



Social and Emotional Learning through Immersive Experiences for Students with Disabilities

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Abstract. Students with emotional and behavioral disorders (EBD) and Autism participate in social and emotional learning (SEL) instruction to gain appropriate self-regulation and interpersonal skills [9]. These students often struggle to manage their emotions, make connections to each other, and engage in responsible decision making. Even when students with EBD and Autism learn SEL concepts and skills, they have difficulty transferring learning from specific contexts to novel situations. This iLEAD practitioner contribution project aims to use a shared immersive learning format to engage students in meaningful, highly engaging SEL lessons connected to the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework and the five interrelated competencies referred to as the CASEL 5 [4]. At a specialized school for students with disabilities, students experience immersive content to receive social skills instruction, develop self and social awareness, practice conversational skills, advance problem solving skills, and learn coping skills. The realism of the immersive environment facilitates students' engagement and the transfer of skills to real-world situations. Preliminary teacher and student feedback regarding the acceptability, appropriateness, and feasibility of shared immersive learning as an intervention to influence SEL outcomes support shared immersive learning as a powerful instructional tool to engage learners with disabilities. Implications for future practice and research are discussed.

Keywords: Immersive Learning, Social and Emotional Learning, Emotional and Behavioral Disorders, Autism, Special Education.

1 Problem Statement

Students with emotional and behavioral disorders and Autism participate in social skills lessons related to social and emotional learning (SEL) to develop healthy self-identities, manage emotions, and gain appropriate interpersonal skills [9]. SEL components can be taught in isolation through direct instruction or embedded into daily academic instruction. However, when taught in isolation, students may not experience the feelings or emotions that would coincide with an authentic social situation and struggle to generalize those skills in novel situations. To address the realistic nature of SEL in isolation, shared immersive experiences can provide a meaningful platform for delivering highly engaging instruction [1,2,10]. Designing instruction where students can learn and practice skills in an environment that more closely mimics the real world allows for an authentic experience that may lead to higher levels of skill transfer [5].

2 Purpose and Objectives

2.1 Purpose

At a specialized school for students with disabilities, students experience immersive content to receive social and emotional instruction. These immersive experiences help students gain knowledge and practice social skills while

allowing students to create and experience content designed for immersive spaces. Immersive content is presented to students via an Immersive Learning Center (ILC) where 360 degrees of content wraps around the three walls of the room (see Fig. 1). The continuous image around the room creates a shared, immersive learning environment that fosters an interactive and collaborative immersive experience for the students. While current applications of immersive learning commonly employ VR headsets [3], this project highlights the possibilities and benefits of shared, immersive learning in a group setting. Additionally, this project explores the acceptability, appropriateness, and feasibility of shared immersive learning in the context of providing SEL instruction as reported by teachers. Students' perception of acceptability of shared immersive learning is also examined.



Fig. 1. High school students participating in yoga in an immersive learning environment.

2.2 Objectives

1. Provide highly engaging and authentic immersive opportunities for students with disabilities to gain skills related to social and emotional learning.
2. Design shared immersive learning experiences grounded in the CASEL framework where students engage in social and emotional learning.
3. Structure SEL Lessons through intentional instructional design.
4. Examine teacher and student perceptions of acceptability, appropriateness, and feasibility regarding shared immersive learning as a suitable intervention to support SEL outcomes.

3 SEL to Engage Students with Disabilities through Immersive Learning

Schools often turn to theoretical frameworks to conceptualize and design supports to extend learning. In the area of social and emotional learning (SEL), many schools rely on the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework that identifies five interrelated competencies referred to as the CASEL 5 [4]. These five competencies are (a) self-awareness, (b) self-management, (c) social awareness, (d) relationship skills, and (e) responsible decision making. In each of these core competencies, specific skills and behaviors are highlighted to promote learning and skill acquisition. The CASEL framework is credited with laying the foundation for schools to employ evidence-based practices in meaningful contexts within school and community environments. The following sections define each of the competencies as well as their role in providing SEL in an immersive learning environment.

