Strategies for Designing Inclusive Online Learning Environment

Kizito Mukuni (Virginia Tech)  
kizito1@vt.edu

Jeeyoung Chun (University of Kentucky)  
jeeyoungchun@uky.edu

Victoria Mukuni (Virginia Tech)  
vicky95@vt.edu

Maha Alfeleh (Northern Border University)  
maha.alfaleh@nbu.edu.sa

Douglas Asante (Virginia Tech)  
douglasa@vt.edu

Abstract

There are various aspects of the course that an instructional designer, online educator, and teaching assistant can improve in order to make an online course more inclusive. This article provides recommended strategies for creating inclusive online learning environments. We focus on three aspects of an online course, namely, the classroom climate, assessment strategies, and pedagogical approaches. Our findings indicate that incorporating various strategies could help break down barriers to learning in online learning environments.

Keywords: Diversity, Equity & Access, Instructional Design

Introduction

There are many benefits of designing inclusive online courses. One of the most important benefits is that inclusive courses reduce barriers and create learning opportunities for all students. According to Florian (2015), "inclusive pedagogy is an alternative pedagogical approach that has the potential to reduce educational inequality by enhancing learning opportunities for everyone" (p.6). It is also of added value to consider inclusive design as a requirement by law for the protection of the rights and privileges of learners with disability (IAAP, 2022). Upholding the civil rights of people (learners) with a disability as provided in laws affords learners with a disability and nonnative learners alike the opportunity to engage in an equitable learning environment. Laws like the Americans with Disability Act (ADA) adopted in 1990, the Equality Act of 2010 of the United Kingdom, Ontarians with Disabilities Act of 2001 ensure that the rights and privileges of the disabled are protected to discourage discrimination among learners in higher education. Instructional designers and online educators, including teaching assistants need to consider practical ways that they are able to not only design and develop the online content and courses feasibly and accessible but also understand how they are able to apply inclusive pedagogy approach, online course design principles, and inclusive online teaching tactics to design and develop inclusive online learning environments for all learners (Lowenthal et al., 2020). We present various recommendations for designing inclusive online learning
environments under three categories namely strategies for creating an inclusive classroom climate, strategies for assessing learners, and inclusive pedagogical strategies.

**Inclusive Learning**

According to Milani and Rostami (2014), there are two types of definitions of inclusive learning: the narrow approach and the broader approach. In the narrow approach, inclusive learning means that learners with developmental problems are in the regular education system (Milani & Rostami, 2014). Inclusive education is when all learners including students with special needs participate in an equal learning environment or classes for educational purposes (Peranginangin & Husein, 2021). Inclusive learning was adopted from the importance of the Universal Declaration of Human Rights (United Nations, 1948) and The Convention on the Rights of the Child (United Nations, 1989) which emphasized that all people regardless of disabilities have the human right to have the same educational opportunities (Peranginangin & Husein, 2021).

In the broader approach, inclusive learning is a kind of educational philosophy adapted to the needs of people who learn regardless of their age, culture, gender, language, ethnicity, disability, and so on (Milani & Rostami, 2014). The purpose of inclusive education is that all people can participate in learning activities without any restrictions, make contributions through numerous methods, and be esteemed and appreciated as equal participants in educational institutions (Milani & Rostami, 2014). Therefore, inclusive learning reflects all possible human experiences as well as concentrates on the learners’ needs to provide better learning opportunities for all people who want to learn (Phillips & Colton, 2021).

As the definition of inclusive learning has changed from the narrow view to the broader view, the education system needs to adopt this change. For example, instructors or trainers in classes need to provide all learners with significant engagement that the learning environment is helpful for all students regardless of their backgrounds or disabilities (Peranginangin & Husein, 2021). In particular, in an online learning environment, instructors or instructional designers should acknowledge inclusive learning design principles that reflect the crucial factors of accessibility and investigate ways in advance to deliver user-friendly learning opportunities for all learners so that learners engage in a class and actively participate in learning activities (Phillips & Colton, 2021).

