Effects of Active Listening in a Virtual Classroom

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Abstract

Due to the pandemic, businesses have had to make use of remote protocols, policies and procedures, up to the point of using *virtual offices* and similar software. Likewise, educational institutions have been evolving to capture the "classic" classroom atmosphere through learning management systems (LMS) and online meeting rooms. However, they still generally fail to fully reproduce the aforementioned environment since there is a lack of "real" or physical interaction. Specifically, some elements of active listening, the ability for the speaker and listener(s) to properly engage with one another, are diminished. This research attempts to gauge the effects of active listening in a virtual environment, mainly through its more physical components such as speech and head or body movements. Through a game-like simulation involving said components, users will be interviewed on whether or not such actions have helped and in what way or how much.

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1 RESEARCH OBJECTIVES

- Find/measure the effect(s) of Active Listening in a virtual setting;
- Assess if the “game” would suffice as a “virtual learning environment";
- Confirm if certain virtual elements can substitute for the physical/real requirements in Active Listening.

2 WHAT IS ACTIVE LISTENING?

“Effective communication consists of both speaking and listening. Active listening is a way of listening and responding to another person that improves mutual understanding. It is an important first step to defuse the situation and seek solutions to problems. This lesson gives students the opportunity to identify what active listening is and why it is important in managing conflicts.”

- United States Institute of Peace (USIP)

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3 SYSTEM ARCHITECTURE

3.1 Development & Engine

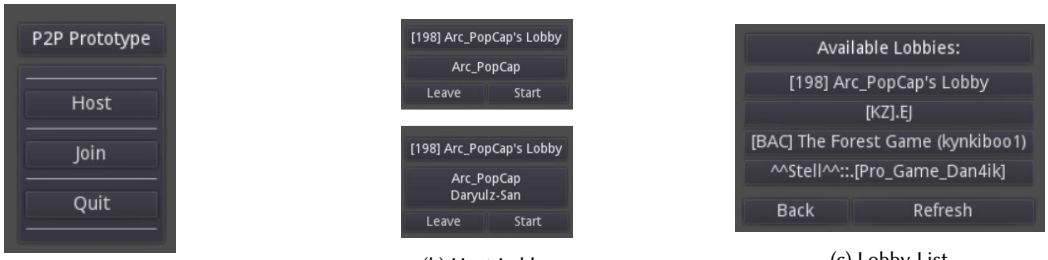
- Godot Game Engine
- Godot Steam (Add-on)
- Steamworks API

3.2 Minimum Specs *taken from Steam Store*

- OS: Windows 7, macOS 10.12, any Linux/SteamOS distribution
- Graphics: Support for OpenGL 2.1 *(Recommended: Support for OpenGL 3.3)*

3.3 Lobby Interface

The software makes use of Steam's *Lobby System* for the creation of *peer-to-peer* (P2P) multiplayer sessions. The (teacher) host can start the game entirely by his or herself or wait for up to 3 additional (student). players. The tag "*[198]*" is used to identify related lobbies in this experimental build.



(a) Main Menu

(b) Host Lobby

(c) Lobby List

Fig. 1. Lobby Menus

3.4 Game Interface

The game is set in a low-resolution classroom with space for 4 players- a speaker (or teacher) and 3 listeners (or students). Each player has 6 key controls not including the *escape* menu.

The major keyboard controls are:

- [␣] Pose - switches between idle animations.
- [C] Camera - switches between first-person and self-facing cameras.
- [B] Hand - switches between raising and lowering the hand.
- [N] Mic - turns on microphone.
- [M] Mute - mutes all other players.

Along with the *[ESC]* for the escape menu, and arrow keys or mousewheel for swapping between faces.

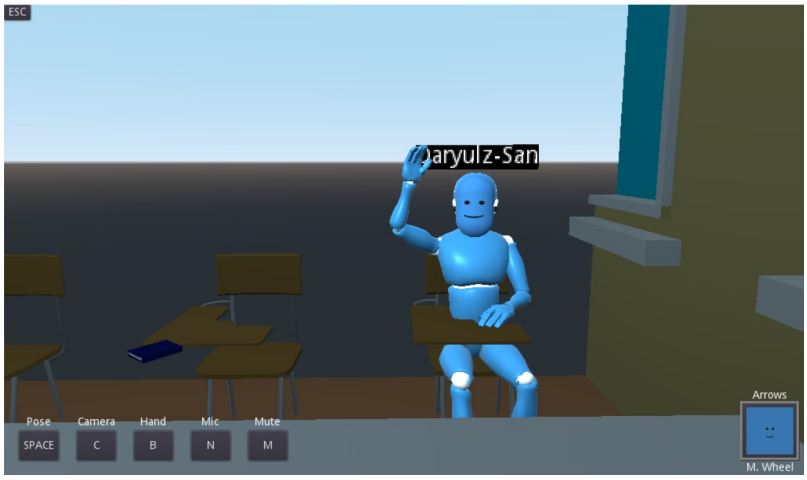


Fig. 2. Game Environment

(a) Keyboard Controls

(b) Face Selection

Fig. 3. UI Elements

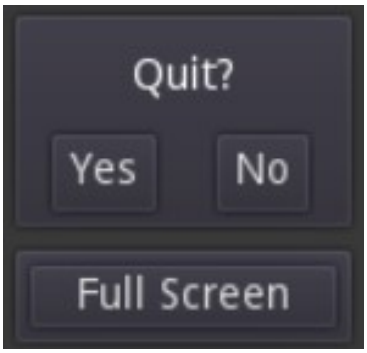


Fig. 4. Escape Menu

4 RESEARCH METHODOLOGY

This study will focus on qualitative data, using *focus groups* to get the general *feel* of the communication process as a whole, followed by *interviews* with each participant to gain a more personal perspective as a speaker or listener. Themes and other commonalities will be identified through data gathered, aiming to identify how the introduction of non-oral AL components will affect participants in a virtual setting. Such themes are most likely to be related to aspects of EI, such as empathy and understanding. Finally, this study will serves as more of a framework for a game-like classroom, mostly for lower-grade schools, rather than a true product. Hence, only minimal attention will be paid to auxiliary elements (e.g. player model), which will be improved further once sufficient results and conclusion will be found.