Assessing learning during Emergency Remote Education

Valutare l'apprendimento nella didattica a distanza in emergenza

Charles B. Hodges[A]* and Michael K. Barbour[B]

A) Georgia Southern University, Statesboro, GA, US, chodges@georgiasouthern.edu*
B) Touro University California, Vallejo, CA, US, michael.barbour@tu.edu

* corresponding author

HOW TO CITE Hodges, C. B., & Barbour, M. K. (2021). Assessing learning during Emergency Remote Education. *Italian Journal of Educational Technology*, *29*(2), 85-98. doi: 10.17471/2499-4324/1208

ABSTRACT The authors discuss the applicability of common assessment types used in online instruction to the context of emergency remote education. Written assignments, online discussions, fieldwork, tests and quizzes, presentations, and e-portfolios are specifically addressed. The discussion includes the concepts of synchronous versus asynchronous assessments and issues related to academic integrity. The authors conclude by noting that empathy and radical flexibility are integral to assessment in emergency remote education.

KEYWORDS Assessment; Online Learning; Emergency Remote Teaching; Emergency Remote Education; Online Assessment.

SOMMARIO Gli autori affrontano il tema dell'applicabilità dei tipi di valutazione comunemente utilizzati nella formazione online al contesto della didattica a distanza in situazioni emergenziali. In particolare, si considera il caso di compiti scritti, discussioni online, lavoro educativo sul campo, i test e i quiz, le presentazioni e gli e-portfolio. La discussione include i concetti di valutazione sincrona e asincrona e le problematiche relative all'integrità accademica. Gli autori concludono osservando che l'empatia e una flessibilità "radicale" sono parte integrante della valutazione nella didattica a distanza in emergenza.

PAROLE CHIAVE Valutazione dell'apprendimento; Apprendimento Online; Didattica a Distanza in Emergenza; Valutazione Online.

1. INTRODUCTION

Assessing learning refers to the process where the achievement and progress of learners are measured, and it is key to the instructional design process (Kocdar, Karadeniz, Peytcheva-Forsyth, & Stoeva, 2018). Assessment has important implications for teaching and learning as an instructor's assessment choices impact among other things, student perceptions of a course and how students focus their efforts in a course (Arend, 2007). Reeves (2006) notes that learning assessment should be the driving force in higher education, and

that without assessment many important learning outcomes in higher education will not be achieved if only because students often only attend to what is assessed.

Learning environments are no longer just what some would describe as *traditional*, one-to-many learning experiences. Due to philosophical shifts toward learner centered learning environments and the worldwide adoption of learning technologies, learning environments now include many different designs. The *traditional* experience may still be the most prevalent, but now it is not uncommon to encounter fully online experiences, a mix of in-person and online learning described hybrid, or more recently "blended learning" (Hrastinski, 2019), or unique models such as learning *emporiums* (Hodges & Brill, 2007). The models listed are simply examples, as descriptors for learning designs often change and evolve. Any learning environment is vulnerable to disruption due to crisis situations.

The current COVID-19 pandemic has introduced the world to disruptions to life-as-normal across all sectors, including education. The pandemic resulted in a shift in many parts of the world to "emergency remote teaching" (Hodges, Moore, Lockee, Bond, & Jewett, 2020, para. 13) or "emergency remote education" (Williamson, Eynon, & Potter, 2020, p. 108) and most of these pandemic-related shifts have in some way utilized online delivery. While the pandemic may be the largest scale disruption to education in our lifetimes, previous crises have caused major disruptions to education. Education has been disrupted by earthquakes (Baytiyeh, 2018; Davis, 2011), political unrest (Czerniewicz, 2020), and other natural or political crises and events (Samson, 2020; Tawil, 1997). Thus, it is clear that the education sector must develop capacity in delivering education during emergency remote education circumstances.

As mentioned earlier, assessment is central to teaching and learning. Assessment has been identified, among other aspects of teaching and learning, as challenging during remote instruction (Brown & Sambell, 2020; Marshall, Shannon, & Love, 2020). How does assessment change, or does it change, during emergency remote education (ERE)? This paper provides information on assessing learning during a crisis using online delivery. First, however, an important concept of ERE must be discussed, synchronous versus asynchronous online learning.

2. SYNCHRONOUS VERSUS ASYNCHRONOUS ONLINE LEARNING

In addition to the physical distance present in the online learning environment, Moore and Kearsley (1996) also argued that there is a temporal distance or distance based on the time engaged in education that exists (the authors also argued that the physical and temporal distance created a psychological or felt distance, which they described as transactional distance). In the online context, education that is delivered with a temporal distance is often labelled as asynchronous online learning. Hrastinski (2008) described asynchronous online learning as a design to support the work of students and teachers when they "*cannot be online at the same time*" (p. 51). Examples of asynchronous online learning include the use of "*CD-ROMs, streamed prerecorded audio/video web recordings, and audio podcasts… discussion* [forums]" (Skylar, 2009, p. 70). According to Hrastiniski (2008), the benefits of asynchronous learning designs are that it supports flexible schedules and allows learners more time for reflection and response, whereas synchronous designs allow for faster responses in group activities. Due to the fact that the instruction is temporally distant, "*the use of asynchronous learning requires planning, structure*" (Garrison, 2002, p. 10). However, not all online learning includes a temporal distance.

