

Accessibility of post-pandemic hybrid TLAs at LTH: What could be done?

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Abstract—The COVID-19 pandemic has created disruptions on higher education, with an abrupt shift to teaching from offline to online settings. In the transition to post-pandemic times, uncertainties remain about what will come next. This paper aims to foment the discussion about how hybrid teaching and learning activities (TLAs) can be implemented with consideration of accessibility. In this paper, we refer to urban legends as lenses to help us understand teaching and learning when using digital technologies. We also build on empirical inputs from a peer-teaching session with teachers at the course Developing and Leading Courses at LTH (Spring 2021) on their experiences of teaching during the pandemic as well as the advantages and disadvantages of online and offline TLAs. For instance, increased flexibility brought by online classrooms, opposed to the drawback of reduced interpersonal relationships and turned-off cameras.

Index Terms—Accessibility, Flexibility, Post-pandemic, Hybrid TLAs, Urban legends.

I. INTRODUCTION

IN the Spring term of 2020, the Covid pandemic started creating disruptions in teaching and learning. This meant the urgent need to move onsite teaching activities to online environments. Even though technology has been part of classrooms in universities for decades, the abruptness of the pandemic demanded a shift in which teachers and students had to rapidly adapt to teaching and learning through their screens, and the consequently changes in the communication dynamics between teacher-students and students-students. For many teachers, these adaptations were based on “learning by doing”, with trials and errors along the way. Accessibility in teaching has also gained more attention to reach all students and ensure equal access to teaching-learning materials.

As restrictions ease and teaching and learning activities (TLAs) moves back to classrooms at the university, we should consider the possibilities of continuing hybrid TLAs. To support a transition to the hybrid option, a key aspect for consideration is how to make TLAs accessible to learners with different abilities and learning styles.

II. URBAN LEGENDS IN LEARNING

The constant presence of devices and online content can easily give teachers the false idea that students can master

their learning with the online resources at hand. Kirschner and Merriënboer [1] have defined three urban legends in learning that can help demystify the use of technology by learners.

A. Learners as digital natives

The first urban legend refers to learners as *digital natives* [2] or *Homo Zappiens* [3]. It is grounded on the idea that children nowadays are born surrounded by technology, and thus are “highly information-competent digital natives” for whom multitasking between various technologies is a natural part of their lives. This has created the false idea of a generation of students that are also digital natives. The authors refute this idea by mentioning the superficiality that often permeates the learners’ use of technology, led by passive consumption of contents and the fluttering between fragmented pieces of information through hyperlinks.

B. Learners and their learning styles

The second urban legend sustains the belief that learners are aware and in control of their personal learning styles. This leads to what the authors named as the “typification of students into pigeonholes”, for instance, by clustering students as a group who learns best based on visual and verbal information. As commented by Kirschner and Merriënboer [1], learning styles are often based on self-assessment of the learner with a weak relationship between what people say about how they learn and how they actually learn”.

C. Learners as self-educators (on the internet)

The third urban legend refers to students as self-educators on the internet who are competent to select and order their learning contents. Searching on the web and learning from it requires complex abilities to distinguish what is useful or not in a myriad of information. A common problem for a student that emerges from this is to distinguish what they know from what they do not know.

III. DIFFERENCES BETWEEN ONLINE AND OFFLINE TLAS

When discussing the plan and execution of TLAs offline or online, there must be a realization that there are substantial differences in both settings. We analyze the main differences based on three core categories: (i) interaction between student-teacher or student-student; (ii) technological aspects; and (iii) the work environment.

