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SUPPORTING GRADUATE STUDENTS IN ONLINE ENVIRONMENTS

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Abstract

This paper examines the challenges graduate students face in online learning environments and discusses strategies that institutions and instructors can implement to support their success. The paper explores institutional support and faculty practices that encourage promoting student engagement, building community, recognizing and addressing needed academic support, and supporting the social emotional well-being of graduate students to foster their success and retention.

Keywords:

Graduate Programs, Student Support, Online Supports, Student Engagement

1. Rise of Online Programs

Over the past two decades, the landscape of higher education has seen major transformations in course design and delivery. One of the most significant changes has been the rapid expansion of online education. Student enrollment in online courses has increased considerably, as many learners have chosen digital platforms over traditional face-to-face instruction (Palloff & Pratt, 2013). In 2022, the National Center for Educational Statistics (NCES) reported that enrollment in post baccalaureate online programs equaled 10.1 million (53%) and 4.9 % of that number enrolled in online programs exclusively. Since 2022, the demographic profile of online learners has also shifted with more women seeking advanced degrees. According to a report from the University of Arizona (2024), the average age of online graduate students was 32; women comprised 68%, men were 31%, and 5% registered as non-binary. Additionally, the vast majority of women who comprised the 68% were white.

The onset of the COVID-19 pandemic in spring 2020 further accelerated the demand for online learning (Karakose, 2021). In response to the crisis, institutions were forced to move quickly from traditional classrooms offering face-to-face settings to online platforms, often with little to no formal preparation for faculty and students. However, the pandemic affected higher education in ways that extended beyond instructional delivery. Many institutions experienced financial strain, layoffs among faculty and staff, and the discontinuation of courses and programs. Simultaneously, students faced abrupt disruptions to their in-person learning experiences. As a result, colleges and universities increasingly recognized the financial potential of online programs, particularly at the graduate level (Gallagher & Palmer, 2020). The idea of expanding online enrollment increased revenue and reduced operational costs, thereby further strengthening institutional support for online initiatives (Baack et al., 2016).

Although a substantial body of research has examined online education outcomes, support systems, and student success, most studies have focused on undergraduate populations. By contrast, the growing number of graduate students pursuing fully online degrees has received comparatively less scholarly attention. However, graduate education involves distinct demands. Instructors must not only possess confidence in the technologies they use, but they must also demonstrate the pedagogical competence necessary to employ those technologies effectively in online teaching (DeCoito & Richardson, 2018). Indeed, teaching online presents a range of challenges, including the need to develop engaging, high-quality materials and to devote

significant time to online pedagogy (Conrad, 2007; Conrad & Donaldson, 2021; Shannon & Doube, 2004; Spector, 2005). For graduate students, challenges in online coursework are compounded by family and work responsibilities that require support strategies different from those typically used with “traditional” undergraduate students. Subsequently, educators must explore approaches and resources specifically designed to meet the needs of graduate students in online environments and to promote their academic success and engagement.

2. Demands on Graduate Students

Graduate students are often drawn to online degree programs for the flexibility and convenience they offer, particularly for individuals who cannot attend on-campus classes due to work and family obligations (Buelow et al., 2018; Seaman et al., 2018). Nevertheless, graduate school remains inherently demanding. Faced with numerous challenges both inside and outside the classroom, some graduate students struggle to persist and ultimately leave their programs without completing their degrees.

Swirsky et al. (2024) reported the findings of an extensive survey of college graduates pursuing advanced degrees across ten states and found that the most frequently cited reasons for graduate school attrition were “had family responsibilities (55%), changed my career plans (52%), military conflict (91%), had money problems and could no longer afford college (51%)” (p. 3). Additionally, survey respondents (72%) cited academic probation as a factor for leaving their programs. Many online students balance full-time employment, family responsibilities, and financial obligations, all of which can create substantial stress and increase the need for additional academic support (Evans et al., 2018; Gayton, 2013; Lee & Choi, 2013). These findings suggest that graduate student persistence is shaped not only by academic preparedness but also by broader personal and structural pressures.

3. Graduate Students' Challenges with Online Courses

In the United States, both undergraduate and graduate students often enter postsecondary education insufficiently prepared for academic demands (Mascolo & Castillo, 2015). A considerable body of research has demonstrated that many undergraduates begin college without the background knowledge and academic skills necessary to acquire new knowledge and perform expected academic tasks (Brower et al., 2021; Jackson & Kurlaender, 2014; Tierney &

Sablan, 2014). Graduate students are not immune to this problem. Many are similarly unprepared for the rigor of graduate study coupled with having to navigate the additional demands of adult learning (Brower et al., 2021).

