P1: Project Proposal and Literary Review

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1. Introduction

The American Psychological Association defines social skills as "a set of learned abilities that enable an individual to interact competently and appropriately in a given social context" (APA). Although these skills are often acquired through experience and informal learning environments, technologies and platforms that provide a formal curriculum about social skills have recently gained traction. These resources are used to complement informal educational experiences that happen in and outside of the classroom and provide structure to an otherwise overwhelming subject. The following project intends to build upon this foundation of existing tools and design an improved technology that serves to (1) educate students about social skills, (2) provide students the opportunity to practice these skills in relevant scenarios, and (3) connect newly acquired skills with existing knowledge and cultural background. In doing so, this project aims to maximize acquisition and transfer of knowledge while exhibiting cultural awareness.

2. Background

Many technologies currently help educate children on emotional expression and identification. Modern platforms utilize different teaching techniques, including engaging designs, feedback, and unique customization per user. The component currently missing is the emphasis of contextual learning to ensure successful transfer of knowledge. Teaching methods should reflect the unique experience of emotions by different individuals. Methods such as modeling, role-playing, and gamification, can convey emotions in various contexts, creating a more holistic learning experience for children.

Modeling

Modeling is a common technique used to teach children about social skills. It involves using videos or pictures to show children how they are “supposed” to act in certain situations. According to Singer-Califano (2008), modeling “...can assist children who need frequent repetition to learn new concepts or to teach students to monitor their own aggressive and prosocial behavior (Singer-Califano, 2008). Some modeling software or applications “...generalize…other settings, activities, and people, and can [only] be used with behaviors that have been resistant to intervention” (Singer-Califano, 2008).

An example of modeling is the learning environment “Model Me Going Places 2,” which is a series of slideshows that relate to common activities and locations that children attend. There are multiple ways to handle situations and the application is very rigid in its scenarios. The way the scenarios are shown makes it seem like there is only one way to do things and one way that a process goes, which is unrealistic. According to Singer-Califano (2008), “the combination of video feedback and self-management had an immediate and positive influence on students’ behavior” (Singer-Califano, 2008). In other words, it is the combination of modeling and feedback to the child that helps them understand and learn. Many current technologies focus on modeling but do not consider the feedback. In “Model Me Going Places 2,” there are no activities for the child to participate in, so they don’t get to contribute to their learning. This also eliminates the possibility of feedback, which can be extremely helpful in showing students what they understand and what they don’t (Bransford et al., 1999).

Role-Playing

Role-play is another frequently used technique to teach and assess students' social skills. These scenarios typically consist of artificial characters being placed in a scene or context and then presented with a dilemma. Students are prompted to assume the role of one of the characters and dictate what action that character should take to resolve the presented dilemma. Numerous studies debate the validity of assessments that use this structure. A study by Van Hasselt et al., found that "correlations between role play performance and criterion measures" were relatively low. Additionally, "test-retest reliability" was deemed "unacceptable" (Van Hasselt et al., 1981). Thus, it is recommended that future technologies steer away from role-play-based assessments and focus their resources on a more valid technique.

Everyday Speech is an online platform designed to teach social skills to kids from preschool to high school through the use of videos, activities, and games. There are over twenty skills accompanied with content that can be explored, The platform successfully communicates rules and provides its users with an easy-to-use interface. It also emphasizes collaboration and testing that extends beyond memorization. Its use of open-ended prompts encourages learners to reflect on their personal cultural experiences and feedback from their peers. However, the platform's assessments do not provide thorough feedback and rely on an authority to supplement the activity with discussion. Another application that allows children to role-play is "Breathe, Think, Do with Sesame." It's targeted towards young children with the goal of teaching essential social skills like problem-solving and self-control through active engagement. The app involves five interactive scenarios centered around everyday challenges children may encounter. It prompts users to practice deep breathing techniques, brainstorm solutions, and learn decision-making when addressing difficult situations. While it has thorough audio and visual feedback

mechanisms to support learning goals, the app lacks a breadth of knowledge acquisition since only five social skills are displayed. Culturally diverse role-playing exercises help students integrate learning, as "students can play roles of persons from other cultures in order to develop an empathic understanding of their experience" (Barsky 1995). This calls for more flexibility in the diversity of characters and situations to engage with children from various backgrounds.

Gamification

Gamification is another popular way to teach students about social skills. According to Medica Ružić, I., & Dumančić, M. (2015), gamification provides an "opportunity to increase the interest in children, students, and youth" and empower " their communication and sharing." This generally includes incorporating game design elements such as points, levels, and rewards into learning activities to increase the engagement and motivation. Activities like this allow the children to look at education with a different mindset, and view it as something fun and proactive, as opposed to dull and obligatory.

One example of gamification is "Peek-a-Zoo by Duck Duck Moose". It is an interactive education app that is designed for preschoolers and kindergarteners, focusing on teaching social skills and emotions through gameplay. The app features a wide range of cute and colorful animated animal characters that express various emotions; the children are then prompted to identify and match the animals with the corresponding emotions through games and puzzles. Peek-a-Zoo utilizes gamification by incorporating elements like visual rewards, positive reinforcement, and interactive challenges. However, Peek-a-Zoo struggles to acknowledge certain aspects essential to a child's deep understanding of social skills. For example, when a child selects the wrong answer, there is no type of penalty or acknowledgment that they are incorrect; the child can select infinitely many answers until they ultimately get the correct answer. The student may not understand the rationale underlying correct and incorrect answers.

