Synchronous learning using Moodle

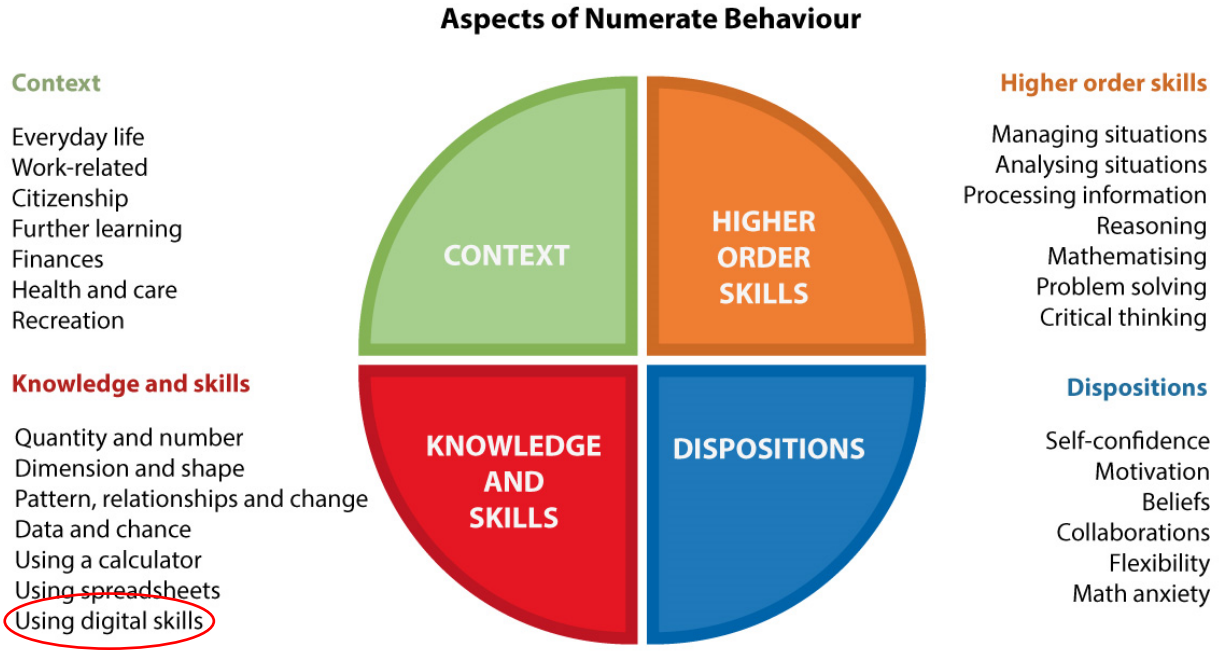
Introduction

Despite the fact that teaching presence roles have frequently been overlooked in online learning environments, new research has recognized their growing significance after the covid pandemic. The ability to learn and teach simultaneously in real-time through synchronous online learning helps to overcome obstacles related to physical boundaries of students' online education. Research shows that attending classes—even those held in physical classrooms—or online learning does not guarantee that students will learn. This projects' objective was to look into the impact of students' cognitive engagement in numeracy classes with synchronous learning by use of Moodle, both their academic success and contentment.

Key issues

- Which obstacles related to physical boundaries can be overcome by synchronous learning by use of Moodle?
- How can synchronous learning by use of Moodle be implemented in adult numeracy courses?
- What is the impact of students' cognitive engagement in numeracy classes with synchronous learning by use of Moodle?

Relation to CENF



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Suggestions for PD meetings

1 Discuss the flowing issues around synchronous online learning environments

The term "synchronous online learning environments" refers to a type of learning where students can communicate with teachers and other students in real-time by using synchronous online learning resources like chat rooms and video conferences (Ji, Park, & Shin, 2022). This method of instruction is thought to evolve into "a post-corona era learning paradigm shift" (Ji, Park, & Shin, 2022, p.1). Still, a pedagogical, social, and technical components should be present in a good learning environment. Pedagogical elements in this paper refer to the application of effective teaching techniques in synchronous online learning to increase the efficacy of the teaching and learning process (Tang & Hew 2017).

Face-to-face interactions in the classroom cannot be replaced by online synchronous learning (Carbajal-Carrera, 2021; Andel et al., 2020). This may be explained by the fact that attendance in classes—whether they be online or in physical classrooms—does not guarantee that students will learn.

