THE URGE OF THE COVID-19 ON TEACHER DEVELOPMENT IN SETTINGS OF ONLINE TEACHING: BUILDING DIGITAL COMPETENCE OF TEACHERS

Erdenetuya Erdenebaatar, *(MA), Senior English Teacher, Foreign Language Center, School of Arts and Sciences, National University of Mongolia*

Nurjan Khavdsyelyem, *(MA), Senior English Teacher, Foreign Language Center, School of Arts and Sciences, National University of Mongolia*

Abstract

The unprecedented outbreak of the Covid-19 has challenged the education industry to pave their way for introducing digital learning. Meanwhile, neither schools nor teachers and students were ready and confident to confidently handle e-teaching and learning. When it became obvious that the COVID-19 pandemic situation and the consequent lockdown that ruled online education was not "temporary "as it had been expected in the beginning and that it could linger on for many more months and perhaps even years to come, prescribing extended periods of online schooling, all parties involved in educational process grew more concerned about the quality of online teaching, questioning about the competence and confidence of both educational institutions and teachers to successfully handle online education. Eventually, it has been realized that the realistic evaluation and development of teacher's digital competence and confidence of conducting online teaching was no longer an option but a pressing necessity. Therefore, to respond correctly to the demand of quality online teaching, to be ready for any potential emergency situations like today's in the future and to be able to meet the growing demand of the "digitally native" generation for online classes, it is instrumental to build teacher's digital competence and confidence. To reveal the local context and challenges, a survey was conducted covering the five competence areas described in the Common Framework for Teaching Digital Competence from 93 English language teachers at tertiary level educational institutions. The responses were quantitatively and qualitatively analyzed against the descriptors of the framework along with insights and recommendations on further strengthening of teachers in this area, which will eventually lead to overall teacher competence and quality online teaching.

Key words*:* digital literacy, e-learning, teacher competence and confidence

Хураангуй

Дэлхий дахиныг орвонгоор нь өөрчилсөн Ковид-19 цар тахлын нөхцөл байдал боловсролын салбарт цахим сургалтыг нэвтрүүлэх хэрэгцээ шаардлагыг бий болгосон бөгөөд боловсролын байгууллагууд төдийгүй багш сурагчид ч цахим сургалт, түүнээс улбаалах асуудлыг бүрэн шийдвэрлэхэд бэлэн биш байсан. Цар тахлын нөхцөл байдал эхнээсээ хүлээгдэж байсан шиг түр зуурынх биш байсан бөгөөд энэ нь олон сар, магадгүй олон жилийн турш үргэлжилж, онлайн сургалтыг уртасгах нь тодорхой болсон үед тус салбарын оролцогч талууд онлайн сургалтын чанарт илүү их зовниж, боловсролын байгууллага болон багш нарт цахим сургалтыг амжилттай хэрэгжүүлж чадахуйц нөөц, чадвар байгаа эсэхийг нягтлахыг улам бүр шаардах болсон. Үүний үр дүнд багшийн цахим сургалт явуулах итгэл үнэмшил, дижитал ур чадварыг бодитойгоор үнэлэх, хөгжүүлэх нь боловсролын байгууллагууд төдийгүй багш нарын хувьд сонголтот алхам бус харин зайлшгүй шаардлага болж байгааг ойлгосон. Иймд өнөөдрийнх шиг онцгой нөхцөл байдал ирээдүйд дахин нүүрлэх үед, түүнчлэн цахим сургалтыг эрэлхийлсэн хэрэгцээ шаардлага ирээдүйд нэмэгдэх үед бэлэн байж, "дижитал орчинд төрж, өссөн" үеийнхний онлайн хичээлийн өсөн нэмэгдэж буй эрэлт хэрэгцээг хангахад багшийн дижитал ур чадвар, өөртөө итгэх итгэлийг цогц байдлаар хөгжүүлэх нь чухал ач холбогдолтой юм. Цахим сургалтын явцад тулгарсан асуудлууд, тэдгээрийн нөхцөл байдлыг тодруулах зорилгоор дээд боловсролын байгууллагуудын 93 англи хэлний багш нарыг "Багшийн дижитал чадамжийг тодорхойлох Европын нийтлэг хүрээн"-д тодорхойлсон таван чиглэлээр асуулга судалгаанд хамруулсан. Асуулга судалгааны үр дүнд тоон болон чанарын дүн шинжилгээ хийж, энэ чиглэлээр багш нарыг цаашид чадавхийг бэхжүүлэх талаарх дүгнэлт, зөвлөмжийг өгсөн.

