Cross-Cultural Content Validation of an Online Engagement Framework

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Introduction

Engagement is an essential feature of successful student learning. Learning involves actively attending to a source of information or insight on the part of the learner (Hiver et al., 2021; Howard-Jones, 2018). Engaged students are committed to and emotionally immersed in their learning process; they can easily focus on academic tasks and are eager to deepen their understanding on different topics (Hiver et al., 2021; Perry, 2022). Student engagement, however, does not occur in a vacuum; it emerges in the context of a particular learning community (Hiver et al., 2021). According to Meyer (2014), an engaged learner is not only actively involved with the content itself, but also with peer students, faculty, and experience as a whole. Thus, both educators and institutions must be able to foster and support engaging learning environments to fulfil their educational mission, which, over the last decades, has led to an increasing research interest in the conceptualisation and measurement of the phenomenon of student engagement (Bond et al., 2020; Coates & McCormick, 2014; Perry, 2022).

Educational researchers have since found strong associations between engagement and other indicators of student achievement in higher education, for example, overall student satisfaction (Radloff and Coates, 2014), first-year student grades and persistence between the first and second year of college (Kuh, et al., 2008), self-reported learning outcomes in both face-to-face and virtual learning environments (Chen et al., 2010), and higher students' grades (Crampton et al., 2012; Romero and Barberà, 2011). Despite broad consensus and supporting evidence about the relevance of student engagement in higher education, there is still a lack of agreement among scholars regarding its conceptualisation, measurement, and pedagogical development, especially when it comes to online learning (Bond et al., 2020; Kahu & Nelson, 2018; Redmond et al., 2018, 2022). Following Astin's (1984/1999) seminal paper on student involvement and Fredricks et al.'s (2004) characterisation of the three key dimensions of student engagement (i.e., cognitive, behavioural, and emotional), multiple interpretations of this construct have been posited in the literature (Redmond et al., 2022). In a critical review, Kahu (2013) identified four dominant research perspectives on student engagement: behavioural (e.g., Kuh, 2009b), psychological (e.g., Fredricks et al., 2004), socio-cultural (e.g., Mann, 2001), and holistic (e.g., Bryson et al., 2009). Although each of these views has provided significant insights into student engagement, they only offer partial explanations about it, and hence a more comprehensive approach is still necessary to deepen our understanding of this construct (Kahu, 2013).

In response to considerations such as the above, Redmond et al. (2018) conducted a deductive thematic analysis of the literature on student engagement to develop a conceptual framework of this phenomenon in online higher education environments. Built upon current and emerging themes identified through constant comparison method, the Online Engagement Framework

(OEF) comprises five key elements or dimensions: "social engagement, cognitive engagement, behavioural engagement, collaborative engagement, and emotional engagement" (Redmond et al, 2018, p. 189). For each of these five components, the OEF introduces a working definition and a set of relevant indicators, so that the construct is potentially measurable and empirically testable. In this regard, Redmond et al. (2018) suggested that future research concerning this framework should be, in part, devoted to its statistical validation and application across various populations.

Although multiple survey tools have been developed internationally for measuring student engagement in traditional higher education environments —such as the National Survey of Student Engagement (NSSE; Kuh, 2009a) in the United States, the Australasian Survey of Student Engagement (AUSSE; Radloff & Coates, 2014) in Australia and New Zealand, the United Kingdom Engagement Survey (UKES; Rowan & Neves, 2021), the Irish Survey of Student Engagement (ISSE; Drennan et al., 2014), the South African Survey of Student Engagement (SASSE; Strydom & Mentz, 2014), the Chinese College Student Survey (CCSS; Ross et al., 2014), and the *learner engagement* indicator of the Student Experience Survey (SES; Challice et al., 2021), which is, in turn, part of the Quality Indicators for Learning and Teaching (QiLT; Australian Government Department of Education, Skills and Employment, 2020)—, further research and reflection on the particular characteristics and needs of online students is still required as teaching and learning worldwide have increasingly shifted online (Orr et al., 2020; Redmond et al., 2018). The OEF and a scale based on it might provide:

A reference point to inform the structuring and thinking behind institutional and systemic tools that seek to categorise engagement, student satisfaction, and other forms and measurements … by adopting a more comprehensive interpretation and lens for determining learner engagement in the online environment. (Redmond et al., 2018, p. 198).

