1:1 Modality for Online Students: Applications of Adult Learning Theory

Michelle Dennis
National University

Jingyun Zhang
National University

Individual support for online students plays a significant role in building engagement. Further, personalized experiences, such as flexible start dates, serve to increase retention. This paper describes applications of a 1:1 modality for online instruction, delivered within an open-admissions institution that serves non-traditional students. Parameters of the instructional model are explained in the context of adult learning theory. A focus group composed of faculty serving in various programs teaching courses in the 1:1 model was conducted. Analysis of focus group data was conducted, revealing key themes. Future applications and directions are presented in the context of student engagement and retention.

Keywords: online learning, 1:1 modality, adult learning theory, best practices for online education, student engagement, faculty engagement, feedback, higher education

INTRODUCTION

Online education provides a flexible solution for students who cannot attend live classes at traditional brick-and-mortar institutions, enabling them to earn their degrees remotely. Despite the flexibility of asynchronous online courses, several potential barriers are associated with their structured format. One significant barrier is the fixed scheduling of most online courses, which typically have specific start and end dates. This structure requires students to plan their enrolments around these dates, which can be particularly challenging for some individuals, such as those serving in the military. These students may benefit from more flexible timelines.

In addition to scheduling constraints, online courses often require students to log into a learning management system multiple times each week to participate in discussion forums and other activities.

While this structure fosters a sense of community for some learners, it can create significant obstacles for others. Completing coursework over multiple days each week may pose challenges for students with demanding schedules or other responsibilities. For such students, a 1:1 model may be more effective, where a single student interacts with one faculty member for the duration of a course that begins weekly. Research has demonstrated that 1:1 support is a powerful method for enhancing learning across various educational settings.

LITERATURE REVIEW

One way that 1:1 support has been applied for online students is through tutoring. A great body of research demonstrates the significant impacts of online tutoring (Abed Dahleez et al., 2021; Maré & Teedzwi Mutezo, 2021). Tutoring can be helpful for students who are struggling with course content and those whose study skills do not support their current endeavors. Adult students, many of whom have not been in a class for an extended period of time, can often benefit from tutoring services. Research shows that tutoring focused on supporting the whole person is needed (Driscoll & Wells, 2020) and that targeted preparation of those who will serve in the role of tutors can significantly improve their impact. Other research has investigated learning outcomes of students who directly engaged with online tutoring sites, demonstrating the effectiveness of e-tutoring for student support (Maré & Teedzwi Mutezo, 2021).

Not all e-tutoring services are created equal, and other research demonstrates that there are key variables that have been shown to moderate the impacts of e-tutoring, such as usability, teacher behavior, and online student engagement (Abed Dahleez et al., 2021).

When unprepared for the role of tutor, student support is not easily provided and, unfortunately, some online tutors feel unprepared for their role. (Gyampoh et al., 2020) conducted a study of tutors serving students online during the COVID-19 pandemic and found that most study participants reported feeling underprepared to serve online. Effective training is of the utmost priority, and a great body of literature has highlighted key best practices for training those who will serve in the role of tutor.

Johns & Mills (2021) discuss the importance of preparing tutors to provide flexible services to students, noting that comfort with technology on the part of the tutor allows for the effect e-facilitation of both synchronous and asynchronous support options. Phuong Tran et al. (2024), in a study of tutors' perceptions of training, found that tutoring journals and Internet sites both effectively supported the preparation of tutors, but four core challenges interfered with impacts: technical problems, communication barriers, incomplete information, and time-limited tutoring. Skills and competencies in technology and pedagogy have been shown to support effective e-tutoring (Vlachopoulos & Makri, 2021).

In addition to supplying adequate training, regularly monitoring quality is a crucial step in ensuring the ability of online tutors to promote student success. Research has identified key parameters associated with tutor success through analytics-powered monitoring, including providing hints, appropriate pausing, initiating opportunities for students to correct themselves, and proactive planning behaviors (Cukurova, Khan-Galaria, Millán, & Luckin, 2022). Zhang et al. (2023) demonstrated quality interactions as a predictor of tutoring impacts on learning outcomes. In sum, tutoring represents an important application of the 1:1 model, demonstrating the power of individual connection to increase learning. A second type of 1:1 support has been demonstrated as effective for online students is mentoring (Goodrich, 2021; Pollard & Kumar, 2021).

