Promotion of Emotional Learning in Technical and Social Domains

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Outline

Social and Emotional Learning (SEL)

- gained over more that 20 years importance in learning and teaching environments

- SEL highly contributes to the development of empathy, personal skills, and a positive mindset

- increased success in educational and working environments (Jones & Doolittle, 2017)

Research Goals for SEL

According to Ming-Chi Liu (2017)

- Developing assessment techniques

- Providing intervention approaches

5 Research Questions

- **RQ1:** Which possibilities exist to support Emotional Learning in a Learning Environment?

- **RQ2:** How to obtain and observe emotional states of students in higher education?

Outline

Systematic Literature Review

■ adopted the PICOC methodology (Carrera-Rivera et al., 2022)

- *Population:* Students, teachers, or individuals engaged in technical and social domains.

- *Intervention:* Strategies, programs, or interventions aimed at promoting emotional learning.

- *Comparison:* Different types of emotional learning interventions, or variations in delivery methods.

- *Outcome:* Improved emotional intelligence, increased well-being, or better performance in both technical and social domains.

- *Context:* Educational settings where the promotion of emotional learning is relevant.

Identification

- retrieved from
    - Google Scholar
    - ScienceDirect
    - Research Gate
    - IEEE Xplore
- last search Sep 2023
- combination of relevant key phrases *("Emotional Learning", "SEL", "Support Emotional Learning", "Learning Management Systems", and "Game based Learning")*

Selection Criteria

- *Period:* Include records from 2011 to 2021. Exclude otherwise

- *Language:* Exclude if not English

- *Type of Literature:* Include articles and papers. Exclude otherwise

- *Type of source:* Include journals and conferences. Exclude otherwise

- *Accessibility:* Exclude not accessible records

- *Relevance to RQs:* Exclude if not relevant
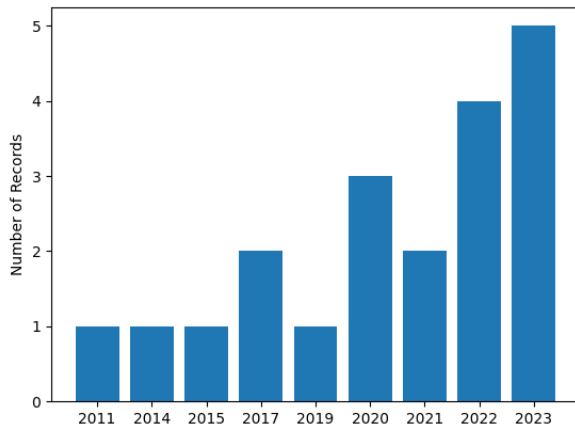
- 20 Reports included in review

Outline

Included Publications by Years

Fields in Identified Records

- **Online Learning** (Hazzam & Wilkins, 2023; Li & Wang, 2021; Tao et al., 2023; Toring et al., 2023)
- **Blended Learning** (Zhao et al., 2020)
- **Data Science** / **AI** (Ayvaz & Guruler, 2017; Faria et al., 2015; Ming-Chi Liu, 2017)
- **Teaching** / **Leadership** (Hazzam & Wilkins, 2023)
- **Psychology and Sociology** (Quílez-Robres et al., 2023)
- **Game-based Learning Env.** (Gordillo et al., 2021; Hung et al., 2014; Lopez-Gazpio, 2022; Marty & Carron, 2011; Yildirim, 2023)
- **Mobile Learning Management** (Alfalah, 2023)
- **Virtual Learning Environments** (Dubovi, 2022; Hasenbein et al., 2022; Mosquera, 2017; Silva et al., 2019)

Support Emotional Learning

- Choosing the right Learning Management Software (LMS)

- Game-based Learning (GBL)

- Project-based Learning (PBL)

    - Problem Exploration

    - Technology Analysis

    - Design of Solution

    - Implementation of Solution

    - Testing and Documentation
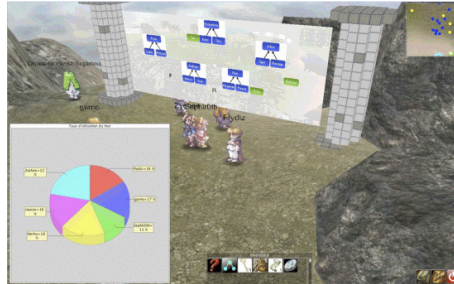
Policies promoting SEL

- course design

- pedagogical approaches

- campus-wide initiatives

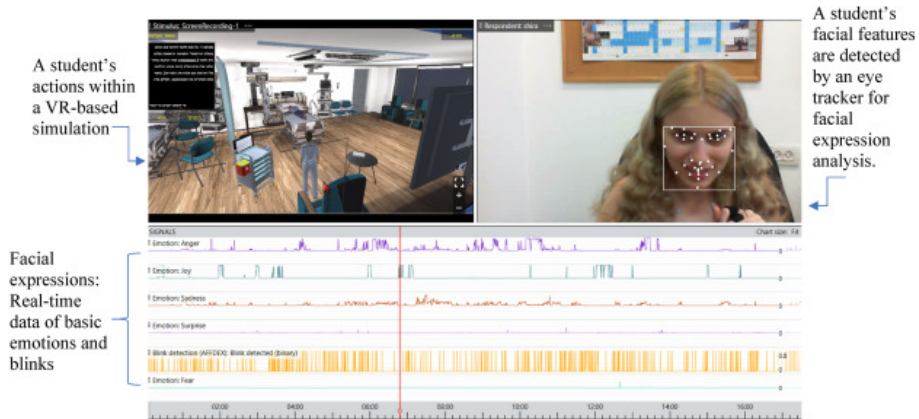Social and Emotional Learning Core Competencies by CASEL (Im et al., 2019)

Obtain and Observe Emotional States of Students in Higher Education

- Participation Rate

- Completion Rate

- Time spent

- Conversation Rate

Virtual "post-it" wall and indicator for students' involvement (Marty and Carron, 2011)

Multi-Modal Emotional Data Collection (Dubovi, 2022)

A student's actions within a VR-based simulation

A student's facial features are detected by an eye tracker for facial expression analysis.

Facial expressions: Real-time data of basic emotions and blinks

Outline

Approaches to Support Emotional Learning

- **LMS**
  - Clear interfaces, notifications
  - Multimedia evaluation tools
- **Blended Learning**
  - Combines digital and face-to-face learning
- **Game-based Learning**
  - Tools: SGAME, Kahoot, Scratch
  - Gamification for engagement
- **PBL**
  - Collaboration and emotion-related topics
  - Guided support from instructors

Observe Emotional States in Learning

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- **LMS Feedback**
    - cognitive and emotional insights
- **Gamification**
    - ranking systems for engagement
- **Surveys**
    - PANAS, Feedbackr
- ⮕ **Adaptations**
    - communication
    - course difficulty

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