The synchronous modality is online learning that is delivered in real-time and, as such, does not create a temporal distance between the students and teachers, or among the students themselves. Hrastinski (2008) described synchronous online learning as a design that supports the work of students and teachers when they can be online at the same time. According to Shi and Morrow (2006), synchronous online learning was

described in a manner consistent with traditional classroom-based learning, with the teacher providing the instruction and the students all logged on at the same time to allow them to communicate with each other. In fact, Hrastiniski (2008) indicated that one of the benefits of synchronous learning designs was that it allowed for faster responses in group activities. Similarly, Cleveland-Innes and Ally (2004) also indicated that "*synchronous interaction of any kind required high engagement, with faster processing and response time*" (p. 19). In the same way that the dichotomy between face-to-face learning and online learning has spawned terms like blended learning or hybrid learning that combine the two together, the eventual combination of asynchronous learning and synchronous learning was also predictable.

Recently Martin, Polly, and Ritzhaupt (2020) suggested combining these approaches with what they have termed "bichronous online learning." The authors argued:

> "*Although the blending of face-to-face and online learning has been researched in many studies, the blending of synchronous and asynchronous online has not been researched to the same extent. Grounding on the term "chronous," which means personification in time, we refer to this blend as bichronous online learning*" (para. 5).

In particular, they defined "*bichronous online learning as the blending of both asynchronous and synchronous online learning, where students can participate in anytime, anywhere learning during the asynchronous parts of the course but then participate in real-time activities for the synchronous sessions*" (para. 6). While this distinction is an interesting (and somewhat unique) approach, given the reality that teachers have become accustomed to providing content and utilizing basic features of the learning management system in their traditional face-to-face, classroom-based courses (McGee & Reis, 2012), this nomenclature may simply be a trendy academic term.

During the COVID-19 pandemic, many instructors moved quickly to deliver their instruction remotely and the combination of a lack of preparation for online instruction and the short time they were given for the transition to an online format resulted in many instructors choosing synchronous options. In many cases, "*instructors* [were able] *to emulate traditional instructional methods in the online learning environment through the use of synchronous… lectures*" (Skylar, 2009, pp. 71-72). However, some experts have questioned whether synchronous instruction is appropriate during a crisis like the pandemic (Flaherty, 2020). Crisis-related issues arise for students and instructors such as having the appropriate physical technology resources and time to meet synchronous learning schedules, given all of the challenges both personal and professional during a crisis. These issues suggest that an asynchronous design may be more reasonable, or possibly a bichronous design by designing mostly asynchronous learning with limited, purposely selected synchronous activities. Next, the most common types of assessments in online learning will be discussed.

3. ASSESSMENT ONLINE

In learning experiences, assessment often falls into a few broad categories such as essays, performance-based, portfolios, and tests (Kubiszyn & Borich, 2016). In the context of online learning, Arend (2007) identified various types of assessments in online courses. Palloff and Pratt (2008) also provided types of assessments for online learners. More recently, Kearns (2012) identified five commonly used assessment types in online courses: written assignment, online discussion, fieldwork, test/quiz/exam, and presentation. Most of the earlier work of Arend and Palloff can be categorized easily into the five more broad descriptors used by Kearns. Palloff also identified e-portfolio as a common assessment type.

Considering Kearns' categories of assessment in online learning, together with Palloff and Pratt (2008) and Kubiszyn and Borich's (2016) assessment categories, e-portfolios will be added to form the following list of six assessment types typically employed in online learning: written assignment, online discussion,

fieldwork, test/quiz/exam, presentation, and e-portfolio. These six types of assessments will be briefly introduced along with commentary on their application during ERE.

3.1. *Written assignment*

Written assignments should be familiar to almost anyone, as they have been utilized in education for as long as any of us can recall. Despite a number of media formats for expressing ideas, Weller (2018) noted that "*text remains the dominant communication form in education*" (p. 40). In this case of assessment, the written assignment refers to a text-based document authored in word processing, or similar software, and submitted to an instructor for evaluation. While not necessarily considered the most innovative type of assessment, this old standard should work well in ERE due to student and instructor familiarity with the format. In particular, written assignments are easily completed asynchronously with respect to class meeting times. Written assignments are possible to complete synchronously or asynchronously. Hrastinski (2008) noted that asynchronous learning might provide students with more time for reflection, and thus would be compatible with learners' needs during ERE. Written assignments could also be constructed during synchronous activities given appropriate technologies, but Hrastinski also observed that synchronous interactions might best support less complex issues or be for planning activities. Written text is often used in online courses for online discussions.

3.2. *Online discussion*

Online discussions involve expression through text, but most tools for discussion allow for the inclusion of other media types as well. Online discussions may involve less formal writing than a written assignment. Aloni and Harrington (2018) observed that "*asynchronous online discussion boards are an effective tool for developing and enhancing critical thinking skills and writing in online as well as in-person courses*" (p. 271). Online discussion is a long-used activity with volumes of research about best practices for facilitating and use (e.g., Hew & Cheung, 2012; Shedletsky & Aitken, 2010; Wilton & Brett, 2020). Anyone wanting to use discussions can find tips for effective implementation in practitioner-friendly publications (e.g., Ng, 2020; Simon, 2018) or more academic treatments (e.g., Hew & Cheung, 2012). It should be noted that questions like: "how many discussions should a course include?" or "should learners be split into small groups for discussion?". Do not have clear answers in the literature at this time (Lowenthal & Dunlap, 2020). There also are choices to be made about the subject or focus of the discussion.

