two different types of AB (dance and aerobic) on EF, math performance and enjoyment of fifth grade elementary school children. The most common duration of AB interventions ranges around 10–20min (Ferreira Vorkapic et al., 2021; Mavilidi et al., 2022). However, classroom teachers are unwilling to apply such long durations due to the tight academic schedules (Campbell & Lassiter, 2020). The majority of the teachers consider an AB duration of more than 5min to be unrealistic (Chorlton et al., 2022). The unique contribution of this study is that the AB included only 5min dance activities (synchronized movements with the music), which was compared to a common type of aerobic AB used in previous studies (aerobic and strength activities) (Haas et al., 2022). According to the results of the study, the dance and aerobic groups showed a significant improvement in inhibition performance compared to pre-measurement. Considering the math achievement, the dance group showed marginally insignificant improvement (*p* =

.06). In terms of children's enjoyment regarding the two diverse types of AB, the dance group showed a significantly better level than the aerobic one.

The finding of our study that AB (dancing or aerobic exercise) improve the inhibition component of EF in elementary school children. stands in line with other studies with children and adolescents (Altenburg et al., 2016; Jäger et al., 2015; Niemann et al., 2013). The key similarity of these studies is the application of more than 10min of AB (Altenburg et al., 2016; Jäger et al., 2015). However, there is very little research examining the effects of ABs ≤5min on EF. Our study adds to the existing literature by demonstrating that even a 5min-single bout of physical activity has positive effects on inhibition. In contrast to our study Kubesch et al. (2009) reported no improvements in inhibition after a 5min classroom exercise break. On the contrary, Ma et al. (2015) reported that 4min of high-intensity AB can improve inhibition in 9- to 11-year olds. Furthermore, Cooper et al. (2016) reported that high-intensity 10X10s sprints improved the performance (response times) of the Stroop test (inhibitory control) in adolescents. The inconsistent results could be attributed to the different participant's age ranges, and/or the variability of the measurements. For example, in Kubesch et al. (2009) study the participants were 14 years old, whereas in our study, ten years old. Previous studies reported that the influence of age on inhibitory control could be affected by task-specific features, such as the type of stimuli and the type of interference (Bruin & Sala, 2018). Moreover, the attention span of children increases with age until 14-15 years when performance becomes more stable (it reaches a plateau in adolescence) (Dias et al., 2013). Therefore, young children may have more space for improvement compared to older ones (who have reached their maximal potential). For future studies, it would be interesting to examine the interplay of AB and age effects on inhibition by including a wide age range and different forms of inhibition measurements.

Our findings showed that both physical activity groups (dance and aerobic group, with and without cognitive engagement) improved their inhibition performance at the end of the intervention with small effects sizes. The mechanism that is hypothesized to explain these positive effects is that physical activity enhances cerebral blood flow, and increases the release of neurotransmitters, which are both factors that are assumed to positively influence cognitive performance after exercise (Yanagisawa et al., 2010). However, another explanation of the inhibition improvements after moderate exercise could be that inhibition is mostly measured with performance tasks based on reaction time (e.g. Flanker task). Therefore, improvements in reaction time after moderate exercise, which do not lead to exhaustion, could be the reason for better Flanker test performance. For instance, González-Fernández et al. (2022) reported improved reaction time performance after warm-up compared to no warm-up group. To shed light on this hypothesis, future studies could apply a simple reaction test and a Flanker task before and after AB.

Recent reviews reported that cognitive demanding AB ("mindful physical activity") may lead to greater gains in EF than "plain" aerobic-exercise (e.g. star jumps, "mindless" physical activity) (Diamond & Ling, 2019; Paschen et al., 2019). However, this hypothesis was not confirmed in our study. Although dancing is more cognitive demanding (as it requires movement sync with music), compared to aerobic movements (e.g. running on the spot), there were no significant differences between the dance and the aerobic group. In line with our study, Fiorilli et al. (2021) reported no significant difference between a 15min creativity group (creative tasks, such as dramatization of brief stories) and a fitness group (strength and aerobic activities such as squats, jumping jacks, lunges, and running on the spot) in Stroop test in grades 3, 4, and 5. Similar findings were reported by Schmidt et al. (2016) by comparing a physical activity group with high cognitive demands (touching numbers randomly painted on the ground in ascending order as quickly as possible) to physical activity with low cognitive demands (10min of running at different speeds). In addition, Egger et al. (2018) reported that an AB with cognitive engagement may even deteriorate children's shifting performance. In contrast to these results, intervention studies that manipulated the level of cognitive engagement reported larger effects in favor of the physical activity condition with high cognitive engagement (Benzing et al., 2016; Diamond & Ling, 2019). However, one basic problem with cognitive engagement as a factor, is its subjectivity. For example, in our study it was easy for some children to synchronize their movements with the music, whereas for others it was more difficult. Therefore, it is not easy to systematically manipulate the cognitive engagement component of a task since it is individually determined. For future AB studies it would be interesting not only to manipulate the cognitive engagement of the children in the AB conditions, but also to record their perceived cognitive engagement (Schmidt et al., 2016).

Dancing is among children's most favored activities, and it is closely related to enjoyment (Kapodistria et al., 2021; Lykesas et al., 2020). Enjoyment increases children's motivation for learning, reduces their anxiety and influences their math performance in a positive way (Mavilidi et al., 2020; Vazou et al., 2020). Therefore, it was expected that the dance group would present higher scores in enjoyment and Math than the aerobic and the sedentary groups. However, this hypothesis was partially confirmed, and although the dance group showed higher enjoyment compared to the aerobic group, there were no significant differences between the three groups in Math performance. These insignificant findings of our study are in line with other studies (Mavilidi et al., 2020; Todd Layne et al., 2021). On the contrary, Fiorilli et al. (2021) and Howie et al. (2015) reported positive effects of ABs on math performance. More specifically, Howie et al. (2015) reported that 10min of moderate-to-vigorous aerobic activity improved math scores compared to a sedentary group in 9- to 12-year-old children, but no improvements after 5min. Moreover, Fiorilli et al. (2021) reported that a 15min AB including strength and aerobic activities improved math performance of children (aged 9.61 ± 0.82 years), whereas there was no improvement in the creative group (dramatization of brief stories). The lack of improvement in the creative group was attributed by Fiorilli et al. (2021) to the low physical activity intensity in this group. Previous studies, indicate that moderate to vigorous intensity (70%-85% of maximal heart rate) has the greatest effect on cognitive performance (Etnier et al., 2016; Hötting et al., 2016; Jäger et al., 2015). In our study, the dancing activities elicited only 60% of the predicted maximal heart rate, and the aerobic activity 66%. Nevertheless, the low intensity dance group showed marginally insignificant improvements in Math (p=.06). The low heart rate levels, in the dance group (which showed higher enjoyment levels), might not have been enough for optimal arousal. Perhaps a future study with a higher intensity dance group would show better results. More research is needed to illustrate the interaction between intensity and enjoyment of AB in academic performance.

A limitation of the study was that this was a class-level intervention for organizational needs with different class-teachers. Due to the educational system in Greece, each class has its own class-teacher in Mathematics lesson, so perhaps the different teaching style of the teachers influenced the findings of the study. Moreover, the measurements were applied in a fixed order: inhibition was measured first, then working memory and cognitive flexibility, and finally the math performance. Perhaps the children were tired after the first measurements, and this may have affected their performance in the other tests. For future studies it is recommended to apply the measurements in a counterbalance order.

Conclusions

The current study compared the effects of dance AB and aerobic on EF, mathematics performance, and enjoyment of fifth grade children. Although the AB classes (dance and aerobic) did not produce differences in mathematics compared to the sedentary class, the improvements in inhibition in both AB classes suggest that only 5min of AB may facilitate changes in EF components. Furthermore, the dance group indicated higher enjoyment levels compared to the aerobic group. Children’s enjoyment in the classroom is considered a key factor in improving EF and academic performance (Diamond & Ling, 2019). Therefore, a dance AB that improves children's enjoyment may also improve their academic performance (e.g., mathematics). Moreover, due to the pressure of time and the tight academic schedules, classroom-teachers are reluctant to implement AB of more than 5min (Chorlton et al., 2022). Therefore, for future AB interventions to be feasible and effective in a school setting, these two factors should be considered: (a) teachers’ concern regarding instructional time and (b) children’s enjoyment in AB activities.

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Building Spiritual Capital through Language Teaching: Analysis of State-Mandated Elementary Language Textbooks in Pakistan

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Abstract

Pakistan has constantly been in the news since the September 9, 2001, attack in New York, USA, and its education system and curriculum have seen a lot of interest from academics, researchers, and civil society organizations, both locally and globally. These researchers explored many aspects such as the concept of Jihad and its connection with violence against religious minorities, the construction of 'Us' and 'Them', the national, religious, and cultural identity but the development, promotion, and preservation of spiritual capital (SC) remained unexplored. This study was undertaken to take stock of the SC considered worthwhile to be preserved and promoted through language textbooks prepared for elementary school children by the Government of Pakistan. The study used a qualitative interpretive/constructivist research paradigm and chose qualitative content analysis as the data analysis method. The data for this study was taken from language textbooks (12 English and 12 Urdu) and semi-structured interview data, collected using a focus group discussion data collection strategy. This study found a very strong link between pupils' SC and the stories presented to them in the language textbooks showing the rootedness of pupils' SC in Islam, its teachings, and history. The study also showed pupils struggling to modify and expand their SC by including the global SC perspective in their already constructed set of SC. This study recommends that the textbook authorities should make the language textbooks' content inclusive and add global stories emphasizing universal SC.

Keywords:

Spiritual Capital; Language Textbooks, Pakistan, Islam, Elementary Education

Introduction

Spirituality is innate but it can also be developed, cultivated, and capitalized making it a rich resource for human development that would benefit and develop society. The question of how to make spirituality an asset just like capital and human assets contributing to creating wealth has been puzzling many academics and researchers from social sciences, humanities, business, and economics domains and created immense interest resulting in the evolution of Spiritual Capital (SC) as a separate research field (Palmer & Wong, 2013). It is founded on both religious experiences, and a-religious experiences and the "spiritual in human beings makes us ask why we are doing what we are doing and makes us seek some fundamentally better way of doing it. It makes us want our lives and enterprises to make a difference" (Zohar & Marshall, 2004, p. 29). Malloch (2010) defined it as "the fund of beliefs, examples and commitments that are transmitted from generation to generation through a religious tradition, and which attach people to the transcendental source of human happiness" (cited in Malloch, 2014, p. 463). A detailed study on SC by Gràcia (2012) traced the evolution of different definitions of SC and categorized them into three groups, first rooted in 'religion and the concept of God', second pagan embedded 'concept of good and evil' and third values-based, 'an instrument of neutral business intentionality'.

Evolution of the terms 'Capital', 'Social Capital' and 'Spiritual Capital'

The understanding and definition of the term 'capital' has gone through an evolutionary process and humans have constructed and reconstructed different meanings and definitions of this term over centuries. The word 'Capital' (a Late Latin word based on caput = head), was understood as head-counting [of cattle]; later it was considered as the financial asset of a company and from there it developed to understating different aspects of society such as religious, spiritual, social and cultural assets of a society. Braudel (1992) in his book 'Civilization and Capitalism' traced the use of the term 'capital' to Italy in 1211 in the sense of the 'assets of a trading firm' and over time it was referred to as the 'money capital of a firm or of a merchant.' Fisher (1896, 1904) in his research found the present-day understanding of the term capital to an Italian source of 1612 that referred to capital 'as a principal advanced as a quantity of money'; he also found its use in a French source of 1694 that referred to capital as the 'principal of a debt.' A book on accounting in England in 1635 defined capital as "the capitall which each partner of a joint company promiseth to bring in" (Cannan, 1921, p. 471). The Bank of England's 1697 Act of Parliament refers to it as the "principal" and the "said capital stock" of the company" (p. 473). The sources as early as 1730, 1750 and 1759 referred to it as a "sum of money advanced by a trading company" or "the money which a merchant first brings into trade on his own account" (Fisher, 1904, p. 393). The 'monetary' meaning of capital became the dominant understanding by the eighteenth century and it was further elaborated by Adam Smith and other Economists such as David Ricardo, Thomas Malthus, and John Stuart Mill.

It was also noted that "every definition of capital has been erected on the unquestioned assumption that the problem was one in the classification of wealth", as writers separated "wealth into capital and non-capital" (Fisher, 1896, pp. 513-514). The concept of capital became interlinked with wealth, 'stock of wealth', 'stock of things', 'flow of wealth', 'flow of goods', 'people who produced goods', 'movement of people who produced goods', 'capability of people who produce goods', 'raw material used to produce goods', 'revenue generated through a certain economic activity' etc. (Braudel, 1992). The world market kept on creating capital even during the war times, which has been a continuous occurrence since humans started competing against each other. The Greeks, the Romans, the Egyptians, Christians and Muslims despite fighting against their enemies "merchant vessels sailed across it every day" (Braudel, 1992, p. 22), an incessant economic activity to produce and accumulate capital. With time, it was realized that the economic theories have failed to explain economic growth and development and explained only a part of the development story. The oversimplification of the economic development process by economists was criticized by economic social scientists for they believed that social and cultural values have also contributed to economic development (Fukuyama, 2001; Landes, 2000; Sen, 1999). The term 'social capital' appeared in Marx and Marshall's works (Marshall, 1920; Marx, 1976, 1978, 1981) but it was used to refer to "national aggregates of productive assets or wealth" called public wealth but it was also observed that this concept of "social capital is but a mischievous name for national wealth" (Fetter, 1927, p. 156).

The second half of the twentieth century saw a shift in this understanding of capital adding social and political dimensions to it which generated an enormous interest and debate amongst academics about the role and value of social capital in the development of a society. Bourdieu (1986) explained it as "… the sum of the actual or potential resources that are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition—in other words, to membership in a group" (p. 248). Another influential academic Putnam's (1995) perspective encompassed the political perspective in social capital, he argued that "… 'social capital' refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 1995, p. 67). A preview of the current literature on social capital, compiled in an edited volume by the World Bank, presented the following ideas about social capital, "the shared knowledge, understandings, norms, rules, and expectations about patterns of interactions that groups of individuals bring to a recurrent activity" (Ostrom, 2000, p. 176) and "accumulation of various types of social, psychological, cultural, cognitive, institutional, and related assets that increase the amount (or probability) of mutually beneficial cooperative behavior" (Uphoff, 2000, p. 216).

SC is a sub-set of social capital having roots in and shaped by attachment to a particular religious tradition and culture (Finke, 2003; Fuller, 2009), effects of being engaged in the spiritual and religious practices, beliefs, networks, and institutions. It is also developing as an independent area of study, becoming a tangible concept as well as an abstract idea. The scholars consider SC an important aspect of human beings irrespective of where they live, their religious affiliation or lack of it and their cultural, national and linguistic identity. Rima (2012) called it an altruistic concept, having an intrinsic value, invested for the sole purpose of benefiting other than the one who has the capital, having self-generating quality. Lucey (2019) interpreted SC as generated, constructed and accumulated through a process of reconciling the inwardly and outwardly aspects of spirituality.

The existing research on SC connected it to religion and religious teachings and its impact on SC, be it Buddhism (Barker, 2007; Borup, 2019; Hardie, 2018), Christianity (O'Sullivan & Flanagan, 2012, 2016; Vasconcelos, 2020), Islam (Golparvar, Darayi, & Khayyatan, 2015; Hefner, 2010), Hinduism (Budiasni, Ayuni, & Trisnadewi, 2019; Limacher, 2019; Sujana, Darmawan, & Dasim Budimansyah, 2021) or other religious traditions. The researchers have also looked at the SC and its link with economic development (Boettke, 2010; Keller & Helfenbein, 2008), and leadership and management especially in the finance, economics and business areas and how SC influence leadership and management skills (Middlebrooks & Noghiu, 2010; Stokes, Baker, & Lichy, 2016). Different definitions and perspectives have viewed SC as an orientation, a disposition and a path shaping the practices and procedures of individuals, groups, and organizations, creating a framework to further nurture SC.

There is very little research on Islamic capital and the research available is mostly on the economic development and efficiency and ethical business practices and values and how SC affects the Islamic concept of business, development and economics (Dsouli, Khan, & Kakabadse, 2012; Fitzgibbon; Golparvar et al., 2015; Sardar, Ryandono, & Ratnasari, 2018). These studies highlighted the Islamic teachings supporting the idea of the creation and accumulation of Islamic SC. It was presented as unique and different from the SC accumulated by non-Muslim societies and other faiths. It was noted that to understand Islamic SC one must pay "attention to the cultural and ideological content" because "social and SC, culture matters, and matters deeply" reinforcing Hefner's idea suggesting that SC "is as much an effect of culture and ideas as it is networks and trust" (2010, p. 193).

There are not many studies that focus on Pakistan and the SC of young Pakistanis. This study is undertaken with the sole purpose of exploring the SC constructed, promoted, and accumulated by the adolescents who are in schools studying the state-mandated textbooks of English and Urdu, two core subjects for all children and adolescents till they complete their secondary education.

