Chapter 5

Educating the Future Workforce: Bridging the Gap Between Learners’ Needs and Skills in Need

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ABSTRACT

The future workforce is a generation that was brought up in a technology immersed world, participating in communities, such as social networks and MMOGs and learning via e-learning platforms. These experiences have enabled them with a numerous set of needs and skills. Hard skills, such as computational thinking and problem solving, are thought to be crucial for the future labor marker, highlighting the importance of STEM education. Moreover, soft skills, such as collaboration and leadership, are considered to be essential for a person’s both career and well-being. These skills and needs of today’s learners can be utilized in order to engage students in technology based learning environments that meet students’ needs and develop the needed skills for the future. However, education is often subject-oriented and focuses on the development of hard skills rather than soft skills. This chapter highlights the importance of these skills and provides a framework, based on Challenge-Based Learning and Activity Theory, for designing educational experiences for developing hard and soft skills.

INTRODUCTION

Often known as the 21st century generation, Millennials or Generation Z, the future workforce belongs in a generation that was brought up in a highly-sophisticated media and computer supported environment. Information and Communication Technologies (ICT) offer them tremendous opportunities for finding and connecting with numerous sets of information and people in the world on a single click of the keyboard. Nevertheless, they have a set of needs different than those of their parents or teachers,
and these needs should be taken into account when designing educational frameworks for educating tomorrow’s workforce. They have higher levels of digital literacy and high needs for using technology in an everyday basis, spending many hours online, playing games and communicating in social media.

Today’s learners are multi-tasking, parallel shifting form one device, activity or application (such as mobile phones, tablet, laptop and social media) to another. However, when multitasking, students are actually shifting their attention from one tool or activity to another and can easily lose their attention. Therefore, these students need to be constantly engaged with motivating educational activities, stimulating educational tools and innovative teaching techniques. They also want to communicate with other people, by participating in large communities and social networks, using social media, personal computers and mobile devices. Their need for fast, online, synchronous and asynchronous communication should be considered in the design of educational activities and content. Thus, the use of cutting edge technology, like Virtual Reality (VR), Augmented Reality (AR), Gamification and social learning platforms like MOOCs (Massive Open Online Course) could be a way to meet learners’ needs for connectivity and co-learning spaces. Moreover, digital games and virtual worlds is a big part of their lives. Hence, the use of gaming environment and gamified activities can motivate and engage learners by meeting their needs for gamification in educational activities presented in a fun and playful way.

On the other hand, these children have to cope with issues like economic, cultural and political challenges that demand for new skills in order to succeed in the 21st century. They need to have critical thinking and scientific literacy in order to search, process and critically analyse big volumes of information and communication/collaboration skills in order to thrive in the chaos of a social media ruled world. These are just some of the skills today’s learners’ and tomorrow’s workers need to have. Often called as 21st century skills, these skills are a set of abilities that students need to develop in order to succeed in the information age, and the role of education in preparing these students for life and work is more than crucial. These skills and needs of today’s learners reveal a great challenge for education: they can be utilized in order to engage students in technology based learning environments that meet student’s needs (e.g. communication and collaboration) and apply techniques that motivate them, such as gamification and social applications and learning activities, in order to develop the needed skills for the future (soft/hard skills).

So, what does today’s formal education actually offers to tomorrow’s workers and how does it care for the development of the skills that they will need in the future? 21st century learners’ need a new way to learn and engage with education; they demand something different than traditional classrooms and lecture-based teaching. They need personalized content and a learning experience and that suits their needs and foster both hard and soft skills. However, it seems that in most educational systems, teaching is still practiced with the use of books and traditional educational tools, while in most cases, the role of technology is limited. It usually focuses on the curriculum, is subject-oriented, offering standards and milestones that focus on the development of hard skills like reading, mathematics and science skills, often ignoring important soft skills.

This chapter will present the gap between what learners need and how education actually prepares them for their future, highlighting the lack of attention in the development of soft skills that are not only vital for todays’ learners, but also needed for their future work and life. The main goal of this paper is to stress the importance of both hard and soft skills development and provide a framework that will try