In this context, a joint research project was devised between University of Southern Queensland (UniSQ) in Australia and Universidad Estatal a Distancia (UNED, by its acronym in Spanish) in Costa Rica aimed at developing a scale based on the OEF and validating it at both universities. The initial phase of this project consisted in generating a preliminary pool of items in English and Spanish to assess students' online engagement and conducting a study to gather evidence of content validity for the scale through expert and target population judgements. In this paper, we explore the key findings of this first study and discuss further directions for the ongoing project.

Method

Participants

Expert panel

Ten English speaking and 10 Spanish speaking scholars with extensive experience in topics related to online higher education, student engagement in higher education, or both voluntarily participated in the study without receiving any payment.

Target population panel

Twenty undergraduate students (10 English speakers, 10 Spanish speakers) over age 18 who were currently enrolled in online courses at UniSQ in Australia (5 women, 5 men) or UNED (5 women, 5 men) in Costa Rica voluntarily and anonymously participated in the study without receiving any payment.

Instruments

Online Engagement Scale

To measure online student engagement in higher education, we developed a preliminary scale primarily built upon the indicators put forward by Redmond et al. (2018) and then complemented by input from other studies and instruments available in the literature on this topic (Australian Council for Educational Research, 2011; Bond et al., 2020; Challice et al., 2021; Huston, 2020; Redmond, 2021). After a revision process by the research team, the test version of the scale comprised 181 items organised around five sections corresponding to each of the dimensions of online engagement identified by Redmond et al. (2018), namely: "social engagement, cognitive engagement, behavioural engagement, collaborative engagement, and emotional engagement" (p. 189). Depending on the content of items, we used either an agreement (from 1 = *strongly disagree* to 7 = *strongly agree*) or a frequency (from 1 = *never* to 7 = *always*) 7-point scale.

Content Validation Questionnaire

For the content validation of the Online Engagement Scale (OES), we developed a questionnaire including five variables. Two of them were close-ended questions aimed at assessing the relevance of each OES item within its corresponding dimension (from 1 = *low* to 3 = *high*) and the appropriateness of the rating scale proposed for each OES item (1 = *agreement scale*, 2 = *frequency scale*). The remaining three variables were open-ended questions delving into the wording of the OES items, further comments about them, and recommendations for additional items that might help to increase the representativeness of the content with respect to its specific dimension.

Instrument Translation

Both instruments were initially developed in English, then translated into Spanish, and finally back-translated into English to validate the consistency between the two versions.

Procedure

We sent an email request for voluntary participation to potential respondents of the content validation questionnaire. We then submitted the link to the full questionnaire to those who accepted the invitation. The instrument was made available online through UniSQ's and UNED's Lime Survey platforms. Upon giving consent, participants were provided with general instructions to complete the questionnaire, a working definition of each dimension in the OES scale, the probe statement introducing the OES items, and the set of items to be assessed. Data collection took place over four weeks.

Data Analysis

Close-Ended Question Analysis

The relevance and rating-scale appropriateness of individual items was calculated using the item-level content validity index (I-CVI) and corrected for chance agreement among panellists through the modified kappa statistic ($k*$) as suggested by Polit et al. (2007). Given the size of the subsamples in this study ($n = 10$), we adopted cut-off points of I-CVI = .78 and $k* = 0.74$ for OES items to be considered relevant or their rating scales appropriate (Polit et al., 2007). Additionally, the interrater agreement of each OES dimension was computed through the intraclass correlation coefficient (ICC) based on a single-measurement, absolute-agreement, two-way random effects model (Koo & Li, 2016) in the case of relevance, and through Fleiss' kappa (k; Fleiss, 1971) in the case of rating-scale appropriateness. ICCs and ks were calculated using the irr package (Gamer et al., 2022) for R. Finally, judgement consistency across panellist subsamples (i.e., English speaking experts, Spanish speaking experts, English speaking students, and Spanish speaking students) was estimated for each OES dimension through the Spearman's rank correlation coefficient (r) of the $k*$ statistic.

Open-Ended Question Analysis

Open-ended questions referring to wording, feedback on items, and recommendations for new items were coded into categories and thoroughly discussed within the research group before making any changes to the OES.