More specifically, research indicates that some graduate students lack the readiness needed for success in advanced study (Armstrong & Hart, 2021; Dangol & Shrestha, 2019). Although this remains an area in need of further investigation, Armstrong and Hart (2021) identified inadequate academic skills and abilities as a major cause of poor graduate student success. Likewise, Austin and McDaniels (2006) found that diminished persistence contributes to the departure of adult learners from graduate programs. As Gilmore et al. (2016) observed, "Depending on the graduate program, students may need substantial disciplinary knowledge and/or academic skills to be prepared to pursue a graduate degree" (p. 422). Graduate students may also struggle with time management, problem-solving, and abstract thinking skills essential for meeting the expectations of graduate-level work (Johnston et al., 2016). As adult learners, they frequently balance professional and family obligations, further straining their capacity to succeed academically (Kara et al., 2020). Hill and Conceicao (2020) further noted that the very features that attract students to online graduate education, namely flexibility, convenience, and accessibility, can also become obstacles to degree completion, particularly when employment and family responsibilities take precedence.

Time lapsed from formal schooling may also weaken the skills needed for graduate study. Bussell et al. (2020) found that gaps between undergraduate and graduate education can negatively affect students' readiness for advanced academic work. Consequently, graduate faculty often face the difficult task of deciding whether to provide remediation or risk compromising the rigor and high expectations of graduate coursework.

Research has further shown that poor prior schooling and weak academic skills may increase the likelihood that graduate students withdraw from their programs (Baum & McPherson, 2019; Bettinger et al., 2017; Bussell & Guder, 2017). Some adult learners may assume that online degrees are easier or less time consuming than traditional face-to-face programs, a misconception that can undermine persistence and performance (Hill & Conceicao, 2020; Shea & Bidjerano, 2018). Motivation, therefore, becomes especially important. According to Pulford et al. (2018), motivation is central to graduate degree completion because it is closely tied to academic success. Graduate students must be sufficiently motivated to devote the time and effort required for

complex graduate-level tasks. When students are motivated to succeed, they are less likely to withdraw and more likely to develop academic confidence. In turn, academic confidence enables students to acquire new knowledge and skills (Sander & de la Fuente, 2022), whereas low confidence has been associated with poor academic performance (Ireson & Hallam, 2009). Taken together, these findings suggest that both academic confidence and motivation are essential to graduate student persistence, and when either is lacking, the risk of attrition increases.

4. Graduate Students' Readiness for Online Learning

The increasing attraction to fully online graduate programs added another layer of complexity to graduate study; many students entering graduate programs attended traditional face-to-face undergraduate programs with little to no experience in online academic settings. Scholars assert that online readiness is not only a prerequisite for academic achievement, it is a necessary component for successful implementation of online programs (Dangol & Shrestha, 2019; Rohayani et al., 2015). As a result, it is prudent to examine the meaning of online learning readiness in greater detail.

(1) The Meaning of Online Learning Readiness

Emerging from an Australian vocational and training program, Warner et al. (1998) first defined online learning readiness as the degree to which students perceive themselves as possessing the skills and abilities needed for online learning activities. The Australian team proposed that online readiness could be understood in three ways: a preference for online learning over face-to-face instruction, confidence in using the internet and computer technologies for learning and communication, and the ability to work independently. In one of the earliest studies of online college students, Smith et al. (2003) found that students' readiness for online learning was closely related to their ability to manage their learning and function effectively in an online environment; hence, two additional aspects were determined as necessary skills for students' online learning readiness.

Intent on developing a valid instrument to measure learner readiness for online learning, Hung et al. (2010) developed the Online Learner Readiness Scale (OLRS), a more comprehensive instrument that measures five dimensions of readiness: self-directed learning, motivation, computer and internet self-efficacy, learner control, and online communication self-efficacy. Based on survey data from 1,051 undergraduate students enrolled in asynchronous online courses,

Hung et al. (2010) found that students reported high levels of confidence in computer and internet self-efficacy, motivation, and online communication. However, they also found that students needed additional support in the areas of learner control and self-directed learning. These findings suggest that the five dimensions of the OLRS offer a useful framework for designing instruction that supports student success.

OLRS has since become a widely used measure of online readiness. For instance, Kirmizi (2015) examined students' perceptions of online readiness and identified predictors of success and satisfaction in an online English and literature course. The study found that all five dimensions of the OLRS were significantly and positively related to student success and satisfaction. Motivation emerged as the strongest predictor of academic success, while self-direction had the strongest influence on satisfaction. In a correlational study, Engin (2017) found that online learning readiness was related to students' emotional intelligence. Using both the OLRS and the Trait Emotional Intelligence Scale-Short Form, Engin reported that students with higher emotional intelligence and stronger social skills were more successful in online environments. The study also identified emotional self-control as a strong predictor of learner control.

