Chapter 6

Independent E-Learning: Khan Academy, Motivation, and Gamification

Danielle McKain
Beaver Area School District, USA

ABSTRACT

Recent advances in technology provide the opportunity for independent e-learning virtually anytime and anywhere. Although technology offers options that can meet the needs of most learners, distractions, and motivation to learn are concerns. This chapter will provide a brief history of independent e-learning and Khan Academy, as well as research on motivation to learn and gamification. In addition, Khan Academy case studies and other independent learning resources will be discussed along with advantages and disadvantages of use. The increase in free e-learning resources that are available for classroom and personal use is changing the world of education and learning. Future research recommendations are also presented.

INTRODUCTION

This chapter provides sources of information for those interested in education management and emerging technologies. It provides new areas of research in education and promotes digital competence for societies around the world. Traditionally independent learning required one to work on their own using books; now independent learning can take place in a more guided format through eLearning. Khan Academy is a non-profit organization designed to provide a free world-class education to anyone, anywhere. Khan Academy offers a variety of online courses in math, science, history, and finance. Students can create an account and work through lessons at their own pace, watch videos, ask for hints, and see problems worked out. Originally used by individuals seeking knowledge outside of schools, Khan Academy is now commonly incorporated into schools as it is utilized by an increasing number of teachers around the world. There is a significant amount of research on motivation, but there is limited research on motivation to learn and even less research on motivation as it relates to eLearning. A common technique to
motivate students through eLearning is by adding gaming elements. Case studies show many advantages to eLearning, but also raise questions and reveal the need for future research.

The objectives of this chapter include:

1. **Background of Independent eLearning and Khan Academy**: Providing background information on independent eLearning and Khan Academy.
2. **Research on Motivation and Gamification as it Relates to Independent eLearning**: Providing research on motivation required for independent eLearning and the addition of gaming elements to eLearning.
3. **Results of Khan Academy Case Studies**: Providing the results of implementing Khan Academy.
4. **Resources for Independent eLearning**: Providing an overview of additional eLearning resources.
5. **Limitations of Current Research**: Providing limitations of current research.

**BACKGROUND OF INDEPENDENT eLEARNING AND KHAN ACADEMY**

Independent learning is defined as a process and a philosophy of education which the learner gains knowledge through their efforts while developing the ability to inquire and evaluate (Candy, 1991). Independent learning may also be referred to as self-learning, self-direct learning, autodidactic, or autonomous learning. Through independent learning the learner can respond, transfer skills, use different learning styles, use self-direction, and gain excitement from independent success; likewise, independent learning could be frustrating when the learner does not know what to do, expects more direction, or is unmotivated (Candy, 1991). Technology has changed independent learning. In the past students had to rely on textbooks and their own resources to learn independently. With advances in technology, students can often use an app, website, or game to learn independently while receiving feedback as they progress. For this chapter, the term independent eLearning will be used to refer to learning that takes place electronically without the direct supervision or instruction of a teacher.

Khan Academy started in 2006 as a non-profit educational organization. Salman Khan originally started using Yahoo! Doodle Images to tutor his cousins in math; he then started putting the videos on YouTube to help others. Khan Academy grew quickly and is transforming access to education and independent eLearning (Khan Academy, 2018). According to the 2017 Annual Report, Khan Academy is used in over 190 countries around the world with content available in over 30 languages (Khan Academy 2017 Annual Report, 2018). There were over 60 million registered Khan Academy users in 2017. Khan Academy covers various subjects and has over 50,000 practice problems that are interactive. The Annual Report heading is, “Imagine a world where everyone can learn.”