Түлхүүр үгс*:* Дижитал ур чадвар, цахим сургалт, багшийн мэргэжил ур чадварын итгэл төгс байдал

1. INTRODUCTION

Following the announcement of a nationwide lockdown due to the COVID-19 outbreak, as in many countries worldwide, Mongolia had to close all its schools and completely switch all educational activities into online mode to ensure their continuity. As this scenario was completely new and sudden, neither schools nor teachers and students were ready and confident to handle teaching fully online. With an assumption that this pandemic situation and the lockdown would be only temporary, minimal attention or importance has been put into online teaching competence and confidence of teachers and thereon the overall quality of online educational activities.

When it became obvious that the COVID-19 pandemic situation was not "temporary "as it had been expected in the beginning and that it could linger on for many more months and perhaps even years to come, prescribing extended periods of online schooling, all parties involved in educational process grew more concerned about the quality of online teaching, questioning about the competence and confidence of both educational institutions and teachers to successfully handle online education. This was when educational institutions and teachers realized that the realistic evaluation and development of teacher's digital competence and confidence of conducting online teaching was no longer an option but a pressing necessity. Teachers started to face significant challenges while being urged to innovate their virtual classrooms through Information and Communication Technologies (ICT) to enable real time virtual classes, online assessment, collaborative learning tools, student attendance and activity tracking, and digitalization and transmission of class materials. This was the area where most teachers lacked confidence and competence and it meant acquisition of new soft skills over a short period of time.

As an initial response to help teachers overcome online teaching challenges, educational institutions took certain measures ranging from the elaboration of online teaching and assessment guidelines to the provision of online teaching tools including web cameras, microphones and headsets, subscriptions to online educational platforms, and organization of asynchronous brief trainings on use of common applications. It is noteworthy to mention that these measures were not made available to every educational institution in Mongolia for diverse reasons. Despite these efforts made by some educational institutions to help their teachers strengthen their digital competence in online teaching, no or little progress has been achieved in improving the overall quality of online courses, which was easy to conclude based on the persisting struggles of teachers in their attempts of digitalizing classes, lack of their confidence in student grading, and demands of tuition cuts by students and parents due to their dissatisfaction with the quality of online courses.

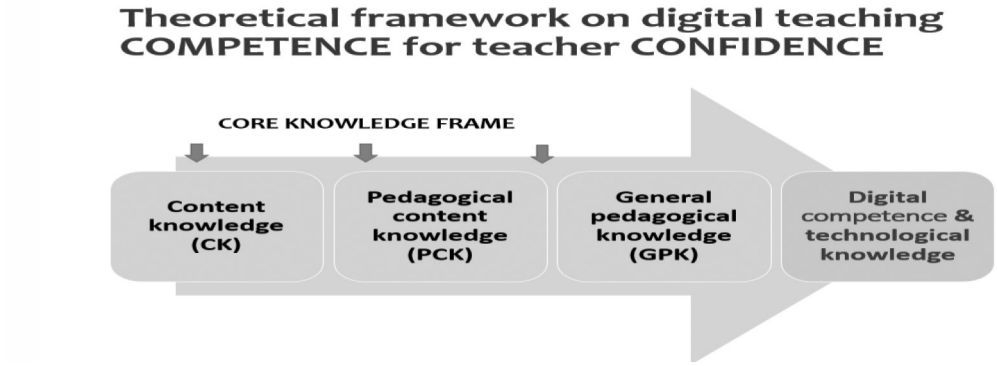
Although there are many research findings that suggest the introduction of digital technologies presents new opportunities for teaching and learning (Chauhan 2017), numerous evidences also do suggest that the presence of digital technology and equipment alone do not promise student progress (Li and Ma 2010). In other words, in addition to the availability of digital technology, teacher's digital competence is required to create the teacher confidence which is the vital ingredient for quality online teaching. Therefore, to respond correctly to the demand of quality improvement in online teaching, to be ready for any potential emergency situations like today's in the future and to be able to meet the growing demand of the "digitally native" generation for online classes, it is instrumental to build teacher's digital competence and confidence. To achieve this, we must begin raising the questions "How digitally competent and confident are our teachers in terms of handling online teaching?", "What are the weaknesses that need to be solved?" and "What should we do for our teachers to help them grow digitally competent and confident?" and find answers to them.