**Review of Inclusive Online Learning Strategies**

Trapp et al. (2022) suggested essential nine principles for designing an inclusive online learning curriculum: (1) building on learners’ talents and skills, (2) investigating, confirming, and accepting learners’ diverse identities and voices, (3) respecting each learner’s own experience, (4) allowing positive agents of social change, (5) confirming various ways of expression, (6) suggest valuable feedback for learners’ development, (7) investigating course ideas based on historically marginalized learners or groups, (8) confirming online course designs are not systemically prejudiced, (9) allowing suitable replies or feedback to recognize inequities. They also suggested strategies that support this principle to provide guidance for designing inclusive online learning.
Frechette, Gunawardena, and Layne (2016) presented the instructional design model for designing culturally inclusive online courses that elucidate all learners’ various cultural experiences. This model included six steps: (1) identify a problem, related case study, or inquiry, (2) investigate the problem and suggest individual understandings, (3) search for related information or materials to contrast, question, and conclude contending viewpoints, (4) consider how the explored topic has reorganized thoughts, both independently and cooperatively, (5) conclude the consequences of previous steps to suggest united resolutions in a group, (6) save new perceptions learners created for other learners. This model particularly focused on designing group activities with diverse peers in an online learning environment.

Lowenthal et al. (2020) also suggested several strategies for online educators and trainers to assist all learners. The aims of these strategies are to create a usable, accessible, and inclusive online learning environment for all learners. They argued that for inclusive online learning experiences, three areas should be considered: “accessible and usable course and content, accessible and inclusive pedagogy and course design, and accessible and inclusive teaching (Lowenthal et al., 2020, p. 7-8)”. Considering accessibility and usability, web spaces for learning need to be made accessible. Web accessibility, according to IAAP (2020), is “the ability of a website or application to be easily navigated and understood by a wide range of people, including those who have disabilities” (p. 64). This implies that web resources and environments like websites and all technologies that support learning need to be designed to allow user privileges for all learners including learners with disabilities (IAAP, 2020).

For online content or courses, audio materials including sight, and visual materials including sound and clicking are needed. For course design, there were various strategies such as (1) various ways of engagement, illustration, and evaluation, (2) unambiguous assignments, (3) reliable and user-friendly course design, and so on. Accessible and inclusive online teaching could be provided through consistent and impartial communications, appropriate feedback, knowing learners, observing learner growth, synchronous feedback, and so on.

Rao (2021) also presented an outline for inclusive online learning based on Universal Design for Learning (UDL). According to Rao (2021) and Meyer, Rose, and Gordon, (2014), UDL is a framework to proactively incorporate inclusive learning tactics that can facilitate learning activities for all learners in an online learning environment. The UDL design process for inclusive online learning consists of six steps: (1) reflect learner variableness, (2) find obvious learning objectives, (3) develop evaluations, (4) design flexible learning methods and related resources, (5) provide UDL-based learning, (6) review and modify. Through this design process, instructors can overcome hardships to design inclusive online courses and proactively provide learners with appropriate assistance.

These existing strategies are useful to design inclusive online learning. However, these strategies usually focused on accessible online learning or culturally inclusive online learning. In addition, other principles do not contain design principles for the whole learning process (e.g. learning objectives and assessments). Therefore, more comprehensive strategies are needed to design inclusive online learning for all learners regardless of their backgrounds. In the following section, we propose various strategies for designing inclusive learning environments.
Proposed Strategies for Designing Inclusive Online Learning Environments

Inclusive Classroom Climate

According to Freeman et al. (2007), a welcoming and positive online classroom climate is an important factor in an effective and inclusive online learning setting. This online classroom climate helps students feel comfortable, respected, and esteemed and encourages them to establish a social presence which impacts their self-efficacy, sense of competence, and worth for the learning activities (Zumbrunn et al., 2014; Dewsbury & Brame, 2019). Therefore, an important step in aiming for an inclusive online classroom climate is to create a positive and welcoming learning environment and establish a social presence by ensuring that the classroom environment is welcoming and committed to equality (Smith, 2020). The course designer/instructor could make an effort to ensure that injustices that students may feel are addressed and that students perceive a sense of fairness.