Results and Discussion

Given that this study is still in progress, we are unable to report results at the moment. However, by the end of August 2023, we expect the ensuing outcomes from the content validation process for both the English and Spanish versions of the OES: (a) a refined set of items as a result of retaining those considered relevant, revising problematic ones, and deleting those rated as irrelevant; (b) a representative set of items for each dimension from recommendations of new items; (c) most appropriate rating scales for each item; and (d) improved wording clarity and conciseness throughout the scale.

At this point, the main limitation of this study is that OES's content has been only validated in the two contexts described above. We welcome scholars from around the world interested in online student engagement to join this initiative and collaborate in the validation of the OES across distinct populations. Another potential limitation that this study might face involves the diversity of educational models implemented at different universities. For example, in our case, whereas UniSQ has both on-campus and online study modes, UNED is a fully-distance institution that, since the COVID-19 outbreak, has shifted its entire academic provision online. Therefore, controlling for variants of students' online experience should be taken into account in our analysis model.

Results from this study will inform the second phase of the project, which will consist in gathering evidence of OES's internal validity, reliability, and fairness through an online administration of the instrument to a representative sample of undergraduate students from UniSQ ($n = 800$), UNED ($n = 800$), and, if possible, other participating institutions. A revised version of the OES is expected to enable faculty to better understand online students' engagement and their learning needs, and to inform institutions' evidence-based decision-making to improve teaching and learning quality. Unlike most approaches to this topic, the incorporation of the social and collaborative dimensions of engagement into our model, would also allow scholars to understand how the support of a learning community favours individual knowledge-building processes. Finally, from

an international point of view, this project represents an opportunity to undertake cross-cultural validation of the OES and to foster collaboration among different regions in the world, as it has been the case between Australia and Latin America.

References

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 40*(5), 518-529. https://www.middlesex.mass.edu/ace/down loads/astininv.pdf (Original work published 1984)

Australian Council for Educational Research. (2011). *Student engagement questionnaire*. https://www.acer.org/files/AUSSE_2011_SEQ.pdf

Australian Government Department of Education, Skills and Employment. (2020). *Quality Indicators for Learning and Teaching*. https://www.qilt.edu.au/About

Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Mapping research in student engagement and educational technology in higher education: A systematic evidence map. *International Journal of Educational Technology in Higher Education, 17*, Article 2. https://doi.org/10.1186/s41239-019-0176-8

Bryson, C., Hand, L., & Hardy, C. (2009, April 22-24). *An investigation of students' engagement throughout the first year in university* [Paper presentation]. UK National Transition Conference, London, United Kingdom. http://irep.ntu.ac.uk/id/eprint/13337/

Challice, G., Phillips, B., Spencer, L., Johnston, B., Smith, D., Tobias, P., & Behr, K. (2021). *2020 Student Experience Survey: Methodological report*. Social Research Centre. https://www.qilt .edu.au/docs/default-source/default-document-library/2020-ses-methodological-report.pd f?sfvrsn=ccb9bec2_3

Chen, P., Lambert, A., & Guidry, K. (2010). Engaging online learners: The impact of web-based learning technology on college student engagement. *Computers & Education, 54*(4), 1222-1232. https://doi.org/10.1016/j.compedu.2009.11.008

Coates, H., & McCormick, A. (2014). Introduction: Student engagement —A window into undergraduate education. In H. Coates & A. McCormick (Eds.), *Engaging University Students: International Insights from System-Wide Studies* (pp. 1-12). Springer. https://doi.org/10.1007/978-981-4585-63-7_1

Crampton, A., Ragusa, A. T., & Cavanagh, H. (2012). Cross-discipline investigation of the relationship between academic performance and online resource access by distance education students. *Research in Learning Technology, 20*(1), 1-14. https://doi.org/10.3402/rlt.v20i0.14430

Drennan, J., O'Reilly, S., O'Connor, M., O'Driscoll, C., Patterson, V., Purser, L., & Murray, J. (2014). *The Irish Survey of Student Engagement*. In H. Coates & A. McCormick (Eds.), *Engaging University Students: International Insights from System-Wide Studies* (pp. 109-125). Springer. https://doi.org/10.1007/978-981-4585-63-7_8

Fleiss, J. L. (1971). Measuring nominal scale agreement among many raters. *Psychological Bulletin, 76*(5), 378-382. https://doi.org/10.1037/h0031619

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109. https://doi.org/10.3102/00346543074001059

Gamer, M., Lemon, J., Fellows, I., & Singh, P. (2022, October 13). *Package 'irr': Various coefficients of interrater reliability and agreement* (Version 0.84.1) [Computer software]. https://cran.r-project.org/web/packages/irr/index.html

Hiver, P., Al-Hoorie, A., Vitta, J., & Wu, J. (2021). Engagement in language learning: A systematic review of 20 years of research methods and definitions. *Language Teaching Research*. https://doi.org/10.1177/13621688211001289

Howard-Jones, P. (2018). *Evolution of the learning brain: Or how you got to be so smart*. Routledge.