2. LITERATURE REVIEW

In order to determine the existing level of teachers' digital competence that leads to confidence in successful handling of online teaching, we must, above all, define what "digital competence" means. "Key competences for lifelong learning", one of the first documents on digital literacy defines this term as confident and critical use of Information Society Technology (IST) through the help of basic computing skills of retrieving, assessing, storing, producing, presenting, and exchanging information to communicate, participate in collaborative networks in the internet (European Parliament, 2006). However, according to the authors of "DigComp" 2.0: The European digital competence framework for citizens, a tool published in 2013, "digital competence" does not necessarily indicate one's ability to create, store, retrieve information digitally. It is rather a com-

plex skill to legally and adequately use the information, transform it into knowledge and share it with others (DigComp, 2013). This concept later facilitated the elaboration of "DigCompEdu" (2016), a tool that defines and describes digital competences required from educators across six professional activities of a teacher: professional environment, managing the use of digital tools, assessment, empowering learners, and facilitating learners' digital competence.

According to the Shulman's model of teacher competence (1987), teacher's core competence was made up of a set of teacher knowledge classified as: Teacher's content knowledge (CK), Pedagogical Content Knowledge (PCK), and General Pedagogical Knowledge (GPK). However, in relation to the necessity of ICT transformation process in classrooms, particularly in virtual ones, this model has been expanded to include the new set of knowledge and skills commonly referred as "digital competence" to define and describe all knowledge categories of an educator teaching the "digitally native" generation. The best-known model that combined the concept of traditional teacher competence with the new concept of digital competence was developed by Mishra and Koehler (2006).



(Mishra and Koehler, 2006)

Digital literacy is the foundation to building the digital competence (Martin & Grudziecki, 2006). Therefore, if we want to build teacher's digital competence, we must strengthen their digital literacy for a start. Digital literacy is achieved through acquiring a set of skills and knowledge (Spante et al., 2018). The Common Framework for Teaching Digital Competence (2017), a reference framework for the diagnosis and improvement of teachers' digital skills, describes digital literacy modern teachers in five competence areas, each of which falls into 21 sub-competencies.

The Common Framework for Teaching Digital Competence (2017) is an adaptation of the two major documents that describe and define digital competence: The "DigComp" 2.0: The European digital competence framework for citizens and the "DigCompEdu": the European Digital Competence Framework for Educators, and helps educational institutions and teachers detect their digital competence level and identify the training needs to upgrade their levels of competence.

3. RESEARCH METHODOLOGY

Participants and procedure

To identify the current level of teachers' digital competence and produce recommendations for further strengthening of teachers in this area, which will eventually lead to overall teacher competence and quality online teaching, we conducted a survey covering the five competence areas described in the Common Framework for Teaching Digital Competence. The subjects of our survey were 93 English language teachers at tertiary level educational institutions. The survey consisting of 21 questions across the five competence areas was conducted via Microsoft Form. The responses were analyzed against the descriptors of the framework.

4. RESEARCH QUESTIONS AND FINDINGS

Under the overall objective of our research, we addressed the following questions in general to understand the context and challenges of the virtual teaching experiences over the past two years.

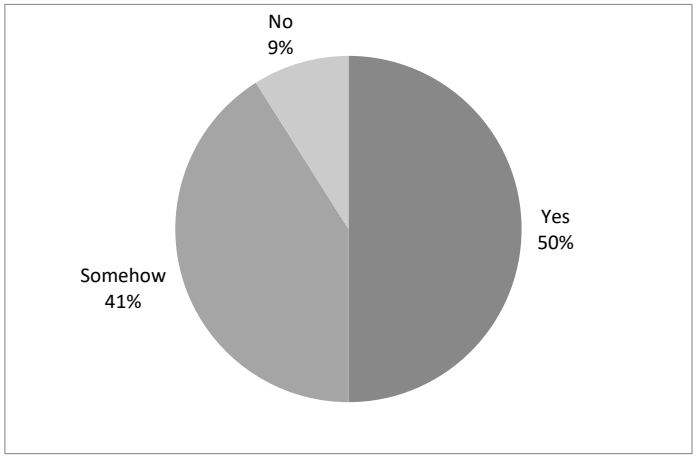
- To what extent does the digital literacy challenge the non-native English teachers?
- What multifaceted factors drive their challenges?
- Whether or not the teachers have been ready to respond to a contingent context?
- What areas of development should be in place for teachers' confidence development?
- Has there been any institutional support in place for teachers?

