


## Chapter 57

# Towards Disability–Aware Social Media–Enriched Virtual Learning Environments

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### ABSTRACT

*The increasing use of social media brings about the need to consider learners with disability when designing learning environments incorporating social learning. Additionally, there is need for educational institutions to consider social media-enriched learning environments. By default, designers and developers of virtual learning environments tend to design for learners without disabilities. The consequences for learners with disabilities are enormous. This chapter aims to propose a disability-aware approach to designing social learning environments that advocates that stakeholders consider the needs of learners with disabilities throughout development. The challenges that learners with disabilities face when interacting with learning systems are reviewed, and a disability-aware approach to designing social learning environments is presented, examining how this could be practically implemented. The opinions and recommendations of 48 students with disabilities from two universities in the United Kingdom and Canada are presented.*

### INTRODUCTION

Social media seem to be present everywhere nowadays and it is difficult for some people to imagine a world without social media. By addictively engaging with social media, either on desktop computers or mobile devices, people increase knowledge as they consume the information, which is pushed to their devices. People are engaging more and more with technological devices which are increasing everyday (Julius T. Nganji, 2018). With the drive to use technology for delivering services online, a lot of the technological developments around these areas by default have often focused on meeting the needs of people without disabilities, thus leaving people with disabilities to seek appropriate assistive technolo-

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gies in order to interact with such systems. In some cases, such assistive technologies might not be compatible with these systems. There are legislations in various countries around the world necessitating that people with disabilities be included in services that are offered, by ensuring that these services are accessible to them; otherwise “reasonable adjustments” or “reasonable accommodations” need to be made in order to meet their needs.

A lot of the difficulties people with disabilities face when interacting with most learning systems are related to the lack of consideration of their needs during the development cycle. In designing technological solutions, designers and developers need to understand that disability could affect different functions related to the senses. Such designers need to develop a new mind set when it comes to designing systems that will be used by everyone. The increasing use of social media in learning in addition to the difficulties and failures of existing learning systems towards learners with disabilities has necessitated the search for a better approach for designing and developing inclusive social learning environments (SLE). Thus, this article aims to propose a disability-aware approach to designing social learning systems in order to ensure that adequate analysis of the needs of potential learners with disabilities is carried out and that their needs are incorporated into the design. It also ensures that a representative group of people are selected and involved in the design process. That way, useful feedback is obtained and cost of production is reduced as designers do not have to spend a lot of money retrofitting accessibility. By developing a disability-aware mentality to learning systems design, the result is an accessible and usable product.

In the following sections, the difficulties that people with disabilities face when using technology will be discussed through a review of literature. The disability-aware approach to learning systems design will then be proposed. The recommendations from 48 students with disabilities from two universities in the United Kingdom and in Canada on how to design e-learning to meet their needs will then be presented after which future research will be discussed, before a conclusion of this article.

## **LITERATURE REVIEW**

To lay the foundation, and in order to better understand some of the requirements for developing disability-aware social media enriched Virtual Learning Environments (VLE), this section reviews literature relating to the difficulties that people with disabilities face while interacting with learning environments, some assistive technologies for interacting with learning environments, social learning and also reviews some approaches used in designing learning systems.

### **Learning Environment Interaction Challenges Due to Disability**

People with disabilities are generally more disadvantaged than those without disabilities when accessing services for various reasons including the way the environment has been designed to accommodate their needs or how society responds to these needs. Environmental factors such as the weather, specifically during winter where there have been heavy snowfalls for instance have been barriers to people with wheelchairs accessing community services (Ripat, Brown, & Ethans, 2015). The way society is designed tends to favor people without disabilities, while some people with mobility difficulties find it challenging to navigate some environments. Thus, it is common even nowadays to see newer buildings being designed without accessibility in mind (e.g. no ramps or elevators for wheelchair access). Nevertheless, there is an increase in awareness of the needs of people with disabilities when constructing buildings,

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