While online discussions can be purely text-based, it is possible with most discussion tools to embed media and provide hypertext links out to other learner-curated or learner-created elements. For example, learners may create a slide-show presentation, concept map, or other element to include in their discussion posting to share their perspectives or initiate discussion. Creative thinking on the instructor's part can result in more engaging discussion activities than the common formula for students to *post once and reply twice.* The asynchronous nature of most online discussions makes them particularly well suited to learning during ERE.

3.3. *Fieldwork*

Fieldwork may refer to various internship, externship, or practicum experiences. Merriam-Webster (2020) defined *practicum* as "*a course of study designed especially for the preparation of teachers and clinicians that involves the supervised practical application of previously studied theory*"[1]. Practicum experiences

[1] https://www.merriam-webster.com/dictionary/practicum

are common across many academic disciplines during the preparation of future professionals. During the COVID-19 pandemic, there were many disruptions to practicum experiences that required adaptations to practices (e.g. Barton, 2020; Downs, Hodges, & Jones, 2020). The modifications were required for the safety of the learners and others, and in some cases were necessary because the practicum sites were closed (Downs, Hodges, & Jones, 2020).

During ERE, fieldwork may be one of the most challenging activities to adapt. Fieldwork often is associated with professional licensure and there are required minimums of contact hours in many cases. During ERE, arrangements and adaptations likely will need to be approved by licensing bodies. For example, during the COVID-19 pandemic, the Yale School of Nursing was able to make adaptations to its clinical hours by using simulations, but were limited by some licensure rules ("Simulation technology redirects nursing curriculum during COVID-19", 2020). Instructors faced with needing to modify fieldwork experiences will most likely need to work with several stakeholders to make appropriate changes, and significant costs may be required for access to technology solutions like simulations. Other researchers (i.e., Devine, Bourgault, & Schwartz, 2020) have documented challenges and guidelines for supporting authentic learning in online capstone experiences.

3.4. *Test/quiz/exam*

In this section the terms *test, quiz,* and *exam* refer to closed-book assessments, that are proctored (i.e., invigilated), and usually must be completed within a certain timeframe. These types of assessments often are utilized in traditional face-to-face classes, and have even been referred to as a "sacred cow" of assessment in higher education (Farrell, 2020). Fawn and Ross (2020) noted, "*there may be technological means that allow universities to proceed with 'business as usual' in the form of closed-book, invigilated, time-limited examinations, but the moral and pedagogical justification for doing so needs much more scrutiny*" (para. 1). While third party proctoring services exist, they are intrusive, and the logistics of creating question banks of sufficient size to inhibit attempts at academic dishonesty are substantial (Fawns & Ross, 2020). Also, in crisis circumstances, like the COVID-19 pandemic, access to the proper equipment to meet remote proctoring requirements can be problematic (Cavanaugh, Fritz, & Golden, 2020). In addition to the privacy concerns, workload for instructors, and equipment issues, Kim (2020) observed several circumstances related to the pandemic that make these types of assessments far less than ideal during a pandemic. For example, they add stress to the learners who are probably already quite stressed, and they are not the best for students with special needs.

For the reasons stated here, traditional, test, quiz, and exam assessments are not recommended during ERE, unless they are low-stakes or used for self-assessment by learners. There is recent evidence that frequent, low-stakes quizzes are correlated with academic performance (Sotola & Crede, 2020).

3.5. *Presentation*

Student-created presentations can represent several different forms of "generative learning" (Hanke, 2012). Keep in mind that during ERE, careful thought needs to be taken regarding the decision for presentations to be live, or recorded (Kenyon, 2020). In addition to the synchronous/asynchronous considerations mentioned earlier for written assignments, during crises students may struggle to find internet access and environments conducive to live presentations at times required for synchronous presentation (Grajek, 2020; Trust, 2020). Fiorella and Mayer (2015) note that, among others, student learning through summarizing, mapping, drawing, self-explaining, teaching, are all well-supported in the research literature as valid activities to support student learning that align with generative learning.

Presentations as assignments can take many forms during ERE. If your students have sufficient access to

technology, it is not difficult for students to create slideshows (Gerido & Curran, 2014), narrated multimedia presentations, infographics (Alrwele, 2017), or other types of presentations. Some tools for presentations include community building features that may be especially beneficial during ERE (Delmas, 2017). Even under normal online learning conditions, "*a sense of belonging to a learning community has been identified as one of the factors contributing to greater student satisfaction and persistence in online education programs*" (Delmas, 2017, p. 595), and community through the concept of different *presences* has been considered an essential element of a successful online higher education learning experience for decades (Castellanos-Reyes, 2020). Given the isolation some individuals are experiencing during COVID-19 there may be an increased need for attention to community. Smith Budhai (2014) recommended working with students to select topics for presentations that aligned with course goals, provided specific details (such as the length of the presentation), and provided time for a summarizing activity highlighting key learning points. This advice from Smith Budhai may indeed be appropriate for all assessment types.