The first category relates to how the change of meeting in person to meeting online impacts the TLAs. The transition to online TLAs reduces visual information the student gets from the teacher (e.g., body language and facial expression can become harder to interpret; voice and tone are limited by the microphone). Meanwhile, the teacher receives less

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feedback on how the students perceive what is discussed. Offline, this can be seen with a quick glance around the room, whether the students are curious, tired, or confused. This is harder if students do not use their web camera, and for large classes due to the limited screen space to see cameras. However, the online setting can also bring some potential advantages. One such is the ability to ask questions through the chat to the teacher. This makes the student “anonymous” against other students and therefore, can promote the student to dare asking questions which could be potentially seen as “not worthy” by their peers.

The interaction between the student-teacher and student-student also changes. Instead of taking time to ask the teacher questions, such as in breaks, it can perhaps be easier to just close down and leave the computer for a few minutes, which is also true for the teacher since the lecture towards a screen depletes energy faster. The interaction between students can change, since the opportunities of sitting together and discussing, or during lectures asking the neighbor about missing details will be reduced or lost, which should be especially true for new groups of students that have no previous relationship.

The second category relates to the tools used impacting on the TLAs. Tools maybe used prior to a fully online teaching (such as Powerpoint-presentations) might remain, but a fully online TLA puts more requirements on technology. For instance, teacher and students are limited by the quality of the computer, by having a web camera, audio system, and a stable internet connection.

The last category is work environment. During the pandemic, the work environment has moved to the home, thereby adding more responsibility on the student and teachers to have a suitable location to study/work where they could focus, with proper lighting, a good acoustical environment, ergonomic and technological equipment as previously mentioned.

The categories presented here lead to critical thoughts related to the urban legends in TLAs. First, can we assume that every person has all necessary equipment required for participating in online TLAs? Can we assume that younger generations are better suited for online teaching since they grew up with the technology? Are there teaching and learning methods that work for all? The answer to all these questions is no, since we cannot know beforehand the economic resources, the background, and the learning methods the students have. We do not know the students and their potential strengths and weaknesses.

It is paramount to acknowledge the differences that exist between online and offline settings when designing TLAs, to make them accessible and inclusive for learners with different abilities and learning styles.

IV. ACCESSIBILITY CHALLENGES

According to a survey conducted among students with disabilities in Ireland [4], about 25% of the respondents felt that they could cope with learning from home during the early Covid-19. A similar percentage experienced that their teachers considered accessibility for online learning materials while most were facing difficulties in completing assignments adapted to the online format. Challenges reported were a lack of structure during the day and

motivation to learn, a lack of clear communication about how to engage in learning, a lack of guidance on how to use new technologies/software, problems with accessibility of learning materials and flexibility. They experienced that lecturers were slow to adapt to the new situation: in learning new technology and refusing to adjust assessment methods.

In a peer-teaching session at the course Developing and Leading Courses at LTH (Spring 2021), we discussed about how teachers have dealt with accessibility issues during the pandemic, including pre-recorded materials, splitting lectures into smaller pieces with different types of interactions and media, and providing clearer instructions.

To support accessibility of hybrid TLAs, Universal Design for Learning (UDL) could be an approach. Rose and Meyer [5] suggested strategies such as using a variety of methods and materials to present information (e.g. pictures/artifacts, video, e-book, hand-on activities or collaborative learning) and providing flexible ways for demonstrating what students have learned. Instruction and expectations of the TLAs should clearly be made and in multiple ways, and students may be asked to summarize instruction to ensure their understanding [6]. The content should be made by considering a variety of interests, backgrounds and characteristics [7] or offering adjustable levels of challenges [8], and learning materials should be accessible in universally design format (e.g., appropriate font size and colour contrast, transcription for audio presentation).

V. SUGGESTED DISCUSSION POINTS FOR ROUNDTABLE

- Lessons learned about accessibility based on experiences teaching during the pandemic.
- Have you changed the TLAs and if so, what have you changed to reach the learning outcomes in accordance to constructive alignment?
- How have you dealt with different sizes of student groups and how to adapt to that?
- How to find balance between accessible course material and unnecessarily “spoon-feeding” students with materials (e.g., providing presentations or recorded lectures together with transcripts)?

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