SC, Education, Schools, and Curriculum

Wrong noted that "our education is what is left when we may have forgotten most of the facts which we have learned" (1924, p. 23) and there have been two opposing arguments against compulsory education and its role as a change agent. The first group believed that education changes society for the betterment of all while the other group called it a place of "compulsory miseducation" and "factories for failure" (Osborne, 2008, p. 23). He further highlighted that the schools and compulsory education is used as an effective tool to promote ideologies of a varied number of groups. For example, "a stabilizing force"; for liberals, "utopia"; for the socialists, "dissolving the false consciousness"; for child advocates, "children protected from exploitation"; for the religious right, "teach the truths of revealed religion"; for secularists, "undermine the foundations of religious faith"; for the feminists, "biases of schooling"; for the internationalists and pacifists, "saw things differently" and for educationists, "embrace the new student-centered approaches" (p. 28). It shows that SC can be applied in all those ways, i.e., it can be a liberating concept when it reinforces understanding and investigation of one's realities or a limiting concept when it suggests conformity.

An education system is an important tool used by a state to support its school-going children and adolescents to acquire and accumulate their SC. Muslim-majority countries, such as Pakistan have used pedagogical social technologies to support pupils' accumulation of SC, be it the Madrassa (religious school) or the state-established or recognized formal schools. The tools of writing, printing and recording were used to "objectified spiritual capital in the form of manuscripts, books or cassette tapes" (Farquhar, 2016, p. 16). Pakistan has produced language textbooks for pupils to support them in learning English and Urdu languages, the core subjects, and also gather SC through the textbook content. The Islamist political parties with the support of Saudi petrodollars and USA dollars established many madrassas in the country and became an influential group that shaped the education policy and the textbook content in Pakistan which is also called 'Islamizing of education and textbooks' project and the school's co-curricular and curricular activities (Farquhar, 2016). This development spurred by the military rule with the backing of the Islamist political parties resulted in redefining SC, from a somewhat liberal to a conservative, and fundamentalist Islamist ideology. For example, the females appearing on television were forced to cover their heads and wear 'hijab,' be it the newscasters or women appearing in different entertainment shows prepared for children and adults. The greetings and dresses also changed, the Urdu version of goodbye changed from Khuda Hafiz (Khuda is a Persian word for God) to Allah Hafiz (Allah is the Arabic word for God), men and women were discouraged from wearing Western dresses (wear local dress, shalwar kameez); and for all manners of appreciation, people were encouraged to use the Arabic words such as Masha Allah, Jazak Allah, Subhan Allah rather than the Urdu forms of 'shukria' (English translation: Thank you), and 'Khuda barkat day' (English translation: God bless you) etc. Moreover, the state made it mandatory for state-run secondary and higher secondary schools and colleges to begin their day with a recitation from the Holy Koran and a Naat (a poem praising Prophet Muhammad). The state education institutes were encouraged to hold religious festivals in schools, such as Milad (to celebrate the Birth of Prophet Muhammad) during the month of Rabi' al-Awwal, the third month in the Islamic calendar, close education institutes for Friday prayers and also observe fasting during the month of Ramadan. Now it is rigidly followed in all public and private educational institutes (Ashraf, 2018; Datoo, 2014; Shah, Waris, & Basit, 2016; Shakil & Akhtar, 2012; ur Rehman & Khan, 2018).

The first education policy was envisaged with the Islamic ideology presented to the participants attending the first Educational Conference held in 1947. The first Minister of Education of Pakistan presented an outline of the education policies and system, embedded in Islam. According to him, it was the only religion that emphasised education more than other religions and Pakistan should discard the education system developed by the British because it did not have an Islamic orientation and did not cater to the needs of the Muslims and was not aligned with the ideology of the newly formed state of Pakistan (Faizi, Bibi, & Khan, 2020; Shakil & Akhtar, 2012). The Islam-focused education emphasis continued to be seen in the latest education and curriculum policies and documents. The early years of the first elected government of Pakistan, also saw the approval of a document, called The Objective Resolution, which later became the core of all important documents, such as the constitution, education policy, curriculum and textbooks. This resolution was presented to the first constituent assembly of Pakistan, after the sudden death of Muhammad Ali Jinnah in 1948, and got approved despite objections, resistance and fear from the opposition members and members belonging to religious minorities such as Hindus and Christians sitting on treasury benches. This document envisioned Pakistan as an Islamic state and all its systems and structures founded on Islamic teachings, principles, and values (Abbasi & ul Islam, 2014).

English and Urdu Language Curriculum Documents (EUCLD)

The EULCD were prepared in 2006 to guide and supervise the implementation of education policies and also to support all stakeholders, teachers, pupils, parents, school administration and state education authorities in their work in different roles, direct teaching (teachers) and monitoring (school administration and state education authorities) and indirect monitoring (parents) of the implementation of the education and curriculum policies. These documents though should have been focusing on linguistic skills such as communicative competencies (reading, writing, listening and speaking) but another element was also added to these documents. This was called, "Competency 5: Appropriate Ethical and Social Development" and suggested to the textbook writers to choose texts to instill "appropriate values and attributes" (GoP, 2006a, p. 37). The EULCD writers presented their argument to the readers of these documents saying that "textbook content should provide to the readers the realistic and diverse experiences to develop their personal worldview" and "inculcate ethical and social attributes, and values relevant in a multicultural society" (GoP, 2009, p. 9). The stress on these values also showed two forces working side by side, Islamic SC and globalized SC, showing the desire of the EULCD writers, whereby, on the one hand, they wished to see pupils develop a multicultural, multi-religious, multi-ethnic perspective (a global SC) while on the other hand, they also aimed to promote worldview and societal values rooted in conservative Islam, and Islamic SC. The EULCD named three benchmarks under Competency 5: Appropriate Ethical and Social Development, which are as follows:

> *Benchmark 1: Recognize and practice values and attributes such as tolerance, humanism, patience, equity, justice, honesty, empathy, etc., relevant for peaceful coexistence between individuals, groups, and nations.*
>
> *Benchmark II: Develop and portray through actions, a sense of importance of individual*
>
> *worth; simultaneously valuing diversity and equality among people.*
>
> *Benchmark III: Understand and evaluate contemporary social, economic and scientific developments/issues so as to participate in the global society as aware and thinking individuals (GoP, 2006a, p. 18)*

The English and Urdu curriculum documents and textbooks are not only replete with Islamic references but there are innumerable instances of conflict between a conservative and an enlightened Islam. The former has always succeeded in overpowering the latter, resulting in a narrow interpretation and understanding of Islamic teachings and practices. The textbook content is focused on promoting conservative Islamic values as opposed to Competency 5 which focuses on enlightened Islamic values. The change in focus in textbook content is connected with the textbook authorities' structure which is composed of individuals (textbook writers, reviewers and approvers) having a predisposition to establishing a conservative Islamic society in Pakistan. Another evidence of this unidimensional focus is the introduction of Nazra, that is the recitation of the Koran, which has been made mandatory for students of all religious beliefs. The non-Muslim students are not offered an alternative similar to Muslim students where non-Muslims students could also read their own holy books. Everyone enrolled in a school, without exception, is forced to study English and Urdu subjects as a certain percentage of the total marks for promotion to the next grade depends on achieving a passing grade in this subject. Though the EULCD curriculum documents should have been focused only on linguistic skills, such as reading, writing, listening comprehension and speaking, but these documents also underlined the importance of schooling to enrich pupils' SC through stories in language textbooks (GoP, 2006a, 2006b, 2022).

Research Methodology

Theoretical Framework

The theoretical framework used for this study is extracted from two ideas, first religion, which according to (Vitell et al., 2016) "tends to indicate a belief in a particular faith system, whereas spirituality involves the values, ideals, and virtues to which one is committed" (p. 148). Second, spirituality "encompasses the beliefs related to one's subjective perception concerning his/her relationships" (Vasconcelos, 2020, p. 119). The SC for this study is considered as what is made up of a "sacred or transcendent dimension of existence" (Vasconcelos, 2020, p. 119), which covers aspects such as how one views oneself, others, the community, the society and the world and the moral values guided and shaped because of this understanding about oneself and one's world. The language textbooks contain stories transmitting sacred, virtues and values that lead pupils to understand the ultimate reality, about themselves, their existence and their world. It is argued that developing pupils' SC will in turn be "opening it to the most subtle and deepest aspects" (Lozano & Ribera, 2004, p. 178) of SC through assimilation of virtues and values of higher order.

The social constructivist paradigm is very helpful in understanding the construction and amassing of SC because it happens in socially located settings and pupils construct and accumulate their SC through their interaction with the educational material (Creswell & Poth, 2016). This paradigm also offered an opportunity for the author to walk with the research participants into their reality, constructed, interpreted and founded on the world presented to them in textbooks and how this representation contributed to the construction of the world around them and their SC. The social constructivist paradigm also requires an understanding of the SC constructed and accumulated by pupils after reading different stories in their English and Urdu textbooks and for this semi-structured interview strategy was employed to collect data. The purpose of this strategy was to collect information from pupils about their SC and triangulate it with the SC found in the textbook to find out the extent to which pupils' SC is rooted in and shaped by the textbooks. A Focus Group is considered an effective method to collect data using a semi-structured interview strategy because the settings are similar to the individual interview but a little different from it because of the element of getting influenced by other participants or influencing group members, similar to pupils' everyday lives (Krueger & Casey, 2015). The researchers have been using it because they have found out the "essential purpose of focus group research," which is "to identify a range of perspectives on a research topic and to gain an understanding of the issues from the perspective of the participants themselves" (Hennink, 2014, p. 2).

Research Method

This study is rooted in the qualitative interpretivist/ constructivist research paradigm and it is argued that qualitative research "provides an in-depth, intricate and detailed understanding of meanings, actions, non-observable as well as observable phenomena, attitudes, intentions and behaviours" (Cohen, Manion, & Morrison, 2018, p. 288). Qualitative research deals with data that is "socially situated, context-related, context-dependent and context-rich" (Cohen et al., 2018, p. 288) and the job of the researcher is to "understand, describe and explain the multiple" (Cohen et al., 2018, p. 288) aspects of the data, highlighted during the analysis and description of data. This study used the qualitative textbook content analysis method to analyse textbook content and explore different messages received and communicated through the stories found in textbooks that contributed to generating pupils' SC. The qualitative content analysis also allowed the author to engage in the description of the SC and interpret it through wide-angle lenses with an interest in emancipation from oppression, exploitation, inequality, power and powerlessness, and un-freedoms (Fuchs, 2010).

The pupils in grade 8 were selected using a convenient sampling strategy and it was decided by the author to invite only those pupils to participate in Focus Groups Discussions (FGD) who were willing to share and speak in small groups (Kress & Shoffner, 2007; Prasad & Garcia, 2017). Five groups of pupils, from five different lower-income private schools, were selected and each group comprised 10 pupils. The author approached public schools but they refused to allow the author to conduct this activity with their pupils fearing that this might cause a problem for their school and result in the issuance of a show-cause notice from the local educational administration. The lower-income schools were selected because the pupils studying in these schools have been studying the textbooks published by the provincial textbook authorities from their early years. The private schools targeting the middle-class and upper-middle-class segments of society used English and Urdu textbooks published by the private textbook publisher, Oxford University Press, a major private textbook publisher in Pakistan for private schools.

The semi-structured interview with each group was conducted in two sessions, each session lasting for one hour with a refreshment break of 10 minutes between the first and the second session. The first session started with a short introduction of each participant and the participants were allowed to choose the information about themselves that they would like to share with their peers. One reason to select grade 8 pupils was that they have been reading the educational material, that is, textbooks, published by the state textbook authorities from their early years and they have grown up reading the textbooks published by the state textbook authorities, from four to grade eight. The other reason was that they were able to organize and share their thoughts and feelings with other pupils. The conversation in the groups was shaped by the guided questions given to pupils at the beginning of the session, after the introduction round, the following guided questions were asked during the conversation:

1. What are the virtues/characteristics of an ideal human being?
2. What are the virtues/characteristics of a political leader and a ruler?
3. What are the family virtues/characteristics?

The author intentionally did not use the word SC believing that it might frighten pupils into thinking that the author was asking questions about their concept of religiosity, piety and their belief in the core religious teachings. The author was aware that any such conversation where a participant or participants might speak of their faith that another participant might find offensive would result in consequences which would result in harming the lives and properties of pupils and the participating schools, their teachers and administration. There have been incidents where schools, teachers and pupils' lives have been threatened due to a complaint by a pupil alleging that a teacher or pupil has said or done something considered offensive and derogatory to Prophet Muhammad and Islam.

Limitations of the Author

It was thought that an ideal focus group should comprise an equal number of male and female participants and also participants belonging to different faith groups. Though the focus groups had a few female participants the pupils from minority faiths refused to participate in this activity. The author can understand their reason for refusing to participate in this research. They thought that anything they say can be misunderstood and misquoted by some participants from the majority faith and it would trigger the old vicious cycle of violence against religious minorities, which in the past has resulted in the loss of life, property and businesses of members from minority communities. The pupils who participated in the FGD activity were Muslims, belonging to the majority group, Sunni Muslims.

Why English and Urdu Language Textbooks

English and Urdu from grades 1 to 12 are core subjects, and 70% of the pupils study the textbooks published by the state-mandated curriculum and textbook authorities. This study analyzed textbooks published by the three state textbook authorities, Punjab (PCTB), Khyber Pakhtunkhwa (KpKTB), and Sindh (STB). The total number of textbooks analyzed in this study was 24 (12 English and 12 Urdu textbooks). The pupils have been studying the language textbooks published by the provincial textbook authorities throughout their schooling years, during their primary and elementary schooling years.

Findings and Discussion

Textbook: Islam and SC

Virtues as an Ideal Human Being: Tolerance, Charity, and Acceptance of non-Muslims

The virtue of tolerance and acceptance of non-Muslims is highlighted in many stories in English and Urdu textbooks. All textbooks analyzed in this study began with a story about Prophet Muhammad and the focus of the stories was to highlight and emphasize the virtue of acceptance and tolerance shown to non-Muslims by Prophet Muhammad and His companion and also by Muslims in the contemporary world. The story narrated in many textbooks from Prophet Muhammad's life is of a non-Muslim woman who hated him so much that she would throw rubbish at him whenever he passed that street. Prophet Muhammad realized that the woman had not thrown rubbish at him for a few days, he was worried about her and went to her house and found out that the woman was sick. Prophet Muhammad cleaned her house, did other domestic chores and asked her to call him whenever she needed him. The highlight of this incident was the commentary added to the story by the textbook writer stating that "Islam made it obligatory for all Muslims to care about the well-being of their neighbours" (PCTB, 2020, p. 44).

The textbooks highlighted the virtues practised by Prophet Muhammad's close associates, one of them was his son-in-law and the third Muslim ruler after Prophet Muhammad's death, Usman, a rich merchant who converted to Islam and married to Prophet Muhammad's daughter. A story is narrated about him where he bought a well from a Jew who would not let poor Muslims use that well. Usman bought the well from the Jew and gave it to the people, Muslims and non-Muslims, (KpKTB, 2020c, p. 17). The point the textbook writers and approvers wanted to highlight was the transformation, he became kind, tolerant, compassionate and merciful, which occurred in Usman after his conversion to Islam and accepting Prophet Muhammad as the true and only prophet. The textbook had multiple stories about other early Muslim rulers, Prophet Muhammad's associates before they became rulers and how their companionship and friendship with Prophet Muhammad brought about positive changes in them, transforming them into merciful and tolerant towards all, Muslims and non-Muslims. This story also concluded with the lesson for non-Muslims that the "Prophet has declared that every Muslim must look after the sick and also Islam believes in peaceful coexistence and emphasizes on forgiving" (KpKTB, 2020b, p. 101)

The textbook authorities also wanted to present to pupils that these virtues were still practised by Muslims and for this, they included many stories, one of the stories was "The Devoted Mate" (KpKTB, 2020b, pp. 98-101). This story told how a Muslim young man went to a non-Muslim country (Europe) and there he was discriminated against by his non-Muslim classmates who made fun of him, his appearance, his beard, his dress, his religion and religious practices such as praying five times a day, fasting, not eating certain food items etc. The young Muslim man did not respond to these abuses and stayed quiet and composed. One day he found out that the leader of the group who used to mock him was sick and he did not have anyone to look after him because his father was away from home. He went to that young man's house and looked after him, cooked food, cleaned the house, washed dishes and did laundry till the young man had fully recovered and his father had returned home. The non-Muslim young man and his father were grateful to the Muslim man and appreciated him. What is important in this story is that the writer of this story highlighted the belief system of the Muslim young man because he continued to remind himself that Prophet Muhammad also suffered like this but HE never reacted and the young man promised to himself that he would follow the follow Prophet Muhammad's example.