3.6. *e-Portfolio*

Farrell (2020) observed that there are many definitions of e-Portfolio, many quite technocentric, but that a pedagogical understanding by "*Chen and Black's (2010) definition, they argue[d] that 'the concept of an e-portfolio is multifaceted — it is a technology, a pedagogical approach, and a process, as well as a product'*" (p. 9). The concept of the e-Portfolio has been observed by some to be a sound idea, but they have not become established as a standard form of assessment (Weller, 2018).

The COVID19 pandemic, and its requirement for instructors to seek alternative assessments types may push e-portfolios into more use (Farrell, 2020). e-Portfolios have been used to "*improve university teaching, measure teacher candidates' readiness to teach, document student learning, growth, and development over time, promote reflective practice, employability, and professional certification*" (Farrell, 2020, p. 6). "*The research indicate[d] that e-Portfolio based assessment enables students to integrate their learning and make connections between modules in an authentic and meaningful way*" (Farrell, 2020, p. 10).

While more than simply a container to store learning artifacts, of the assessment types discussed in the present article, an e-portfolio may be a particularly useful tool for organizing and displaying written assignments, reflections on fieldwork experiences, and student-created presentations. In each of the various types of assessment discussed, there can be concerns related to academic integrity.

4. ACADEMIC INTEGRITY

Given the shift in learning environments necessitated by ERE, it is appropriate to comment on how that shift might be perceived with respect to academic integrity. Academic integrity refers to "*a commitment to five fundamental values: honesty, trust, fairness, respect, and responsibility*" (Fishman, 2012). ERE will take place online, or at least away from traditional learning environments. As such, many instructors are concerned with issues around academic integrity in online learning and their concerns have persisted over time (e.g., Harmon, Lambrinos, & Buffolino, 2010; Harton, Aladia, & Gordon, 2019; Lederman, 2020). Lee-Post and Hapke (2017) noted that "*current user authentication solutions such as user ID and password, security questions, voice recognition, or fingerprint identification are not infallible and may violate students' rights to privacy or cause undue interruptions to their efforts in performing assessment tasks*" (p. 135). There also is not clear evidence that concerns about cheating being more prevalent for online students are well founded (Beck, 2014; Burgason, Sefiha, & Briggs, 2019). Additionally, some scholars (e.g., Ross & Macleod, 2018) have noted that technological tools aimed at detecting or preventing violations of aca-

demic integrity may be perceived as a campaign of surveillance and distrust, which might negatively affect students' relationships with instructors and academic institutions. Croslin, Dellinger, Heiser, Riviou and Usman (2018) made the following observations:

> "*The first step in effective assessment is to take a good look at how you are framing your students. Does the way you design your tests frame them positively as co-learners or apprentices with you, or negatively as possible cheaters? Are you designing assessments that genuinely help with the learning process, or serve as a "gotcha!" for weeding out "weaker" students or those 'not doing the work'?*"

Given that technological solutions to breaches of academic integrity are problematic, the best strategy to increase adherence to principles of academic integrity during ERE may be to use a combination of low-stakes assessments (e.g., Warnock, 2013), and authentic assessments that rely on students to use personally meaningful data and experiences to complete assignments that require higher order thinking skills.

Some instructors use frequent, low-stakes quizzes (FLSQ) to "*remove unproductive grading pressure, encourage intellectual risk-taking, and discourage plagiarism/cheating*" (Warnock, 2013, para. 8). In addition to discouraging cheating, FLSQ have been found to be assessment strategies with multiple benefits. Sotola and Crede (2020) conducted a meta-analysis of 52 studies and found that FLSQ "*are associated with moderately higher academic performance*" (p. 14). The authors go on to suggest that *"instructors can expect them [FLSQ] moderately to improve average student performance and learning; to help themselves and their students gauge how well the students are grasping the material and how well they will perform on final exams; and even, possibly, to reduce the number of students who do not pass their class*" (p. 16). These types of assessments also have been found to increase completion of reading assignments and to enhance student engagement with a class and their perceptions of their learning experience (Schrank, 2016).

Authentic learning has been classified into four categories: learning that 1) is personally meaningful to the learner, 2) learning that relates to the real-world outside of school, 3) learning that provides an opportunity to think in the modes of a particular discipline, and 4) learning where the means of assessment reflect the learning process (Shaffer & Resnick, 1999). The authors posit that these four types of authenticity should be used together in a form of "*thick authenticity*" (p. 195). Recent research has confirmed the four categories of authenticity identified by Shaffer and Resnick (1999) and added a fifth, *teacher authenticity* (Fougt, Misfeldt, & Shaffer, 2019). Teacher authenticity refers to the ability of the teacher to be authentic in that the teacher is, for example, honest, enthusiastic about her/his topic, interested in students learning, and teaching. Note that these elements of teacher authenticity align well with empathy mentioned in this current paper with regard to needs during ERE.