2 Discuss the supplies for Moodle and virtual classroom organisation

Since setting up the physical classroom is something that all teachers have to do before classes start, it makes sense to start there when we start to discuss classroom management. Once they understand how the classroom will be set up virtually, many teachers find it easier to plan other aspects of classroom management.

- Good virtual classroom management in four keys
- Ensure that the teacher can easily see the students virtually.
- Ensure that students' supplies and frequently used teaching materials are easily accessible on the Moodle platform.
- Ensure that displays and presentations for the entire class are easily visible to students. Position desks so that students are facing and have easy access to the main area for whole-group instruction.
- Virtual small-group instruction areas: Set this up so that, while being virtually, the teacher still can keep an eye on the remainder of the class.

3 Discuss the organizing of a successful start of the course

Establishing a welcoming and comfortable learning atmosphere for your class is an excellent way to begin the virtual course. Greeting the adults, introductions, room descriptions, get-to-know-you exercises, rules, procedures, and consequences presentations and discussions, content activities, time fillers, and administrative tasks (like handing out virtual exercises) are a few examples of common activities.

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4 Discuss the checklist for online synchronous learning

1. Which ideas or abilities need to be mastered the most?
2. Which type of learning—memorization, application, or appreciation—is your objective? Have you let your students know about this?
3. Which type of learning is this lesson aimed at? Are you using different methods of learning?
4. Are there any complex ideas that require further explanation?
5. How will you assist students in drawing connections to prior knowledge?
6. How are you going to pique students' interest in the lesson?
7. How will you handle changing from one activity to another?
8. What supplies are required? Will using them be something that students must learn?
9. Which steps are necessary for students to know in order to finish the activities?
10. What is the estimated duration of the lesson? for various sections of the instruction?
11. In the event that cooperative learning is required, how will groups of students be assembled? How are you going to promote effective group work?
12. Which questioning techniques and examples will you employ? Make a list of higher-order questions and examples for explanations.
13. How are you going to assess students' understanding both during and after the lesson?
14. In the event that students struggle conceptually, what are some other presentation options?
15. Do any students require extra or special assistance?
16. How are you going to ensure that every student takes part?
17. In the event that the lesson lasts longer than expected, how will you modify it?
18. At the conclusion of the class, what kind of product—if any—do you anticipate the students producing?
19. After they're done, what will the students do?
20. How are you going to assess student work and provide feedback?
21. How will the lessons you taught the students apply the concepts you presented?

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Background information

A guide to manage “whole-group online instruction” with the materials

The idea of activity flow - the degree to which a lesson proceeds smoothly, without digressions, diversions, or interruptions - is central to effectively managing teacher-led activities. Because most of the cues for behavior during a lesson are focused on behaviors appropriate for the lesson, lessons with good flow maintain students' attention and discourage deviation. The following topics are important:

Preventing misbehavior:

- The teacher's "with-it-ness" refers to how quickly and appropriately she corrects misbehavior before it gets worse or affects more students.
- How a teacher responds to two or more concurrent events is referred to as overlapping.

Controlling motion

- While withitness and overlapping are achieved by managing outside disruptions and student incursions into the lesson's flow, movement management is achieved by preventing interruptions or delays brought on by the teacher.
- Lessons that proceed quickly are indicative of momentum, which is a term for pacing;
- Lesson continuity is a prime example of smoothness. A lesson that flows well holds students' attention.

Keeping the group's focus

- A teacher needs to be aware of how the instruction is influenced by the group. Numerous strategies can be used to keep the group focused.
- Group alerting is the process of drawing the class's attention while individual students are still responding.
- When a teacher informs students that their performance will be watched and assessed in some way, accountability takes place.
- Lessons with high participation involve programming students' behavior even when they are not directly answering a teacher's question.

Typical issues with teaching transitions are the spaces between any two activities.

- Issues include protracted wait times, which may be linked to a high incidence of improper or disruptive behavior.
- Clarity entails defining goals or major objectives and ensuring that students understand what they are expected to know or do; meticulously planning a lesson sequence that progresses from simpler to more complex ideas; Giving written and oral instruction; confirming understanding through the use of work samples or targeted questions; and offering meaningful practice and feedback through homework assignments that cover all of the skills and content covered in class.

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Literature

Aikina, T., & Bolsunovskaya, L. (2020). Moodle-based learning: Motivating and demotivating factors. International journal of emerging technologies in learning (iJET), 15(2), 239-248.