Virtues as an Ideal Ruler: Compassion, Mercy, and Forgiveness

The textbooks also narrated stories about Prophet Muhammad as a leader of Muslims and as a ruler of the first Islamic state and his companions who ruled the Islamic state after Prophet Muhammad's death. The stories recounted Prophet Muhammad's life in Mecca as a continuous struggle of good against evil and Muslims against non-Muslims. The Islamic SC of an ideal Muslim state and an Ideal Muslim ruler is conceptualized and presented to pupils through these stories and strongly knitted together through the virtues of mercy and compassion of the ruler towards the weak, poor and disadvantaged groups. The textbook writers presented stories where Muslim rulers were dispensing justice and a story about Umer, the second ruler who ruled the first Muslim state after Prophet Muhammad's death showed compassion, courage and intelligence while he was listening to a case presented before him (STB, 2020a, pp. 8-11). A young Muslim man was convicted of murder during Umer's rule and he asked Umer to be released on parole to pay back his father's loan to the lender, a Jew. He was released on parole when another friend of Prophet Muhammad became his guarantor and this young man returned as he promised and presented himself before Umer. There is another story where a non-Muslim, convicted of a crime, took advantage of the leniency shown to him by the Muslim ruler. These two stories present two similar situations but the characters are shown possessing opposite characteristics, simplicity versus a conniving attitude. Another story quoted Prophet Muhammad saying, also called Hadith in Islam, 'by Allah, if Fatima, daughter of Prophet Muhammad, were to steal, I would have her hand cut off.'

The SC of a Muslim ruler or a Muslim state is also presented in the stories recounting how early Muslim rulers looked after the socially and financially disadvantaged groups. One of the stories recounted how Prophet Muhammad and his successors went out to the streets at night to see if anyone was sleeping in the streets, or was hungry or sick and if they found anyone, they provided food and looked after the sick and the old. One of the stories, attributed the saying, 'if a dog dies hungry on the banks of the River Euphrates, Umar will be responsible for dereliction of duty to him,' to Umar, the second ruler of the Islamic state. The stories about all first four rulers who succeeded Prophet Muhammad are included in English and Urdu textbooks and these contained SC that the textbook authorities wanted to promote and develop amongst pupils believing that many of them would become future leaders who might be running the state in different roles, politicians, administrators and bureaucrats. One of his companions Abu Sufian, Prophet Muhammad's first cousin, his foster brother and early followers did not like Prophet Muhammad helping slaves and people who belonged to the lower socioeconomic class. He rebuked Prophet Muhammad by saying, "it does not suit you to carry things for the poor and low people" and Prophet Muhammad responded to him by saying, "I am the grandson of Hashim who served the rich and the poor alike and never hated the low" (KpKTB, 2020a, p. 3). This story presented the message of Islam and SC of Muslims, that is, helping others irrespective of who the other person is, his/her faith and socio-economic status, believing that all human beings are created by Allah/God and they are equal, in this temporary world and the eternal world.

Virtue as a Family Member: Father, Husband, and Slave Owner

The stories presented Prophet Muhammad as a kind, generous and caring husband, father and friend, and Prophet Muhammad is presented as an ideal husband and father in the story of Prophet Muhammad's first wife, Khadija. She liked him as her employer due to his honesty and hard work and later she married him and Prophet Muhammad stayed with her till her death. She saw him as a gentle husband, a caring father, a faithful life partner, an honest employee and later a trustworthy owner and trustee of her business. There is another message in this story which highlighted Prophet Muhammad's dedication to his first wife, highlighting that he only married Sawdah bint Zamʿah, the second wife of Prophet Muhammad whom he married after Khadija's death. A textbook writer while writing a biography of Khadija, the first wife of Prophet Muhammad, concluded the biography with a sentence that "she [Hazrat Khadija (SA)] is an example for Muslim women as she leads an exemplary life as a wife, as a companion and a friend of Prophet Muhammad. Every Muslim woman who would live a life like Khadija has a successful life in this world and the life after" (STB, 2020b, p. 12). The textbooks have stories narrating Prophet Muhammad's family life through his two wives, Khadija and Aisha and his daughter, Fatima and these stories informed pupils about the SC of a Muslim man as a husband and a father

Prophet Muhammad is shown as kind and gentle not only to his wives and children but also to those who worked for him, his slaves. There are stories in the textbook narrating how Prophet Muhammad treated slaves, his slaves and slaves owned by other [non-Muslims] and how he helped them. One of the stories stated that a non-Muslim owned a slave and he treated him poorly and would not feed him well. The slave got sick and Prophet Muhammad happened to pass by that road and saw the slave tired and lying on the road, he took pity on him and asked him to take some rest while Prophet Muhammad did his work. After completing the work, he asked the slave to remember him whenever he needed him to complete the work assigned by his master. There is another story with a similar message where an old slave was assigned the task of fetching water from a well located far away from the house of the slave owner. When Prophet Muhammad saw the old slave fetching water, he carried the water for the slave from the well to the house and then asked him to "remember him and call him whenever you need me" (KpKTB, 2020a, p. 3). These stories also communicated to pupils the Islamic perspective of the rights of labourers and workers, looking after them well, paying them well and not assigning them work beyond their physical capability.

Results of Semi-Structured Interview, Pupils' SC, and Textbooks

Virtues as an Ideal Human Being: Tolerance, Charity, and Acceptance of non-Muslims

The pupils while answering the guided questions in FGD sessions said that they were tolerant and open-minded because they learned from their textbooks how Prophet Muhammad lived his life and how he interacted with non-Muslims. The pupils believed that tolerance of people of other faiths is an important part of their. The pupils while explaining it mentioned incidents from textbooks where Prophet Muhammad had shown mercy and compassion to non-Muslims. They quoted the incident of the old woman because this incident is repeated in many English and Urdu textbooks from classes four to eight. The examples from textbooks were quoted by pupils when they described how they should live their lives. The female pupils in groups shared how they should live in their families, how they should behave, dress and support their families. They understood from the textbook stories that their lives should be shaped around men (father, brother and later husband) in their families and it is the core of the values cultivated through the textbooks.

Virtues as an Ideal Ruler: Compassion, Mercy, and Forgiveness

The most often repeated phrase in the FGD was 'Muslim rulers not only introduced the concept of a welfare state but also established the very first welfare state in the world' [focus group participants], this showed the SC communicated to pupils through the stories of Muslim rulers, be it Prophet Muhammad or his companion or other Muslim rulers. The participants of the FGD repeated the claim made in different stories in language and history textbooks that 'the people living in lands ruled by Christian and Persian kings converted to Islam because they found the message of Islam containing the elements of a society built on justice and equality, [which was] not practised by their former Christian and Persian rulers" [focus group particpants]. The female participants agreed with what the male participants said but they also stressed the role of the Muslim women who supported their husbands, fathers and brothers to become good Muslim rulers and contributed in different ways to establishing a Muslim welfare state. The male students spoke more on this focussed question as compared to female participants and male participants spoke about Muslim rulers and characteristics that Muslim rulers possessed in the past and should possess in today's world representing the true Islamic SC of a Muslim ruler, its bureaucracy and a Muslim state.

Virtue as a Family Member: Father and Husband, Brother, and Slave Owner

The participants spent most of the time talking about how a Muslim should live his/her life, and how he/she should live at home and in a community or a society. The pupils gave many examples from stories they read in textbooks where Prophet Muhammad was shown interacting with his wife and daughters. The pupils believed that Prophet Muhammad was an ideal husband and father, but when probed further about the situation in their homes, where their fathers and brother did not support their mothers and sisters in different household chores, such as cleaning, cooking, washing and laundry, the male pupils were reluctant to talk about it. They were critical of this probing question explaining that it is all due to cultural differences and they argued that their fathers helped their mothers by doing the chores which required going out, such as paying utility bills and grocery shopping. The female pupils thought that men whether their fathers or brothers should open themselves to supporting the women at home and supporting them in the household chores because many women have now taken up full-time and part-time jobs. The female pupils gave examples from the English and Urdu texts where women were shown working in fields along with men and they also worked at home doing different chores, such as cleaning, cooking, laundry, washing, looking after children and other family members of their husbands, such as mother-in-law, father-in-law and unmarried brothers and sisters of their husbands. The female pupils were of the view that men do not follow Prophet Muhammad's example and found cultural practices as an excuse. There was an interesting discussion on gender roles and representation but the space here did not allow the author to explore this any further.

Conclusion

The semi-structured FGD showed that pupils' SC is constructed from and shaped by the stories found in English and Urdu textbooks. The SC deposited and communicated to pupils in the textbook stories constructed SC that encompassed areas such as personal, family, community and citizenship. The pupils while describing their SC always quoted stories and incidents narrated in the textbooks about Prophet Muhammad, his family, his friends and Muslim rulers. The dependence of pupils on religious biographies and stories showed that the state through its textbook authorities ensured that pupils' SC is rooted in Islam and founded in Islamic teaching. The conversations also showed that pupils' perspective of living a good/spiritual life and religious/spiritual lifestyle was shaped by the stories found in language textbooks. The pupils' understanding of tolerance and acceptance of others is embedded in the Islamic concept of diversity which lacked the modern concept of inclusion and diversity. The Islamic concept of diversity employed religion as the only indicator that distinguishes one group from other groups and Islam identified and grouped people from its early history into Muslims and infidels, later 'people of the book' term was also used to make the first Islamic state look inclusive and included Christians, Jews and Zoroastrians as people of the book. Linguistic and ethnic diversity is not considered important traits that shape groups and their SC. This is also evident from the education policy documents that always consider pupils as Muslims (read Sunni) and did not recognize Shia and other Muslim minority groups within Islam as distinct and possessing a unique SC but clubbed them together as Muslims.

The non-Muslims were invisible in the education policy and curriculum documents and plans which was manifested in the new education policy that made Nazra a core subject for Muslims but did not lay out an alternative for non-Muslim pupils. This study also found that the textbooks excluded non-Muslims from the stories and for this reason, it was decided that the FGD would not include non-Muslims in this exercise. This study could not predict how non-Muslim pupils construct and accumulate their SC. The data analyzed were from Muslim pupils and it was also considered that the FGD would not ask questions focusing specifically on these two main Muslim groups, Shias and Sunnis rather focus on SC of a Muslim. The textbook content revealed a lack of representation of non-Muslim characters in stories portraying non-Muslims as not having any personalities possessing such characteristics attributed to Prophet Muhammad, HIS family friends, and associates. The pupils did not mention any non-Muslim character and personality that might have contributed to shaping their SC because they only read about non-Muslims as enemies of Islam and Muslims, bearing no influence on Islamic SC.

Education and SC became intertwined in Pakistan and the state used education as a tool to promote a certain SC to be constructed and accumulated by pupils. The state also announced a certain set of practices/rituals to be practised in schools such as Islamic school prayer before starting school and closing school early on Friday, giving pupils and teachers time to attend Friday prayer in the nearby mosque. The schools and local education authorities were told to conduct Koran recitation and Naat (poetry in praise of Prophet Muhammad, popular in South Asia) competitions at the regional (tehsil and district), provincial and national levels and these events were promoted in the 1980s and 1990s during the Islamization of education (GoP, 1992, 1998) years. The changes brought in the curriculum and textbooks were meant to transform pupils into pious Muslims who had accumulated Islamic SC over the number of years they spent in school through reading the stories about Islam, its history, expansion, teachings, Prophet Muhammad, his family and companions' life stories. The state Islamized the physical spaces in schools by allocating spaces for prayer (for Muslim pupils), school rituals such as Koran recitation before starting school assembly and school events, celebrating Muslim holidays in schools and Islamizing the celebrations of the patriotic and national days. These policies and practices were initiated and reinforced to create a set of Islamic SC, present to pupils through all school activities, teaching and non-teaching, to construct and accumulate SC.

The FGD discussions also exhibited the successful employment of textbooks as a tool to inculcate and shape a certain SC amongst pupils, giving it a certain outlook of SC. The pupils stressed having Islam and Islamic teachings as the foundation of their SC. This also showed the state's intent of developing and cultivating a homogeneous SC of pupils with a uniform foundation of SC and its standardized effects on pupils' behaviours in different social, cultural and religious settings, in different roles in family, community and society at large. The pupils also refused to accept the influence of culture on their SC and said that Islamic culture is the only culture that should have any influence on their SC.

The FGD also explored pupils' relationships and interactions with non-Muslim Pakistanis and people from other countries to investigate their SC and how it shapes their outlook about their non-Muslim country fellows and people of the world, living in different countries. The discussion was interesting because they continued to bring Islam and Islamic teaching into the discussion suggesting that Prophet Muhammad treated the non-Muslims well when he established the very first Islamic kingdom so respecting other faiths is the core of their SC because it is reinforced in Koran and Hadith multiple times. There was not a single pupil who was ready to accept the fact that Muslims ever discriminated against non-Muslims but all of them believed that Islam was the only religion that taught its followers to respect other religions. They quoted examples from Muslim rulers such as Sal-ud-din, who fought with the Christian rulers to take back Jerusalem and saved one of the most important sites, a story from their History textbook. These views are similar to what is found in the history textbooks narrating the stories about the Crusades. Muslims treated the local population well and they converted to Islam after experiencing the differences between how their earlier rulers treated them and how their new rulers (Muslims) treated them and this reflection persuaded the local population to convert to Islam. These historical narratives had an opposite representation of the Christians stating that they killed the local population and discriminated against them in their conquests of Jerusalem. When told that the majority of the population was Christian during that time, the pupils refused to believe this and said that the majority were infidels and some were Jews and Christians, revealing a strong influence of textbook narratives on pupils SC.

The FGD discovered not only the narrow focus of pupils' SC but also the lack of influence of regional and international events on their SC. The pupils were very vocal about the mistreatment of Muslims at the hands of non-Muslims (Kashmir, Palestine issue and treatment of Muslims in the West) but they refused to accept that Muslim-majority countries are mistreating the religious minorities living there. It was also interesting to note that they did not know anything about the treatment of Uighur Muslims and how they were treated by the Chinese state and its authorities. The facts reported in reputed media outlets failed to convince them and they said that it was the West's (read Christian and Jewish) propaganda to malign Islam, Muslims and Islamic teachings. The pupils believed that "China is a country where the state does not enforce any religion onto its people and people can choose and live their lives as they wish and desire" (quotation from the FDG). When the author presented facts about attacks on non-Muslims in Pakistan, loss of life, property and religious workshop places, the students always called it a plot by the anti-Islam forces to malign Islam and Islamic teachings through the hired hooligans who knew nothing about Islam, its history, teaching on how to live as a Muslim and tolerance of non-Muslims, an important component of this belief system.

The study found that pupils' SC remained rooted in religion (Islam) and their social constructions of their SC is derived from the stories given in textbooks, about Islam, early Islamic history and Muslim personalities. The educational material (textbooks) not only contributed to the construction of SC but also making pupils SC an exclusive SC, making it hard for pupils to realign their SC by incorporating the global aspects especially, the accetance of differences (religion, langauge, ethnicity and nationality). The pupils' construction of their SC from the textbook also reflected their selctive approach to constructing SC by accepting the stories presented in the textbooks but unwilling to accept stories which were not part of the textbooks and the formal educationl system. The pupils' social construtions of a pious and an evil human being, an ideal and obedient son or a daughter, a good husband and a pious wife, and different social aspects of their lives were similar to the stories they read in the textbooks. The textbooks not only contributed in constructing pupils' exclusive SC, focusing on ritualisitc SC but also making it difficulut to accept any aspect found in non-Islamic sources and non-Muslim societies. The disposition to inclusive or a global SC was non-existent amongst pupils' and this was evident from the FGD sessions.

Recommendations

This study showed a direct link between pupils' SC and the language textbooks and the use of textbooks as an effective tool to cultivate and nurture a certain SC of pupils. The FGD uncovered another aspect of pupils' SC, that is, though pupils' SC is rooted in Islam, Islamic personalities and Islamic teachings it lacked holistic ideals of SC. The textbook authorities chose to ignore the real world, which is multicultural and multireligious and decided to focus on a narrow Islamic concept of SC and promoted conservative Islam and its SC at the expense of a global digitally connected world. It is suggested that textbooks should present to pupils stories reflecting a multicultural and multireligious Pakistan and the world reinforcing the global values of openness, inclusivity, acceptance, and equality. The tetxtbook authorities claim that they are open to making the school curricula inclusive contributing to the consturction of inclusive and global SC but the their concept of global SC is very narrow, rooted in conservative Islam and they consider the other sources of SC (multireligious, multicultral and pluralistic) invalid. The textbook authorities also need to expand their concept of SC and make global values an important part of pupils' SC, considering other sources of SC as worthwhile sources as Islamic sources to support pupils' constructions of SC. If the authorities do not change their concept of SC and expand their choices of sources to consturct pupils' SC then this will result in making pupils incompetent to integrate in global world practicing global SC.