In addition to enhancing student interest in learning, the first four categories of authenticity can be viewed as ways to personalize, and possibly individualize learning, thus increasing the chances that a student is completing his or her own work and staying within academic integrity expectations. Indeed, some researchers have found that assessments grounded in real-world scenarios result in students being less likely to engage in misconduct (Sotiriadou, Logan, Daly, & Guest, 2020), and others have suggested that more authentic (i.e., and non-traditional) assessments may benefit increased academic integrity during ERE (Sambell & Brown, 2020). Others have claimed that authentic assessment does not impact academic misconduct (e.g., Ellis et al., 2020), but their work was on authentic assessment only. It should be noted that as both Shaffer and Resnick (1999) and Fougt, Misfeldt and Shaffer (2019) explained, authenticity was a complex concept to address and teachers needed to consider all elements for thick authenticity. Another way to think of this is that the authenticity of the experience needs to be in alignment. Reeves (2006) noted that a frequently misaligned component of instruction was assessment. If an assessment is designed to be

authentic, the instructor/designer needs to make sure that the learner is prepared for an authentic assessment by ensuring that other elements of learning experience have used similar authenticity.

5. CONCLUSION

It should be clear from the information presented thus far that the most common types of assessment in online learning are possible, and even appropriate during ERE, perhaps with some adjustment. All of the same challenges and benefits with these assessment types are still present during ERE. There are certainly subjects and experiences that have proven difficult to translate to ERE, such as music, performance art, physical education, and science laboratories (Marshall, Shannon, & Love, 2020). However, what is the most different for teaching and learning during ERE are the differences in the learning environments in which learners are living and working. Hodges et al. (2020) noted:

> "*Under normal circumstances, the instructional context can fade from our attention because it is the ubiquitous system around us. However, it is this context that changes dramatically under ERT [ERE]. How many of your learners have internet access? How many of them will have difficulty accessing or completing work or operating safely if they have to leave the school or campus environment?*" (p. 5).

These changes in the instructional context require instructors to focus on compassion and empathy during their facilitation of ERE at levels that probably are not required outside of ERE (Hodges et al., 2020). It is important to explicitly include these considerations during ERE as it has specifically been noted that distance learning designers are often quite removed from the learners for whom they are designing (Matthews, Williams, Yanchar, & McDonald, 2017).

Making design decisions regarding assessment for ERE, and the other decisions needed to successfully implement ERE are short-term results based on immediate needs. There is plenty of advice about what online learners need or want, such as clear instructions and timely feedback (e.g., Hodges & Cowan, 2012). However, what the COVID-19 pandemic, and other crises, may be telling us is that there is a need for radical flexibility in education. As Veletsianos and Houlden (2020) posited:

> "*This means that rather than proposing solutions to a series of complex problems, radical flexibility is an invitation to imagine and turn to the tools, mechanisms, and systems needed in order to create life-sustaining education, not just for some, but all, and not just for now, but far into the future. Which is to say that radical flexibility is not a structure but is an orientation, one defined by its openness, to how we think about the problems made legible by the pandemic*" (p. 852).

With respect to ERE in response to COVID-19, Lockee (2020) recently asked "Has there ever been a greater need for flexible learning options?" (para. 5). In terms of assessment, there is a need to take a radical flexibility orientation toward designing, developing, and utilizing assessments that will be adaptable to a host of circumstances including ERE. Moving forward with ERE, instructors are encouraged to reflect on what has worked well with their classes, including assessment, and to modify their practice as necessary (Hodges & Fowler, 2020).

6. REFERENCES

Aloni, M., & Harrington, C. (2018). Research based practices for improving the effectiveness of asynchronous online discussion boards. *Scholarship of Teaching and Learning in Psychology*, *4*(4), 271–289. doi: 10.1037/stl0000121

Alrwele, N. S. (2017). Effects of infographics on student achievement and students' perceptions of the impacts of infographics. *Journal of Education and Human Development, 6*(3), 104-117. doi: 10.15640/jehd.v6n3a12

Arend, B. D. (2007). Course assessment practices and student learning strategies in online courses. *Journal of Asynchronous Learning Networks*, *11*(4), 3-17. doi: 10.24059/olj.v11i4.1712

Barton, D. C. (2020). Impacts of the COVID-19 pandemic on field instruction and remote teaching alternatives: Results from a survey of instructors. *Ecology and Evolution, 10*(22), 12499-12507. doi: 10.1002/ece3.6628

Baytiyeh, H. (2018). Online learning during post-earthquake school closures. *Disaster Prevention and Management, 27*(2), 215-227. doi: 10.1108/DPM-07-2017-0173

Beck, V. (2014). Testing a model to predict online cheating: Much ado about nothing. *Active Learning in Higher Education*, *15*(1) 65-75. doi: 10.1177/1469787413514646

Brown, S., & Sambell, K. (2020). *Changing assessment for good: A major opportunity for educational developers. Staff and Educational Development Association*. Retrieved https://www.seda.ac.uk/resources/files/Paper%20for%20SEDA%20Changing%20assessment%20for%20good%20a%20major%20opportunity%20for%20educational%20developers.pdf

Burgason, K.A., Sefiha, O., & Briggs, L. (2019). Cheating is in the eye of the beholder: An evolving understanding of academic misconduct. *Innovative Higher Education, 44*, 203–218. doi: 10.1007/s10755-019-9457-3

