

THE BEST OF BOTH WORLDS: A PROPOSAL FOR HYBRID TEACHER EDUCATION

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ABSTRACT. Recent advances in technology have created a surge in online educational opportunities, increasing accessibility to education. However, online learning suffers from criticism that these courses are substandard in comparison to traditional classes, despite research that suggests otherwise. We discuss our personal experiences with traditional and online education, highlighting their advantages and disadvantages. Guided by the Universal Design for Learning (UDL) framework, we propose the development of a hybrid teacher education program that utilizes the best facets of both traditional and online education.

LE MEILLEUR DES DEUX MONDES : UNE PROPOSITION POUR UNE FORMATION HYBRIDE DES ENSEIGNANTS

RÉSUMÉ. Les avancées récentes dans la technologie ont créé l'émergence d'opportunités d'éducation en ligne, augmentant ainsi l'accessibilité à l'éducation. Cependant, certains critiquent la qualité de ces cours offerts en ligne, qui seraient de moins grande qualité en comparaison aux cours traditionnels, malgré la littérature qui suggère autrement. Nous discutons au travers de cet article de nos expériences personnelles avec l'apprentissage traditionnelle et en ligne, en soulignant leurs avantages et inconvénients. Guidées par le cadre théorique de la Conception universelle de l'apprentissage (CUA), nous proposons le développement d'un programme hybride de formation des enseignants qui utilise les meilleurs éléments de l'éducation traditionnelle, et de celle en ligne.

With the advent of new technology, education is becoming increasingly more accessible. Internet-based learning, such as massive open online courses (MOOCs) and distance education programs, has hit the stage, providing many educational opportunities for learners. Online learning, however, continues to have critics, who posit that these courses are substandard and that students

suffer from the lack of interaction as compared to traditional classes (O'Neal, 2009; Zhao, 2003). Nevertheless, both types of learning environments have their benefits. In this Note from the Field, we utilize our personal teaching and learning experiences to inform our proposal for the development of an inclusive and accessible blended teacher education program guided by the Universal Design for Learning (UDL) framework. We begin with individual descriptions of our experiences in the traditional classroom and digital classroom settings.

TEACHING IN THE TRADITIONAL CLASSROOM: AMANDA SAXE

My perspective on teacher education programs has been highly influenced by my experience working as a course lecturer for undergraduate education university classes. This experience allowed me not only to develop my teaching skills, but also gave me the opportunity to critically assess the current model of traditional teacher education programs.

The principal advantage of teaching in a typical classroom is the ability for the instructor and students to interact with each other face-to-face. I have been able to get to know my students personally and develop rapport, which made it more likely for them to feel comfortable coming to me with questions or concerns. Furthermore, the traditional classroom allowed for my students to create a sense of community due to their shared experiences in the classroom. For example, if someone told a joke, the classroom shared the experience of having a laugh.

The traditional classroom setting also allowed for me to incorporate a lot of collaborative work into my classes. Collaborations encouraged students to be actively engaged with the material and responsible for their own learning. The traditional classroom setting is ideal for collaborative work as students interact with their peers in real time. I utilized informal cooperative groups during classes in order to give students the opportunity to actively process the information rather than simply listening to it passively (Johnson & Johnson, 2002). Such cooperative group activities typically involved applying course content to authentic scenarios; for example, filling out a backwards-design template in accordance to a particular unit topic that the students may teach in the future. This collaborative work is particularly important for pre-service teachers, as teamwork is an imperative aspect of teaching, no matter the subject or grade level. Teachers must be able to work with other teachers and school personnel, as well as be comfortable collaborating with the families of their students.

Another important benefit of teaching in a traditional classroom is the ability to deal with concerns or questions synchronously. When giving a lecture, I often stopped and briefly asked the class if they understood the material. The ability to do this in real time allowed for immediate clarifications and/or error corrections, which is extremely important. The sooner one corrects errors in understanding, the more likely this misunderstanding will not be committed

to memory (Jenson, 2005). It was also much easier as an instructor to answer questions in person rather than having every student who had a question email me directly or post their question on a message board. Furthermore, it is likely that many students benefitted when a classmate asked a question, since some students may have been too shy to ask for clarifications.

On the other hand, being in a traditional classroom environment may have been somewhat limiting for some students. Whole-class question and answer periods typically involved the same students, as much of the class was uncomfortable expressing themselves in front of such a large group of peers. It seems that the fear of being wrong in front of their classmates caused many students to avoid answering questions for which they likely knew the answers. The possibility of negative judgment from peers is certainly a caveat of teaching in a typical classroom setting.