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Gender Themes in Czech Books for Children of Younger School Age

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Abstract

Children's literature can become one of the means of shaping personal identity, including gender socialization. The main characters portrayed in a book can become a kind of gender role model. The study examines gender themes in Czech books for children of younger school age that have been awarded the Golden Ribbon and Magnesia Litera prizes. The selected books (n=15) were analysed through quantitative content analysis and qualitative thematic analysis. The main findings include the fact that 596 different characters (as well as 29 main characters among them) are represented from a position of gender imbalance (boys and men are represented twice as often as girls and women). In other similarly focused research, the gender imbalance in the number of literary heroes did not have an effect on readers' popularity or the impact of reading on readers, regardless of their gender self-identification. From the results obtained, therefore, we do not conclude on social discrimination, since from a gender perspective we do not encounter any erosion of respect for any individual.

Keywords:

Gender Socialization, Children's Literature, Gender Imbalance

Introduction

Contemporary society is characterised by an extraordinary concern for minority rights and social justice, and is in a very turbulent time of changing understandings of gender and sex. In particular, the contemporary mainstream, including children's literature criticism, seems to be pushing for gender expansive and inclusive books dealing with gender creative and transgender characters, preferring literary protagonists from the LGBTQ+ community (Luecke, 2023).

The attempt to radically rethink the gender binary, however, clashes with mainstream opinion, which does not see the distinction of the human way of being into male and female forms as a discriminatory problem. This is evident in contemporary analyses of children's literature in different geographical areas. In many countries, both children's literature and its recipients equate stories with their own self-identification, with an understanding of the natural order, but also with questioning the cultural structure of gender roles. These contradictions are confirmed from research in recent years from Spain (Martínez-García, Rodríguez-

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Álvarez, & Virgós Sánchez, 2023), from Turkey and South Korea (Ramazan & Arslan Çiftçi, 2020), or from the USA (Berridge & Thomas, 2013) and Australia (Adam & Harper, 2023).

Intercultural differences in the approach to gender and gender sensitivity come to the fore especially in international communication. On the one hand, the socially different understandings of gender exemplified in children's literature are not only evident in the teaching of future teachers (Kumlu & Çomoglu, 2021) but also in the more sophisticated practices of translation. The strong focus on removing certain attitudes of traditional society into a language that prefers total gender sameness is evident, for example, in the rewriting of the original dimension of the Chinese text with the intention of softening the fragility and submissiveness of the girl protagonist, empowering her and weakening the original conceptual metaphor (Chen & Song, 2023).

Books for children reflect the theme of gender and gender roles mainly in a dualistic form, i.e., in the form of men and women placed in different gender spaces, using traditional social gender stereotypes of heteronormativity. This is evident both in picture books for preschool children and in stories intended for children readers, in which men are often described as active and dominant, while women are portrayed as gentle and submissive (Axell & Boström, 2021; Tsao, 2020). Yet, in recent years, children's books with themes of a non-binary approach of gender or trans and queer gender have been appearing (Bittner, Ingrey, & Stamper, 2016), stories in which the role of a boy is reversed for a girl and vice versa (Earles, 2017), or literary heroes adopt differently conceived gender roles (Marshall, 2004). This transformative activity has not escaped traditional and widely known fairy tales (Meland, 2020; Pawłowska, 2021). The apparent effort of such books is to overcome gender stereotypes, critique sex and gender essentialism and the whole binary opposition in children's literature, and conversely, there is a strong effort to promote themes of sexual and gender diversity in the gender socialization of school children (DePalma, 2016; Quast, 2019; Varga-Dobai, 2013).

Repeatedly, a select set of children's books have been analysed research-wise in different cultural contexts, particularly with regard to the portrayal of non-normative gender identities, usually with a value-based effort to challenge gender norms and with the perception that the lack of representation of gender variance (LGBTQ+) in children's literature promotes social injustice and problematic institutions (Capuzza, 2020; Hermann-Wilmarth & Ryan, 2016; Zanfabro, 2017). In our study, we intend to avoid this kind of activism and, with value distance, we want to draw the attention of the international scholarly community to the form and shape in which gender themes appear in Czech books for younger school-age children (6-11 years old). We are deliberately selecting children's books that are not only widely available in the Czech Republic, but have been awarded by literary associations.

We are aware, of course, that we are entering an ideological space in which any essentialist grounding of gender tied to sex is rejected and social constructivism, often denying any ties to gendered corporeality, comes to the fore (Butler, 1990). However, the disregard for human corporeality as a necessary part of the human way of being and the perception of solely social pressures as determining the life of the individual seems to be too reductive, so that a more balanced conception of corporeality and gender is sought in the debate with the new materialism and biologism (Cameron, 2010; Davis, 2009). The element of dynamics and development also enters academic attention, for example in relation to the philosophical concept of 'becoming' in the wider discussion around the notion of 'becoming-woman' (Batra, 2012; Sotirin, 2011), or in relation to the phenomenology of possible 'becoming-man' processes (Jirásek, 2021b). This does not, however, reject the basic thesis of constructivism, i.e., that a child behaves as presented to oneself or in relation to what is reinforced by society - e.g., if masculine behaviour is demanded of boys, boys in turn demand masculinity from other peers. Social influence, however, cannot explain all existential differences between masculinity and femininity, and gender identity and sexual difference need not be limited to empirical facts (hormones, social roles, historical facts) but can be grasped as a unique personality's way of life (Urban, 2016). Sexual identity, i.e., awareness of the characteristics of the anatomical structure of the body or the influence of hormonal levels, may conflict with gender identity, i.e., the assumption of a gender role and self-identification by gravitating towards masculinity, femininity, or a combination of both (Fafejta, 2016). The influence of the social environment on the formation of gender identity, starting from earliest childhood, is particularly evident in the family, peer influence, educational institutions (Nurlu, 2017), and mass communication through electronic and print media, including books. Children perceive gender themes as natural if they are in line with the norms of their environment, while their own independent perspective is developed much later due to the influence of physical and mental maturation (Janošová, 2008). The traditionally respected binary concept of gender roles (male-female), i.e., the preference for masculine and feminine types in the human way of being, is now enriched with additional categories, making it possible to respect individuals as distinct, individual beings (Daly, 2017). The possibilities of gender identity, i.e., the perception of one's own corporeality and sex characteristics, in the context of social roles and socially expected behaviour and thinking, are now multiplied in a non-binary understanding into various combinations of masculine and feminine elements, namely transgender, cisgender, queer, or the broad field of LGBTQ+ individuals.

In this categorically opaque situation, where on the one hand the majority society is comfortable with a binary model, but burdened with a multitude of stereotypes of social behaviour and expectations, and on the other hand the pressure of the public space for full recognition of the uniqueness and sovereignty of each individual without the need to fit into any categories, the role of literature for children (and especially for preschool and younger school-age children) is quite crucial not only in the process of developing gender identity and the acceptance of gender roles. The choice of appropriate children's literature is entirely dependent on the age of the reader, when children are able to work with and reshape their perspectives on others at all, depending on their knowledge of human diversity (DePalma, 2016; Tsao, 2020), especially when they are strongly influenced by social norms and gender stereotypes.

The solid foundation of every children's book is primarily a specific story based on detailed portrayals of the main characters, who indirectly take responsibility for the complex understanding of the fictional plot, including the themes of social and gender roles. The characters have their own gendered spaces in which they move and which are specific to them. When gender stereotypes appear in children's literature, for example when female literary heroines are attributed humility and care for others, while male ones are attributed dominance, activity and physical strength, such books are rightly criticized, with demands for the elimination of sexism (Earles, 2017; Shen, 2018; Tsao, 2020). While we fully agree that children should have a clear understanding of otherness, including gender specificity, we are not convinced that producing literary stories with protagonists from the LGBTQ+ community is the only possible path to social justice. The social environment of the pupils and their families may be in stark contrast to the tendency of the literary story, which, without adequate discussion and explanation, may in turn play a negative role when the non-stereotypical gender behaviour of the characters is evaluated negatively by the children and perceived as funny or nonsensical. Therefore, it is not acceptable for the topic of gender to become a mere tool to manipulatively inculcate views or actively promote any of the gender identity models (Bittner et al., 2016; DePalma, 2016; Earles, 2017). Therefore, the main purpose of the present research is to explore gender themes in Czech books for young school-age children that have been socially valued. Specifically, what is the representation of the main literary characters in terms of their biological sex and in which gender roles they are portrayed in terms of binary and non-binary understandings of gender.

Materials and methods

Research sample

With regard to the social recognition of some titles from the overall book production intended for children of younger school age, we make a deliberate selection using the literary award "Golden Ribbon" (selection of the best books for children and youth carried out by expert juries of the Czech Section of IBBY and other institutions under the auspices of the Ministry of Education, Youth and Sports) and "Magnesia Litera" (promotion of quality literature and good books regardless of genres, juries in nine categories delegated by the respective professional organizations) for the last ten years (2011-2021). We assume that the chosen criterion will make it possible to select books that do not focus primarily on gender themes (let alone with a preference for non-binary concepts and LGBTQ+ literary heroes, although such books are rare in Czech literary production, e.g., Two Dads and a Curious Girl from 2019), but in its social reflection it will point out the gendered social preferences through which professional institutions can co-create the gender identity of younger school-age children.

Another determining criterion is the age from 6 to 11 years, which was applied on the basis of the cataloguing records of the National Library of the Czech Republic. Titles for which such information was not available were examined with respect to the subject matter and any age recommendations published by booksellers. Also excluded were picture books, comic books, educational books without literary characters, poetry, nursery rhymes, and dramatic plays without sufficient description of the featured characters, and books available only in audio version. The research set consists of 15 prose books intended exclusively for children of younger school age, which were awarded the "Golden Ribbon" literary and translation prize and the "Magnesia Litera" prize for children's and young people's books (see Appendix 1 for a list). It is worth noting that not only contemporary original works are awarded in this way, but also classic and translated titles by established authors (such as Mark Twain or Antoine de Saint-Exupéry), which, of course, given the time of the texts' origin, could significantly undermine the basic focus of the study. Therefore, we declare the main idea through direct quotations exclusively from contemporary works.

Data analysis

The selected books were analysed through quantitative content analysis and qualitative thematic analysis (Hendl & Remr, 2017; Nowell, Norris, White, &

Moules, 2017; Vaismoradi, Turunen, & Bondas, 2013). Content analysis allows us to record the frequencies of occurrence of certain types of literary characters in terms of their biological sex, gendered social role, and preference for binary or non-binary conceptions of gender. The content units of these categories are male-female, masculine-feminine and binary-nonbinary polarities. A Microsoft Excel spreadsheet was used to categorize and quantify the content units. Thematic analysis allows a larger data set to be organized into clear categories - themes - and these can then be described and interpreted in detail. The focus of the thematic analysis on gender led to detailed descriptions of the categories from the content analysis, i.e., specific characteristics dependent on the biological sex of the characters, their physical appearance, hobbies and activities performed in diverse environments, etc. Repeated readings of text sections with these units of meaning lead to the generation of initial codes, which are then organized by emerging subthemes into a structure identifying key themes. The corpus is further reviewed to achieve semantic integrity and meaningful integration of the themes into a coherent narrative. The whole procedure was carried out in Czech, only the final research report was translated into English.

Results

The analysed Czech books for children of younger school age (6-11 years) do not only describe stories with human characters, but also with animals or things that take on proxy characteristics of humans, including their possible sexual and gender identification. Characters from unspecified groups (giants, neighbours, cyclists, people on a bus or in a circus, audience or magical creatures, a shoal of fish, etc.) were not included in the quantification. Across all 15 books combined, 596 different characters were identified, the majority of which (77%) had human form, in the form of children, adults, fairy, magical and other beings with human appearance. Zoomorphic characters also represent a relatively large group (22%), with the most common animal depicted being a dog. The least numerous group (1%) was things acting as characters (talking food, plants, or types of weather).

In terms of binary gender identity, boys and men predominate (66%), followed by women (30%) and non-gender-identified beings (4%), referred to as "someone", "another of the class", "good person", "rare guest", etc. The more than twofold prevalence of male literary heroes is thus fully consistent with the representation of gender in children's literature also in other cultural frameworks (McCabe, Fairchild, Grauerholz, Pescosolido, & Tope, 2011). An interesting detail turns out to be the fact that this gender imbalance and masculine dominance applies to both human and animal heroes (in roughly the same proportion), while for the least numerous group of characters in the form of things, which, moreover, do not feature gender-ambiguous characters, female heroines (over 60%) predominate over male ones (less than 40%). However, what is lost in this overall number are the individual differences of each book, in which a higher or lower gender imbalance is evident. Because the number of characters in each book varies widely (from 7 to 119), we use percentage representation. There is only one publication that is completely gender balanced, i.e., the ratio of male and female characters is equal. The books in which the female gender is represented in the range of 0.75-0.5 (i.e., two or fewer masculine characters for one feminine character) are 5. The other books, i.e., 9, show an even lower ratio, ranging from 0.25 to 0.43 (i.e., up to four times more male roles than female roles).

Out of a total of 596 literary characters, 29 of them play the main role. We also analysed the gender social role of these characters. Here too, the same gender imbalance is evident, namely, male characters are more than twice as often presented as main characters than female characters (69% and 31%, respectively). All the main literary characters can be categorized according to a binary concept of gender; none of them show a preference for a non-binary concept. Yet, even in these books, themes emerge that transcend cultural representations of gender stereotypes and disrupt them in some way. Given that these are representatives of children's literature that are socially valued, we consider this finding significant.

One of the main themes that emerged from the codes of the semantic text fragments, which can be related to the theme of gender, is the appearance of the characters. Books for younger school-age children focus on the plot of the story rather than depicting the appearance of literary characters. Nevertheless, from the descriptions of the style of dress, footwear, body structure, hairstyle, face, etc., it is possible to infer the gender roles of the individual characters, and this is of two types. The first adheres to the usual stereotypes, e.g., "She had big blue eyes, brown hair that made coils up to her shoulders, and a skirt with ruffles from her mother, but now it hung in the dressing room under a picture of a hedgehog because she had been undressed in the morning so as not to get wrinkled." (Papoušková, 2019, p. 9). Other female characters slightly exceed them: "Hanka ran out of the house in her oldest jeans and dirtiest T-shirt…" (Sutcliffe, 2015, p. 42). The female characters are very diverse and interesting, in some ways showing signs of stereotyping, for example, the body structure is always slender, whether she is tall or short: "Tapota is as slender as a match, but tall." (Fisherová, 2021, p. 44); "a golden-haired girl… She was small and should have stayed that way." (Trojak, 2020, p. 7). Neither of the main heroines is of stocky or sturdier stature. However, the hair description no longer usually plays the role of gender specification in Czech children's books: "a dishevelled girl with leaves in her moss-green hair." (Fisherová, 2021, p. 6). The drastic transgression of the usual gender space is explicitly mentioned only in one publication, and it should be noted that this is a translation of an English book: "I am a girl with a beard!" (Stower, 2018, p. 40); "James watched as Vrkú combed his hand through his beard, occasionally dropping a tiny leaf that got caught in it." (Stower, 2018, p. 122). The aforementioned otherness is also evident in the clothing: "Vrku has lent Jacob a very respectable pair of wombat-fur shorts to wear while his clothes dry." (Stower, 2018, p. 59).

Stereotyping, and even transcending it, can also be observed in male characters. Boys are often described as tall and skinny: "He was skinny and freckled. All arms, all legs." (Fisherová, 2021, p. 11), or, on the contrary, very small and petite: "He was so short and thin that even in a light breeze he had to walk in a forward bend to keep the wind from rolling him onto his back." (Stower, 2018, p. 7). Unlike the female characters, however, the male ones are described with a lesser degree of physical perfection: "A stocky fifth-grader with a good-natured round face, ruddy as a doughnut." (Trojak, 2020, p. 13). The character descriptions are more characteristically neutral: "He has an elongated face, blond hair combed into a ponytail covering half of his high forehead, a long straight nose, and a tightly pursed narrow mouth. The most striking thing about him, however, are his eyes: one is blue and the other brown." (Trojak, 2020, p. 12). In the appearance of the male characters, the social and material aspect often comes to the fore, rather than the gender aspect: "He was medium height, wearing a grubby white shirt with the buttons torn off, ten-euro jeans from KiKu, and clunky brown shoes. They looked like dead rats." (Herrndorf, 2012, p. 40).

Another main theme is the characteristics of the characters, with rather positive characteristics predominating, probably with a view to the possible identification of child readers with the main characters. The female characters in the selected books are described as bright, courageous, resourceful and ambitious, i.e. rather in opposition to traditional gender stereotypes: "Then she took her sword and the biggest poker in the kitchen, got on her bicycle and rode off on her dragons." (Jirků, 2020, p. 25); "she crept quietly under the bench on which he stood, pulled a string from her pocket, and in a flash wrapped it around his ankle." (Trojak, 2020, p. 34). Of the traditional qualities attributed to girls, concern for other characters emerges: "Rozarka got worried about Choros! Where has he gone? Did someone hurt him?" (Jirků, 2020, p. 8). Furthermore, timidity and fear shown in dangerous or unknown situations: "she was red-faced and absolutely terrified." (Fisherová, 2021, p. 7); "Kvikalka was pale. Just when she thought her knees, wobbly with fear, couldn't carry her." (Stará and Matlovičová, 2021, p. 30). In some cases, however, disrespect comes to the fore, which can also be perceived in a mode of insolence that is usually inconsistent with traditional descriptions of girls: "Your daddy is no nice daddy, but a gutted bowl! ... I know a blockhead, and your dad, what a piece of work!" (Fisher, 2021, p. 11).