Castellanos-Reyes, D. (2020). 20 years of the community of inquiry framework. *TechTrends, 64*(3), 557-560. doi: 10.1007/s11528-020-00491-7

Cavanaugh, T., Fritz, J., & Golden, C. (2020). *Meeting the challenges of remote assessment* [Video]. Retrieved from https://er.educause.edu/multimedia/2020/6/meeting-the-challenges-of-remote-assessment

Cleveland-Innes, M., & Ally, M. (2004). Affective learning outcomes in workplace training: A test of synchronous vs. asynchronous online learning environments. *Canadian Journal of University Continuing Education, 30*(1), 15-35. Retrieved from https://journals.library.ualberta.ca/cjuce-rcepu/index.php/cjuce-rcepu/article/view/20052

Croslin, M, Dellinger, J., Heiser, R., Riviou, K., & Usman, B. (Eds.) (2018). *Creating online learning experiences.* Mavs Open Press. Retrieved from https://uta.pressbooks.pub/onlinelearning/

Czerniewicz, L. (2020, March 15*). What we learnt from "going online" during university shutdowns in South Africa. PhilOnEdTech* [blog]. Retrieved from https://philonedtech.com/what-we-learnt-from-going-online-during-university-shutdowns-in-south-africa/

Davis, N. E. (2011). Online and blended learning rolling into New Zealand schools. *Computers in New*

Zealand Schools, 23(1), 101-107. Retrived from https://www.otago.ac.nz/cdelt/otago064432.pdf

Delmas, P.M. (2017). Using VoiceThread to create community in online learning. *TechTrends 61*(6), 595–602. doi: 10.1007/s11528-017-0195-z

Devine, J.L., Bourgault, K.S. & Schwartz, R.N. (2020). Using the online capstone experience to support authentic learning. *TechTrends*, *64*(4), 606–615. doi: 10.1007/s11528-020-00516-1

Downs, E., Hodges, C.B., & Jones, S.A. (2020). Adapting a graduate-level practicum experience during an emergency response. In R.E. Ferdig, E. Baumgartner, R. Hartshorne, R. Kaplan-Rakowski, & C. Mouza (Eds.), *Teaching, technology, and teacher education during the COVID-19 pandemic: Stories from the field* (pp. 319-321). AACE. Retrieved from https://www.learntechlib.org/p/216903/

Ellis, C., van Haeringen, K., Harper, R., Bretag, T., Zucker, I., McBride, S., …Saddiqui, S. (2020). Does authentic assessment assure academic integrity? Evidence from contract cheating data. *Higher Education Research & Development*, *39*(3), 454-469. doi: 10.1080/07294360.2019.1680956

Farrell, O. (2020). From portafoglio to eportfolio: The evolution of portfolio in higher education. *Journal of Interactive Media in Education*, *2020*(1), 1-14. doi: 10.5334/jime.574

Fawns, T., & Ross, J. (2020, June 3). *Spotlight on alternative assessment methods: Alternatives to exams* [Teaching Matters Blog]. Retrieved from https://www.teaching-matters-blog.ed.ac.uk/spotlight-on-alternative-assessment-methods-alternatives-to-exams/

Fiorella, L., & Mayer, R. E. (2016). Eight ways to promote generative learning. *Educational Psychology Review, 28*(4), 717-741. doi: 10.1007/s10648-015-9348-9

Fishman, T. (Ed.) (2014). *The fundamental values of academic integrity (2nd ed). The International Center for Academic Integrity*. Retrieved from https://www.academicintegrity.org/wp-content/uploads/2017/12/Fundamental-Values-2014.pdf

Flaherty, C. (2020, April 29). Zoom boom. *Inside Higher Ed.com*. Retrieved from: https://www.insidehighered.com/news/2020/04/29/synchronous-instruction-hot-right-now-it-sustainable

Fougt, S. S., Misfeldt, M., & Shaffer, D. W. (2019). Realistic Authenticity. *Journal of Interactive Learning Research*, *30*(4), 477-504.

Garrison, D. R. (2002). Cognitive presence for effective asynchronous online learning: The role of reflective inquiry, self-direction and metacognition. *Elements of Quality Online Education: Practice and Direction, 4*(1), 47-58.

Gerido, L., & Curran, M. C. (2014). Enhancing science instruction through student-created PowerPoint presentations. *The American Biology Teacher, 76*(9), 627-631. doi: 10.1525/abt.2014.76.9.10

Grajek, S. (2020, April 3). EDUCAUSE COVID-19 QuickPoll results: Help for students. *EDUCAUSE Review.* Retrieved from https://er.educause.edu/blogs/2020/4/educause-covid-19-quickpoll-results-help-for-students

Hanke, U. (2012). Generative Learning. In N. M. Seel (Ed.), *Encyclopedia of the Sciences of Learning*. Boston, MA, US: Springer. doi: 10.1007/978-1-4419-1428-6_171

Harmon, O. R., Lambrinos, J., & Buffolino, J. (2010). Assessment design and cheating risk in online

instruction. *Online Journal of Distance Learning Administration, 13*(3). Retrieved from https://www.westga.edu/~distance/ojdla/Fall133/harmon_lambrinos_buffolino133.html