Students were also limited to the amount of time they had to complete activities and assignments in my traditional classroom. In addition to cooperative groups, my students completed many individual tasks throughout my classes, such as reflections, handouts, and peer evaluations. While these tasks, like cooperative groups, allowed for students to actively process the material we covered, they also may have been restrictive. Because of time constraints, students were expected to complete these tasks in approximately the same amount of time. A diverse classroom is filled with students who perceive and process information at different rates, therefore some students likely felt at a disadvantage due to the lack of flexible timing.

LEARNING IN THE DIGITAL CLASSROOM: HAYLEY VININSKY

It was a bit of a shock when I began my doctorate at McGill a few years ago. Walking through the halls and sitting in a classroom felt strange after two years in a purely online Master's program. As I moved through the semester, I continued to feel a stark difference between the two learning environments, with a strong preference for eLearning emerging. Online education had many advantages that I missed in the brick and mortar of McGill.

Weekly course lectures felt meagre in comparison to the almost daily engagement with the material to which I had become accustomed. This is consistent with results found by Robinson and Hullinger (2008), in which online students reported higher levels of engagement than their traditional learning counterparts as well as a more enriching educational experience with greater levels of active and collaborative learning. eLearning also provides opportunities for students to learn at their own pace, at whichever time best suits their learning needs. This self-guided and self-managed approach builds independent learners with insight regarding their strengths and challenges (Dykman & Davis, 2008).

Online discussion boards were an oft-used tool in my Master's studies' eLearning courses. With this asynchronous method, the pressure from having to answer questions on the spot was removed. In my courses, part of the grade depended on contributing an original post to the topic, as well as responding to the posts of two classmates. The course organization allowed for additional time to formulate coherent responses, and for all students to contribute to the discussion.

Throughout my Master's, topics were covered for one week at a time and contained various assignments including discussion boards, quizzes, and short papers. The use of multiple assignments offered constant progress monitoring. The frequent assessment of knowledge afforded students opportunities to seek guidance from the professor in a timely manner. Guidance was readily available due to the smaller class sizes in my program, with 15 or so students registered in each course section. The small class sizes allowed for more individualized attention from the professor, who responded to each students' discussion board post on a weekly basis, and was accessible by email or Skype. Research suggests that small class sizes are associated with improved outcomes for students; for example, Kokkelenberg, Dillon, and Christy (2008) found that smaller class size was positively linked with the students' grades in the particular course. In addition, having fewer students allows the professor to more easily personalize learning as more time can be devoted to each individual.

One of the main advantages I found with my distance Master's program was the flexible schedule that allowed students to continue working while in school. My specific area of study, Applied Behaviour Analysis and Autism, required students to accumulate fieldwork hours towards certification, and included practicum courses. These courses afforded me opportunities to put theory into practice, as well as added a hands-on dimension to my learning. Specifically, students' work experiences were discussed in the course, and professors and peers offered suggestions for maximizing training opportunities. As the program was online, students telecommuted from all over Canada and the United States, and others from abroad. This diverse pool of students worked in a variety of settings with different populations (e.g., young children and adolescents with autism, adults with traumatic brain injury), which afforded the students a greater understanding of the application of applied behaviour analysis in different settings across the world.

Throughout my courses, various means of learning and teaching were available. Research has suggested that the use of multimedia in teaching offers a natural approach to communicating information that can support diverse learners (Castle & McGuire, 2010; Dykman & Davis, 2008). Many of my professors posted recorded lectures with slides, as well as a transcript of the lecture for those students who preferred one method to the other. Assorted types of assignments, such as the discussion boards, quizzes, and short papers, gave students

different ways to interact with the material and utilize their knowledge. There was a high degree of control over the learning environment, with students able to choose how often, at what time of day, and for how long they wanted to interact with the various facets of the course. Students were also able to alter the content based on one's needs and learning preferences in terms of size of the written documents and speed of the lectures. In some courses, it was possible to complete assignments in advance if one desired to do so.

The purely online program suffered from several limiting circumstances, however. Firstly, there was no face-to-face contact with other students and the professor. This difficulty had several impacts on learning. As contact is generally asynchronous, discussions were stilted without the usual flow of a back-and-forth exchange. Collaborative work could be challenging, as students were likely to live far from one another. Though technological advances such as Skype provided a means for synchronous interaction, I found that it did not replace in-person collaboration.