To foster an inclusive classroom climate, it is essential to let students know that they matter. This could be accomplished through attention (a sense that you notice a student's presence or absence) and an appreciation of their efforts (Smith, 2020). An appreciation of their effort could be shown in the feedback provided to them at various stages of the learning process. We recommend that course designers and instructors should strive to create an online learning environment where all students feel welcome. For asynchronous online courses, we recommend creating a warm welcome video that can be located on the course welcome/landing page. The course welcome or landing page is essential as it is the first item students will see and this will impact their impression of the course. Text used in the course landing or welcome page should also be welcoming to all learners which should set the tone for the rest of the course.

Similarly, the syllabus is another important document that should be reviewed to ensure that it presents accurate information on how the course is designed to be inclusive. Student impressions of a course may be formed from reading the syllabus. The following are tips on how you could use your syllabus to create an inclusive and welcoming learning environment. The tone in your syllabus should be both welcoming and supportive. It should also 'encourage growth, cultivate hope, establish expectations for success, and recognize the array of experiences and knowledge students bring to the class as a value that enriches learning' (Pacansky-Brock et al., 2019, p. 11-12). Use inclusive language in the syllabus and include a diversity statement. We recommend including land and territory acknowledgment in your syllabus. Include a statement encouraging students to respect diversity. We also recommend clearly explaining what students can do to succeed in the course and providing information about how students can get help. If possible, avoid using jargon in the syllabus.

We recommend having a pre-survey or a short meeting with questions on students’ backgrounds, strengths as well as difficulties to establish their social presence and assist online educators to understand the various types of students in their online courses (Lowenthal et al., 2020). Online courses should have opportunities for students to share about themselves. To accomplish this, we recommend cultivating a sense of belonging by creating opportunities for meaningful interactions (student-student and instructor-student). These may include discussions, group projects, and other collaborative activities.
Inclusive Assessment Strategies

There are various strategies for designing inclusive assessments. According to Kaur et al, (2017), “Assessment in diverse settings requires careful examination of practices to ensure provision of equal and fair opportunity for all individuals, irrespective of their backgrounds” (p.157). It is essential to design inclusive assessment methods because a one size fits all approach may disadvantage some students. The following are recommendations for designing inclusive and equitable assessments. When designing assessments for your online courses, consider providing clear, step-by-step instructions. Avoid assuming all your learners comprehend the assignment/task/instructions. One good practice is to request colleagues or a few students to review your assignments/tasks/instructions and provide feedback on the clarity. Another good practice is to provide examples and non-examples for your assessments. For example, if you want your students to write an essay, provide examples from previous classes (with permission from the authors) showing what a good essay will look like. You could also come up with a non-example to show students how they should not respond to the prompt. We also recommend including rubrics for all assessments. Rubrics should, however, be clearly explained to the students to maximize their usefulness (De Silva, 2014). Rubrics are beneficial to learners because they help clarify expectations, assist students in understanding the goals of the assessment and also assist instructors to provide more informative feedback to the students (Andrade, 2005).

We recommend using more formative assessment methods as they allow for adjustments to the teaching and assessment methods based on the data collected. Providing students with opportunities to revise their work could help facilitate the learning process as well. When assessing students, there is a possibility that our biases could influence how we grade them. As a result, we recommend that instructors/course graders could use blind grading if possible. Course graders/instructors could also request colleagues/other members of their team to review assessments to look for evidence of bias. It is a good practice to provide students with multiple options to demonstrate their skills or knowledge. We recommend using alternative assessment methods to assess the students instead of using high-stakes assessment methods. This is because conventional assessment methods may not be equitable in certain situations considering the diversity of the student population.

