Learner Engagement: Working Definitions & Measurement Instruments

Definitions

Engagement at the University/Institution Level: The quality and quantity of participation in educational activities, interaction with university systems, and utilization of university services at every level of the university (institution level to course level), as well as the extent to which the university facilitates this participation, interaction and utilization.

Engagement at the Course Level: The quality and quantity of a student’s cognitive, affective and behavioral interaction with the course assignments and content, as well as interactions with the instructor, other students, and the LMS.

- **Affective** engagement refers to learners’ emotional and attitudinal reactions to the tasks (i.e., activities and assessments), people (i.e., instructions and students), and systems that make up the learning environment. Affective engagement also influences cognitive engagement.
- **Cognitive** engagement refers to learners’ inclination or motivation to spend time and effort on learning activities. Cognitive engagement also includes the use of metacognitive learning strategies and self-regulation.
- **Behavioral** engagement refers to the observable level of participation or interaction with the learning environment, other students and faculty, learning activities and co-curricular activities.

References


Measurement Instruments

*University Student Engagement Inventory (USEI)*

- This recently developed instrument (Maroco, Maroco, Campos, & Fredricks, 2016) attempts to integrate the four dominant research perspectives on student engagement -- behavioural,
psychological, socio-cultural and holistic. It included questions intended to measure **affective, cognitive, and behavioral engagement at the university level**.

- The instrument includes an adapted post-secondary version of Fredricks et al.’s 15-item School Engagement questionnaire for upper elementary school students along with 17 new items created from focus group analysis. Only one of the questions concerns extracurriculars.
- The authors tested the reliability, content, construct and predictive validity of the 15-item instrument using a sample of 609 Portuguese non-residential university students majoring in STEM and social science disciplines. They reported the instrument demonstrated predictive validity for self-reported academic achievement and intention to dropout.
- While the instrument is not as campus-centric as NSSE, it would still require additional adaption for use with students who are predominately working adults pursuing their degrees part-time online.
- The authors’ study, included in the references for this section, includes a copy of the actual instrument.

**Adapted Engagement Scale**

- Sun, Martinez, and Seli (2014) also adapted the Engagement Scale developed by Fredricks et al. (2004) for use with university students. Questions from the Engagement Scale measuring **affective, cognitive, and overall engagement** were combined with adapted questions from the Self-Efficacy for Learning and Performance scale from the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991).
- Unlike Maroco, Maroco, Campos, & Fredricks (2016), the authors measured engagement at the **learning intervention level**, comparing engagement levels between students who used clickers in the classroom (n = 95) to respond to conceptual questions and those who used web-polling software to respond to concept questions outside of class (n=114). (Students in the web-polling group had significantly higher levels of cognitive, emotional, and total engagement compared to the clicker group). The mean age of participants, which included undergraduates and graduates taking education classes was 23.18 years.
- The authors did not provide a copy of the adapted survey with their study, but from their description in the methods section of the report, it appears as though the modifications to the Fredricks et al. (2014) questions were relatively minor. It does not appear as though the authors adjusted questions specifically to address the online versus classroom context of the interventions.

**The Student Engagement Instrument (SEI)**

- Developed by Appleton, Christenson, Kim, & Reschly (2006), the SEI is a survey instrument designed to measure the **affective and cognitive engagement** of secondary students. The instrument was initially tested in a random sample design involving more than 1900 9th grade students.
- The instrument contains 35 items in six subscales: Control and Relevance of School Work; Future goals and Aspirations; Extrinsic Motivation; Teacher-Student Relationships; Peer Support for Learning; and Family Support for Learning. The authors reported that the
factors were generally correlated with GPA, behavioral incidences and student achievement in the pilot test.

- Subsequent studies involving students in grades 6-12 have found that the SEI functions similarly across secondary grade levels. In another study, the SEI was also shown to be a good fit for students with high-incidence disabilities (University of Minnesota Institute on Community Integration, 2015).

- Grier-Reed, Appleton, Rodriguez, Ganuza, & Reschly (2012) adapted the SEI for use in a university setting using simple modifications to the existing wording of the questions. Their study involved 122 undergraduates (the majority were freshman and sophomores) at a large midwestern university. They found that only the Peer Support factors stood out in terms of predicting both GPA and career decision self-efficacy. Additionally, the Teacher-Student Relationships subscale significantly predicted commitment anxiety and external conflict. According to the authors, both of these subscales resemble several items on the NSSE. However, they posited that the SEI was better positioned to address the disconnect between how student engagement is operationalized and measurement across the student lifecycle from secondary to post-secondary settings.

**NSSE, CSSE & AUSSE: Institutional Measures of Engagement**

- NSSE focuses on behavioral measures of engagement, including campus engagement (participation in campus activities), institutional practices and learning behaviors.

- CSSE, the community college version of NSSE also focuses on behavioral measures, including Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learners.

- AUSSE, the Australian version of NSSE, measures six facets of student engagement: Academic Challenge (AC), Active Learning (AL), Student and Staff Interactions (SSI), Enriching Educational Experiences (EEE), Supportive Learning Environment (SLE), and Work Integrated Learning (WIL).

**Additional Reading**

Henrie, Halverson and Graham (2015) reviewed and categorized 113 studies that examined student engagement in technology-mediated learning environments. The majority of these studies used operationalization and measurement of engagement also varied widely and in some cases was not consistent with the internal definition of engagement provided within a study (i.e., behavioral measures used to measure cognitive definitions of engagement). The majority of studies relied primarily behavior indicators of engagement including participation, attendance, number of assignments completed, viewing or login frequency and other time-on-task behaviors. They found that engagement was not well defined in most studies. The technologies included clickers, Second Life, LMSs, mobile apps, video, audio, online discussion boards, email, and social media. They identified 14 named surveys that were used or adapted to measure student engagement. The NSSE was most often named. The engagement scale developed by Fredricks et al. (2004) was also used or adapted as were constructs from Handelsman, Briggs, Sullivan, and Towler’s (2005) Student
Course Engagement Questionnaire (SCEQ). Other methods of measuring engagement included self-reported (by students) levels of engagement, physiological sensors, human observation, video recordings, and computer-generated usage data.

References