Mentoring involves social learning, cascading from a more experienced to a less experienced person. Tutoring can be considered a form of mentoring, but it lacks the more general qualities of the concept of mentorship. While mentors advise and promote growth, tutors increase learning in specific situations. Research demonstrates that mentoring can potentially reduce attrition and increase academic success (Tinoco-Giraldo, Torrecilla Sanchez, & García-Peñalvo, 2020). Mentoring involves support that can be provided by faculty, as well as peers. Goodrich (2021) explored the impacts of online peer mentoring for music students as a strategy for increasing support during the COVID-19 pandemic. Pollard & Kumar (2021) examined challenges, strategies, and outcomes associated with online mentorship of graduate students. These authors found that interpersonal aspects of the mentor-mentee relationship, clarity of communication and experience rations, access to mentoring groups, and institutional support for mentors were all found to contribute to student success.

When delivered effectively, mentoring can help to support increased engagement and positive coping. For instance, Studebaker & Curtis (2021) examined attrition rates among doctoral students and found that mentoring helped to build the sense of community and connection necessary for persistence. Other research has identified factors predicting student engagement, including the ability of mentors to facilitate learning and goal-focused encouragement (Gamage, Perera, Dilini, & Wijewardena, 2021). Nash (2021) looked at

strategies for mitigating anxiety and depression among graduate students, creating a model for student support that leverages aspects of mentoring.

Research supports the need for mentor training to maximize impacts. Tuomikoski et al. (2020) demonstrates significant increases in the ability of mentors to support the learning process, provide constructive feedback, provide student-centered evaluations, and identify student needs following an educational intervention. Mikkonen et al. (2021) identified mentor training needs based on profiles. The administration of mentor-specific training was shown to significantly impact effectiveness. Online mentoring is effective in many settings, including the dissertation process. Mullen (2021) demonstrated the power of online dissertation mentoring to move forward proposals and promote academic progress. In addition to supporting tutoring and mentoring, 1:1 models have gained support within the online course-room.

Course-embedded advising and other individual student-faculty connections have been shown to impact learning in important ways. Course-embedded advising involves incorporating an individual student-faculty meeting into an existing online course (Dennis et al., 2020). The meeting replaces an assignment near the middle of the course and the prompts for the assignment remain the same. One prompt is added to provide a type of micro-mentorship. The added prompt might pose a question regarding career preparation, barriers to success, or socially responsible practice. The idea to utilize 1:1 models for formal online learning has also been explored (Bloomberg, 2014; Bloomberg & Grantham, 2018).

Teaching environments using 1:1 models may be established by placing individual students and individual faculty in external settings, such as classrooms or other physical locations, but this is often not feasible due to logistical challenges and resource restrictions. One alternative that facilitates the ability of 1:1 instruction to customize student experiences is laptop programs. Zheng, Warschauer, Lin, & Chang (2016) reviewed published literature from 2001 to 2016 on the subject and reported that generally positive outcomes are associated with these initiatives in K-12 populations, which allow students to work at their own pace and enjoy flexible and targeted instructional content.

Similar work led by Corn, Tagsold, & Patel (2011) focused on the role of the teacher and learning environment in 1:1 laptop environments.

There continue to be significant strides in the effective use of 1:1 instructional strategies with K-12 students. For example, Bennett (2023) described the benefits of an online 1:1 model that assigns individual students to individual teachers. In the model mentioned above, students enjoy increased focus, personalized instruction, positive student-instructor bonds, opportunities for co-learning, and the ability to engage in solitary work. Jackson (2023) also explored the 1:1 model as applied to K-12 students, emphasizing the benefits of personalized learning, individually tailored learning environments, enhanced attention and focus, rapid feedback, and individualized pace. In mobile learning, 1:1 models have also been explored. For example, Reichert & Mouza (2018) looked at the integration of 1:1 instruction powered by mobile devices and found that many instructors could build connections with students but that there was some degree of variability associated with teacher practice.