Male characters are traditionally described in children's books as very bright, courageous, and willing to stand up for their loved ones at any time and fight regardless of their own physical building: "There were seven worshippers against two of them ... Hugo pulled his bamboo shinai out of his holster, which couldn't really hurt anyone, but was still better than nothing, and went after them." (Stančík, 2017, p. 8); "At that moment all fear left Chrochtík. In a rage he seized his stick, struck the Lone across the outstretched paw, and when the wolf roared in pain, he thrust into his open mouth the pack which he had previously taken off his back with lightning speed." (Stará, & Matlovičová, 2021, p. 48-49); "For a long time I wondered if Chik understood that they meant him and that they were laughing at him, but then one day he suddenly stopped and walked back to the boys in the parking lot. They were all a head taller and a couple of years older than him, and they were grinning terribly." (Herrndorf, 2012, p. 45); "Loan Bach and Denis waited for nothing and started to defend Vojta." (Trojak, 2020, p. 32). Another typified character trait is the access to arcane information: "He quickly wrote the idea down on a piece of paper. Then he encrypted the message on a second piece of paper... Finally, he tore the first piece of paper into pieces and decided to eat them too, just in case, as he saw in the spy movie." (Stančík, 2017, p. 26, 27); "as if he was trying his best not to reveal something important. His jokes seemed to be a leaking secret." (Sutcliffe, 2015, p. 28). The clear presentation of the man as a fearless hero is, however, enriched by a more developed and colourful characterization, which does not lack aspects usually attributed to the opposite gender, such as concern for others: "Although he assured others that nothing could happen to Justine, he trembled and prayed that everything would turn out well." (Trojak, 2020, p. 77).

The third main theme is the activity of the characters, i.e., the interests and hobbies, the activities they engage in within the stories. They are usually related to physical fitness, and female characters are not described in as much depth as male characters. Yet the main female characters, in terms of their activity, fall directly into male gender spaces, more than half of them are described as very independent and self-sufficient, others are physically fit: "Vrku was as nimble as a squirrel and climbed higher and higher among the branches without difficulty." (Stower, 2018, p. 45); "And with that, she turned, jogged, climbed the nearest tree, and climbed up one of the branches to above the road." (Sutcliffe, 2015, p. 19). Yet some activities remain gendered in the descriptions, such as sewing. It is the girl who creates superhero outfits for herself and her friends: "Then she took out a tape measure, measured both boys thoroughly and wrote down the measurements in centimetres in a notebook. She answered their protests firmly." (Stančík, 2017, p. 33), another made pillows from her pet's hair: "she collected a few hairs and put them in a bag" (Stower, 2018, p. 55). However, this does not prevent them from undertaking activities such as building a tree bunker and a whole complex of forest slides and traps: "I didn't discover it. I built it." (Stower, 2018, p. 56), or working with tools and gadgets, or other activities stereotypically considered masculine: "Vrku grabbed her tools, disappeared into the trees" (Stower, 2018, p. 117); "Then she took her sword … and went off to beat the dragons" (Jirků, 2020, p. 25). Likewise, the desire for heroism and full self-realization: "I always wanted to do something great!" (Trojak, 2020, p. 68); "Hanka loved to live, but she was always haunted by the strange feeling that the life she was living was not the life she should be living." (Sutcliffe, 2015, p. 61-62).

The main male characters are particularly distinguished by their physical prowess: "He ran, did a somersault, while still in the air drew a shinai from his holster, landed on his feet and firmly went into an overhead guard" (Stančík, 2017, p. 11); "He is unusually flexible and agile, in gym class he amazes with daring somersaults, flips and spectacular parachute rolls." (Trojak, 2020, p. 13); "In the high jump and long jump I am almost unbeatable." (Herrndorf, 2012, p. 35); "Hugo just went from school to the martial arts club" (Stančík, 2017, p. 7). Characters who, on the other hand, do not excel in physical prowess, or even otherwise differ from the established stereotypes associated with the male gender, are usually the target of bullying by their classmates in the books: "A group of the infamous blue Baphomet Worshippers came around the corner and cunningly followed the boy." (Stančík, 2017, p. 7); "He knew that if he wanted to survive, he simply couldn't get in Max's way." (Stower, 2018, p. 7). In general, however, boys' interests are very varied, with mathematics, physical education and chemistry cited as popular school subjects. In line with the male gender space, there are also themes of invention and building various machines: "Hugo himself glued model airplanes, so he could appreciate such fine work." (Stančík, 2017, p. 9); "The work they were just finishing was quite revolutionary. It was a secret model of a real flying airship." (Papoušková, 2019, p. 6); "Then he tickled the cables for a while, started up and tried to drive out of line, slamming his bumper into the cars in front and behind us." (Herrndorf, 2012, p. 92). Reading is relatively common among the boys' interests: "He read. He was so engrossed that he didn't hear it and didn't get up." (Fisherová, 2021, p. 5); "In truth, he devoured mostly educational dictionaries and thick novels." (Trojak, 2020, p. 7.); "I had read it at least three times, but I figured it couldn't hurt to read it a fourth time." (Herrndorf, 2012, p. 71). The boys in the books pay special attention to technology, computer games, PlayStation, and the Internet: "he was looking at the computer screen, where a single castle tower already loomed above the smoke, flames, and flashes" (Kratochvíl, 2015); "Only I am much more attracted to the Internet and programming instead of libraries" (Končinský, & Klárová, 2017, p. 16).

The last major category is the perception of characters, i.e., perceptions of and relationships with other literary characters, perceptions of one's own personality, ways of experiencing, and desires directed toward future goals. The descriptions of the girl protagonists, despite their appearance, are guided by the modem of strangeness and oddity, of a tough character: "I know you, you're the goofy - I mean stuffed - namely weird - redhead from the B-class." (Stančík, 2017, p. 29); "There was a strange dishevelled girl sitting by the wall … she continued to be a badass, she found a chestnut in the pocket of her shabby dress and sucked on it like a cough drop." (Fisherová, 2021, p. 6, 11); "How dare you! … I'm a girl with a kinky beard, yes, and a spear too!" (Stower, 2018, p. 87). Yet strong emotions are repeatedly displayed, often stereotypically interspersed with crying: "When she cried a little …" (Stančík, 2017, p. 55); "She wondered if she should cry. She always did that when she didn't know what to do." (Jirků, 2020, p. 40); "But I am not such a sissy. I just cry easily. I don't know why." (Sutcliffe, 2015, p. 74). Relationship themes and liking for the other sex do not deviate from the usual literary descriptions: "Yes, he is as beautiful as a prince." (Jirků, 2020, p. 37); "At first she blushed with joy because Sudiecek said she was smart, and no one had ever told her that." (Fisherová, 2021, p. 29). Aspirations about the future and careers are varied, ranging from traditional fashion design: "she will be a fashion designer one day anyway and then everyone will wear panties on their head" (Papoušková, 2019, p. 18); "I am Ophelia. A spy and a fashion designer." (Stančík, 2017, p. 29), so transcending the accustomed stereotypes: "I'm going to drive a garbage truck!" (Jirků, 2020, p. 14).

The self-identification of the male literary characters is carried by the modus of acceptance of personal uniqueness: "Škraloup and I are pretty big screw-ups, but we would never leave each other in the trouble." (Končinský, & Klárová, 2017, p. 27), and in relation to the evaluation of others, it is a labelling: "Chik was clearly welfare trash and it showed." (Herrndorf, 2012, p. 39-40); "Just try it, you accuser!" (Fisherová, 2021, p. 30); "The weirdo who either disappeared or went through the wall" (Stančík, 2017, p. 10); "That's the bespectacled intellectual, almost a philosopher." (Trojak, 2020, p. 36). The breaking out of male gender spaces, however, is exceptional: "As if it wasn't enough that a boy was born instead of a girl! Weird Sister have always been female!" (Fisherová, 2021, p. 8). More often the theme of sex and gender identity is addressed, represented by thinking about girls and first relationship experiences: "Sudicek hugged her. The whole thing only lasted a second or two, but Sudicek fell head over heels and over ears over his head in love." (Fisher, 2021, p. 101). It only hints at transcending heterosexual normativity: "and I considered for a moment that I might be gay too. (...) I liked Chic terribly, but I kind of liked girls better." (Herrndorf, 2012, p. 190). Family relationships here tend to be complicated, often negative, especially in the dimension of the paternal role model: "Dad was eye-rolling at me for about four seconds. ... Blows rained down on me from all sides, and I fell out of my chair and slid across the floor" (Herrndorf, 2012, p. 202); "He started to laugh, but stopped again immediately, a look of horror appearing on his face" (Sutcliffe, 2015, p. 30); "When he said our dear Daddy, he turned pale green." (Fisherová, 2021, p. 11). Friendship and mutual devotion are reserved for relationships between boys as they experience adventures, yet, unlike children's literature of earlier times, boy literary heroes are not afraid to hide their feelings, including crying: "Tears could be heard in Dog's voice." (Pennac, 2011, p. 79); "With every pain, tears always helped him. They brought help." (Kratochvíl, 2015, p. 32); "I was crying for real already." (Končinský and Klárová, 2019, p. 107).

Discussion

The analysis of the titles of children's literature for younger school age awarded in the Czech Republic provides an idea of what aspects of gender themes are preferred by professional societies dealing with literature in this Central European country. It is not only the Czech Section of IBBY, but also representatives of other professional societies that nominate their representatives to the expert juries, including the Academy of Sciences of the Czech Republic, the Writers' Association, the Czech PEN Club Centre, the Translators' Community, the Writers' Community and others. Thus, our focus is not on presenting a specific section of children's literature that focuses on transcending the binary understanding of gender, i.e., transgender, cisgender, queer, or the broad field of LGBTQ+, but rather on recognizing the influence of the overall cultural environment, appreciated values and norms, their presentation in children's literature, and its role in the gender self-identification of younger school-age children.

Children's literature reflects dominant cultural frameworks, including gender representation, and analyses of this literature confirm the fact that the representation of boys and men is more pronounced, with male protagonists twice as often present in children's literary narratives than women (Axell & Boström, 2021; McCabe et al., 2011). Our analysis is fully consistent with this evidence, demonstrating that this is an international and transcultural phenomenon. Yet, we do not infer from this situation the necessity of social activism or the requirement to codify the demand for full gender balance of the main characters in children's literature. Analysis of United States' recommended children's literature also shows an unbalanced number of women authors and titles with female protagonists, but at the same time gender bias was minimal (Berridge & Thomas, 2013). This situation is certainly related to the characteristics of society, where most children perceive themselves primarily as members of their own gender, which has been empirically confirmed, for example, in Turkish and South Korean society (Ramazan & Arslan Çiftçi, 2020).

We do not see the relationship between children's literature, gender self-identification and the potential transformation of the gender binary as direct or mechanistic. We do not perceive the parallel existence of girls' and boys' literature as a social problem, the elimination of which would potentially lead to the gender identity of literary heroes. Therefore, we do not infer social discrimination or social injustice from the results either, since we do not encounter any erosion of respect for any individual in terms of gender in the children's literature analysed. We are also led to this by the specific context of boys' literature in Bohemia, represented by the work of the writer Jaroslav Foglar, who greatly influenced the comics scene, children's literature and educational efforts under the auspices of Scouting ideals (Alaniz, 2008; Jirásek, 2021a). This author was quite deliberately writing about and for boys; his construction of intersexual relations is heavily unbalanced. And yet, the readership of these stories is consistent for both genders, as is the research-confirmed effect of reading on readers regardless of their gender self-identification (Jirásek, Macků, & Němec, 2021).

In the set of children's books awarded in the Czech Republic, the appearance of the characters, their characteristics, relationships and activities do not lack some of the features of gender stereotyping, but at the same time, there is also a noticeable transgression of historical cultural traditions by casual dress or individual differences (most notably in the story of the girl with the beard). The characters easily stand out from their gendered space, for example by their physical descriptions, their relationship to emotions and their choice of activities. The stories offer examples of girls who are brave, bright and enterprising, as well as emotionally sensitive boys caring for others and succumbing to tears. Significantly, the activities (technical ingenuity and construction, music, reading sports, computers, etc.) are not presented in a feminine/masculine distinction, but are intertwined and complementary.

The limitations of the research may include the intentional choice of the research sample, as it is likely that an analysis of all children's books for the chosen age group would add additional themes to the results that are not reflected in our survey. One of these may be, for example, the theme of homoparenting as presented in the book Two Dads and a Curious Girl, or in stories responding to transgender, cisgender, queer, or the broader LGBTQ+ field. However, the aim of this study was not to provide a full picture of children's literature production in the Czech Republic, nor a selection of such stories, but to highlight a sample of culturally preferred, peer-reviewed awarded publications, thus highlighting a theme that stands rather in the background of the authors' intentions.

A potential limitation is the analysis of texts without verifying readers' opinions on them. Children's participation in reflecting on gender issues in stories and reading (DePalma, 2016; Earles, 2017) brings a deeper understanding of children's socialization processes through texts. On the other hand, it is clear that the in-depth interview method not only ascertains the views of the recipients, but necessarily also transforms the depth of awareness of the topics discussed, and thus the very process of gender identification that it simultaneously explores. Thus, in our research we have grasped children's literature as a kind of authorial statement in a certain social context, without ascertaining its real influence.

Declaration of interest statement

Authors declare no conflict of interest.

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Appendix 1: Research Set of Analysed Books

Table 1.

Research set of analysed books

Title Czech / English	Author(s)	Year of publication	Description
Chrochtík a Kvikalka na cestě za blýskavým prasátkem / Chrochtík and Kvikalka on the way to the shiny pig	Stará, E. & Matlovičová, M.	2021	The book is about two little pigs who embark on an adventurous journey. Together they want to find the silver pig that the birds have been chattering about. But along the way they meet several other animals, with whom they get into a conversation.
Cirkus Abrafrk / Circus Abrafrk	Charms, D.	2013	The book is a collection of several short stories about animals and people in the world humorously tackling the issues of everyday life to which the research primarily relates. A series of miscellaneous poems can also be found at the very beginning, and even a story from the circus itself at the end, which is incorporated into a relatively short play (these parts of the book were not considered in the research, however, as gender issues they are not sufficiently incorporated in their content).
Cirkus zlodějů a tombola zkázy / Circus of Thieves and Raffle of Doom	Sutcliffe, W.	2015	The book is about a very ordinary small-town girl who, by chance, befriends a boy from the circus enough to try to help him foil his circus father's evil plan, and thus help him free himself for good from his hard fate. Not only do the two begin to form a special bond of trust, but they also have an adventure together that the protagonist has long wanted.
Čik / Chick	Herrndorf, W.	2012	The book is about two boys, class outsiders, who, although they come from different family backgrounds and have completely different personalities and interests, become friends at the beginning of the holidays. With nothing to keep either of them at home, they set off together in a stolen car on an adventurous journey to Tramtaria, getting to know each other, strengthening new friendships and learning a lot from each other.
H2O a tajná vodní mise / H2O and the Secret Water Mission	Stančík, P.	2017	The book is about three fourth grade students who are brought together by the adventure of a planned submarine trip through a water pipe thanks to a never-before-seen invention by one of them. Meanwhile, however, as a new friendship begins to form between the heroes, they must save not only the ghost of a formerly cursed physicist who still haunts the school, but more importantly the town from a water shortage, one of the evil plans of an evil professor from the neighborhood, precisely by stealing the invention.
Kosprd a Telecí / Kosprd and Calf	Papoušková, E.	2019	The book is about a boy who comes to kindergarten for the first time against his will. Although he doesn't want to go to kindergarten, he finds his first friend there, with whom he subsequently has an adventure in the form of an escape, accompanied by a series of humorous incidents, while learning that their newfound friendship is ultimately the most important thing of all.
Král Vrkú / King Vrkú	Stower, A.	2018	The book is about an ordinary boy who, while running away from bullies at school, accidentally ends up in the forest, where he also meets the resourceful and courageous King Vrkú. But to his great surprise, he soon learns that King Vrkú is not an ordinary creature with a long beard, but an extraordinary girl living in the forest, with whom he becomes such friends that together they outwit not only the bullies, but save the whole town.
Malý princ / The Little Prince	de Saint-Exupéry, A.	2019	The book is about the Little Prince, a little man from another planet, whom a pilot meets in the desert after his plane crashes. While they become friends, the pilot also hears the whole story of the little man and his adventurous travels from planet to planet, only to eventually be able to say goodbye so they can each go their separate ways again.
Pes paličák / Stubborn Dog	Pennac, D.	2011	The book is about the fate of a rather ordinary, not very nice dog, who had a hard life. But after the death of the surrogate bitch who took him in, he goes to the city at her request to find a mistress who will take him in, which he does after a series of unfortunate events. But his new owner is a spoiled little girl - and she's not easy to train! He has many adventures on his way to win her love and makes new friends among other dogs and cats.
Pohoršovna / The Worsening Room	Fischerová, D.	2021	The book is about a group of pests, would-be evil fairy creatures who have been put into the premises of a worsening room to learn to harm people and not to do good. But thanks to the outrage, all the pests find not only themselves and their true selves in an unexpected adventure, but also their first real friendships and childhood loves.
Překlep a Škraloup / Typo and Scratch	Končinský, T. & Klárová, B	2017	The book is about an entropic leprechaun, a third-grade student at a strange school, who, along with his best friend Skraloup, learns how to let things get old and worn out. But because he learns on one of his excursions into the human world that people don't like old things, he sets off, all disillusioned, on an adventurous journey to find the Tooth of Time, which he could use to stop aging forever.
Safíroví ledňáčci a Glutaman / Sapphire Kingfishers and Glutamate	Trojak, B.	2020	The book is about a group of school children called the Sapphire Kingfishers who one evening, by an unfortunate coincidence, get involved in a crime, from which they take the diary of the captain of the ship, the brother of the headmaster himself. What follows is a series of events that not only sees the whole gang grow by two more members, but after which they attempt to solve the town's problem and defeat the villainous Glutaman, despite the rivalry of an entirely different gang full of villains who complicate their lives at every opportunity.
Táta a princezna Rozárka / Daddy and Princess Rozarka	Jirků, J.	2020	The book is about a little girl and her father who tell each other unusual fairy tales on various occasions. In each tale, there are real-life characters who follow the life of the little Rozarka, who is portrayed as a brave princess by her father in many of the stories.
Zajatci stříbrného slunce / Captives of the Silver Sun	Kratochvíl, M.	2015	The book is about a first grade boy who, thanks to a computer game his dad bought him as a reward, has a glimpse into the world of gaming; the world of a defeated City. It is in this that he tries to find something mysterious or evil; among other things, he gets to know both the City itself and the people who live there, mostly other children, and to whom he tries to pass on all the experiences his grandfather once passed on to him.
Ztracený princ Margarín / The Lost Prince Margarine	Twain, M. & Stead, P.	2017	The book is about a poor boy brought up by an evil grandfather who, despite his difficult fate, found understanding and friendship with various animals with whom he could easily communicate thanks to eating a magic bean and who subsequently became his surrogate family. It is also with the animals that he embarks on an adventurous journey to find the cruel king and, in the end, to rescue the lost Prince Margarine.