(2) Five Dimensions of Online Learning Readiness

Because the five dimensions of online learning readiness have become increasingly influential throughout literature, it is important to clarify their meanings. According to Geng et al. (2019), self-directed learning refers to learners' ability to assume responsibility for their own learning and actively seek the resources needed to remain engaged. Motivation refers to learners' attitudes and dispositions toward learning and is essential to success in online education (Hartnett, 2016), and computer and internet self-efficacy refer to learners' confidence and comfort in using digital technologies (Alqurashi, 2016). Hung et al. 2010 noted online communication- self-efficacy involves the ability to participate effectively in discussions, emails, questions and responses, and collaboration with peers and instructors. Finally, learner control refers to a student's ability to direct and regulate their own learning processes and educational progression (Chen & Yen, 2021). Altogether, these dimensions highlight the wide range of supports online instructors must consider providing to help graduate students cultivate the practices and dispositions needed for success. This is particularly true for graduate students who have not had previous experience in online settings.

5. Support for Graduate Students in Online Courses

Given accessibility of online courses for graduate students, the impact of this delivery method on student retention has become a growing concern in higher education. Although enrollments in online programs have increased, degree completion rates have not kept pace (Burgess, 2017; Trespalacios & Lowenthal, 2019). As such, it is critical institutions with graduate studies and the faculty who teach them consider how to strengthen online programs to support students' success. Accordingly, research on online learner success offers several promising practices that institutions and instructors can adopt to improve persistence and achievement. These practices are especially important for graduate students, who often manage demanding professional and personal responsibilities alongside their academic work (Armstrong & Hart, 2021).

(1) The Importance of Student Engagement

Perhaps one of the most important, yet challenging aspects of online education, is engaging students. Student engagement may be defined as active involvement in learning course content (Kuh, 2009). Across the literature, engagement has consistently been identified as a critical component of effective online education (Bond, et al., 2021; Rajabalee et al., 2019). Bollinger and Halupa (2018), for example, argued that active engagement in online courses positively influences students' academic performance. Other studies have shown that when students are actively engaged, they experience stronger self-efficacy (Bond et al. 2021; Honicke & Broadbent, 2016; Jung & Lee, 2018) and greater personal satisfaction (Bendelier et al., 2020). Furthermore, engaged students are more likely to participate actively and persist in online learning environments. As a result, strong engagement is associated with higher rates of course completion, graduation, and positive academic outcomes (Bollinger & Halupa, 2018). Munna and Kalam (2021) likewise emphasized that increasing student participation and engagement in online settings requires prioritizing "active and collaborative learning" (p. 111).

The emphasis on collaboration as a form of ensuring engagement in online settings is an important one. Research on collaborative learning has further informed understandings of engagement in online education. In particular, this discussion draws on Garrison et al.'s (2007) Community of Inquiry (CoI) model and Shea et al.'s (2012) extension of that model. Garrison et al.'s framework is grounded in the premise that meaningful learning in online environments occurs through interactions among members of a learning community, including both instructors and

students. The model identifies three forms of presence: teaching, social, and cognitive as essential to learning. Teaching presence refers to the role of the instructor in direct instruction, facilitation, course design, and course organization (Shea, 2012). Social presence refers to students' ability to communicate and interact meaningfully with instructors and peers in the online environment (Garrison et al., 2007). Cognitive presence refers to the process through which students construct knowledge through engagement with course content, discussions, and collaborative inquiry (Garrison et al., 2007).

Among these three forms of presence, social presence is particularly important in online learning. Whiteside et al. (2017) noted that social presence is essential because it enables students to develop a greater sense of community. Lowenthal and Dunlap (2020) similarly argued that when students feel socially connected, they are more likely to engage actively in learning. Conversely, when opportunities for participation and connection are limited, students may feel isolated, which can negatively affect academic performance (Luo et al., 2022).

Some scholars have argued for the inclusion of a fourth form of presence within the CoI framework, one that emphasizes learner presence. Through a series of quantitative factor analyses, Shea et al. (2012) introduced the concept of learner presence to account for student agency in online learning. Although learner presence has not been universally adopted, it remains useful for understanding the attitudes and behaviors of self-regulated and self-directed learners. Shea et al. described learner presence as reflecting the proactive stance students take when they manage their thoughts, emotions, motivations, behaviors, and strategies in support of successful online learning. Given the rapid growth of graduate online education, it is increasingly important for instructors to consider the role of self-regulation as a foundation for learner presence and, ultimately, student success. By understanding the important role of the “presence” framework within the online environment, graduate course designers can purposefully develop course structures which encourage student engagement.