Moving to higher education, Carey & Grant (2015) looked at 1:1 music instruction performed online. He identified four themes: the relationship between student and teacher, the process of customizing instruction to learners, positioning 1:1 teaching in the institutional context, and dependency vs. self-sufficiency from the student perspective. Other recent analyses have highlighted benefits of 1:1 models for instruction, including tailored communication, lower stress levels for individuals with special needs, reduced distractions, high-quality interactions, and the ability to work at an individualized pace (U of the People, 2024). Further, 1:1 instructional models align well with many aspects of adult learning theory (Knowles, 1978), as these models emphasize the individualization of student experience and the incorporation of personalized feedback that is relevant to the student and their experience. Wozniak (2020) reports on benefits associated with the personalization of learner experience through technology, which aligns with adult learners' motivation, access, time, and resource patterns. Loeng (2020) explored the relevance of the idea of self-directed learning in the context of adult learning theory. Self-directed learning aligns well with 1:1 instructional models, which provide students with a voice in the pace and other process

components of the instructional experience. Several practices have emerged to support the principles of 1:1 instruction.

Norton (2003) established a community of practice learning system to better meet students' individual needs. Norton & Hathaway (2008) compared student experiences in a traditional online learning environment with the experiences of students engaged in a 1:1 model in a community of practice learning system (Norton, 2003) and found positive experiences with both models. The authors evaluated the role of instructor, self-regulation of students, and the role of groups as factors impacting perceptions of value and quality. Relationships are a key factor impacting learning in 1:1 models for online education provision. Stenbom, Hrastinski, & Cleveland-Innes (2016) explored the ways in which emotions serve as a core component of the learning process in a community of inquiry frameworks, as a component of social presence. These authors identified emotional presence as an important aspect of 1:1 mathematics coaching. Stenbom, Jansson, & Hulkko (2016), in another examination of a community of inquiry framework, explored the process by which an instructional coach leads individual students through the practical process of inquiry, reporting that elements of cognitive, teaching, social, and emotional process interact to promote student success in a 1:1 model.

Faculty training is paramount when preparing for success in an online 1:1 model. Key strategies for developing a social presence, cognitive presence, and teaching presence among faculty teaching in a 1:1 model are outlined by Bloomberg (2014). Bloomberg & Grantham (2018) developed a tool for assessing faculty engagement, which can also be used for faculty reflection. Bloomberg (2020) outlines coaching procedures utilized with faculty teaching in 1:1 models, to improve the practice of teaching and increase student engagement. Key parameters associated with this coaching model are informed by adult learning theory and are intended to help faculty develop into reflective practitioners capable of engaging deeply with the learners with whom they will interact.

Perspectives and impacts of online 1:1 instruction center around student-specific factors and retention. Liu & Pu (2020) explored 1:1 online learning in distance education, identifying the experience factor as a predictor of intention to continue among students participating in 1:1 online education. Additionally, self-efficacy and levels of anxiety were found to be associated with both perceived utility of 1:1 models and ease of participation or use. Grasha (2002) presents a model outlining key dynamics associated with 1:1 instruction, arguing that the expert or formal authority style worked less well in the 1:1 environment. Styles such as facilitator and delegator were found to be more effective. The 1:1 model on which this study is based represents an early, successful, and student- focused teaching online strategy (Bloomberg, 2014; Bloomberg & Grantham, 2018; Bloomberg; 2020).

STUDY MODEL

The 1:1 teaching modality described here was adopted in the late 1990s at a private institution providing accessible and flexible education tailored to working professionals, particularly at the graduate level, Northcentral University. Several years ago, Northcentral University merged with National University, an open-admissions institution with a well-aligned mission, serving non-traditional and military students. National University offers academic programming via several models, including the 1:1 model investigated in this research. The 1:1 model is characterized by four main parameters:
1. Student-led starts
2. Individual interactions
3. Feedback
4. Guidance

Courses taught through the 1:1 model start each week, to align with student needs and preferences. This approach emphasizes flexibility, allowing students to progress at their own pace while still receiving the attention and guidance typically found in a traditional classroom setting. The model particularly accommodates working professionals and non-traditional learners balancing education with other responsibilities.