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Investigation of the Relationship Between Secondary School Teachers' Teaching Styles, Self-Efficacy, and Emotional Intelligence Levels*

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Abstract

This study aimed to determine whether a relationship exists between middle school teachers' emotional intelligence levels, teaching styles, and self-efficacy. A correlational research model was used in the research. The participants of the study consisted of 321 teachers working in middle schools. Data were collected using a personal information form, a teaching style scale, a teacher self-efficacy scale, and the Rotterdam Emotional Intelligence Scale. SPSS software was used for data analysis. As a result of the research, it was determined that teachers had high levels of teaching style, self-efficacy, and emotional intelligence. A positive and moderate correlation was found between teachers' teaching styles and self-efficacy levels, teaching styles and emotional intelligence levels, and emotional intelligence levels and self-efficacy. The study also revealed that the teaching style and self-efficacy variables predicted 31% of the emotional intelligence level. Given these findings, educational practitioners and policymakers should incorporate emotional intelligence and self-efficacy enhancement into teacher professional development strategies to refine teaching styles and elevate educational quality.

Keywords:

Teaching style, Self-efficacy, Emotional intelligence

Introduction

When scrutinizing education within the context of a social system, it becomes apparent that the fundamental components, or inputs, of this system include students, teachers, curriculum, administrators, educational professionals, technological resources, and physical and financial assets.Among these, the teacher is the most fundamental element. The quality of education is closely related to the quality of teachers. For this reason, the place of teachers in the education system is of great importance regarding the quality of educational services (Şişman & Acat, 2003). Teachers' instructive aspects, personalities, behaviors, attitudes, and values, who are the focal point of our education system, greatly affect their students (Saracaloğlu, Certel, Varol, & Bahadır, 2012). Teachers and students spend most of the day together in the classroom and are expected to be able to perform certain tasks during this time. During this period, teachers and students work together in the classroom to achieve specific educational goals, with teachers taking primary responsibility (Aydın, 2013). Therefore, recognizing and fostering the multifaceted role of teachers as pivotal to the educational system is essential for enhancing the overall quality and effectiveness of education.

Teachers are expected to have specific characteristics so that their knowledge and personalities can positively affect students. The characteristics of an effective teacher in the classroom environment are classified into four dimensions: cognitive characteristics, personality traits, teaching style, and discipline. The cognitive characteristics of teachers include knowledge of processes such as intelligence, content knowledge, development, motivation, and learning. Teachers' personality traits are characterized by a spectrum that includes their knowledge, pedagogical skills, optimism, sense of fairness, collaborative spirit, professional ambition, and the manner in which they engage with students.This approach can have positive and negative effects on students.

Teachers' teaching styles encompass the strategies and techniques they employ in the classroom to engage students, provide reinforcement, and offer feedback. Meanwhile, discipline pertains to the governance mechanisms teachers utilize to maintain order, influencing student behavior and enforcing classroom rules (Ausubel, 1969 as cited in Açıkgöz Ün, 2016).

Teachers plan and manage the education and training process through decision-making. The effectiveness of this process depends on the qualifications of the teacher. Teachers hold distinct and significant responsibilities as architects of the learning environment and as role models within it, shaping the educational experience for their students. Teachers who know themselves, understand their emotions, direct themselves and their relationships, empathize in interpersonal relationships, and motivate themselves will be able to succeed more easily while fulfilling this important responsibility. On the other hand, teachers who cannot meet expectations will not be satisfied with their profession and experience professional burnout, and the quality of education will be significantly affected (Yaman, 2019). Baltaş (2006) also states that being able to understand the expectations and needs of other people, their strengths and weaknesses through emotions, and being strong in stressful situations is a competence that people need to have to be the kind of person they want to see around them.

Teachers' values, attitudes, and experiences, in other words, their behaviors affect their students, society, their professional future, and their colleagues (Doğan, 2003). It is also stated that teachers' teaching style preferences effectively create a constructivist learning environment (Mertoğlu, 2011). Dunn and Dunn (1979) defined teaching style as teachers' attitudes toward teaching programs, teaching methods, teaching environments, and the tools and materials used. Carr (1998) defines the teaching style as the attitudes, behaviors, and characteristics exhibited by the teacher in the learning-teaching process. The focal point of many definitions of teaching style is the teaching behaviors that teachers consistently demonstrate. Teachers who know their own teaching styles and aware of the superior and limited aspects of the teaching style can make the learning-teaching process more efficient. Teachers who know their teaching styles can better comprehend the logic of teaching, choose the most appropriate one among different teaching styles, and easily identify the strengths and weaknesses of their teaching styles (Grasha, 2002).

Grasha and Yangarber-Hicks (2000) assert that teaching styles are a part of a teacher's personality. Teaching styles are formed depending on the teacher's needs, feelings, motives, beliefs, and orientations about what to teach. Teachers can improve the teaching-learning process by considering teaching styles and their characteristics. According to Conti (1989), teachers can enhance their students' learning and alter how their students interact in the classroom by being aware of their teaching styles, thus improving classroom organization and student interactions.

In addition to the teaching styles used, another factor affecting teachers' work performance and the efficiency of the education process is individuals' self-efficacy beliefs. Self-efficacy is defined as an individual's belief in their ability to organize and execute the actions required for successful performance (Bandura, 1997).

Self-efficacy belief, which is a concept that reveals to what extent an individual will or will not be able to perform a competency by considering his/her own beliefs, attitudes, and experiences, is used in many fields because it is the most important predictor of human behavior (Schunk, 1990). In this context, the concept of self-efficacy is also used in education to explain individual differences among teachers and improve teacher behaviors (Enochs & Riggs, 1990).

Tschannen-Moran and Woolfolk Hoy (2007) emphasize that self-efficacy significantly influences a teacher's pedagogical decisions and emotional state. According to Glackin (2019), teachers with high self-efficacy and outcome expectations tend to behave positively find personal satisfaction in their efforts, while those with low self-efficacy and outcome expectations may consider quitting or displaying indifference toward their profession.

Research on self-efficacy reveals that teachers with high self-efficacy perform student-centered studies and provide education in a way that increases student achievement (Martin, 2006). In this context, it can be said that the concept of teacher self-efficacy is a concept that can affect the quality of the educational process.

Teachers have very important duties and responsibilities to fulfill for education and training to achieve the goals determined. Teachers need to be aware of their own emotions as well as the emotions of the people around them, establish good relationships with them, empathize with them, cope with the problems and stress they face, and manage conflict situations effectively for students to be best prepared for life academically and socially successful, and to become conscious, responsible, loving, and respectful individuals (Sağlam, 2018).

Academic intelligence alone is insufficient for individuals to navigate their inner world and communicate effectively with others and society. Understanding and realistically managing one's and others' emotions and exhibiting appropriate attitudes and behaviors are aspects of emotional intelligence.

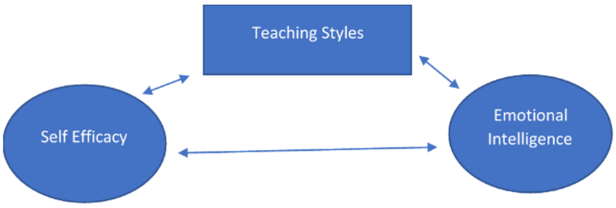
An individual interacting with his/her environment exhibits many behavioral patterns. These behaviors occur due to many emotional and cognitive factors. Emotions have the power to influence all behaviors of an individual. Contrary to popular belief, emotions drive our thoughts instead of serving them. This is because emotions guide our actions and imbue our lives with meaning.At the same time, they enable individuals to control their behaviors, store and structure their experiences, solve problems, and think (Greenspan, 2004). In other words, emotions are powerful planners of thought and action. Although they are considered contradictory concepts, they are necessary for reasoning and acting following reason and logic (Cooper & Sawaf, 1997).

Emotional intelligence is an approach that merges the realms of emotion and intelligence, viewing emotions as a valuable source of information that aids individuals in navigating and making sense of their social environment (Salovey & Grewal, 2005). Goleman (2006) further defines emotional intelligence as the capacity to motivate oneself, persevere in the face of setbacks, delay gratification by managing impulses, control one's mood, prevent distress from clouding one's thinking, empathize with others, and maintain hope.

Emotional intelligence is an ability to recognize, understand, and use emotions effectively, making it easier to cope with ourselves and others making it easier to cope with ourselves and others. In other words, it is a competence that expresses the ability to understand other people's expectations and needs, their strengths and weaknesses through emotions, and to be strong in stressful situations (Baltaş, 2006). Individuals with high emotional intelligence demonstrate positive traits such as effective communication, empathy, self-control, cooperation, motivation, influence, and leadership, which positively impact those around them (Tunca, 2010).

In light of the information given, it is thought that teachers' emotional intelligence levels, teaching styles, and self-efficacy beliefs are among the factors affecting their classroom performance. The teaching styles can influence their levels of self-efficacy and emotional intelligence in the education-teaching process.. Conversely, their self-efficacy and emotional intelligence levels can also impact their teaching styles. This situation is shown in Figure 1.

Figure 1.
The relationship between teaching styles, self-efficacy, and emotional intelligence



Studies in the literature have shown that teachers with higher self-efficacy perceptions tend to prefer student-centered teaching styles like personal model, facilitator, and representative, while those with lower self-efficacy perceptions do so less (Grasha, 1994). Dilekli (2015) revealed a significant relationship between teachers' classroom practices for teaching thinking skills, their self-efficacy perceptions towards teaching thinking skills, and their teaching styles. From this point of view, it can be said that teachers' teaching style preferences may differ according to their self-efficacy perceptions.

Teachers' emotional intelligence and self-efficacy levels are believed to contribute to a more effective educational process. Studies in the literature have found a significant relationship between emotional intelligence and self-efficacy. Berkant and Ekici (2007) reported a significant relationship between preservice teachers' social/interpersonal intelligence level and their self-efficacy belief scores in science teaching. Şenel, Adiloğulları, and Ulucan (2014) revealed significant relationships between teachers' emotional intelligence, general self-efficacy, and teaching self-efficacy beliefs. Karamehmetoğlu (2017) conducted a study examining whether the emotional intelligence levels of physical education teachers predict their professional self-efficacy and interpersonal problem-solving skills. As a result of this study, it was revealed that emotional intelligence level was a predictor of all self-efficacy sub-dimensions of professional self-efficacy towards student participation, teaching strategies, and classroom management. There was a positive relationship between these variables and emotional intelligence.

In the literature, it is seen that there are very few studies that examine the relationship between teachers' levels of emotional intelligence and teaching styles. Öznacar, Yılmaz, and Güven (2017) concluded that teachers' emotional intelligence levels are a factor affecting their teaching style preferences and the quality of education. This study examines the relationships between teachers' emotional intelligence levels, teaching styles, and self-efficacy, which is important for understanding these interconnected variables. The literature review did not yield studies that exploring the relationships between all three variables simultaneously. Therefore, it is expected that the results of this study will help teachers recognize their levels of emotional intelligence and self-efficacy perceptions and, accordingly, make the right decisions about which teaching styles they should prefer during learning and teaching processes and improve their professional competencies. Therefore, the research results may also contribute to the development of education programs implemented in teacher training institutions.

Derived from this conceptual framework, and b, this study aimed to determine whether there is a relationship between teaching styles and self-efficacy of secondary school teachers and their emotional intelligence levels. In order to reach this general purpose, the following research questions were sought to be answered:

1. What are teachers' teaching style preferences?
2. What are teachers' self-efficacy levels?
3. What are the emotional intelligence levels of teachers?
4. Is there a significant relationship between teachers' teaching styles, self-efficacy, and emotional intelligence levels?
5. To what extent do teachers' teaching styles and self-efficacy levels predict their emotional intelligence levels?

Method

This section provides detailed descriptions of the research model, population and sample, data collection instruments, data gathering procedures, and the statistical methods employed in data analysis. This study was conducted with the approval of the Anadolu University Social Sciences and Humanities Scientific Research and Publication Ethics Committee, granted on 30.03.2021 under protocol number 46383.

Research Model

This study aimed to determine whether there is a relationship between teaching styles and the self-efficacy of secondary school teachers and their levels of emotional intelligence. The research model chosen is a correlational research model (Karasar, 2003), which aims to determine the current situation and the degree of covariance between multiple variables. In another definition, the correlational research model is explained as "research in which the relationship between two or more variables is examined without intervening in these variables in any way" (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2017).

Population and Sample

The study's population consists of 66 secondary schools situated in the Odunpazarı and Tepebaşı districts of Eskişehir province, employing a total of 2,477 secondary school teachers in the 2020-2021 academic year. Specifically, Odunpazarı district hosts 35 central schools with 1,530 teachers, while Tepebaşı district comprises 31 central schools with 947 teachers.

The study sample consists of secondary school teachers selected through cluster sampling from schools in Odunpazarı and Tepebaşı districts during the academic year 2020-2021. Based on theoretical sample size calculations for different population sizes and the required sample size for a 95% confidence level with an acceptable error rate (Anderson, 1990, as cited in Balcı, 2020), data were collected from a total of 321 teachers. All forms collected were complete, with no missing information or random markings from the researcher.

Demographic characteristics of the sample are presented in Table 1.

When the distribution of teachers according to demographic characteristics is analyzed; 73,2% were female, 26,8% were male, 14,0% had 1-5 years of service, 26,5% had 6-10 years of service, 24,9% had 11-15 years of service, 16,2% had 16-20 years of service, 18,4% had 21 years or more of service, 18,1% were science teachers, 21% were science teachers,2% were mathematics, 11.8% were social sciences, 20.2% were Turkish, 7.8% were art, 10.9% were technology and design, 10.0% were from other branches, 82.9% were undergraduate graduates and 17.1% were graduate graduates. It was also determined that 78.5% were graduates of the faculty of education, 8.4% were graduates of the faculty of science and literature, and 13.1% were graduates of other school types.

