

## The Booth: bringing out the Super Hero in you.

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**Abstract.** The acquisition of knowledge is a key aspect for learners. However, in moments of stress the cognitive capacities of learners decrease considerably, making it very difficult for learners to get access and use their already acquired knowledge. Therefore we developed *The Booth*, a prototypical toolkit designed to support learners to prepare for key situations that are foreseen to be stressful. It guides the learner through a series of lectures helping them to gain personal power, and become in touch with their sincere-self. This paper presents the prototype, including the description of its technical aspects and the theory behind its lectures.

**Keywords:** Sensor-based Learning, Affective Computing, Self-Confidence, Demonstration

### 1 Introduction

Common educational practices and research focus mostly on the acquisition of knowledge leveraging the cognitive domain of learning, while regularly ignoring the affective and psychomotor domain of learning [1]. This major focus on content acquisition is also reflected in the research area of technology enhanced learning (TEL), where most TEL technologies focus on the acquisition of content [2]. A key objective for the acquisition of knowledge is to be able to apply it when needed. Through live learners face events that require full use of cognitive capacities. These events are in many cases stressful, leaving learners feeling powerlessness. The feeling of powerlessness activates the behavioral inhibition system, forcing learners to focus on threats rather than on opportunities. Learners therefore tend to become anxious, pessimistic and susceptible to social pressures, forcing them to be less in touch with their sincere-selves [3]. It also undermines executive functions such as reasoning, task flexibility, attention control [4] and keeps learners post processing the event days later [5].

To avoid feeling powerlessness, research has shown that at some point the learner should stop preparing content and start preparing mindset [6]. Therefore, we developed *The Booth* in order to support learners with their mindset preparation for situations that can be foreseen as stressful. *The Booth* is a prototypical tool that guides learners through a set of lectures designed to make them feel in touch with their most sincere-self and regain their personal power.

## 2 The Booth

*The Booth* is a system designed as a confidence booster. Its current version consists of six small lectures or exercises that can be completed by the learner in five to eight minutes. The featured exercises are: Super Hero Posture, Super Powers, Inspiration 1, Inspiration 2, Saving the Planet, and Celebration. In order to interact with the system the learner makes use of postures and gestures. This interaction is possible through the use of the Microsoft Kinect<sup>1</sup> sensor.

### 2.1 Lecture: Super Hero Posture

Body language does not only communicate to others it also communicates to ourselves. Expansive body language increases optimism, assertiveness and resilience while reducing stress [7]. It improves our strengths, skills, decision taking and perception [8]. The study in [9] describes how participants who were asked to stay in expansive body postures that express power prior to a job interview, significantly outperformed participants who did not use the power postures before the interview.

The first lecture consists on teaching the learner the super hero posture (see Fig. 1), which requires the learner to smile, and stand straight, with spread legs, hands on hips. During the remaining lectures the system requests learners to remain in a power posture.



Fig. 1. The Booth teaching the Super Hero Posture.

### 2.2 Lectures: Super Powers, Inspiration 1 and Inspiration 2

Research has shown that acting powerful, being exposed to words related with power and reflecting about times when one was feeling powerful helps learners to prepare for cognitive by improving their performance [3,10]. Another preparation strategy

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<sup>1</sup> <https://developer.microsoft.com/en-us/windows/kinect/develop>

that helps learners to prepare their mindset is to get in touch with their sincere-self [11]. The study in [12] shows that getting in touch with core values through self-affirmation also supports mindset preparation of the learner. This strategy significantly decreases the learner's stress levels.

The purpose of the lectures Super Powers, Inspiration 1 and Inspiration 2 is to help learners to reduce stress and improve their performance. In order to achieve this during the lectures, learners have to select and reflect about concepts that find inspiring and align with their values, while standing in a powerful posture (see Fig 2).

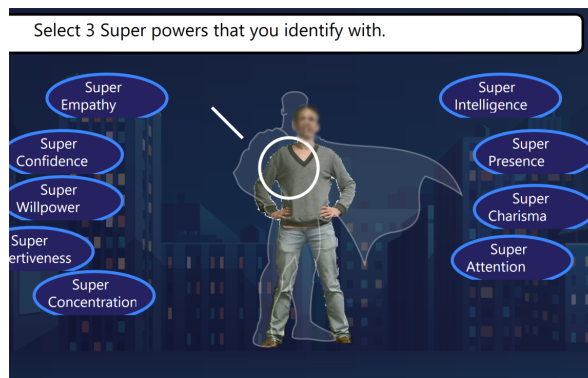


Fig. 2. Super Power Selection Lecture

### 2.3 Lecture: Saving the Planet

A warm and trustworthy person who is strong and competent elicits admiration. Nevertheless, only after establishing trust strength and competence become a gift rather than a threat [13]. The saving the planet lecture has the purpose to elicit the sense of kindness and warmth by asking the learner to reflect on how to save the world.

### 2.4 Lecture: Celebration

During this lecture the learner is asked to stand in a celebrating posture raising both arms in a V posture, while remembering and reflecting about winning and achieving goals.

## 3 Conclusions and Future Work

Research has shown that the mindset has a significant influence on the learner's performance [4]. To support learners to obtain a right mindset to approach foreseen challenges we developed *The Booth*. We based its development on research that has already shown to help individuals to regain their personal power to their biggest challenges. For future work we plan to explore the usage of the system for scenarios such as public speaking that are usually considered as stressful.

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