According to the survey, out of 93 EFL teachers surveyed, the vast majority of 76 were from public, 7 from private and 5 other tertiary level schools. The survey questions can be categorized under three aspects: technology and digital skills, environment and institutional support, and significant findings are herewith discussed in this paper.

As availability of fully functional digital tools and equipment plays an important role in successful online teaching, the first set of questions focused on the availability of online teaching tools and equipment. The responses revealed that 93% of teachers had laptops and desktop computers either procured by schools (47 respondents) or privately owned (46 respondents) whereas 7% responded as not available.

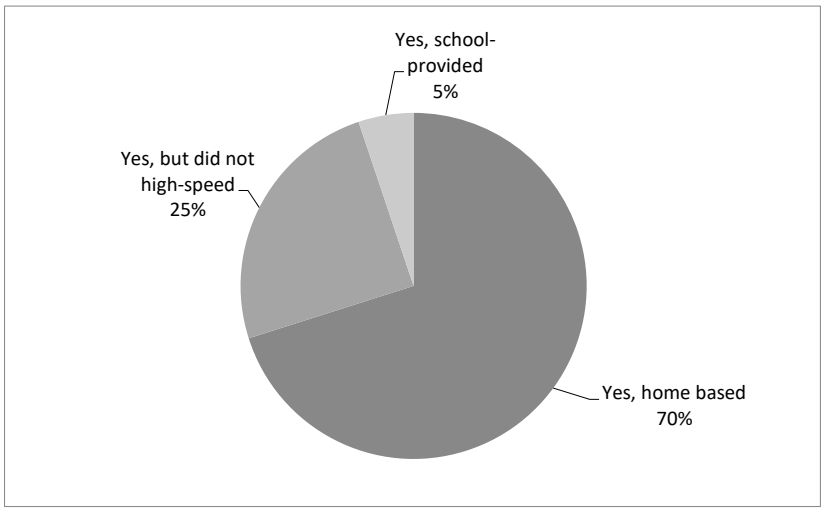
Despite the availability of online teaching tools-laptops and computers, surprisingly, the compatibility to run their online teaching software was critical with 41% somehow managed and 9% struggled.

Figure 1. Percentage of respondents, the computer was compatible to run the online teaching software



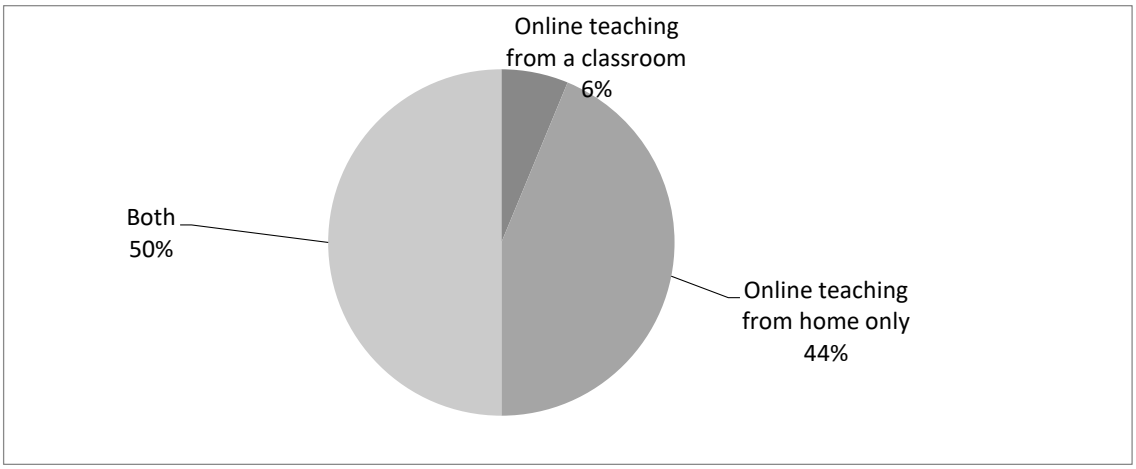
For the internet accessibility and reliability- the key contributor to e-learning, apparently their response was "yes", yet varied according to their consistent access (70% home based and 5% school) and the high-speed broadband (25%). Additionally, what has been concerned despite the internet access was that only 41% had proprietary licenses (for using, sharing and modifying their resources), 10% were availed with security software (i.e Kaspersky) and 34% delivered online teaching through institutional license for the use of educational platforms, such as Zoom, Skype, TEAMs and more on.