(2) Institutional Support

While instructor practices matter greatly, graduate student success in online programs also depends on institutional commitment. Fernando et al. (2022) argued that there are necessary steps and procedures that institutions of higher learning must address, such as colleges and universities providing clear guidelines for online learning programs and ensuring fidelity of implementation in order to maintain high-quality curriculum and instruction. In addition,

institutions should ensure that online students have access to a wide range of support resources. Identifying struggling students early so that interventions, tutoring, and remedial support can be provided promptly is critical for students' success (Muljiana & Luo, 2019). Similarly, Lehan and Babcock (2020) found that early identification is especially important because graduate students are often unlikely to seek help on their own. To reduce attrition, institutions must therefore establish procedures that connect students with academic coaching and tutoring before problems become unmanageable. The fact that graduate students may need support is often taken for granted. Because graduate students have reached a post-baccalaureate level of study; therefore, faculty are not prone to consider support mechanisms when designing graduate programs and courses. However, these supports can be very beneficial to graduate students (Lehan & Babcock (2020).

Graduate students themselves have also identified institutional supports they find most beneficial. In a study of graduate students' perspectives on online learning success, Kumar and Johnson (2017) found that graduate students wanted more support in information literacy, earlier connections with library research consultants, and access to workshops typically offered only to on-campus, undergraduate students. Participants also noted the value of connecting new students in graduate programs with successful graduates and continuing students who could provide guidance and encouragement. Given the continued growth of online learning (Snyder et al., 2019), institutions must carefully evaluate and prioritize the quality of their online learning environments for their graduate students. This includes making online pedagogy a sustained part of professional development for instructors in both undergraduate and graduate programs (Vijayan, 2021).

(3) Professional Learning Communities for Instructors

In addition to institutional support for students, faculty development is essential for strengthening online graduate programs. One promising avenue is the use of faculty professional learning communities (PLCs). Emerging from Boyer's (1990) foundational work on the scholarship of teaching and learning, PLCs have become an important feature of practice across many disciplines (Lemelin et al., 2023). In higher education, faculty collaboration through such communities can meaningfully enhance students' educational experiences (Fortune & Keene, 2018). Building on Huber and Hutchings's (2006) concept of the "teaching commons," PLCs provide educators with a collaborative space in which to examine, refine, and improve their teaching practices (Ward & Selvester, 2012). Moreover, professional learning communities can deepen faculty members' pedagogical metacognition and promote instructional improvement

(Tocco et al., 2023). When focused specifically on graduate online learning, PLCs may play an important role in sustaining effective support for graduate students (Richardson et al., 2020).

(4) Online Instructor Practices

The literature also offers a number of instructor-led strategies and course development practices that can improve online graduate student learning. With respect to communication, some researchers recommend that faculty contact students by phone or email before the semester begins. Arasaratnam-Smith and Northcote (2017) argued that online graduate students must experience a sense of belonging, which instructors can foster by planning multiple opportunities for peer-to-peer and student-to-instructor interaction. These efforts help establish a sense of community early in the course (Muljana & Luo, 2019; Pan, 2022).

Instructors can also adopt practical measures to reduce student stress, encourage academic confidence and support retention. For example, course syllabi can include contact information and details about campus counseling services, and counseling staff may be invited to provide virtual presentations to students. Other support services on campus such as writing centers can be encouraged for use by the students. Such practices can demystify support services and make students more aware of available resources.

Although instructors in online settings may not directly control students' physical environments, they can share recommendations to students for creating effective learning spaces, such as studying in areas with natural light, comfortable temperatures, and minimal distractions. Faculty can also demonstrate their commitment to building a supportive climate by collaborating with students at the beginning of the semester to create a mission and vision statement for the course community. Practices such as these can create a learning community, thus fostering and enhancing student engagement. In addition, timely, high-quality feedback has been shown to influence graduate student performance in online programs positively (Farrell & Brunton, 2020). Pan (2022) further noted the importance of effective feedback in which instructors provide effective online discourse and support students in setting and pursuing academic goals.

