Inside Out:Teaching Empathy and Social-Emotional Skills

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Abstract

Research suggests that children with better social-emotional skills have greater academic success; but most schools still do not have a set social-emotional learning (SEL) curriculum. 'Inside Out' is a three-part online tool for middle school classrooms that makes social-emotional learning accessible and supports teachers to track emotions and facilitate SEL activities. Students can evaluate how they experience and express emotion, understand others' emotional states and address these emotions through guided SEL activities in the classroom. Our initial demonstration received positive feedback, and we observed high engagement from children and teachers.

Author Keywords

Social Emotional Learning, Inside Out, Empathy, Classroom activity, USA Schools

ACM Classification Keywords

Human-centered computing   Activity centered design []

Introduction

As students progress through school, learning involves emotions - which affect decision making, interactions with the world, and overall academic success (Garner et al., 2017). Through the development of social-emotional learning (SEL) skills, students can engage with their class, com-

Emotional Avatars

Image 1: Working Scratch Interface
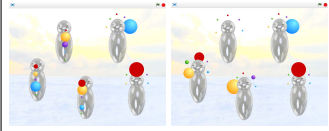

Image 2: Intended iPad Interface

Virtual Classroom

Image 3: Working Scratch Interface

munity, and their own emotions in a constructive way. Although there are accepted SEL standards and curricula available, the implementation in schools is stalled due to lack of support and emphasis on SEL training for teachers (Riem et al., 2017). Our approach merges accepted SEL curricula with an online platform to create an accessible space for social-emotional learning. It supports teachers with emotion tracking of students and by suggesting appropriate SEL activities.

Background

Social-Emotional Learning (SEL)
Awareness of oneself and interactions with others direct students' academic performance in schools (McLelland et al., 2000). SEL curricula teach skills that foster the development of five interrelated sets of cognitive, affective, and behavioral competencies: self-awareness, self-management, social awareness, relationship skills, and decision making (CASEL 2015). Currently, SEL programs like PATHS and CASEL focus on classroom based, teacher-led instruction for individual development (Crean 2013). We believe an individual evaluation and group activity based system will improve pupils' abilities to master the five major SEL competencies. Games and other technology-led education products have tried to link learning outcomes indirectly to SEL. In our design, we 'gamify' avatar creation, classroom emotion exploration, and an interactive digital pet. This digital platform might lower the barrier to classroom-wide engagement in SEL activities.

Design

'Inside Out' is aimed at middle school students in a classroom setting. It combines SEL concepts from literature and emerging technology and extends them to the classroom.

Our definitions of five emotions were first inspired by the

Pixar film, *Inside Out* (2015). The movie *Inside Out* used five of the basic recognizable emotions identified by Ekman and Friesen (1987) to reconstruct how emotions impact human action. This concept serves as a visualization of emotional literacy, which is the ability to identify and quantify experienced emotions and separate that experience from action or displayed emotion.

A similar concept is presented in a group therapeutic technique using "inside outside bags". In this technique, a bag serves as an externalized emotional avatar to its user. Using this previous work, we developed a platform which allows students to explore and share emotional information in an anonymous online platform, feeding into classroom SEL activities. We set up a server which collects the data entered by the students for this project.

1. Emotional Avatars: In the first part, each student can log their emotions into virtual avatars at the start of each day, or during a time set by the teacher. Each student reflects on what they are feeling and how they express their emotions. This is done by adjusting the levels of five base emotions represented as colored spheres inside humanoid shapes: Joy, Anger, Sadness, Fear and Disgust. (Image 1) Students can customize the height, width and minimal facial features (eyes and mouth) of these avatars. These are meant to evoke an image of a 'soul' rather than any specific character, human or animal. This choice is inherently inclusive and doesn't invoke gender or race. (Image 2)

2. Virtual Classroom: The second part consists of a virtual classroom that students' avatars can enter and move around in. The platform creates an awareness for an emotional baseline of the classroom: students can explore the emotions of their peers, drawing comfort from those with similar or dissimilar expressed states (Image 3 and 4). The virtual classroom is always accessible to students on their

devices.

Virtual Classroom

Image 4: Intended iPad interface
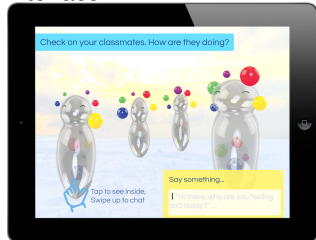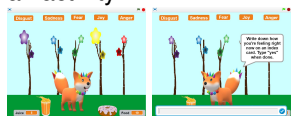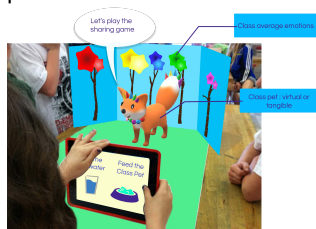
Class Pet

Image 5: The pet suggests an activity

Image 6: The physical-digital pet

3. Class Pet The third part of the program consists of physical SEL activities based on individual's as well as total classroom feelings, initiated by a classroom pet. The class pet is the data gathering center. The server accesses all individuals' emotions and calculates an average. Further, an algorithm processes individual as well as collective feelings and extremes. Based on these, it recommends activities from the CASEL framework (CASEL, 2015). The pet prompts those activities, that are guided and customized by the teacher (Image 5). The activities can be prompted at a time set by the teacher.

The pet's environment changes based on the average emotions of the class (Image 6), displayed by the size of the tree foliage on the respective emotion's tree. The class pet is designed to look like a dog-like fantasy animal that middle schoolers will feel attached to. While the pet engages the students to feed it on a regular basis, the classes feelings do not affect the pet's own emotional status, because this may put pressure on the students to not express themselves.

Testing and Future Work

The current version of Inside Out integrates SEL skills into a daily routine of the user and enables the teacher to conduct specifically tailored SEL activities with the classroom based on the students' emotional states. Based on the feedback that we received from children and adults, we are developing advanced visualizations to make the emotional reflection more enriching. We will also include a chat feature so that students can anonymously support each other when experiencing difficult emotions. Lastly, we are considering turning our web-based pet into a physical-digital pet that will be placed in the classroom and requires digital

food, water and play. Overall, the concept was well received by students in our pilot studies.

Conclusion

The Inside Out program was designed to facilitate the development of SEL skills within a classroom setting, focusing on self-awareness and the creation of a classroom emotional baseline. Importantly, it supports teachers in integrating real-time, emotion-specific SEL activities into the daily curriculum. While the program requires additional testing and further development, it is a promising tool that engages children to inquire their own, as well as their classmates' emotional states.

Acknowledgements

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