Aikina, Tatiana Yu, & Liudmila M. Bolsunovskaya. 2020. Moodle-Based Learning: Motivating and Demotivating Factors. International Journal of Emerging Technologies in Learning, 15(2), 239–48.

Andel, S. A., de Vreede, T., Spector, P. E., Padmanabhan, B., Singh, V. K., & De Vreede, G. J. (2020). Do social features help in video-centric online learning platforms? A social presence perspective. Computers in Human Behavior, 113(7).

Andrew, L., Wallace, R., & Sambell, R. (2021). A peer-observation initiative to enhance student engagement in the synchronous virtual classroom: A case study of a COVID-19 mandated move to online learning. Journal of University Teaching and Learning Practice, 18(4).

Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., & Swan, K. P. (2008). Developing a community of inquiry instrument: Testing a measure of the Community of Inquiry framework using a multi-institutional sample. Internet and Higher Education, 11(3–4), 133–136.

Bedenlier, S., Wunder, I., Gläser-Zikuda, M., Kammerl, R., Kopp, B., Ziegler, A., & Händel, M. (2021). "Generation invisible?. Higher Education Students" (Non)Use of Webcams in Synchronous Online Learning. International Journal of Educational Research Open, 2(8), 100068.

Bolliger, D.U., & Halupa, C. (2018). Online student perceptions of engagement, transactional distance, and outcomes. Distance Education, 39(3), 299–316.

Bowyer, J., & Chambers, L. (2017). Evaluating blended learning: Bringing the elements together. Research Matters: A Cambridge Assessment Publication, 23(1), 17-26.

Carbajal-Carrera, B. (2021). Mapping connections among activism interactional practices and presence in videoconferencing language learning. System, 99, 102527. Chan, S. L., Lin, C. C.,

Chau, P. H., Takemura, N., & Fung, J. T. C. (2021). Evaluating online learning engagement of nursing students. Nurse Education Today, 104, 1–7.

Chase, P. A., Hilliard, L. J., John Geldhof, G., Warren, D. J., & Lerner, R. M. (2014). Academic Achievement in the High School Years: The Changing Role of School Engagement. Journal of Youth and Adolescence, 43(6), 884–896.

Clark, C., Strudler, N., & Grove, K. (2015). Comparing asynchronous and synchronous video vs. Text based discussions in an online teacher education course. Online Learning Journal, 19(3), 1–22.

Colling, J., Wollschläger, R., Keller, U., Preckel, F., & Fischbach, A. (2022). Need for Cognition and its relation to academic achievement in different learning environments. Learning and Individual Differences, 93, 102110.

Cooper, K.S. (2014). Eliciting Engagement in the High School Classroom: A Mixed-Methods Examination of Teaching Practices. American Educational Research Journal, 51(2), 363–402.

Croxton, R.A. (2014). The Role of Interactivity in Student Satisfaction and Persistence in Online Learning. Journal of Online Learning and Teaching, 10(2), 314–325.

Cunningham, U., & Una Cunningham, S. (2014). Teaching the Disembodied: Othering and Activity Systems in a Blended Synchronous Learning Situation. International Review of Research in Open and Distributed Learning. 15(6), 33–51.

Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319–340.

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Feeley, A. M., & Biggerstaff, D. L. (2015). Exam success at undergraduate and graduate-entry medical schools: is learning style or learning approach more important? A critical review exploring links between academic success, learning styles, and learning approaches among school-leaver entry ("traditional") and graduate-entry ("nontraditional") medical students. Teaching and learning in medicine, 27(3), 237-244.

Fredricks, J.A., Blumenfeld, P.C., & Paris, A.H. (2004). School engagement: Potential of the concept, state of the evidence. Review of Educational Research, 74(1), 59–109.

Garrison, D., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. The Internet and Higher Education, 2(2-3), 87-105.

Garratt-Reed, D., Roberts, L.D., & Heritage, B. (2016). Grades, student satisfaction and retention in online and face-to-face introductory psychology units: A test of equivalency theory. Frontiers in Psychology, 7, 1–10.

Gomez-Rey, P., Barbera, E., & Fernandez-Navarro, F. (2016). Measuring teachers and learners' perceptions of the quality of their online learning experience. Distance Education, 37(2), 146–163.

Gray, J. A., & DiLoreto, M. (2016). The effects of student engagement, student satisfaction, and perceived learning in online learning environments. International Journal of Educational Leadership Preparation, 11(1).