Inclusive Pedagogical Approaches

Inclusive pedagogy is “a pedagogical approach that responds to learner diversity in ways that avoid the marginalization of some learners in the community of the classroom” (Spratt, & Florian, 2015, p. 89). Thus, inclusive pedagogy approaches should be considered in an online learning environment because it focuses on students and instructors creating an engaging learning environment for all the students with varied backgrounds, learning preferences, and physical and cognitive abilities in the classroom. We encourage course developers/instructors to conduct a deep cultural analysis of the content and accompanying learning materials in order to make improvements.

When curating content, be sure to include content from a diverse perspective. This could be accomplished through the use of guest speakers or articles from experts with diverse backgrounds. Within the class, strive to create a class environment where students from diverse
backgrounds can share their perspectives. However, avoid tokenizing students or representations as this may have unintended consequences and may hinder learning instead of supporting it.

Recognizing the diverse situations under which your learners maybe it can help you plan and use strategies that will benefit your learners. For example, incorporate strategies that will assist learners to acquire the knowledge and skills needed. This could include using captions or transcripts for your audio/video content so that learners with disabilities or learners whose language is not the first language used in the video/audio can understand.

Incorporating various strategies for engaging learners can have a positive impact on their learning. For example, instead of using a discussion board, consider using audio/video discussion tools such as Voicethread. We also recommend using affordable tools and resources as using expensive tools or resources may present barriers to students who may not have the financial means to access the tools or resources. Instead of using expensive textbooks, consider adopting Open Educational Resources (OER) in your course. Instruction/lessons should be designed to accommodate a wide range of abilities and physical or online learning environment design should accommodate differences in the learner's physical, communication, and intellectual needs (Zaloudek et al., 2018). To promote equitable use, all students should be provided with the same means of use (identical when possible and equivalent when not). Variate assessment methods. Present various/multiple opportunities for students to demonstrate their understanding. Ensure that there are various pathways for students’ achievement.

Inclusive pedagogy also entails making the learning process more meaningful to the learner. This can include using pedagogical approaches that recognize the agency of learners, meaning that the responsibility of learning is shared between the teacher and the learner (Florian, 2010). Recognition of learner agency further enhances learning outcomes and increases confidence and interest in the learner, and their willingness to learn. This can be achieved through the involvement of the learner in designing activities, and or choosing materials for learning (Luo et al., 2019). Welcoming student voices in the classroom can begin even before the start of the course through the use of pre-assessment/pre-survey strategies, as discussed above, that seeks to understand who your students are, the purpose of the course, and what the level of interest is in that particular course. We recommend, when possible, using surveys before the start of the course that asks basic, demographic questions like who the students are, and why they may be enrolled in your course. This helps you as the teacher to prepare material that is both relevant and meaningful to the student. In this way, student agency can be seen as a means of including student voices in the preparation of course materials, and assessment methods.

Conclusion

There is more than one strategy to provide students with inclusive online learning. This paper focuses on three types of strategies which are Inclusive Pedagogical Approaches, Inclusive Assessment Strategies, and Inclusive Classroom Climates that could provide students with a more inclusive online learning environment so that they could feel a sense of belonging regardless of their background. In addition, these strategies provide helpful guidance for online educators and instructional designers to understand how to create an inclusive online learning environment. With instruction moving towards online learning, the strategies recommended in this paper can help foster a rich and meaningful learning environment. This makes it even more
important to establish a social presence and an inclusive learning environment that is cognizant of students’ diverse backgrounds.

What strategies we will use, how they will work and why they should work are important questions that we must focus on as a way to ensure the students' engagement in online learning. Also, instructors can rely on principles of inclusive teaching to design inclusive learning, recognize diversity, and ensure that students can access courses, and feel a sense of belonging. In future research, we will design and develop an online class based on these strategies and investigate the effects on learners’ motivation, social presence, and learning outcomes.

References:


Frechette, C., Gunawardena, C. N., & Layne, L. (2016). How to design culturally inclusive online learning experiences. Journal of Distance Education in China, 12, 5.