Providing virtual orientations and welcoming session can also bolster graduate students' course experiences (Bosshardt & Chiang, 2016; Fabriz et al., 2021; Martin & Bollinger, 2018; Muljana & Luo, 2019). Cook & Sonnenberg (2014), for example, developed a virtual boot camp for doctoral nursing students that included modules on APA style, academic writing, literature searching, research question development, dissertation components, and learning management

system navigation. Based on student and instructor feedback, the boot camp was well-received and highlighted the need for stronger support structures for online graduate students. Programs such as these can address learning gaps early on in courses and ensure student success.

(5) Course Design and Development

High-quality online programs depend on instructors who understand how to design courses that promote positive student outcomes (Rapanta et al., 2021). This, in turn, requires that instructors be adequately prepared for virtual teaching. Tsang et al. (2021) argued that course design is a critical factor in retaining online students. In particular, courses that provide students with choice, flexibility, and autonomy are especially supportive of graduate student success (Henrickson & Bailram, 2023). Likewise, courses that combine asynchronous and synchronous instruction have been found to be beneficial for online learners (Armstrong & Hart, 2021; Crawford et al., 2020).

Additional course practices can further promote connection and engagement. Discussion forums offered in multiple formats, peer learning opportunities, small-group discussions, and collaborative projects all help foster social interaction and a sense of community (Bosshardt & Chang, 2016; Martin & Bolliger, 2018; Martin et al., 2018). Courses that embed easily accessible resources, clear and engaging instructional videos, and frequent virtual appointment options with instructors also provide valuable support for online students (Kelly et al., 2020). Thus, effective course design should not be understood merely as content delivery; rather, it should be viewed as the intentional creation of an environment that supports learning, connection, and persistence.

(6) Social-Emotional Support

In addition to supporting cognition and academic learning, online courses should also incorporate practices that support students' social-emotional well-being (Galbraith, 2005; Jensen, 2005; Torres, 2006). One promising approach that aligns with the principals of social and academic support involves the use of "brain-friendly" practices (Armstrong, 2016; Jensen, 2005), such as activities that encourage self-awareness through journaling, autobiographical reflection, personal connection-making, and mindfulness. These activities may positively influence student well-being, self-esteem and mitigate stressors for graduate students (Manglani, 2018).

Cooperative learning is another brain-friendly practice that can strengthen student engagement and relationships and supports social-emotional well-being. Activities such as peer mentoring and collaborative assessment can support community-building and academic

participation (Armstrong, 2016), encouraging relationships and engagement within the course. Additional practices that may support students' social-emotional learning include designing tasks that promote critical thinking and metacognition, using graphic or cognitive organizers to clarify content, scaffolding complex material, and providing multiple opportunities for engagement with course content (Thomas, 1998). Faculty may also consider regularly scheduling online conferencing with students to build supportive relationships and sustain communication throughout the course (Gutierrez & Gutierrez, 2019). Collectively, these practices can strengthen graduate students' academic confidence and contribute to their overall success.

6. Conclusion

As online graduate education continues to expand, the need to support graduate students in virtual learning environments becomes increasingly critical. Although online programs offer flexibility and accessibility, they also present significant academic, personal, and technological challenges. Graduate students frequently juggle work, family, financial pressures, and the demands of advanced academic study, all of which can threaten persistence and ultimately degree completion. Recognizing students may enter online graduate programs without the level of readiness, self-direction, or confidence required for sustained success coupled with personal responsibilities means institutions of higher education and the faculty and staff within those institutions must be prepared to support the new volume of online students.

For these reasons, support for graduate students in online courses must be intentional, multidimensional, and collaborative. Institutions must provide clear policies, early intervention systems, and access to academic and personal support services. Instructors must design courses that are engaging and flexible while also offering timely feedback, clear communication, and meaningful opportunities for connections. Equally important, faculty must be supported through professional development and learning communities that strengthen online pedagogy. Ultimately, supporting graduate students in online courses requires more than simply delivering content through digital platforms; it requires creating and sustaining responsive learning environments in which students can develop the skills, confidence, and sense of belonging necessary to persist and thrive.