As class interaction was restricted to the discussion boards, there were few opportunities for shared experiences, with associated struggles in building a sense of community. It is important to note, though, that there was a large emphasis placed on organizing social events at conferences, during which, in my experience, students and professors often quickly developed a bond. However, these bonds were limited to the few who attended the conference and did not translate to all classmates. Networking with peers and professors was therefore difficult.

THE CASE FOR HYBRID CLASSROOMS

Based on our personal experiences, we concur with the literature advocating for hybrid or blended education, which is described as “the convergence of traditional face-to-face meetings with online instructional methods to provide course content” (Dukes & Koorland, 2009, pp. 40-41). This type of instruction profits from the benefits of both traditional and online learning and reduces barriers faced in either environment. Courses that include both online components and face-to-face meetings are shown to be highly rated by students (Castle & McGuire (2010). Furthermore, students have demonstrated higher class satisfaction scores in blended versus traditional classrooms (Melton, Bland, & Chopak-Foss, 2009). However, simply including both elements does not necessarily create a successful learning environment. The incorporation of a Universal Design for Learning (UDL) perspective can guide course design in using both approaches to their fullest extents in order to create increasingly effective and accessible teacher education programs.

The UDL framework includes the following three principles: (a) providing multiple means of representation; (b) providing multiple means of action and expression; and (c) providing multiple means of engagement (Center for

Applied Special Technology, 2011). This framework was developed in order to promote universal access to learning through the design and delivery of course content and seeks to reduce barriers so that all students, no matter their readiness level, learning style, or potential disability, have access to both the curriculum and course materials (Center for Applied Special Technology [CAST], 2011).

Principle 1: Provide multiple means of representation

The first principle of UDL refers to ways that educational content can be made more accessible by providing options for how the information is presented to the learner (CAST, 2011; Rose & Gravel, 2010). This involves giving choices for how information can be perceived (e.g., by visual or auditory means), providing options for how linguistic and symbolic information is presented, and providing many means for students to comprehend the material and determine the material for themselves (CAST, 2011; Rose & Gravel, 2010). Research shows that university students taking courses designed with UDL principles found course materials very accessible and felt that this design contributed to their overall success in the class (Kumar & Wideman, 2014).

In a hybrid classroom, technology is infused within every pedagogical decision. Having readings and assignments in digital format makes this information user-friendly (CAST, 2011). The student can alter the text so that it is as readable as possible; font size, colour, and style, as well as the contrast between the background and text can be manipulated. Having course material in digital format allows for the use of text-to-speech by those students who prefer or need auditory, rather than visual, input and allows for access to self-selected materials.

A blended classroom could offer lecture recordings on the learning management system (LMS), which affords students the opportunity to listen to the auditory information at their preferred speed. Note-taking is made more accessible as students can pause and re-listen when necessary. On the other hand, students who prefer visual to auditory information can benefit from closed-captioning on lecture recordings, as well as transcriptions of lectures (CAST, 2011). Unknown vocabulary can immediately be researched within the web browser, and the use of embedded hyperlinks (CAST, 2011) can teach new terminology to students experiencing language barriers, as well as provide opportunities to build background knowledge by linking to definitions. The hybrid classroom could benefit from having a digital glossary, where important terms are listed and defined in one document.

Principle 2: Provide multiple means of action and expression

The second UDL principle defines how one can provide multiple ways of allowing students to physically interact with material, as well as options for expressing one's understanding of the material (CAST, 2011; Rose & Gavel, 2010). In the hybrid classroom, physical navigation can be made more acces-

sible for students with fine motor difficulties, since note-taking can be done at their own speed when listening to lecture recordings. Furthermore, assistive technology can be used for the online portion of the course, where students can utilize speech-to-text applications, alternative keyboards, and other accessible materials (CAST, 2011).

Options for expression and communication are inherent in the hybrid classroom (Morra & Reynolds, 2010). Students can use online discussion boards or discuss topics in class, complete online quizzes, hand in paper assignments, and create digital or hard copy projects to express their knowledge. Oral presentations can be conducted either in person in class, or through recordings accompanying PowerPoint slides. Scaffolding of performance expectations can be easily modified in the hybrid classroom to suit the needs of the students. For example, feedback can be given in-person in the class, individually with the professor during office hours, with the TA during discussion sections, or through tracked changes should material be submitted online.