Greene, B.A. (2015). Measuring Cognitive Engagement With Self-Report Scales: Reflections From Over 20 Years of Research. Educational Psychologist, 50(1), 14–30.

Halverson, L. R., Graham, C. R., Spring, K. J., Drysdale, J. S., & Henrie, C. R. (2014). A thematic analysis of the most highly cited scholarship in the first decade of blended learning research. Internet and Higher Education, 20, 20–34.

Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135.

Hubbard, P. (2019). Five keys from the past to the future of CALL. International Journal of ComputerAssisted Language Learning and Teaching, 9(3), 1–13.

Kirschner, P., Strijbos, J. W., Kreijns, K., & Beers, P. J. (2004). Designing electronic collaborative learning environments To cite this version. Educational Technology Research and Development. 52(3), 47–66.

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. International Journal of e-Collaboration, 11(4), 1–10.

Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. Information systems journal, 28(1), 227-261.

Martin, F., & Bolliger, D.U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. Online Learning Journal, 22(1), 205– 222.

Meskill, C., & Anthony, N. (2014). Managing synchronous polyfocality in new media/new learning: Online language educators' instructional strategies. System, 42(1), 177–188.

Meyer, K.A. (2014). Student Engagement in Online Learning: What Works and Why. ASHE Higher Education Report, 40(6), 1–114.

Miller, R. B., Greene, B. A., Montalvo, G. P., Ravindran, B., & Nichols, J. D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. Contemporary Educational Psychology, 21(4), 388–422.

Murillo-Zamorano, L.R., Lopez Sanchez, J.A., & Godoy-Caballero, A.L. (2019). How the flipped classroom affects knowledge, skills, and engagement in higher education: Effects on students' satisfaction. Computers and Education, 141, 103608.

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Ohrstedt, M., & Lindfors, P. (2019). First-semester students' capacity to predict academic achievement as related to approaches to learning. Journal of Further and Higher Education, 43(10), 1420–1432.

Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online Education: Worldwide Status, Challenges, Trends, and Implications. Journal of Global Information Technology Management, 21(4), 233–241.

Phelps, A., & Vlachopoulos, D. (2019). Successful transition to synchronous learning environments in distance education: A research on entry-level synchronous facilitator competencies. Education and Information Technologies, 25(3), 1511–1527.

Redmond, P., Heffernan, A., Abawi, L., Brown, A., & Henderson, R. (2018). An online engagement framework for higher education. Online Learning Journal, 22(1), 183–204.

Richardson, J. C., Besser, E., Koehler, A., Lim, J., & Strait, M. (2016). International Review of Research in Open and Distributed Learning Instructors ' Perceptions of Instructor Presence in Online Learning Environments. International Review of Research in Open and Distributed Learning, 17(4), 1–14.

Richardson, J. C., Maeda, Y., Lv, J., & Caskurlu, S. (2017). Social presence in relation to students' satisfaction and learning in the online environment: A meta-analysis. Computers in Human Behavior, 71, 402–417.

van Rooij, E.C.M., Jansen, E.P.W.A., & van de Grift, W.J.C.M. (2017). Secondary school students' engagement profiles and their relationship with academic adjustment and achievement in university. Learning and Individual Differences, 54, 9–19.

Tiedt, J.A., Owens, J.M., & Boysen, S. (2021). The effects of online course duration on graduate nurse educator student engagement in the community of inquiry. Nurse Education in Practice, 55, 103164.

Toraman, C., Ozdemir, H. F., Kosan, A. M. A., & Orakci, S. (2020). Relationships between cognitive flexibility, perceived quality of faculty life, learning approaches, and academic achievement. International Journal of Instruction, 13(1), 85-100.

Torun, E.D. (2013). Synchronous Interaction in Online Learning Environments with Adobe Connect Pro. Procedia - Social and Behavioral Sciences, 106, 2492–2499.

Turk, M., Heddy, B.C., & Danielson, R.W. (2022). Teaching and social presences supporting basic needs satisfaction in online learning environments: How can presences and basic needs happily meet online?. Computers and Education, 180, 1–15.

Wolverton, C.C. (2018). Utilizing synchronous discussions to create an engaged classroom in online executive education. International Journal of Management Education, 16(2), 239–244.

Wolverton, C.C., Guidry Hollier, B.N., & Lanier, P.A. (2020). The impact of computer self efficacy on student engagement and group satisfaction in online business courses. Electronic Journal of e-Learning, 18(2), 175–188.

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