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Designing a Professional Development Program on Digital Accessibility and Inclusive Education for Faculty Members

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Abstract: Faculty members play an important role in inclusive higher education. Previous studies have demonstrated the needs to train faculty members on digital accessibility and inclusive education so that they have theoretical understanding and practical know-how knowledge to provide accessible and inclusive digital learning materials and environments to students in higher education. However, literature has also shown a lack of research publications and experience reports in this important area. In this paper, we describe the design of a professional development program for increasing the competence of faculty members on digital accessibility and inclusive education.

Keywords: Professional development, higher education, digital accessibility, inclusive education

1. Introduction

The number of students with disabilities in higher education is increasing (Hauschildt et al., 2021). Digital technology plays an important role in students' everyday lives in higher education. Learning management systems, digital educational materials and various digital tools used in teaching and learning not only benefit students with disabilities, but also pose challenges to them. Inaccessible digital materials and platforms can make it difficult for students to enjoy equitable access and negatively affect their learning outcome. In the time of Covid-19 lockdown and post-Covid, when classroom and oncampus activities are increasingly replaced by online teaching and communications, digital accessibility competence among faculty members and administrative staff are becoming more important to ensure the digital products in higher education are accessible to all students (Chen, 2021).

Studies have shown a lack of awareness and knowledge on digital accessibility among faculty members in higher education (Sanderson et al., 2022; Shinohara, et al., 2018). Literature has also emphasized the needs for and challenges with training offered by the institution for faculty and staff (Marquis et al., 2016). Despite of the willingness to learn, faculty and staff were found in lack of time and resources to gain knowledge about and implement digital accessibility in addition to their already full workload (Sanderson et al., 2022).

A recent systematic literature review (Bong and Chen, 2021) shows that there is a lack of research publications and experience reports concerning raising competence in digital accessibility in higher education. Some higher educational institutions offer training in digital accessibility as a part of their professional development program. However, the training arrangements are diverse in content, pedagogical approach, delivery, and assessment methods. In addition, faculty and staff expressed wishes for personalized training that are customized to their individual needs, preferences, and level of knowledge (Bong and Chen, 2021).

In this paper we describe the design of a professional development program which aims to address some of the existing challenges by providing a flexible and personalized training to a selected number of faculty and administrative staff in each faculty and section, so that they can further help their colleagues to become better in digital accessibility and inclusive education, hence increasing the general competence in the whole institution.

2. Program Design

2.1 Competence Frameworks for Digital Accessibility for Educators

After a critical review of the capacities of the European Framework for the Digital Competence of Educators (DigCompEdu) and the UNESCO ICT Competency Framework for delivering digital accessibility in higher education, Gilligan (2020) highlighted the needs for a digital accessibility competency framework in higher education. He further extended DigCompEdu to include the aspects of digital accessibility such as digital content accessibility knowledge, device knowledge and Universal Design for Learning (UDL) for inclusive course design and delivery. This framework provides a basis for the training contents in our professional development program to increase faculty members' competence in digital accessibility and inclusive education.

Another competence framework developed by Mavrou et al. (2022), the ENTELIS+ Trainers Competence Framework provides a set of competencies for educators, trainers and other stakeholders involved in the education and training for the digital literacy of persons with disabilities and older adults. This framework contains five domains (areas) of competencies: Assessment of Needs, Resource Selection and Use, Inclusive Teaching and Learning, Creating Inclusive Learning Environments, and Promoting Learners' digital competencies. The framework has also identified three types of competencies including knowledge, skills, and attitudes. Although this framework focuses more on assistive technology, our program was inspired by the five domains and three types of competencies in this framework.

2.2 Description of the Program Activities

To achieve a flexible and personalized training while giving participants the opportunities to share experiences, the professional development program has been designed to include the following activities:

1. Recruit participants representing all faculties and sections with two participants from each, so that they can help each other and together help colleagues in their faculties or sections.
2. Individual interview about their background, job responsibilities, experience with and knowledge on digital accessibility and inclusive education, and their expectations of and wishes from the program. We have also asked participants to send in their digital materials so that we can see their level of knowledge and the mistakes they have made.
3. Introduction seminar where all participants meet each other and program team. Participants gain basic knowledge on why, what, and how. Simulations and hands-on exercises are carried out with assistant from master students in digital accessibility. Participants take home materials such as checklists and online learning resources, each assigned a support person who will provide individual follow-up.
4. Each participant learns and practices in their own pace with support from the dedicated support person. In the meantime, they spread the knowledge further to their colleagues.
5. Innovation camp where participants gather and share experiences and address challenges.
6. With the new input gained in the innovation camp, participants go back to their own faculty, learn, and share with support from the support person.
7. Individual interview with participants on their experiences, learning outcome and feedback for further improvement of the program

2.3 Content of the Program and Pedagogical Design

The content of the professional development program is inspired by Gilligan (2020) and Mavrou et al. (2022) and focuses on awareness of laws and regulations and practical know-how knowledge on creating accessible digital learning materials. More specifically, the topics covered in the program include:

- Concepts of digital accessibility and inclusive education
- Related national and international laws, regulations, and standards
- Digital barriers faced by people with disabilities
- How to create accessible digital learning materials
- Tools for assessing accessibility

In addition to presentations, simulation devices such as eyeglasses for different visual impairments and gloves for muscle stiffness and lack of touch sensitivity are used for participants to simulate digital barriers people with disabilities face. Different scenarios are designed for participants to experience temporary disability such as sitting on a noisy and moving bus when trying to watch a lecture video or write a message on mobile phones.

When demonstrating how to create accessible digital learning materials, the analysis of the sentin materials is used as basis for addressing the common mistakes. Hands-on excises are assigned for participants to practice what they have learned.

In the innovation camp, a scenario-based role-play game is designed so that each participant plays a role in the organization of a university, from vice-chancellor and dean to department head and colleague, and discusses good and innovative practices on increasing the overall competences in digital accessibility and inclusive education within the university. Besides individual support, online supporting materials are available to all participants, so that they can access them when needed.

3. Conclusion and Future Work

There have seen considerable interest and efforts among researchers and higher education institutions in providing students with accessible and inclusive learning environments in higher education (Marquis et al., 2016). The professional development program presented in this paper aims to empower educators by providing a customized training and support for each participant, so that they become the experts in their own faculty or section and are equipped with competence to help other colleagues. Further wok will look into the impact of such program on the general competence in digital accessibility and inclusive education in the whole institution and how the program can contribute to the existing competence frameworks in digital accessibility for educators.

All the participants and supporting team are volunteers in this project. Although the program may seem time-consuming for those who provide the training, we are very lucky to be able to recruit master students in digital accessibility who can follow up each participant individually, answering questions, giving advice, and checking the accessibility of materials produced by each participant.

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