Chapter 8
Interactivity and Its Effect on Student Learning Outcomes

James P. Gleason
Eastern Kentucky University, USA

Laura Beth Daws
Georgia Highlands College, USA

ABSTRACT

As members of the Net Generation embrace digital communication and interactive technology, educators have increasingly integrated them into the classroom in an effort to attract and motivate digital learners, but often without considering how these approaches affect the learning process. This chapter examines the nature and impact of interactivity as a discrete element within an instructional setting. It explores whether the recognition of interactivity by students measurably contributes to actual cognitive learning and, more importantly, how. If the positive impact of interactivity within the teaching process is to be replicated and exploited, instructors must understand which elements contribute to online student learning, in what ways, and to what degree.

Outcome Interactivity Theory is used as a framework to test the impact of interactive functionality in instructional content on knowledge acquisition and satisfaction learning outcomes for students. Results are described, and limitations and practical implications are discussed.

INTRODUCTION

The old joke about our parents “walking to school every day through the snow, uphill both ways” is obviously an exaggeration, but it’s undeniable that today’s students—the Net Generation students—live in a world vastly different from that of prior generations. Their educational environment is shaped by virtually unlimited information access and a wide range of communication technologies at their fingertips. More importantly, these “digital natives” (Bennett, Maton & Kervin, 2008) have grown up with advanced technologies, accustomed to using them as learning aids in the classroom and expectant that their instructors will be adept at successfully integrating them into the curriculum.

DOI: 10.4018/978-1-61350-347-8.ch008
Members of the Net Generation display a comfort level with digital communication and technology that is at once inspiring and daunting. They effortlessly embrace opportunities for multitasking, vigorously use social media (to excess, some would argue), and casually expect instant gratification from the digital world. On the other hand, they often show less tolerance for traditional media and teaching approaches. For example, few students in my recent upper division communication classes got their news through old media sources such as television news. Not one read a newspaper on a daily basis!

Educators have increasingly integrated interactive digital technologies and applications into the classroom in an effort to attract and motivate these digital learners, but often without due consideration to the impact these approaches have on the learning process. While it’s clear that students like these more interactive approaches to instruction, collaboration and even advising, what is less obvious is the manner in which these approaches affect both the learning process and the learning outcomes they yield. An aspect that demands great scrutiny is the measurable value delivered by these interactive technology applications.

In this chapter, we take a fresh look at this critical aspect of teaching and learning by examining the nature and impact of interactivity as a discrete element within an instructional setting. We explore whether the recognition of interactivity by students measurably contributes to actual cognitive learning and, more importantly, how. In addition, as interactivity itself is generally considered to be a multidimensional construct, instructors must understand which elements of the construct contribute to online student learning, in what ways, and to what degree. In this way they can apply the positive impact of interactivity in a meaningful way within the teaching process.

As a framework for this discussion, the chapter presents Outcome Interactivity Theory (Gleason & Lane, 2009) as a theory-based conceptualization of the interactivity construct, one that encourages empirical testing and generalization. In addition, it describes a study that stands out from earlier scholarship by examining interactivity’s role as a receiver-based construct and measuring its contribution to outcomes for participants in a communication event. This study operationalizes interactivity as a positive learning outcome (in this case, knowledge acquisition), and tests several hypotheses regarding interactivity’s contribution under experimental conditions. Also of particular value, a set of original and highly reliable measurement scales were applied for the first time, and quantify the influence of specific individual dimensions and elements on interactivity as defined by the Outcome Interactivity Theory model.

BACKGROUND

The Net Generation as Learners

A stroll around any campus confirms that online communication among adolescents and young adults, and among traditional college age students in particular, is prevalent (Zickuhr, 2010). According to a recent Pew Research Center report about generational usage of the Internet, 90-100% of people aged 18-33 use email, 80-89% use social media, and 60-69% use instant message clients. Students of the Net Generation, or people born between 1980 – 1994 (Tapscott, 1998), are surrounded by and immersed in new media and new technologies, and not just in their personal lives. Instructors of Net Generation students often struggle with how to best reach this unique population. Instructors wonder whether to embrace online and interactive approaches to instruction as a means of best serving a cadre of students that have “grown up digital” (Tapscott, 1998). It is thus important to consider the impact of new technologies on learning outcomes and the learning process.