Harton, H. C., Aladia, S., & Gordon, A. (2019). Faculty and student perceptions of cheating in online vs. traditional classes. *Online Journal of Distance Learning Administration, 22*(4). Retrieved from https://www.westga.edu/~distance/ojdla/winter224/hartonaladiagordon224.html

Hew, K. F., & Cheung, W. S. (2012). Student participation in online discussions: Challenges, solutions, and future research. Springer Science & Business Media. doi: 10.1007/978-1-4614-2370-6

Hodges, C. B., & Brill, J. M. (2007). Developing a training program for instructional assistants within a large-scale emporium-based environment: A nine-year evolution towards systemic change. *International Journal of Teaching & Learning in Higher Education, 19*(1). Retrieved from http://www.isetl.org/ijtlhe/pdf/IJTLHE161.pdf

Hodges, C.B., & Cowan, S.F. (2012). Preservice teachers' views of instructor presence in online courses. *Journal of Digital Learning in Teacher Education, 28*(4), 139-145. doi: 10.1080/21532974.2012.10784694

Hodges, C.B., & Folwer, D.J. (2020). The COVID-19 Crisis and faculty members in higher education: From emergency remote teaching to better teaching through reflection. *Multidisciplinary Perspectives in Higher Education. 5*(1), 118-122.

Hodges, C.B., Moore, S.L., Lockee, B.B., Bond, M.A., & Jewett, A. (2020). An instructional design process for emergency remote teaching. In D. Burgos, A. Tlili, & A. Tabacco (Eds.), *Radical solutions for education in a crisis context. Lecture Notes in Educational Technology* (pp.37-51). Singapore: Springer Nature. doi: 10.1007/978-981-15-7869-4_3

Hrastinski, S. (2008). Asynchronous & synchronous e-learning. *EDUCAUSE Quarterly, 31*(4). 51-55. Retrieved from https://er.educause.edu/-/media/files/article-downloads/eqm0848.pdf

Hrastinski, S. (2019). What do we mean by blended learning? *TechTrends, 63*(5), 564-569. doi: 10.1007/s11528-019-00375-5

Kearns, L. R. (2012). Student assessment in online learning: Challenges and effective practices. *Journal of Online Learning and Teaching*, *8*(3), 198-208. Retrieved from https://jolt.merlot.org/vol8no3/kearns_0912.pdf

Kenyon, A. (2020, March 3). Online student presentations. *Duke Learning Innovation*. Retrieved from https://learninginnovation.duke.edu/blog/2020/03/online-student-presentations/

Kim, J. (2020, April 8). 5 reasons to stop doing timed online exams during COVID-19 [Learning Innovation Blog]. *InsideHigherEducation.* Retrieved October 9, 2020 from https://www.insidehighered.com/blogs/learning-innovation/5-reasons-stop-doing-timed-online-exams-during-covid-19

Kocdar, S., Karadeniz, A., Peytcheva-Forsyth, R., & Stoeva, V. (2018). Cheating and plagiarism in e-assessment: Students' perspectives. *Open Praxis*, *10*(3), 221-235. doi: 10.5944/openpraxis.10.3.873

Kubiszyn, T., & Borich, G.D. (2016). *Educational testing and measurement* (11th ed.). Hoboken, NJ, US: Wiley.

Lederman, D. (2020, July 22). Best way to stop cheating in online courses? 'Teach better'. *Inside Higher Ed.* Retrieved from https://www.insidehighered.com/digital-learning/article/2020/07/22/technology-best-way-stop-online-cheating-no-experts-say-better

Lee-Post, A. & Hapke, H (2017). Online learning integrity approaches: Current practices and future solutions, *Online Learning 21*(1),135-145. doi: 10.24059/olj.v21i1.843

Lockee, B.B. (2020). Designing forward: Instructional design considerations for online learning in the COVID-19 context [Editorial]. *Journal of Applied Instructional Design, 9*(3). Retrieved from https://edtechbooks.org/jaid_9_3/design_considerationa

Lowenthal, P. R., & Dunlap, J. C. (2020). Social presence and online discussions: A mixed-method investigation. *Distance Education, 41*(4). doi: 10.1080/01587919.2020.1821603

Marshall, D. T., Shannon, D. M., & Love, S. M. (2020, September 2). How teachers experienced the COVID-19 transition to remote instruction. *Phi Delta Kappan*. Retrieved from https://kappanonline.org/how-teachers-experienced-covid-19-transition-remote-instruction-marshall-shannon-love/

Martin, F., Polly, D., & Ritzhaupt, A. (2020, September 8). Bichronous online learning: Blending asynchronous and synchronous online learning. *EDUCAUSE Review.* Retrieved from https://er.educause.edu/articles/2020/9/bichronous-online-learning-blending-asynchronous-and-synchronous-online-learning

Matthews, M.T., Williams, G.S., Yanchar, S.C., & McDonald, J.K. (2017). Empathy in distance learning design practice. *TechTrends, 61*(5), 486-493. doi: 10.1007/s11528-017-0212-2

McGee, P., & Reis, A. (2012). Blended course design: A synthesis of best practices. *Journal of Asynchronous Learning Networks, 16*(4), 7-22. Retrieved from https://files.eric.ed.gov/fulltext/EJ982678.pdf

Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view.* Belmont, CA, US: Wadsworth Publishing Company.