References

- Alqurashi, E. (2016). Self-efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research (CIER)*, 9(1), 45-52.
- Arasaratnam-Smith, L. A., & Northcote, M. (2017). Community in online higher education: Challenges and opportunities. *Electronic Journal of e-Learning*, 15, 188–198.
- Armstrong, T. (2016). *The power of the adolescent brain: Strategies for teaching middle and high school students*. ASCD.
- Armstrong, R. J., & Hart, D. L. (2021). Why online students struggle in higher education. *FDLA Journal*, 6(8), 1–12.
- Austin, A. E., & McDaniels, M. (2006). Preparing the professoriate of the future: Graduate student socialization for faculty roles. *Higher Education: Handbook of Theory and Research*, 21, 397–456.
- Baack, D., Jordan, D. R., & Baack, D. W. (2016). Evolution and revolution in higher education: Catastrophe theory's applications and implications. *The Midwest Quarterly*, 57(2), 105–125.
- Baum, S., & McPherson, M. S. (2019). The human factor: The promise & limits of online education. *Daedalus, the Journal of the American Academy of Arts & Sciences*, 148(4), 235–254.
- Bettinger, E. P., Fox, L., Loeb, S., & Taylor, E. S. (2017). Virtual classrooms: How online college courses affect student success. *American Economic Review*, 107(9), 2055–2075.
- Bolliger, D. U., & Halupa, C. (2018). Online Student Perceptions of Engagement, Transactional Distance, and Outcomes. *Distance Education*, 39, 299-316.
<https://doi.org/10.1080/01587919.2018.1476845>
- Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2021). Emergency remote teaching in higher education: mapping the first global online semester. *International Journal of Educational Technology in Higher Education*, 18(1), 50.
<https://doi.org/10.1186/s41239-021-00282-x>
- Bosshardt, W., & Chiang, E. (2016). Targeting teaching lecture capture learning: Do students perform better compared to face-to-face classes? *Southern Economic Journal*, 83(3), 1021–1038.

- Boyer, E. (1990). *Scholarship reconsidered*. Carnegie Foundation for the Advancement of Teaching.
- Brower, R. L., Nix, A. N., Daniels, H., Xinye, H., Jones, T. B., & Shouping, H. (2021). A pedagogy of preparation: Helping underprepared students succeed in college-level coursework in community colleges. *Innovative Higher Education*, 46(2), 153–170.
- Buelow, J. R., Barry, T., & Rich, L. E. (2018). Supporting learning engagement with online students. *Online Learning*, 22(4), 313–340.
- Burgess, E. O. (2017). *Attrition and dropouts in the E-learning environment: Improving student success and retention*. [Doctoral dissertation, Northcentral University]. ProQuest Dissertations & Theses.
- Bussell, H., Schnabel, J., & Rinehart, A. K. (2020). Meeting graduate student needs: An exploration of disciplinary differences. *Public Services Quarterly*, 16(4), 213–233.
- Chen, C. Y., & Yen, P. R. (2021). Learner control, segmenting, and modality effects in animated demonstrations used as the before-class instructions in the flipped classroom. *Interactive Learning Environments*, 29(1), 44–58.
- Conrad, D. (2007). The plain hard work of teaching online: Strategies for instructors. In M. Bullen & D. James (Eds.), *Making the transition to e-learning: Strategies and issues* (pp. 191–207). Information Science Publishing.
- Conrad, R. M., & Donaldson, J. A. (2021). *Engaging the online learner: Activities and resources for creative instruction*. John Wiley & Sons.
- Crawford, J., Butler-Henderson, K., Rudolph, J., & Glowatz, M. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Teaching and Learning (JALT)*, 3(1), 1–20.
- Dangol, M., & Shrestha, M. (2019). Learning readiness and educational achievement among school students. *Journal of Indian Psychology*, 7, 467–476.
- DeCoito, I., & Richardson, T. (2018). Teachers and technology: Present practice and future directions. *Contemporary Issues in Technology and Teacher Education*, 18, 362–378.
- Engin, M. (2017). Analysis of students' online learning readiness based on their emotional intelligence level. *Universal Journal of Educational Research*, 5(12A), 32–40.
- Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., & Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. *Nature Biotechnology*, 36(3), 282–284.

- Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology*, 12, 73554.
- Farrell, O., & Brunton, J. A. (2020). Balancing act: A window into online student engagement experiences. *International Journal of Educational Technology in Higher Education*, 17, 25.
- Fernando, E., Hidayat, D., Pangaribuan, C. H., Gatc, J., & Stephanie, S. (2022, August). The Measurement analysis of university support, online learning tools, and technical support on online learning satisfaction during COVID-19 Pandemic. In *2022 9th International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)* (pp. 107-110). IEEE.
- Fortune, N., & Keene, K. (2018). Supporting a mathematician's instructional change in undergraduate mathematics through faculty collaboration. Paper presented at the Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.
- Galbraith, J. (2005). Building academic success on social and emotional learning: What does the research say? *Teachers College Record*, 107(7), 1540–1544.
- Gallagher, S., & Palmer, J. (2020). The pandemic pushed universities online: The change was long overdue. *Harvard Business Review*.
- Garrison, R. & Arbaugh. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education*, 19(3).
- Gayton, J. (2013). Factors affecting student retention in online courses: Overcoming this critical problem. *Career and Technical Education Research*, 38(2), 145-155.
- Geng, S., Law, K. M., & Niu, B. (2019). Investigating self-directed learning and technology readiness in blending learning environment. *International Journal of Educational Technology in Higher Education*, 16(1), 1–22.
- Gilmore, J., Wofford, A. M., & Maher, M. A. (2016). The flip side of the attrition coin: Faculty perceptions of factors supporting graduate student success. *International Journal of Doctoral Studies*, 11, 419–439.