The blended classroom also provides many options for executive functions. The syllabus can be made available in hard copy to be handed out in class, as well as in soft copy on the online platform. The web-based platform can have topics organized by week or topic in order to facilitate organizational skills among students and guided lecture notes can be provided online before class in order to prime content, support note-taking, and facilitate review. Finally, an online calendar as well as in-class reminders can be used to help students remember important due dates, and allow them to import online calendar events to their own personal calendars.

Principle 3: Provide multiple means of engagement

The third principle of UDL specifies the importance of providing multiple ways for students to engage with course material (CAST, 2011; Rose & Gravel, 2010). This includes providing choice, increasing relevance, and reducing stress; making goals evident, altering the level of challenge, and giving feedback; and scaffolding student goal-setting, promoting coping skills, and using self-assessment strategies (CAST, 2011; Rose & Gravel, 2010).

The blended classroom offers several means for minimizing student stress. Having a traditional classroom setting allows students to foster a sense of community and collaboration. A positive classroom climate can be developed, where students feel supported by one another. Activities that would facilitate such collaboration might include Think-Pair-Shares, small- or whole-group discussions, and games. As some students find public speaking stressful, the opportunity to participate in an online forum offers a more supportive and less anxiety-provoking environment while facilitating student choice, as students have the option of participating in the former and/or the latter.

The sustainment of effort and scaffolding of self-regulation can be emphasized in the hybrid classroom in several ways. Feedback can be provided to students in multiple methods: through teacher check-ins, peer activities and evaluations, multiple choice quizzes on the LMS, and self-assessments. These evaluations can be used as formative assessments rather than for the purpose of assigning grades, which would enhance mastery goals (CAST, 2011) among students. It would also be beneficial for professors to provide self-evaluation questionnaires to students so that they can identify their strongest multiple intelligences and learning styles in order to guide their own learning.

UTILIZING THE HYBRID CLASSROOM IN TEACHER EDUCATION PROGRAMS

A hybrid program that incorporates the UDL framework is the ideal format for teacher education programs. Not only would this environment provide the previously mentioned benefits of allowing education students multiple ways of perceiving, accessing, and engaging with course material, but it would expose education students to a classroom model and strategies that they can utilize in their future profession. In the past decade, there has been an exponential increase of technology use in elementary and high schools, such as the incorporation of computers, mobile devices, and Smart Boards (Cheung & Slavin, 2011). While the specific computer programs or applications that are used at the elementary / high school level may be different from the LMS used in post-secondary institutions, the types of tasks that can be performed are similar. For example, university LMS allow professors to create online quizzes for their students. Similar software has been created for children, including ClassCraft, a program in which students collaboratively embark on quests based on quizzes from teacher-added content. Other programs that provide accessible learning experiences include online programs such as Starfall for reading and IXL Math, which can be incorporated into the in-class curriculum and homework assignments, just as LMS is utilized in hybrid university courses.

Teachers need to be critical of new software or applications, ensuring that they fulfill students' learning needs, as opposed to simply adding technology for the sake of appearing innovative. While encouraging pre-service teachers to be open-minded and creative with regard to incorporating new technologies into the classroom, teacher training programs must also instruct pre-service teachers how to assess these new technologies, specifically in terms of their efficiency and related improvements in learning practices (Kirkwood & Price, 2014). These considerations are critical in determining whether or not incorporating new technologies into the classroom will be beneficial for students (Kirkwood & Price, 2014). By training pre-service teachers in a hybrid classroom, they will gain a greater understanding of how to effectively use technology to support students' diverse needs and preferences. Just as utilizing technology in the classroom will be beneficial for pre-service teachers, further benefits are then extended to their future students.

All students differ with regard to their learning styles and interests, as well as their prior knowledge of the course content. Beyond that, many students in today's classroom are present with learning disabilities, attention difficulties, and other diverse strengths and needs. Applying UDL in these classrooms will allow for more of these students to have access to the curriculum and course materials, thereby reducing the barriers that they experience. Because pre-service teachers in these potential hybrid education courses would constantly be exposed to UDL resources and strategies, this might make them increasingly comfortable and effective when incorporating these strategies into their future classrooms.

In conclusion, we feel that the most accessible and inclusive teacher education programs should feature hybrid classrooms. This classroom model would benefit from both traditional and eLearning advantages, and would be an ideal setting for the application of UDL. Teachers could then bring these evidence-based strategies and resources to their future elementary and high school classrooms, thus perpetuating this inclusive model for future generations.

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