Regarding individual interactions, the 1:1 model described involves pairing each student with a faculty member for each course. Although faculty have multiple students, each appears in their own shell and students do not see one another. Students and instructors interact through the online platform, with no fixed class times. This setup allows students to engage with coursework and receive feedback on their schedule while maintaining regular, meaningful interactions with their instructor.

Faculty are required to provide personalized feedback, an integral part of teaching. Hattie and Timperley (2007) define feedback as information provided to learners regarding their performance or understanding, aiming to reduce the gap between current knowledge and goals. Feedback should be positive, actionable, and clear, advocating for a balanced approach that highlights strengths and improvement areas. Effective feedback informs students about their strengths, identifies areas for improvement, and provides actionable steps to enhance future performance. It also promotes self-directed learning and transformation. Schute (2007) highlights the role of formative feedback in modifying learners' behavior or thinking to enhance learning. Similarly, Wiggins (2012) differentiates between feedback and evaluation, critiquing feedback that merely praises or critiques without providing actionable insights. Effective feedback is specific and directly tied to student work, focusing on strengths, areas for improvement, and steps to enhance future performance.

In terms of guidance, faculty in the 1:1 teaching model guide students through challenges that are unique to their academic journeys, such as dissertation research or professional skill development. Faculty members act as mentors, providing individualized guidance, support, and feedback tailored to the needs and goals of students. The research presented here focuses on faculty perceptions of key parameters of the 1:1 model.

METHOD

A focus group was conducted to assess perceptions regarding the 1:1 model among faculty. The group convened for one sixty- minute session, which was conducted via Zoom.

Participants

Nine participants attended, including the two facilitators, who also used the 1:1 model in their regular work. Participants all held terminal degrees and have had experience teaching in both the traditional setting as well as with the 1:1 model at National University. The group of faculty represented four schools and eight programs.

Measures

Four questions were provided to participants:
1. What do you perceive as benefits to the 1:1 model?
2. What do you perceive as challenges to the 1:1 model?
3. What kinds of students respond particularly well to this form of instruction?
4. What faculty skills are needed to excel in the 1:1 model?

RESULTS

A thematic analysis was conducted for each question, resulting in a total of fourteen themes.

Category 1: Benefits
- Theme 1: Personalization
- Theme 2: Flexibility
- Theme 3: Awareness

First, in terms of benefits of the 1:1 model, three themes emerged. The first theme, personalization, referred to the ability of faculty to tailor the course, including their style, to meet the needs of individual students. For example, some students prefer to meet online while others do not. The second theme,

flexibility, referred to the ability of students to start a course any week they chose. This is extremely beneficial, particularly for students with other responsibilities, such as Military students. The third theme in this category, awareness, refers both to the ability of faculty to get to know individual students and to the ease with which faculty are able to observe student progress throughout courses, thereby providing cohesion, the latter of which often produces a rewarding feeling. Observing progress can help to counteract potential stress which may be associated with some of the challenges involved in this model.

Category 2: Challenges
- Theme 4: Course Content Ownership
- Theme 5: Unrealistic Student Expectations
- Theme 6: Isolation Potential

Next, analysis of the challenges category revealed three themes. The first theme in this category, course content ownership, refers to student perception regarding faculty creation of content. In some cases, the faculty member teaching an online course was indeed the developer of the content. In many other cases, however, an entirely different person served as the subject matter expert and the faculty member is not permitted to change anything in the course. Students who perceive that faculty own the courses they teach tend to experience elevated levels of frustration in situations where course content is, for whatever reason, not easy to access or presented in a way that is perceived as unclear. Student reactions to faculty teaching in the 1:1 model in these situations tend to be more pronounced, as there is no one else in the virtual course room. A similar theme, unrealistic student expectations, seemed most relevant to dissertation courses, where institution-mandated policies and regulations tied the hands of the faculty, leaving them to bear the wrath of students whose experiences did not align with their expectations. Finally, the 1:1 model has the potential to lead to feelings of isolation. Many of the student characteristics described in the next category have the potential to guard against isolation, such as motivation.