3.1 Self-Awareness

CASEL defines self-awareness as the ability to understand one's own emotions, thoughts, and values and how they influence behavior across contexts [4]. Developing self-awareness is crucial for helping students possess a better understanding of their personal identities, manage their emotions, and align their behaviors with their goals. A shared immersive learning environment can foster self-awareness by providing an engaging and safe environment for students to experience and practice different emotions as well as identify the link between their feelings, thoughts, and actions.

3.2 Self-Management

Self-management involves the ability to manage one's emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations [4]. Self-management skills are critical for students to gain an

understanding of how their actions impact themselves and others. Immersive learning allows students to experience relevant scenarios related to self-management presented in a virtual authentic environment.

3.3 Social Awareness

Social awareness is the ability to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, and contexts [4]. Social awareness skills are essential for building empathy, possessing strong communication skills, and understanding social and cultural norms. Immersive learning environments allow students to travel to places that otherwise would not be possible to gain a deeper appreciation for other cultures and societies. For example, through these shared immersive experiences, students access places and people from around the world while building social awareness of others through learning about their different perspectives, social norms, values, and behaviors.

3.4 Relationship Skills

Relationship skills are defined as the abilities to establish and maintain healthy and supportive relationships and to effectively navigate settings with diverse individuals and groups [4]. Relationship skills are critical for building and maintaining connections with others personally and professionally. Students can experience simulations that closely mimic the realities of relationships in a safe and nurturing environment through immersive learning [5].

3.5 Responsible Decision-Making

Responsible decision making is the ability to make caring and constructive choices about personal behavior and social interactions across diverse situations [4]. Responsible decision making is an essential life skill related to safety and overall well-being. An immersive learning environment can provide a safe environment for students to participate in simulations while experiencing the authenticity of the social situation.

4 Methods

Teachers use the ILC to deliver immersive lessons where students develop skills related to SEL. The lessons are created through intentional instructional design where teachers structure content to support students with authentic experiences to practice the SEL competencies. Through coaching, teachers learned how to use the immersive software and received professional learning on instructional design for a 360 environment. The following table provides examples of how teachers are using immersive learning at the elementary, middle and high school levels aligned to the CASEL 5 [4]. This table is designed to give practitioners examples of shared immersive learning experiences to explicitly teach social skills.

Table 1. Social and emotional learning immersive learning examples.

	Elementary School	Middle School	High School
Self-Awareness	Teachers create 360 VR environments where students can see avatars experiencing different emotions. Students will identify and discuss the emotions they see and link behaviors to thoughts and feelings.	Students will compare and contrast fixed and growth mindsets using a self-generated personal goal. Students will watch 360 videos to help them learn skills and actions associated with attaining the goal. Students will complete a reflection, identify thoughts, behaviors and actions they need to take to attain the goal. Using web-based software, the students will design a virtual environment with an avatar to show how their goal will be achieved with a growth mindset.	Students will develop a 360 presentation for the annual IEP meeting. The presentation will highlight their strengths, goals for the year ahead and include multimedia examples of their work. Students will practice speaking confidently and articulating their progress since their last annual IEP meeting.