- Gutierrez, D., & Gutierrez, A. (2019). Developing a trauma-informed lens in the college classroom and empowering students through building positive relationships. *Contemporary Issues in Education Research*, 12(1), 11–18.
- Hartnett, M. (2016). *Motivation in online education*. Springer.
<https://doi.org/10.1007/978-981-10-0700-2>.
- Henrickson, R., & Bailram, R. (2023). Examining voice and choice in online learning. *International Journal of Educational Technology in Higher Education*, 20(1), 1–19.
- Hill, L. H., & Conceicao, S. C. O. (2020). Program and instructional strategies supportive of doctoral students' degree completion. *Adult Learning*, 31(1), 36–44.
- Huber, M. T., & Hutchings, P. (2006). Building the teaching commons. *Change*, 38(3), 24–31.
- Hung, M.-L., Chou, C., Chen, C.-H., & Own, Z.-Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*, 55, 1080–1090.
- Ireson, J., & Hallam, S. (2009). Academic self-concepts in adolescence: Relations with achievement and ability grouping in schools. *Learning and Instruction*, 19(3), 201–213.
- Jackson, J., & Kurlaender, M. (2014). College readiness and college completion at broad-access four-year institutions. *American Behavioral Scientist*, 58, 947–971.
- Jensen, E. (2005). *Teaching with the brain in mind* (2nd ed.). ASCD.
- Johnston, L., Sampson, K. A., Comer, K., & Brogt, E. (2016). Using doctoral experience survey data to support developments in postgraduate supervision and support. *International Journal of Doctoral Studies*, 11, 185–203.
- Kara, M., Erdogdu, F., Kokoc, M., & Cagiltay, K. (2020). Challenges faced by adult learners in online distance education: A literature review. *Open Praxis*, 11(1), 5–22.
- Karakose, T. (2021). The impact of the COVID-19 epidemic on higher education: Opportunities and implications for policy and practice. *Educational Process: International Journal*, 10(1), 7–12.
- Kelly, A., Johnston, N., & Matthews, S. (2020). Online self-access learning support during the COVID-19 pandemic: An Australian university case study. *Studies in Self-Access Learning Journal*, 11(3), 187–198.

- Kirmizi, O. (2015). The influence of learner readiness on student satisfaction and academic achievement in an online program at higher education. *Turkish Online Journal of Educational Technology*, 14(1), 133-142.
- Kumar, S., & Johnson, M. (2017). Mentoring doctoral students online: Mentor strategies and challenges. *Mentoring & Tutoring: Partnership in Learning*, 25(2), 202–222.
- Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*, 59, 593-618.
- Lehan, T. & Babcock, A. (2020). Early Intervention for Struggling Online Graduate Students: Processes and Short- Term Outcomes. *The International Education and Learning Review*, 25(2).
- Lemelin, C., Gross, C. D., Bertholet, R., Gares, S., Hall, M., Henein, H., Kozlova, V., Spila, M., Violato, C., & Haave, N. (2023). Dismantling disciplinary silos: A faculty learning community facilitates interdisciplinary teaching development. *The Journal of Faculty Development*, 37(2), 51–59.
- Lowenthal, P. R., & Dunlap, J. C. (2020). Social presence and online learning, *Distance Education*, 41(4), 490-514.
- Luo, et al. (2022). Promoting student engagement in online learning through harmonious classroom environment. *The Asia-Pacific Education Researcher*, 31(5), 541-551.
- Manglani, A. (2018). Significance of self-awareness activities in development of positive self-esteem among secondary school students. *IAHRW International Journal of Social Sciences Review*, 6(1), 94–97.
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222.
- Martin, F., Wang, C., & Sadaf, A. (2018). Student perception of helpfulness of facilitation strategies that enhance instructor presence, connectedness, engagement and learning in online courses. *The Internet and Higher Education*, 37, 52–65.
- Mascolo, M. F., & Castillo, J. (2015). The origins of underperformance in higher education in America: Proximal systems of influence. *Pedagogy and the Human Sciences*, 5(1), 1–40.