Category Three: Student Characteristics
- Theme 7: Motivation
- Theme 8: Self-directed Learners
- Theme 9: Low Need for Social Comparison
- Theme 10: Technology Proficiency

The third category, student characteristics, revealed four themes. Theme one focused on motivation. Faculty reported that motivation was a necessary prerequisite for student success in the 1:1 model. The second theme, self-directed learners, was similar but distinct. In addition to exhibiting motivation, students working effectively in this model need to demonstrate self-direction, as they are not exposed to other students and can therefore follow only themselves - with direction from their faculty members. The next theme, a low need for social comparison, reflects the tendency of some students to gain motivation through the comparison of self and other. For students who achieve a sense of satisfaction by performing well compared to their perceptions of peers, the 1:1 model is not likely to be effective. The final theme in this category, technology proficiency, was thought to be an important aspect of success in this model due to the student-led nature of the work. Students who were able to address technology with little need for support tended to progress more easily through the deadlines in the structure of the 1:1 model. Faculty skills can help to develop the student characteristics that are necessary for success in the 1:1 model.

Category Four: Faculty Skills
- Theme 11: Personalized Feedback
- Theme 12: Organization
- Theme 13: Vulnerability/Human Touch
- Theme 14: Comfort Sharing

The final category, faculty skills, was best identified by four themes. The first theme, personalized skills, and feedback, referred to the need for faculty to be capable of providing detailed feedback that

aligned with unique student characteristics. Theme 2, organizational skills, related to this theme, in that organizational skills allow faculty to provide personalized feedback to students without falling behind. Additionally, this theme allows faculty to connect their feedback from week to week, thereby providing cohesion for their students. Theme three, vulnerability and the human touch, refer to faculty members ability to connect with students through a lens of humility. The final theme in this category, comfort sharing personal experience, though similar, was separated due to its unique focus on self-awareness and reflective openness. Faculty reflected on the power of sharing personal experiences as a way to normalize fears and struggles for students, which led to an increase in confidence on the part of students.

FUTURE DIRECTIONS

The 1:1 teaching modality is a personalized and flexible approach to education. Future research directions include exploring ways to optimize the effectiveness, scalability, and inclusivity of the 1:1 model. One potential avenue involves measuring the effectiveness of this model from the student perspective. Studies could also assess its impact on student success metrics, such as retention rates, graduation rates, and post-graduation employment. Comparative analyses could identify the unique benefits and challenges of 1:1 teaching compared to other instructional models, such as cohort-based or group learning. Additionally, research could examine how this model influences student engagement, satisfaction, and perceptions of academic support.

Another important focus is scalability and accessibility. For instance, exploring cost-effective strategies for scaling the 1:1 model while maintaining its personalized nature could help inform potential expansion recommendations. Future efforts could also explore how the 1:1 model can address the needs of diverse learners, including individuals with disabilities, non-native speakers, and underrepresented groups. Furthermore, global applications of the model can be examined to determine how it can be adapted for various cultural, economic, and educational contexts worldwide.

Technological integration is another promising area for future research. Artificial intelligence (AI) and machine learning tools could be leveraged to enhance the 1:1 model by providing tailored resources, feedback, and real-time support for students and faculty. Learning analytics could also be used to track student progress and predict outcomes, enabling more effective interventions and adjustments to teaching strategies.

Lastly, faculty development warrants attention. Investigating effective training methods for faculty in teaching in the 1:1 model could include coaching, feedback techniques, and technology integration. Research could also examine strategies for managing faculty workloads in this model without compromising the quality of personalized instruction. By exploring these areas, future research can contribute to refining the 1:1 teaching modality and ensuring its effectiveness and accessibility for a broader range of learners.

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