Self-Management	Students will view 360 videos of classroom footage where students are using coping strategies. Students will participate in a lesson on coping strategies and how to choose a coping strategy.	Students will practice detecting and evaluating cues related to physiological reactions to stressful events by participating in a 360 body scan meditation that focuses on different parts of the body and any tension they might feel associated with that part.	Students will participate in a 360 guided meditation where the background is a scenic background and the voice projected through surround sound guides students through meditating.
Social Awareness	When given a teacher created passport, students will explore diverse cultures and backgrounds around the world by viewing 360 content and Google street view. Students will use passport pages for documenting reflections.	When given a specific historical period, students will research and create a 360 environment that identifies the social norms, values, behaviors, and cultural aspects of that period.	Students will create a 360 environment with avatars and speech bubbles showing a conflict using peer mediation. Students will rate how well the avatars demonstrated active listening, problem solving, and a willingness to understand different perspectives in a conflict.
Relationship Skills	When given a social situation where conflict may arise, students will create 360 VR environments using web-based software with speech bubbles and audio of how to resolve the conflicts constructively. This activity will take place after a direct instruction lesson on how students can resolve conflicts constructively.	Students will participate in a lesson on how they can be a good friend. After participating in this lesson, each student will build an avatar and speech bubble containing how they can be a good friend. Each avatar will be placed in the 360 environment that is a photo of the classroom. Students will participate in a gallery walk around the immersive space to review the ways they can be a good friend to others.	Students will view 360 videos related to situations where they may experience negative social pressure. After viewing the videos, students will answer reflection questions to describe how they would react in these social situations. Students will re-watch the 360 videos and the teacher will pause where the students should react differently than those in the video. Students will take turns role playing what they would say and do differently.
Responsible Decision-Making	Students will view 360 videos of social situations where problems are presented. After viewing these clips, students will engage in conversations about how they would solve these problems and make reasonable judgment based on the facts presented in the video.	Students will be presented with scenarios involving situations where students could have consequences to their actions in the community through 360 videos. After viewing the videos, the students will engage in a discussion around different ways these scenarios could play out. Students will respond by creating a 360 environment with avatars anticipating the consequence of the situation they choose. Students will present these 360 environments to the class.	Students will create 360 environments using 360 photos and avatars to create an environment similar to their home environment. In their 360 world, students will use speech bubbles to describe how their own decisions promote personal, family and community well-being.

To access teacher perceptions of the acceptability, appropriateness, and feasibility of shared immersive learning as an intervention to support SEL growth, the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM), developed by Weiner [10] and colleagues was used for this project. After delivering a lesson related to SEL in the ILC, teachers complete a thirteen question survey on a Macbook Pro or iPad through a Google Form. After reading each of the statements, teachers respond with completely disagree, disagree, neither agree nor disagree, agree, or completely agree. At

the end of the survey, teachers also respond to an optional open-ended question to share any additional comments or feedback about their ILC experience related to the specific SEL lesson.

While several rating scales exist that examine teacher acceptability of interventions (e.g., Intervention Rating Profile-15 (IRP-15)[12], Behavior Intervention Rating Scale (BIRS)[7]), very few rating scales are available to measure student intervention acceptability and only one of these scales measure the acceptability of academic interventions (i.e., Kids Intervention Profile). To gain information from students about their shared immersive learning experiences, the Kids Intervention Profile (KIP), developed by Eckert [6] and colleagues, was adapted and used for this project. After experiencing a lesson related to SEL in the ILC, students complete the six item survey on a Chromebook or iPad through a Google Form. The survey items are presented at a third grade reading comprehension level [6]. Students who cannot independently read the survey have a teacher read each question and answer choices aloud to them. The survey takes under five minutes to complete and is administered before students leave the ILC to transition to another class. For each question presented, students respond with not at all, a little bit, some, a lot, or very, very much. At the end of the survey, students respond to an optional open-ended question to share any additional comments or feedback about their ILC experience related to the specific SEL presented.

Teacher and student survey results are exported to a spreadsheet. Each item is analyzed independently. Survey results will be presented at the International Conference of the Immersive Learning Research Network (iLRN) in Glasgow, Scotland.

5 Conclusion and Future Directions

Immersive learning is one way to provide relevant SEL opportunities for students to gain essential self-awareness, interpersonal skills, and coping strategies [8]. Through intentional instructional design, teachers structure meaningful lessons where students engage with authentic content to practice the SEL competencies. This project highlights specific examples of how to use shared immersive learning to engage students in SEL lessons. Teacher and student perceptions of immersive learning related to SEL outcomes support this innovative intervention to engage students in instruction. The current focus in the literature related to SEL and immersive technologies focuses on VR headsets [3]. Given that SEL often involves social awareness and relationship skills, the shared environment of immersive learning provides an authentic environment where students can safely explore these new skills. The findings from this ongoing project will inform the field and add to the limited research on shared immersive learning. Future research is needed to examine the effectiveness of shared immersive learning in specialized and general education settings as compared to traditional teaching methods.

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