Figure 2. Percentage of respondents, by access to high-speed internet



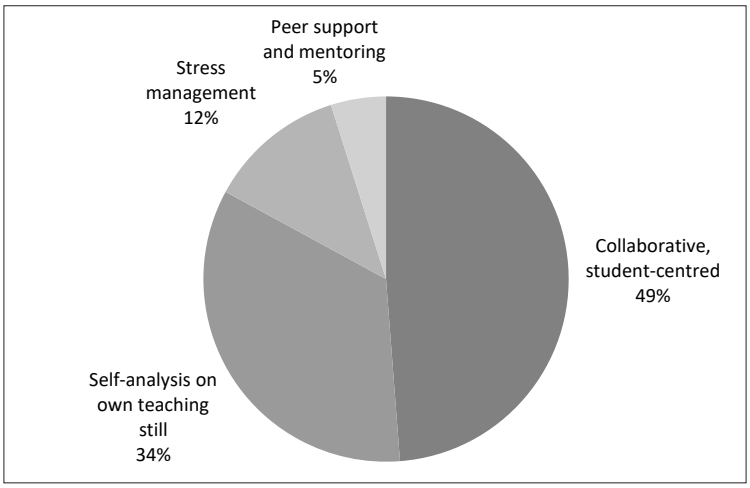
Secondly, the aspect of the environment has been surveyed in terms of the teaching and policy environment, as well as training. It is clear from the diagram that 44% of respondents delivered their virtual classes from home whereas the remaining 56% had to choose between teaching from home or school on daily basis, depending on the availability of work environment in either of the two. To put it differently, majority of the respondents did not have any permanent private corner where they could confidently teach with no disruption within a home setting.

Figure 3. Percentage of respondents, by availability of online teaching environment



Thirdly, the switch to an alternative of face-to-face instruction not only challenged the teachers, but also the management on an unprecedented scale as well. As a key task to maximize the effectiveness of online learning, the delivery of the timely and supportive instructions by respective level of management were confirmed by 53% teachers, yet with a limited sufficiency. The instructions were merely limited to the use of school platforms according to the respondents. With regards to the training, again most common trainings to support online teaching included some basic digital skills, such as adding audio files and voice-over to PPT files, creation of video contents, use of additional functions available in the platform and learning the software. In contrast, the copyright issues and troubleshooting minor technical issues were the areas where both institutions and teachers totally lacked competence.

Figure 4. Percentage of respondents, received trainings by type



What is more, only 2% of the surveyed teachers reportedly received support trainings, including stress management, namely through peer support and mentoring. In response to a question "What kind of additional supports do you WISH to receive from your school?", 64% of the respondents suggested technical supports while 21% and 10% mentioned peer support and mentoring and stress management, respectively.

5. CONCLUSION AND RECOMMENDATION

Due to the pandemic context, the education system has been obliged to adopt alternatives to face-to-face teaching and learning. While the realistic evaluation and development of teacher's digital competence and confidence of conducting online teaching was no longer an option but a pressing necessity, this research takes stock of challenges encountered by the teaching community in search of teacher competence and confidence development from such a novel environment. Ensuring overall teacher competence with inclusion of a new knowledge component- digital competence- educational institutions and teachers can be ready and confident to successfully handle online teaching which may be an increasing demand in the future either due to emergency situations like Covid-19 or increasing trend for online learning.