Ng, J. (2020, July 9). 4 tips for productive online discussions. *Edutopia.* Retrieved from https://www.edutopia.org/article/4-tips-productive-online-discussions

Palloff, R. M., & Pratt, K. (2008). *Assessing the online learner: Resources and strategies for faculty* (Vol. 7). Hoboken, NJ, US: Wiley.

Reeves, T. C. (2006). How do you know they are learning? The importance of alignment in higher education.*International Journal of Learning Technology*, *2*(4), 294-309. doi: 10.1504/IJLT.2006.011336

Ross, J., & Macleod, H. (2018). Surveillance, (dis)trust and teaching with plagiarism detection technology. In M. Bajić, N.B. Dohn, M. de Laat, P. Jandrić, & T. Ryberg (Eds.), *Proceedings of the 11th International Conference on Networked Learning 2018* (pp. 235–242). Zagreb: Zagreb University of Applied Sciences.

Sambell, K., & Brown, S. (2020). The changing landscape of assessment: Some possible replacements for unseen, time-constrained, face-to-face invigilated exams. *Staff and Educational Development Association*. Retrieved from https://www.seda.ac.uk/wp-content/uploads/2021/04/Paper-3-The-changing-landscape-of-assessment-some-possible-replacements-for-unseen-time-constrained-face-to-face-invigilated-exams-4.pdf

Samson, P. (2020). The coronavirus and class broadcasts. *EDUCAUSE Review, 3*. Retrieved from https://er.educause.edu/blogs/2020/3/the-coronavirus-and-class-broadcasts

Schrank, Z. (2016). An assessment of student perceptions and responses to frequent low-stakes testing in introductory sociology classes. *Teaching Sociology*, *44*(2), 118-127. doi: 10.1177/0092055X15624745

Shaffer, D. W., & Resnick, M. (1999). "Thick" authenticity: New media and authentic learning. *Journal of Interactive Learning Research*, *10*(2), 195-216.

Shedletsky, L., & Aitken, J. E. (Eds.) (2010). *Cases on online discussion and interaction: Experiences and Outcomes*. Hershey, PA, US: IGI Global.

Shi, S., & Morrow, B., V. (2006). E-conferencing for instruction: What works? *EDUCAUSE Quarterly, 29*(4), 42-49.

Simon, E. (2018, November 21). 10 tips for effective online discussions. *EDUCAUSE Review.* Retrieved from https://er.educause.edu/blogs/2018/11/10-tips-for-effective-online-discussions

Simulation technology redirects nursing curriculum during COVID-19 (2020, June 9). Yale School of Nursing. Retrieved from https://nursing.yale.edu/news/simulation-technology-redirects-nursing-curriculum-during-covid-19

Skylar, A. A. (2009). A comparison of asynchronous online text-based lectures and synchronous interactive web conferencing lectures. *Issues in Teacher Education, 18*(2), 69-84.

Smith Budhai, S. (2014, October 27). Maximize in-class time by moving student presentations online. *Faculty Focus.* Retrieved from https://www.facultyfocus.com/articles/teaching-with-technology-articles/maximize-class-time-moving-student-presentations-online/

Sotiriadou, P., Logan, D., Daly, A., & Guest, R. (2020). The role of authentic assessment to preserve academic integrity and promote skill development and employability. *Studies in Higher Education*, *45*(11), 2132-2148. doi: 10.1080/03075079.2019.1582015

Sotola, L.K., & Crede, M. (2020). Regarding class quizzes: A meta-analytic synthesis of studies on the relationship between frequent low-stakes testing and class performance. *Educational Psychology Review*. doi: 10.1007/s10648-020-09563-9

Tawil, S. (Ed.) (1997). *Educational destruction and reconstruction in disrupted societies. Final report and case studies of the workshop held on 15-16 May 1997*. Geneva, CH: International Bureau of Education. UNESCO. https://inee.org/system/files/resources/UNESCO_Tawil_Education_Destruction_1997_EN.pdf

Trust, T. (2020, April 2). The 3 biggest remote teaching concerns we need to solve now. *EdSurge.* Retrieved from https://www.edsurge.com/news/2020-04-02-the-3-biggest-remote-teaching-concerns-we-need-to-solve-now

Veletsianos, G., & Houlden, S. (2020). Radical flexibility and relationality as responses to education in times of crisis. *Postdigital Science and Education, 2*, 849–862. doi: 10.1007/s42438-020-00196-3

Warnock, S. (2013, April). Frequent, low-stakes grading: Assessment for communication, confidence. *Faculty Focus.* Retrieved from http://info.magnapubs.com/blog/articles/educational-assessment/frequent-low-stakes-grading-assessment-for-communication-confidence/

Weller, M. (2018, July/August). Twenty years of edtech. *EDUCAUSE Review,* 34-48. Retrieved from https://er.educause.edu/-/media/files/articles/2018/7/er184101.pdf

Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: Digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology*, *45*(2), 107-114. doi: 10.1080/17439884.2020.1761641

Wilton, L., & Brett, C. (Eds.) (2020). Handbook of Research on online discussion-based teaching methods. Hershey, PA, US: IGI Global. doi: 10.4018/978-1-7998-3292-8