Table 1.
Demographic Characteristics of Teachers

Demographic Characteristics	Group	*N*	Percentage%
Gender	Female	235	73,2
	Male	86	26,8
Year of Service	1-5 years	45	14,0
	6-10 years	85	26,5
	11-15 years	80	24,9
	16-20 years	52	16,2
	21years and over	59	18,4
Branch	Science	58	18,1
	Mathematics	68	21,2
	Turkish	65	20,2
	Social Sciences	38	11,8
	Visual Arts	25	7,8
	Technology and Design	35	10,9
	Others	32	10,0
Education status	Bachelor's Degree	266	82,9
	Master's degree	55	17,1
Graduate School Type	Faculty of Education	252	78,5
	Faculty of Science and Literature	27	8,4
	Others	42	13,1
	Toplam	321	100,0

Data collection tools

A range of measurement instruments was used to evaluate the variables identified during data collection. The following section provides details on the three scales employed in this study.

Teaching style scale

In order to determine the teaching styles of the teachers, the "Teaching Style Scale" developed by Grasha (1994) and translated into Turkish by Sarıtaş and Süral (2010) was used. Necessary permission was obtained for the use of the scale.

> *The Grasha-Reichmann Teaching Style Scale comprises five sub-dimensions with eight items each, totaling 40 items. Sarıtaş and Süral (2010) adapted the scale from English to Turkish, determining its reliability coefficient to be .875. Unlike the original version of the Grasha-Reichmann Teaching Style Scale, where reliability coefficients for the sub-dimensions were not calculated, this study conducted a fresh reliability analysis, yielding the results presented in Table 2.*

Table 2.
Teaching Style Scale Reliability Analysis

Scale and Subsclaes	Cronbach's Alpha	Number of Items
Informative teaching style	0,603	8
Authoriative teaching style	0,679	8
Personal teaching style	0,698	8
Guiding teaching style	0,837	8
Consulting teaching style	0,655	8
Teaching Style	0,903	40

As seen in Table 2, it was determined that the scale subscales had internal consistency above .60. The overall scale demonstrated an internal consistency of .90. The Cronbach's Alpha coefficient ranges from 0 to 1. According to the evaluation criteria, if $0.00 \leq \alpha < 0.60$, the scale is considered to have low reliability; if $0.60 \leq \alpha \leq 0.80$, it is considered quite reliable and if $0.80 \leq \alpha \leq 1.00$, the scale is considered highly reliable (Karagöz Y., 2014). Based on these criteria, it was accepted that the scale and all its subscales had internal consistency above .60, indicating reliability.

The scale is a five-point Likert-type measurement tool. In determining teaching styles, each teaching style was grouped into three levels as: "low", "medium", and "high" level (Sarıtaş & Süral, 2010). The scoring schedule of the scale is shown in Table 3.

Table 3.
Teaching Styles Scale Scoring Schedule

Teaching Styles	Degree of teaching styles		
	Low	Middle	High
Informative	1.0 – 2.8	2.9 – 3.8	3.9 – 5.0
Authoritative	1.0 – 1.8	1.9 – 3.0	3.1 – 5.0
Personal	1.0 – 2.8	2.9 – 3.4	3.5 – 5.0
Guiding	1.0 – 2.9	3.0 – 4.0	4.1 – 5.0
Consulting	– 1.8	1.9 – 2.8	– 5.0

Teacher self-efficacy scale

This study employed the "Teacher Self-Efficacy Scale" developed by Tschannen-Moran and Woolfolk Hoy (2001) and subsequently adapted into Turkish by Çapa et al. All required permissions for using the scale were secured.

The scale was developed by Tschannen-Moran and Woolfolk Hoy (2001) after a study conducted at Ohio State University to determine the self-efficacy perceptions of classroom teachers and pre-service teachers. It was administered to a total of 628 participants, including 399 pre-service teachers and 225 teachers.

The scale uses a nine-point Likert scale, with options ranging from "Inadequate (1)" to "Very Adequate (9)." The scale consists of 24 items and is categorized into three subscales: student engagement, self-classroom management, and instructional strategies. The lowest possible score on the scale is 24, and the highest is 216.

For this study, a reliability analysis was conducted again, and the results in Table 4 were obtained:

Table 4.
Teacher Self-Efficacy Scale Reliability Analysis

Scale and Subscales	Cronbach's Alpha	Number of Items
Student engagement	0,893	8
Classroom management	0,921	8
Instructional strategies	0,911	8
Teacher self-efficacy	0,960	24

As shown in Table 4, the reliability coefficient for the "Student Engagement" subscale of the scale was .89, for the "Classroom Management" subscale was .92, and for the "Instructional Strategies" subscale was .91. The reliability coefficient for the entire scale was .96. Based on this information, it was concluded that the entire scale and all its subscales were highly reliable (Karagöz, 2014).

In the descriptive statistics of the scale and the interpretation of arithmetic averages, the approach in the studies using this scale in the literature was adopted (Aytaç, 2018; Ekinci, 2015; Yeşilyurt, 2013). Accordingly, 1.00-2.60 was accepted as "very low", 2.61-4.20 as "low", 4.21-5.80 as "medium", 5.81-7.40 as "high" and 7.41-9.00 as "very high".

Emotional intelligence scale

In this study, the Rotterdam Emotional Intelligence Scale, developed by Pekaar et al. (2017) and translated into Turkish by Tanrıöğen and Türker (2019), was utilized to assess the emotional intelligence levels of teachers. Appropriate permissions were secured for the use of this scale.

The Rotterdam Emotional Intelligence Scale, which consists of 28 items in total, has 4 sub- dimensions: "evaluating own emotions", "evaluating others' emotions", "controlling own emotions" and "controlling others' emotions".

The reliability value of the scale developed by Pekaar et al. (2017) was calculated as .82 for the "Assessing Own Emotions" dimension, .85 for the "Assessing Others' Emotions" dimension, .80 for the "Controlling Own Emotions" dimension, and .82 for the "Controlling Others' Emotions" dimension. The reliability value of the whole scale was .84. Reliability analysis was conducted again for this study and the information in Table 5 was obtained.

Table 5.
Rotterdam Emotional Intelligence Scale Reliability Analysis

Scale and Subscales	Cronbach's Alfa
Assessing Own Emotions	0,934
Assessing the Emotions of Others	0,944
Control Own Emotions	0,909
Controlling the Emotions of Others	0,950
Rotterdam Emotional Intelligence	0,950

As seen in Table 5, the reliability value of the "Assessing Own Emotions" subscale of the scale was.93, the reliability value of the " Assessing Others' Emotions" subscale was .94, the reliability value of the "Controlling Own Emotions" subscale was .90, and the reliability value of the "Controlling Others' Emotions" subscale was .95. The reliability value of the whole scale is .95. In the light of this information, it was accepted that the entire scale and all its sub-dimensions were highly reliable (Karagöz, 2014).

The scale is a five-point Likert-type scale: "strongly disagree (1)", "slightly agree (2)", "moderately agree (3)", "strongly agree (4)", "strongly agree (5)". The highest score that can be obtained from the scale is 140 and the lowest score is 28.

As in Koçdaş (2020), one of the studies in which the scale was used, the assumption was made that the scale used in this study is equally spaced. The score range coefficient was determined as 0.80. Accordingly, 1.00-1.80 was accepted as "very low", 1.81-2.60 as "low", 2.61-3.40 as "medium", 3.41-4.20 as "high", and 4.21-5.00 as "very high".

Data Collection

Data for the study were gathered online via Google Forms, which were distributed to teachers through school WhatsApp groups by school administrators. Follow-up reminders were also sent to schools that had not submitted complete data to ensure a comprehensive collection.

Data Analysis

The data obtained within the scope of the research were analyzed with the SPSS 24 program. Descriptive statistics (arithmetic mean and standard deviation) of the responses to the research's first, second, and third questions were calculated. To compare the scale scores according to different variables within the scope of the fourth sub-objective of the research, normality and homogeneity of variances were checked by calculating the means and standard deviations of the responses for each variable. In cases where the sample size was less than 50, the Shapiro

- Wilk test was used, and in cases where the sample size was greater than 50, the Kolmogorov-Smirnov test was used. Arithmetic mean, median, skewness, and kurtosis coefficients, which are measures of central tendency, were used to determine the distribution of the obtained data. When the median and arithmetic mean values are close to or equal to each other, the skewness and kurtosis values ±2 The distribution of the data obtained due to falling within the limits was determined to be from a normal distribution (George and Mallery 2010). For this reason, parametric tests were used to analyze the data collected from all scales used in the study.

As a result of the normal distribution of the data obtained, hypothesis tests were statistically tested at 95% confidence level, and Cronbach's Alpha analysis was performed to determine the reliability levels of the scales. Pearson's correlation analysis was used to determine the relationships between the independent variable and the dependent variables, and multiple regression analysis was used to measure the effect of the independent variable on the dependent variable.

Before conducting the regression analysis, the assumptions of regression analysis, such as the normal distribution of the data, the existence of a relationship between the variables, and the absence of autocorrelation and multicollinearity problems were examined. The Durbin-Watson value was examined to assess autocorrelation, resulting in a value of 1.883, falling within the range of 1-3, indicating no autocorrelation for each regression coefficient (Field, 2005). At the same time, in the research model, in examining the effects of the independent variables of teaching style and teacher self-efficacy on emotional intelligence, a multiple linear regression model was made because the independent variables were more than one and while deciding whether there was multicollinearity in the relevant model, the VIF value was examined. The VIF value was found to be 1.542, and since this value was not below 10, it was determined that there was no multicollinearity problem (Field, 2005). Based on these assessments, it was confirmed that the assumptions for the research's regression analysis were met.

Findings

In this section of the study, the findings of the analysis of the data obtained as a result of the research are presented in the order of the research questions.

Findings Related to Teachers' Teaching Style Levels

The descriptive analyses conducted to answer the first question of the study, "What are teachers' teaching style preferences?" are shown in Table 6.

Table 6.
Descriptive Findings Related to Teaching Styles Levels

	$\bar{x}$	*S.D.*
Informative Teaching Style	3,97	0,39
Authoritarian Teaching Style	3,70	0,47
Personal Teaching Style	3,98	0,39
Guide Teaching Style	4,14	0,46
Consultant Teaching Style	3,79	0,43
Teaching Style	3,92	0,34

When analyzing the descriptive findings of the teaching style levels in Table 6, it is seen that the levels of teaching styles ($\bar{x}$ = 3,92) were found to be higher. Further examination of the sub-dimensions of the teaching styles scale revealed that knowledge transfer ($\bar{x}$ = 3.97), authoritarian ($\bar{x}$ =3.70), personal ($\bar{x}$ = 3.98), guide ($\bar{x}$ = 4.14), and counselor ($\bar{x}$ = 3,79) demonstrated high levels of teaching styles.

Findings Related to Teachers' Self-Efficacy Levels

The descriptive analyses conducted to answer the second question of the study, "What are the self-efficacy levels of teachers?" are shown in Table 7.

Table 7.
Descriptive Findings on Teachers' Self-Efficacy Levels

Subscales	$\bar{x}$	*S.D.*
Student engagement	6,77	0,98
Classroom management	7,25	0,93
Instructional strategies	7,18	0,93
Teacher self efficacy	7,06	0,87

When the descriptive findings of teachers' self-efficacy levels in Table 7 are analyzed, it is seen that the teachers exhibited high levels of self-efficacy. Further examination of the sub-dimensions of the teacher self-efficacy scale revealed that student engagement ($\bar{x}$ = 6.77), classroom management ($\bar{x}$ = 7.25) and the level of instructional strategies ($\bar{x}$ = 7.18) demonstrated high.

Findings Related to Teachers' Emotional Intelligence Levels

The descriptive analyses conducted to answer the third question of the study, "What are the emotional intelligence levels of teachers?" are shown in Table 8.

Table 8.

Descriptive Findings on Rotterdam Emotional Intelligence Levels

Sub-dimensions	x̄	S.D.
Assessing Own Emotions	4,08	0,63
Assessing the Emotions of Others	3,74	0,70
Control Own Emotions	3,39	0,77
Controlling the Emotions of Others	3,42	0,77
Rotterdam Emotional Intelligence	3,66	0,55

When analyzing the descriptive findings of the emotional intelligence levels in Table 8, it is seen that the' emotional intelligence levels (x̄ =3.66) were found to be high. When the sub-dimension averages of the Rotterdam emotional intelligence scale were analyzed, it was found that the level of evaluating their own emotions (x̄ = 4.08), the level of evaluating the emotions of others (x̄ = 3.74), and control levels of others' emotions (x̄ = 3.42), and their level of control over their own emotions (x̄ = 3.39) was found to be at the medium level.

Findings Revealing the Relationship Between Teachers' Teaching Style, Self-Efficacy, and Emotional Intelligence Levels

To examine the associations between teachers' teaching styles, self-efficacy, and emotional intelligence levels, as addressed by the fourth research question regarding their significant relationship, a correlation analysis was performMThe results of this analysis are shown in Table 9.

Table 9.

The Relationship Between Teaching Style, Self-Efficacy, and Emotional Intelligence

Scales	Teaching Style	Self Efficacy	Emotional Intelligence
Teaching Style	1	0,593**	0,470**
Self-Efficacy	0,593**	1	0,524**
Emotional Intelligence	0,470**	0,524**	1

**p<0.01

As Table 9 illustrates, a significant, positive, and moderate correlation exists between teachers' teaching styles and self-efficacy levels (r = 0.593, p < 0.01), indicating that an increase in teaching styles is associated with a rise in teacher self-efficacy. Similarly, a significant correlation is observed between teaching styles and emotional intelligence levels (r = 0.470, p < 0.01), suggesting that as teaching styles enhance, emotional intelligence also improves. Furthermore, there is a significant relationship between emotional intelligence levels and self-efficacy (r = 0.524, p < 0.01), denoting that higher self-efficacy is linked to increased emotional intelligence among teachers.

To investigate the relationships further, pairwise analyses were conducted within the sub-dimensions of the scales.The relationships between teaching style and self-efficacy sub-dimensions are shown in Table 10

Table 10.

The Relationship Between Teaching Style Dimensions and Teacher Self-Efficacy Dimensions

		Self-Efficacy		
		Student engagement	Classroom Management	Instructional strategies
Teaching Style	İnformative Teaching Style	,477**	,436**	,464**
	Authoritarian Teaching Style	,205**	,252**	,256**
	Personal Teaching Style	,443**	,417**	,456**
	Guide Teaching Style	,604**	,450**	,599**
	Consultant Teaching Style	,616**	,444**	,549**

**p<0.01

When the relationships between teaching styles and self-efficacy sub-dimensions shown in Table 10 were examined, it was seen that informative teaching style, personal teaching style, guiding teaching style, and counselor teaching style had a significant, positive, and moderate relationship with all self-efficacy sub-dimensions, while authoritarian teaching style had a significant, positive but low-level relationship with all self-efficacy sub-dimensions. The highest correlation coefficient of 0.616 (r = 0.616; p < 0.01) between counselor teaching style and student engagement dimension were found.

The findings regarding the relationship between teaching style and emotional intelligence sub-dimensions are presented in Table 11.

Table 11.

The Relationship Between Teaching Style Scale Dimensions and Emotional Intelligence Scale Dimensions

Sub-dimensions		Emotional Intelligence			
		Assessing own emotions	Assessing the emotions of others	Control own emotions	Controlling the emotions of others
Teaching Style	Informative teaching Style	,281**	,371**	,222**	,323**
	Authoritarian Teaching Style	0,109	0,093	,126**	,136**
	Personal Teaching Style	,228**	,285**	,253**	,334**
	Guide Teaching Style	,382**	,479**	,331**	,477**
	Consultant Teaching Style	,306**	,395**	,321**	,417**

**p<0.01

As seen in Table 11, when the relationship between the dimensions of teaching style and emotional intelligence was examined, all relationships were found to be significant except for the relationship between authoritarian teaching style and emotional intelligence with the sub-dimensions of assessing one's own emotions and assessing the emotions of others. However, it is worth noting that these relationships are of a low level. The highest correlation between the sub-dimensions was determined by the correlation coefficient of 0.479 (r = 0.479; p < 0.01) (r = 0.479; p<0.01). Furthermore, relatively higher but moderate relationships were found between the guiding teaching style and the dimension of controlling others' emotions (r = 0.477; p < 0.01) and between the counselor style and the dimension of controlling others' emotions (r = 0.417; p < 0.01). The findings regarding the relationships between emotional intelligence and self-efficacy sub-dimensions are presented in Table 12.

Table 12.
The Relationship Between Emotional Intelligence Sub-dimensions and Teacher Self-Efficacy

		Self-Efficacy		
		Student Engagement	Classroom Management	Instructional Strategies
Emotional Intelligence	Assessing own emotions	,350*	,385*	,353*
	Assessing the emotions of others	,446*	,394*	,421*
	Control own emotions	,326*	,286*	,272*
	Controlling the emotions of others	,468*	,394*	,401*

In Table 12, the relationship between the dimensions of emotional intelligence dimensions and the levels of self-efficacy was examined. Notably, all sub-dimensions were found to be significantly related to each other. The highest correlation coefficient of 0.468 was found between student engagement and controlling the emotions of others (r = 0.468; p < 0.01). Again, it was determined that there was a relatively high but moderate relationship between the dimensions of assessing others' emotions and student engagement (r = 0.446; p < 0.01), and assessing others' emotions and teaching strategies (r = 0.421; p < 0.01).