The following insights have been revealed from the survey under technology and digital skills, environment and institutional support areas:

- In addition to existing concept of teacher competence (Shulman, 1987) that comprises Teacher's content knowledge (CK), Pedagogical Content Knowledge (PCK), and General Pedagogical Knowledge (GPK), a new concept of competence- digital literacy was added extending the Shulman's model. Mishra and Koehler's (2006) version of this extended model is best known for its addressing of the needs of "digitally native" generation. However, our real practice reveals those aspects of digital literacy- a key element for quality online teaching and teacher confidence- have been completely left out largely leaving all technical responsibilities to the institution, such as the IT Department. This means that teachers do not realize that they are required to master these digital skills as teachers of the Digital Era.
- Digital literacy of teachers, the 21 skills visualized in a framework by Mishra and Koehler (2006), have been challenged by availability of online teaching tools- laptops and computers, compatibility to run online teaching software, consistent access to broadband, proprietary licenses for using, sharing and modifying their resources, privacy and other technical handling. What is critical of this context is that the concept of "digital literacy" has largely been perceived as a technical aspect not as a competence overall.
- Moreover, teachers did not perceive the respect of copyrights, and the protection of digital identity, devices and documents as a part of the digital competence they must acquire. Despite the struggles with such digital competence, the teaching environment available either in a home or school setting was not of quality standard. By quality standards, we refer to whether the environment has adequately been ensured with equitable

technical support and timely delivery of instructions by the management to respond to any contingent needs/situations of teaching. Unfortunately, the survey responses reveal that teachers coped with their challenges with whatever opportunities availed while lacking a convenient environment to deliver their e-classes with full confidence.

- Both theoretically and practically, confident teaching cannot be achieved solely by presence of hardwares and teacher core competences in pre-digital era - Teacher's content knowledge (CK), Pedagogical Content Knowledge (PCK) and General Pedagogical Knowledge (GPK), yet feasible with the institutional support to a larger extent. Nevertheless, the findings assert that institutional supports were limited to only some basic instructions on the use of school platforms, and basic digital skills, such as adding audio files and voice-over to PPT files, creation of video contents, use of additional functions available in the platform and learning the software.
- It should be denoted that the institutional support has partially been met or need further improvements, especially in the areas of non-material teacher support, such as mental wellness and e-mentoring.
- It is recommended that educational institutions and teachers identify their levels of digital competence using the existing Common Framework for Teaching Digital Competence (2017) and try to strengthen their capacity and confidence across all five areas defined. With improved digital competence and professional conduct, e-education will have matching qualities accordingly.

REFERENCES

Cruzado.C.S, Campion.R.S; Teacher Digital Literacy: The Indisputable Challenge after COVID-19, *Academic Open Access Publishing.* Published: 8 February 2021.

Ersin.P, Atay.D, Boosting Preservice Teachers' Competence and Online Teaching Readiness through E-practicum during the COVID-19 Outbreak, *International Journal of TESOL Studies,* (2020) Vol. 2 (2) 112-124 https://doi.org/10.46451/ijts

European Framework for Digital Competence of Educators. 2017. *Available online: https://ec.europa.eu/jrc/en/digcompedu (accessed on 24 September 2021).*

Guerriero, S., ed. 2017. Pedagogical Knowledge and the Changing Nature of the Teaching Profession. Paris: OECD.

Martin, A., & Grudziecki, J. (2006). DigEuLit: Concepts and tools for digital literacy development. Innovation in Teaching and Learning in Information and Computer Sciences, 5(4), 249–267. https://doi.org/10.11120/ital.2006.05040249

Konig.J, Jager.B, Glutsch.N; Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany, *European Journal of Teacher Education,* (2020*),* volume 43, No. 4, pages 608-622

Mishra, P., and M. J. Koehler. 2006. "Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge." Teachers College Record 108 (6): 1017–1054. doi:10.1111/j.1467-9620.2006.00684.x.

Selwyn, N. 2012. Education in a Digital World: Global Perspectives on Technology and Education. New York, London: Routledge.

Sheffield.S, McSweeney.J.M, Panych.A; Exploring Future Teachers' Awareness, Competence, Confidence, and Attitudes Regarding Teaching Online: Incorporating Blended/Online Experience into the Teaching and Learning in Higher Education Course for Graduate Students, *Canadian Journal of Higher Education*, (2015), Volume 45, No. 3, pages 1 – 14

Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. Cogent Education, 5(1), 1–21. https://doi.org/10.1080/2331186X.2018.1519143