Another example of gamification is the mobile app "Avokiddo Emotions," which uses avatars and simulation. Users can choose one of four characters to interact with by dragging and dropping various props to them. The characters represent various personality types to expose children to the idea that people feel and express emotions differently. The app gamifies the cause-and-effect model, similar to the suggestions of the book "The Teaching Cause and Effect Routine" to show kids how different triggers can stimulate different emotions. The app changes the reactions of the animals based on the prop that the user drags towards them. This deepens critical thinking skills, as it guides kids to consider the relationship between what props will cause what emotions. The structure of the app can "help students engage in higher-order reasoning" (Bulgren 2013). This interaction demonstrates what may cause changes in emotion for each of the animal characters. This teaches the connection between feelings and emotions but fails to help users identify emotions. The app does not teach names or components of emotions, making it hard for children to explicitly verbalize the connection they see.

Gamification, role-playing, and modeling can be very helpful tools in teaching young children, but it is essential to provide students with valid feedback and help them understand why each answer is rational or irrational, allowing them to have a deeper understanding of the content.

3. Project Outline

<table>
<tr><td colspan="3">Objective: Identify facial expressions and body language in order to recognize emotions; Develop decision-making skills in order to resolve challenges in everyday life</td></tr>
<tr><td colspan="3">Inputs: 4-7 year old english speakers (possibly pre - literate)</td></tr>
<tr><td rowspan="2">Outputs</td><td>Activities
Interactive scenarios and challenges that allow the user to make a choice
Representation of various cultures and backgrounds
Various storylines and levels
Contexts applicable to real-world scenarios
Teaching the students what each emotion is and why people may feel a certain way about given interactions</td><td>Measures
Interactive assessments with constructive feedback
Decisions the user makes will lead them to a certain outcome (good or bad)</td></tr>
<tr><td>Outcomes</td><td>Short Term
Individual successful completion of assessments
Connect emotional expression and emotion name</td><td>Long Term
Transfer emotional identification to multiple social contexts
Recognize emotional expression in others</td></tr>
<tr><td colspan="3">Theory of Change
Assessments with constructive feedback allow students to understand why answers are right or</td></tr>
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wrong so they can understand concepts more deeply.
- Text that is read-aloud and cartoon-like characters help children connect with the scenarios.
- Facial expressions are simple and a good way to start children out with analyzing emotions.

4. Divergent Designs

Our first proposal entails a mobile application that is designed to be accessible to children aged 5-7, providing them with a platform to learn about emotions and decision making skills. With customizable characters and engaging storylines, children can navigate through different scenarios and interact with various characters, observing their body language and facial expressions to understand emotions. Through making choices and receiving feedback from a guiding character, children can learn the consequences of their decisions and develop problem-solving skills in real-world situations. The inclusion of captions and read-out text ensures accessibility for all users. The anticipated cons of this application include creating diverse and comprehensive scenarios. Additionally, the solitary nature of the app may hinder opportunities for collaborative learning experiences among children. The decision-making process within the app may induce anxiety for some children, particularly when faced with multiple options to choose from. Despite these potential drawbacks, the proposed application offers a valuable tool for children to explore emotions and decision-making in a safe and interactive environment. Children can gain an understanding on why certain choices are better to make than others in challenging social situations, make mistakes without fear and go back, learn to recognize emotions, and understand how to react to challenging situations.

Our second proposal is a website to help children ages 5-10 meet our proposed learning objectives. A web application with built in supporting audio can be universally accessible across mobile and computer devices. Users will meet learning objectives of developing decision making skills in order to make the morally correct decision in daily challenges and to understand emotions and how to interpret them. The website will engage users in interactive challenges with relatable, diverse characters and plots to help children learn how to identify and label emotions of themselves and others. Users will be able to immerse themselves via role-playing activities, simulating real world social interactions and practice appropriate responses. Users will receive immediate constructive feedback and guidance on which course of action is stronger morally and ethically. The website will then prompt questions that allow users to reflect on their own behavior and set personal goals for improvement. The interactive element of the design allows children to practice decision making skills in a safe environment. In contrast, customization and personalization based on individual needs may be limited. Children may not have access to steady internet and required parental supervision to safely access this website. Consistent usage may also lead to over reliance on virtual interactions to develop social skills. Despite these limitations, an interactive website can suitably teach emotions to young children.

Our final proposal entails an application that can be supported in mobile devices and websites to meet our proposed learning objectives. This application is targeted towards students ages 5-10, primarily in elementary school. Teachers will be able to assign students in their classes readings or videos to watch or stream this content to a classroom monitor for students to engage with simultaneously. The platform will present readings and videos subsequently followed by questions to be discussed in a seminar format, writing reflections, short quizzes, or class polls. These activities are intended to prompt students to think about social skills in the content they consume and discuss their opinions with peers. For example, students may be asked to reflect on the behavior of a character in a reading or identify better decisions a character could have taken to handle a situation. Additionally, reading and videos will be taken from common books or content relevant to students based on their education level. In doing so, this technology seamlessly complements in-class education and can reinforce skills developed in other disciplines such as reading comprehension and writing. A challenge this proposal may face in its development is the incorporation of a diverse array of content tailored to multiple age groups, access to copyrighted material used in curriculum, and the creation of both a teacher and student portal in the interface. Another limitation of this technology is that it is designed to be more effective in classroom settings and does not strongly support independent usage. Rather, activities are centered around collaboration, discussion, debate, and guided questions available to teachers.

5. Conclusion

The exploration of social skills education unveils a landscape where educational techniques like modeling, role-playing, and gamification have been utilized in creating learning environments for children. Among the various designs proposed, the winning direction emerges as a mobile app tailored for children aged 5-7 that offers interactive scenarios, culturally diverse representations, and storylines with constructive feedback, fostering a safe environment for children to understand emotions and develop critical decision-making skills. Through its blend of engagement and flexibility, the idea stands as a promising tool for social skills development in young learners.

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