The Level of Prediction of Teachers' Teaching Styles and Self-Efficacy Levels on Emotional Intelligence

Regression analysis was conducted to answer the fifth question of the study: "To what extent do teachers' teaching styles and self-efficacy levels predict their emotional intelligence levels?"

Prior to conducting regression analysis, assumptions related to regression analyses were examined, including the normal distribution of data, the presence of relationships between variables, and the absence of autocorrelation and multicollinearity problems among variables. The Durbin Watson statistic was used to investigate the presence of autocorrelation for each coefficient of the regression model, yielding a value of 1.883. As this value falls within the range of 1-3, it was concluded that there is no autocorrelation for each established regression coefficient (Field, 2005).

Simultaneously, in examining the effects of teaching style and teacher self-efficacy as independent variables on emotional intelligence in the research model, a multiple linear regression model was employed due to the presence of multiple independent variables. To assess the presence of multicollinearity in the specified model, we examined the Variance Inflation Factor (VIF), which resulted in a VIF value of 1.542. Since this value is below 10, it was determined that there is no multicollinearity issue (Field, 2005). In light of all this information, it was established that the assumptions of the regression analysis conducted for the research were satisfied. The findings of the regression analysis performed are presented in Table 13.

Table 13.
Regression Analysis Results Regarding the Prediction Level of Teaching Styles and Teacher Self-Efficacy Levels on Emotional Intelligence Levels

Variable	β	Standart error	*t*	*p*	VIF	*F*	*F*
Fixed	0,429	0,295	1,455	0,120			
Teaching Style	0,246	0,092	4,259	0,000*	1,542	72,809	0,000*
Teacher self-efficacy	0,379	0,037	6,568	0,000*	1,542		

*p<0.05
Adjusted R^2=0,310;
Durbin Watson= 1,883
Independent: Teaching Style, Teaching Efficacy
Dependent: Emotional Intelligence

At a 95% confidence level, both the teaching style (t = 4.259, p = 0.000, p < 0.05) and self-efficacy (t = 6.568, p = 0.000, p < 0.05) were found to be significant predictors of emotional intelligence level.

As seen in Table 13, it was determined that the teaching style and self-efficacy variables explained 31.0% of the level of emotional intelligence (*R2* =0.310). The R2 value ranges from 0 to 1. If the value gets close to 0, it indicates that the model does not fit the data or the independent variables cannot explain the change in the dependent variable, and if it gets close to "1", it indicates that the change in the dependent variable is well explained by the dependent variables (Bayram, 2004: 119). According to this result, it is determined that the R2 value is at a low level.

The regression equation is given below as a result of the regression analysis. Rotterdam Emotional Intelligence = 0,246*Teaching Style+0,379*Teacher Self-Efficacy. This equation implies that a one-unit increase in teaching style levels corresponds to a 0.246 increase in emotional intelligence level, and a one-unit increase in teacher self-efficacy levels corresponds to a 0.379 increase in emotional intelligence level.

Discussion

This study was carried out to determine whether there is a relationship between secondary school teachers' teaching styles, self-efficacy, and emotional intelligence levels. First, descriptive statistics for these variables were provided, and then their relationships were explored.

Discussion on descriptive findings of teachers' teaching styles, self-efficacy, and emotional intelligence levels

Analysis of teachers' teaching styles revealed that they predominantly exhibited a high level of guiding teaching style and were less inclined towards the authoritarian one. This demonstrates that teachers value characteristics such as guiding their students, having the necessary level of knowledge for their students, ensuring students' development, and providing more opportunities for their students.This finding aligns with Bacak's (2018), Bilgin and Bahar (2008) studies. In his study, Grasha (1994) concluded that teachers with expert and authoritarian teaching styles direct the content, information flow, and time themselves, and accordingly, they adopt an autocratic attitude in the teaching process and have a low level of sensitivity to students' needs.

The study found that teachers showed high levels of self-efficacy, particularly in the dimensions of classroom management. These results align with prior research (Gökyer & Bakcak, 2018; Güven & Gökdağ Baltaoğlu, 2017; Kan, 2007), suggesting that undergraduate education equips teachers with the skills and confidence needed for their profession. These findings suggest that the courses teachers take during their undergraduate education enable them to be productive in their professional lives, and, accordingly, their self-efficacy levels are good. Aslan and Kalkan (2018) also stated that teachers' perception of themselves as professionally competent can be based on the quality of their undergraduate education and the potential of teachers to develop themselves in service. Başdal (2021), in his research with pre-service teachers, concluded that the teacher education program contributes positively to pre-service teachers' competencies towards the teaching profession, and that pre-service teachers gain the knowledge, skills, and behaviors needed to successfully fulfill the requirements and responsibilities of the teaching profession during their teacher education. Bandura (1997) states that direct experiences are the most effective sources of self-efficacy beliefs. In this context, it can be said that practical courses during teacher education contribute to teachers' self-efficacy development.

Upon analyzing the mean scores of teachers' emotional intelligence levels, it becomes evident that their emotional intelligence is significantly high. The analysis of the emotional intelligence sub-dimensions among teachers reveals that they exhibit high proficiency in 'self-evaluation of emotions,' 'evaluation of others' emotions,' and 'controlling others' emotions.' However, their capacity to 'control their own emotions' is moderately developed. These findings suggest that teachers are generally aware of their own emotions and have the ability to comprehend the emotions of others. Usta (2015), nci (2014), and Balkr (2022) all concluded in their studies that teachers have high levels of emotional intelligence.. Teachers' high levels of emotional intelligence is thought to contribute to their improved communication skills and thus to be more successful in their professions. İnci (2014) also states that individuals with a high level of emotional intelligence can have higher success and life satisfaction. Yaylacı (2006) states that individuals with high levels of emotional intelligence benefit from positive approaches and win-win strategies while communicating with their social environment, and thus both themselves and the other party achieve positive results. It is thought that teachers' high levels of emotional intelligence can be very effective both in their personal and professional lives. Brackett and Mayer (2003) also state that people with high levels of emotional intelligence also pay more attention to their health and appearance and have more positive interactions with their friends and family.

Discussion on the relationship between teachers' teaching style, self-efficacy,, and emotional intelligence levels

The literature review showed that although no study addressed all three variables at once, some studies focused on the relationship between the variables and supported the findings of the present study.

When we consider the levels of self-efficacy and teaching style exhibited by teachers, we find that there is a modest but positive correlation between all sub-dimensions of self-efficacy and the knowledge transmitter, personal, guide, and counselor teaching styles. In other words, teachers with knowledge transferring, personal, guiding, and counselor teaching styles have high levels of self-efficacy. Grasha (1996) states that teachers with knowledge transmitter teaching style present the information that students need in detail to students like an expert, teachers with personal teaching style direct students to their own interests, and teachers with counselor teaching style guide students with questions. Considering the characteristics of these teachers, it can be said that their levels of self-efficacy are also effective in their classroom practices and decisions.

A positive but low level relationship exists between authoritarian teaching style and all sub- dimensions of self-efficacy. Teachers employing an authoritarian teaching style instruct by setting rules and controlling whether students follow these rules rather than adopting a student-centered in their classroom practices. This situation can cause teachers to act without having a high level of self-efficacy during classroom practices. Grasha (1996) also states that teachers with an authoritarian teaching style have traditional characteristics and care about implementing their own rules rather than the needs of their students. For this reason, teachers with authoritarian teaching style may have relatively lower levels of self-efficacy, and this may cause the classroom activities performed by teachers with other teaching styles to be different from those performed by teachers with authoritarian teaching style.

Considering the levels of self-efficacy and teaching style of teachers, the highest relationship is between the consultant's teaching style and the dimension of ensuring student participation. In other words, teachers with a consultant teaching style have a very high level of self-efficacy in the dimension of ensuring students' participation in the lesson. Research on this field also reveals that teachers employing a consultant teaching style encourage students to conduct independent studies and take responsibility (Deveci, 2008; Kolay, 2008).

Dilekli (2015) concluded that there was a weak positive correlation between general average self-efficacy scores and general average teaching style scores. The study found that the facilitative teaching style had the highest correlation with self-efficacy, while the personal teaching style had the lowest correlation. Consequently, it can be said that teachers with a facilitative teaching style have relatively high levels of self-efficacy. The study also concluded that there was a negative relationship between teacher self-efficacy and authoritarian teaching style. Şahin (2010) also found findings supporting the relationship between teachers' self-efficacy perceptions and teaching style preferences.

Heidari et al. (2012) also concluded that there is a relationship between teacher self-efficacy and teaching styles. Additionally, in this study, teachers with a counselor teaching style were found to have the highest self-efficacy. It was found that personal, authoritarian and expert teaching styles followed the consultant teaching style, respectively. Bacak (2018) concluded that science teachers' teaching styles did not significantly affect science teaching self-efficacy.

Baleghizadeh and Shakouri (2017) concluded in their study that teaching style and self-efficacy concepts are two interrelated elements; these variables increase teacher performance and simultaneously increase student achievement. Based on this finding, it can be said that the level of teaching style affects the level of self-efficacy, increasing the professional skills of teachers and thus enabling students to learn more effectively. Klausmeier and Allen (1978) also supported this finding and stated that teachers' self-efficacy beliefs affect the quality of teaching, the methods and techniques used, the participation of students in learning, and, in this case, students' achievement is also affected.

Boz and Uzuntiryaki (2006) also found that self-efficacy perception significantly affected choosing and using the personal model teaching style. Based on this, it was stated that especially in higher education institutions, pre-service teachers should be provided with opportunities to improve their self- efficacy perceptions and help them shape their teaching styles in the classroom environment. Based on this finding, it can be said that the increase in teachers' self-efficacy levels will also affect their preference for different teaching styles. For this reason, it is thought that it is important for teachers to be aware of their levels of self-efficacy in their undergraduate education and strive to increase it. Considering these findings, the increase in teachers' self-efficacy perceptions might lead to a divergence in their preference for teaching styles. Accordingly, enabling prospective teachers to improve their self-efficacy perceptions during the undergraduate education process may enable them to shape their teaching styles and thus improve their professional competencies.

When teachers' teaching styles and emotional intelligence levels are considered, it is seen that there is a positive and moderate relationship between the two. In other words, it means that when teachers' teaching styles increase, their emotional intelligence levels will also increase. Similarly, Öznacar et al. (2017) reported a positive relationship between all sub-dimensions of teaching style and emotional intelligence.

Upon examining the relationships between teaching styles and emotional intelligence sub-dimensions in the study, it was determined that there was no significant relationship between the authoritarian teaching style and the emotional intelligence sub-dimensions related to self-evaluation and evaluation of others' emotions. Dilekli (2015) states that teachers adopting authoritarian teaching styles tend to create teacher-centered and undemocratic classroom atmospheres. With the effect of this situation, it can be inferred that teachers with an authoritarian teaching style exhibit relatively lower proficiency in assessing both their own emotions and their students' emotions while applying their emotional intelligence in the teaching process. In this case, it asserted that teachers employing an authoritarian teaching style follow a way of communication with their students in which those who follow the rules are appreciated and those who do not follow the rules are punished. Deveci (2008) and Kolay (2008), who reached similar findings, also stated in their studies that teachers adopting an authoritarian teaching style tend to be rule-oriented and traditional in their approach, often employing reward and punishment systems.

Considering the teachers' teaching style and emotional intelligence levels, it was determined that the highest relationship was found between the guiding teaching style and the dimension of evaluating the emotions of others. In other words, it can be said that teachers who employ a guiding teaching style are more successful in evaluating their students' emotions. Similarly, it was concluded that there was a medium-level significant relationship between teachers with a guiding teaching style and the dimension of controlling others' emotions and between teachers with a counselor teaching style and the dimension of controlling others' emotions. According to Grasha (1996), teachers with a guiding teaching style encourage their students and direct them to take responsibility. Based on this idea, it can be claimed that teachers with a guiding teaching style take their students' emotions into consideration while guiding them. It can be argued that these teachers care about their students' emotions throughout the process while ing them to take responsibility in classroom practices. Similarly, teachers with a consultant teaching style are student-centered teachers who guide their students to take responsibility. Grasha (1996) states that counselor teachers support their students to work independently during the teaching process. Teachers may benefit from understanding students' emotional states to better support their independent work and entrepreneurial endeavors. In their scale study, Deniz, Özer, and Işık (2013) also mentioned that counselor teachers benefit from the features of emotional intelligence such as influencing and persuading people, establishing healthy communication with them, and recognizing their emotions.

When examining the relationship between teachers' self-efficacy and emotional intelligence levels, a moderate positive correlation is observed between emotional intelligence and all sub-dimensions of self-efficacy.In other words, teachers with high levels of self-efficacy also have high levels of emotional intelligence. Upon examining the sub-dimensions of self-efficacy and emotional intelligence, it was found that the highest relationship was between the dimensions of ensuring student participation and controlling the emotions of others. Based on this finding, it can be said that the more teachers have the ability to control their students' emotions, the more they can increase their participation in the lesson.

The literature review indicates that prior research has produced findings similar to those of the current study.Türkekul (2019) concluded that an increase in the emotional intelligence levels of physical education and sports teacher candidates is associated with higher levels of academic self-efficacy. Çetin (2019) also concluded that there is a significant positive relationship between self-efficacy levels and emotional intelligence levels of athletes in his study. Chan (2004) concluded that self-efficacy beliefs are significantly influenced by the components of emotional intelligence but suggested that differences among teachers may affect this relationship.

Colomeischi (2014) concluded that teachers' emotional intelligence affects their understanding of work and general job satisfaction. Furthermore, the study revealed that teachers with higher levels of emotional intelligence are more satisfied with their jobs and have a more positive attitude toward work. At the same time, for the concept of self-efficacy, which is another dimension of his study, he similarly concluded that the higher the level of self-efficacy of teachers, the better attitude they will have towards their work and the higher their satisfaction will be. Considering these findings, it is believed that teacher self-efficacy increases when they use and evaluate their own emotions positively and when they can evaluate the emotions of the people around them. In their research, Akar and Üstüner (2017) concluded that pre-service teachers' self-efficacy perceptions are positively influenced by their capacity to understand and manage their own emotions, as well as those of others. This study determined that teachers' teaching style and self-efficacy are significant predictors of emotional intelligence levels. Furthermore, the findings indicate that teaching style and self-efficacy variables collectively account for 31.0% of the variance in emotional intelligence levels.

The study concluded that a one-unit increase in teaching style levels corresponds to a 0.246 increase in emotional intelligence level, and a one-unit increase in teacher self-efficacy levels results in a 0.379 increase in emotional intelligence level. This finding suggests that teachers' teaching style and self-efficacy levels are modest predictors of emotional intelligence.

As a result, it was concluded that the teachers who took part in the study possessed high levels of emotional intelligence, while the predictive power of their teaching style and self-efficacy level on their emotional intelligence levels was marginally weak.

Recommendations

Based on the findings obtained within the scope of the research, the following practical suggestions can be made: Determining teachers' teaching styles before they start their professional careers enables them to gain better self-awareness, recognizing their strengths and areas for improvement. For this reason, teachers' teaching styles should be determined during undergraduate education. Providing teachers with in-service training on various teaching styles can enhance their classroom practices and enable them to make greater contributions to student development. Understanding which teaching styles are prevalent among teachers can enable the planning of appropriate learning and teaching activities. Considering the contribution of positive changes in teachers' teaching styles, self-efficacy, and emotional intelligence levels to the educational process, teacher training programs can be reorganized in the context of these variables. Pre-service teacher training programs can be reorganized in such a way that teachers can have sufficient knowledge about teaching styles, self-efficacy, and emotional intelligence and can be equipped with qualifications that can provide teachers with more experience in this field.For future research, several suggestions emerge from the current study's findings and limitations. Initially, the data were collected from teachers in the central districts of Eskişehir province at the secondary school level. To enhance the generalizability and depth of the findings, future studies could extend this research to various educational levels, including primary and high schools, and broaden the geographical scope to include different provinces. This expansion would provide a more comprehensive understanding of the educational landscape.

The study also highlighted differences in secondary school teachers' self-efficacy based on their teaching style preferences, particularly noting variations among those favoring authoritarian and consultant styles. To build on these insights, it is advisable to conduct further research encompassing a wider range of educational levels and a larger sample size. This would allow for a more nuanced exploration of how teaching style preferences and self-efficacy levels interact across different educational contexts. Additionally, investigating the alignment and interplay between teachers' teaching styles and their students' learning styles at various educational stages could yield valuable implications for pedagogical strategies.

Lastly, the observed moderate positive correlation between teachers' emotional intelligence and their self-efficacy levels points to an important area for further inquiry. Given the significant role of high self-efficacy in educational outcomes, future research should place a stronger focus on identifying and understanding the factors that influence teachers' self-efficacy perceptions. Exploring these dimensions can provide critical insights into how to support and enhance teachers' professional development and, consequently, student learning experiences.

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