Huston, E. (2020). *Emotional attachment for informal synchronous online language learning* [Doctoral dissertation, University of Southern Queensland]. University of Southern Queensland Repository. https://doi.org/10.26192/nwaw-8f52

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758-773. https://doi.org/10.1080/03075079.2011.598505

Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: Understanding the mechanisms of student success. *Higher Education Research and Development, 37*(1), 58-71. https://doi.org/10.1080/07294360.2017.1344197

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine, 15*(2), 155-163. https://doi.org/10.1016/j.jcm.2016.02.012

Kuh, G. D. (2009a). The national survey of student engagement: Conceptual and empirical foundations. *New Directions for Institutional Research*, (141), 5-20. https://doi.org/10.1002/ir.283

Kuh, G. D. (2009b). What student affairs professionals need to know about student engagement. *Journal of College Student Development, 50*(6), 683-706. https://doi.org/10.1353/csd.0.0099

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education, 79*(5), 540-563. https://doi.org/10.1080/00221546.2008.11772116

Mann, S. (2001). Alternative perspectives on the student experience: Alienation and engagement. *Studies in Higher Education, 26*(1), 7-19. https://doi.org/10.1080/03075070020030689

Meyer, K. (2014). Student engagement in online learning: What works and why. *ASHE Higher Education Report, 40*(6), 1-114. https://doi.org/10.1002/aehe.20018

Orr, D., Pupinis, M., & Kirdulytė, G. (2020). *Towards a European approach to micro-credentials: A study of practices and commonalities in offering micro-credentials in European higher education*. European Commission. https://doi.org/10.2766/7338

Perry, A. (2022). Student engagement, no learning without it. *Creative Education, 13*(4), 1312-1326. https://doi.org/10.4236/ce.2022.134079

Polit, D. F., Beck, C. T., & Owen, S.V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health, 30*(4), 459-467. https://doi.org/10.1002/nur.20199

Radloff, A., & Coates, H. (2014). Engaging university students in Australia. In H. Coates & A. McCormick (Eds.), *Engaging University Students: International Insights from System-Wide Studies* (pp. 53-64). Springer. https://doi.org/10.1007/978-981-4585-63-7_4

Redmond, P., Foote, S. M., Brown, A., Mixson-Brookshire, D., Abawi, L., & Henderson, R. (2022). Adopting a framework to support the process of critical reflection and understanding of online engagement. *Journal of Computing in Higher Education, 34*(1), 109-131. https://doi.org/10.1007/s12528-021-09281-3

Redmond, P., Heffernan, A., Abawi, L., Brown, A., & Henderson, R. (2018). An online engagement framework for higher education. *Online Learning, 22*(1), 183-204. https://doi.org/10.24059/olj.v22i1.1175

Redmond, P. (2021). *Survey on online engaement*. University of Southern Queensland.

Romero, M., & Barberà, E. (2011). Quality of learners' time and learning performance beyond quantitative time-on-task. *The International Review of Research in Open and Distance Learning, 12*(5), 126-137. https://doi.org/10.19173/irrodl.v12i5.999

Rowan, A., & Neves, J. (2021). *2021 UK Engagement Survey*. AdvanceHE. https://www.advance-he.ac.uk/knowledge-hub/uk-engagement-survey-ukes-2021

Ross, H., Cen, Y., & Shi, J. (2014). Engaging students in China. In H. Coates & A. McCormick (Eds.), *Engaging University Students: International Insights from System-Wide Studies* (pp. 93-107). Springer. https://doi.org/10.1007/978-981-4585-63-7_7

Strydom, J., & Mentz, M. (2014). Student engagement in South Africa: A key to success, quality and development. In H. Coates & A. McCormick (Eds.), *Engaging University Students: International Insights from System-Wide Studies* (pp. 77-91). Springer. https://doi.org/10.1007/978-981-4585-63-7_6