

Chapter 75

Emergent Technologies Shaping Instructional Design

Pascal Roubides
Broward College, USA

ABSTRACT

This chapter discusses emergent technologies that are currently shaping or expected to shape the field of instructional design in the near future. The discussion begins with a brief overview of instructional design as a professional field over the past century, then focuses on current and promising trends for the field based on advances in technologies supporting instructional development. This chapter intends to provide a centralized literature review of multiple pathways currently being carved in the field, encompassing several parallel trending areas, such as adaptive learning, digital storytelling, gamification, simulation technologies, augmented and virtual reality, cybernetics, the xAPI standard, mobile and ubiquitous learning, and offer a glimpse of how they are shaping or expected to shape the future of all those involved in designing and delivering learning or effecting human behavior and performance change.

INTRODUCTION

Instructional design is considered by many to be a “newer” professional field even though activities revolving structuring learning have been present since antiquity. Broadly accepted definitions of the term “instructional design” include the ability to use technology to analyze, design, develop, implement, and evaluate learning and performance in a consistent and reliable fashion (Reiser & Dempsey, 2012; Rothwell & Kazanas, 2008, Brown & Green, 2015; West, Thomas, Bodily, Wright, & Borup, 2017). The historical era of the development of this field spanning the last century has seen the development of educational psychology and learning theories, as well as the development of processes (models) in order to facilitate the design, development, and implementation of formal training and learning regiments. Recent scientific and technological advancements created new opportunities to improve, accelerate, or reshape learning processes and designs resulting in a plethora of promising avenues to improve human performance practices and redefine what was thought to be possible before.

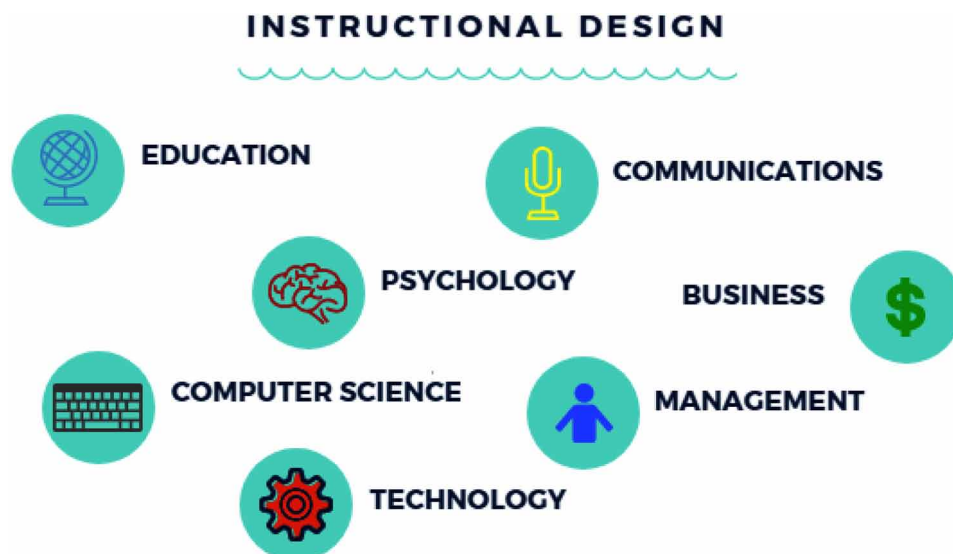
DOI: 10.4018/978-1-5225-9279-2.ch075

By virtue of the broad definition of the field, instructional design can be thought of as being in existence since antiquity from the methods developed by ancient Greeks, such as Aristotle, Socrates, or Plato, focusing on cognitive approaches in their teachings to current instructional design practices of infusing the latest technological advances into instructional developments. In a study conducted by West and Borup (2014), article keywords extracted from databases of ten instructional design journals encompassing ten years (2001-2010), confirmed the breadth and complexity of the instructional design field. Other similar studies of scholarly publications have also confirmed that instructional design encompasses various areas, from education and psychology, to computer science, communications, and general technology. Hence, there is a multiplicity of fields contributing to what we consider to be instructional design and the field is in constant evolution based on the evolution of the fields contributing to it (West, Thomas, Bodily, Wright, & Borup, 2017). In order to accomplish the expansive range of tasks instructional designers are responsible for, fields such as computer science, psychology, communications, and related technologies, must be intertwined and strongly accounted for within instructional design approaches in order to create effective learning experiences that are strongly grounded in both research and theory (Figure 1). Even management principles and business considerations (such as return on investment) must be given in present-day instructional design (Roubides, 2017).

A CENTURY-LONG DEVELOPMENT JOURNEY

Just like all fields undergo changes over time, so has the field of instructional design also undergone its own long period of formation as a professional field, and of course a lot of transformation has also taken place to what we now consider instructional design (West, Thomas, Bodily, Wright, & Borup, 2017). No specific date or particular event can be considered as marking the beginning of instructional design as a professional field; however, a lot of related events occurring during the early 20th century can be

Figure 1. The underlying base forming instructional design



22 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/emergent-technologies-shaping-instructional-design/231416

Related Content

Role of Stress and Age in Resilience Among Parents of the Children with Intellectual Disability

Santhosh Kareepadath Rajan (2022). *Research Anthology on Physical and Intellectual Disabilities in an Inclusive Society* (pp. 1428-1438).

www.irma-international.org/chapter/role-of-stress-and-age-in-resilience-among-parents-of-the-children-with-intellectual-disability/289127

Women, Peace and Security in the SADC Region: Progress, Prospects and Challenges

Jeffrey Kurebwa (2018). *International Journal of Civic Engagement and Social Change* (pp. 48-63).

www.irma-international.org/article/women-peace-and-security-in-the-sadc-region/221141

Arguing for the Self Through Activism: Ireland's Marriage Equality Campaign 2015

Mel Duffy (2020). *International Journal of Political Activism and Engagement* (pp. 1-13).

www.irma-international.org/article/arguing-for-the-self-through-activism/256922

The Need Towards Bicultural Social Services in Supporting Senior Chinese Migrants Towards Their Pursuit of Mauri Ora in Aotearoa New Zealand

Lingyun Hu (2019). *Handbook of Research on Indigenous Knowledge and Bi-Culturalism in a Global Context* (pp. 120-135).

www.irma-international.org/chapter/the-need-towards-bicultural-social-services-in-supporting-senior-chinese-migrants-towards-their-pursuit-of-mauri-ora-in-aotearoa-new-zealand/221454

Constraints and Challenges of the Media in Child Rights Advocacy and Development in Nigeria

Abdulhameed Kayode Agboola (2020). *Media and Its Role in Protecting the Rights of Children in Africa* (pp. 80-98).

www.irma-international.org/chapter/constraints-and-challenges-of-the-media-in-child-rights-advocacy-and-development-in-nigeria/241734