- Muljana, P., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology Education: Research*, 18, 19-57.
- Munna, A. S., & Kalam, M. A. (2021). Impact of active learning strategy on the student engagement. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 4(2), 96-114. Retrieved from <https://gnosijournal.com/index.php/gnosi/article/view/96>
- National Center for Education Statistics. (2022). *The condition of education* (NCES Report No. 2022-144). U.S. Department of Education.
- Palloff, R. M., & Pratt, K. (2013). *Lessons from the virtual classroom: The realities of online teaching* (2nd ed.). Jossey-Bass.
- Pan, X. (2022). Exploring the multidimensional relationships between education situation, perception, teacher support, online learning engagement and academic self-efficacy in technology-based language learning. *Frontiers in Psychology*, 13, 1000069.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2(3), 923–945. <https://doi.org/10.1007/s42438-020-00155-y>
- Richardson, J. W., Hollis, E., Pritchard, M., & Novosel-Lingat, J. E. M. (2020). Shifting teaching and learning in online learning spaces: An investigation of a faculty online teaching and learning initiative. *Online Learning*, 24(1), Article 1.
- Rohayani, A. H. (2015). A literature review: Readiness factors to measuring e-learning readiness in higher education. *Procedia Computer Science*, 59, 230-234.
- Sander, P., & de la Fuente, J. (2022). Modeling students' academic confidence, personality and academic emotions. *Current Psychology*, 41(7), 4329-4340.
- Seaman, J. E., Allen, I. E., & Seaman, J. (2018). *Grade increase: Tracking distance education in the United States*. Babson Survey Research Group.
- Shannon, S., & Doube, L. (2004). Valuing and using web-supported teaching: A staff development role in closing the gaps. *Australian Journal of Educational Technology*, 20, 114–136.

- Shea, P., & Bidjerano, T. (2018). Online course enrollment in community college and degree completion: The tipping point. *International Review of Research in Open and Distributed Learning*, 19(2), 282-293.
- Smith, P. J., Murphy, K. L., & Mahoney, S. E. (2003). Towards identifying factors underlying readiness for online learning: An exploratory study. *Distance Education*, 24(1), 57–67.
- Snyder, T. D., de Brey, C., & Dillow, S. A. (2019). *Digest of Education Statistics 2017* (NCES 2018-070). National Center for Education Statistics.
- Spector, J. M. (2005). Time demands in online instruction. *Distance Education*, 26, 5–27.
- The University of Arizona Global Campus (2024). *Industry insights: Online learner trends & demographics*.
Retrieved from: <https://www.uagc.edu/blog/online-learner-trends-demographics>
- Thomas, P. (1998). Increasing student input in the classroom. *College Teaching*, 46(3), 112.
- Tierney, W. G., & Sablan, J. R. (2014). Examining college readiness. *American Behavioral Scientist*, 58(8), 943–946.
- Tocco, A., Mehrhoff, L., Osborn, H., McCartin, L., & Jameson, M. (2023). Learning communities promote pedagogical metacognition in higher education faculty. *To Improve the Academy*, 42(1), 224–254.
- Torres, J. M. (2006). Building academic success on social and emotional learning. *School Administrator*, 63(4), 65.
- Trespalcios, J., & Lowenthal, P. R. (2019). What do they really like? An investigation of students' perceptions of their coursework in a fully online educational technology program. *Australian Journal of Educational Technology*, 35(5), 60-78.
- Tsang, J., So, M., Chong, A., Lam, B., & Chu, A. (2021). Higher education during the pandemic: The predictive factors of learning effectiveness in COVID-19 online learning. *Education Sciences*, 11(8), 446.
- Vijayan, R. (2021). Teaching and learning during the COVID-19 pandemic: A topic modeling study. *Education Sciences*, 11(7), 347.
- Ward, H. C., & Selvester, P. M. (2012). Faculty learning communities: Improving teaching in higher education. *Educational Studies*, 38(1), 111–121.
- Warner, D., Christie, G., & Choy, S. (1998). *Readiness of VET clients for flexible delivery, including online learning*. Australian National Training Authority.

- Whiteside, A. L., Garrett Dikkers, A., & Lewis, S. (2017). Overcoming isolation online: Strategies to enhance social presence in practice. In A. L. Whiteside, A. Garrett Dikkers, & K. Swan (Eds.) *Social presence in online learning: Multiple perspectives on research and practice* (pp. 180–187). Stylus, LLC.
- Swirsky, E., Wright, E., & Zhao, Z. (2024). *Reasons students consider leaving or stopping out: Insights from the 2023 diverse learning environments survey*. ACE.