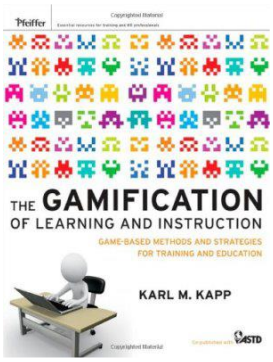
Book Review



The Gamification of Learning and Instruction:

Game-based Methods and Strategies for Training and Education

Author: Karl M. Kapp

Reviewed by

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For those novices on the hunt for the extensive knowledge and insights of gamification, The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education by Karl Kapp collectively brings together concept of gamification, what motivates people to play games, the researches in gamification, key game elements, the application of game mechanics to problems in different domains, and packed with practical research examples on the topic and in the real world. For those interested in creating effective learning through gamification or changing how people and organizations ponder the concept of gamification, this book is also highly recommended.

From the total of 336 pages, Kapp structures the contents into 14 chapters which expand and explicate innumerable information around gamification into themes which are: What Is Gamification?; It's in the Game: Understanding Game Elements; Theories Behind Gamification of Learning and Instruction; Research Says… Games Are Effective for Learning; Leveling Up: What Gamification Can Do; Achiever or Killer? Player Types and Game Patterns; Applying Gamification to Problem Solving; Applying Gamification to Learning Domains; Managing the Gamification Design Process; Congratulations! Selecting the Right In-Game Achievements, by Lucas Blair; Perspective of a Gamer, by Nathan Kapp; Casual Game Site: DAU Case Study, by Alicia Sanchez; Alternate Reality Games for Corporate Learning, by Koreen Olbrish; If You Want to Learn More, Play Games. In each chapter, Kapp systematically starts off with chapter questions to draw reader's curiosity,

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followed by chapter introduction, thoroughly explain relevant contexts which responses to the given questions initially and ends the chapter with key takeaways. This systematic review and clear outline allows readers to formulate and articulate ideas around gamification in a very proficiently way.

The first few chapters provide an underlying basis for learning professionals to deploy gamification strategies. Kapp begins chapter one and two with developing the underlying basis of gamification by explaining its definition and outlining the key game elements. He has brought good insights of the elements that constitute games, such as goals, rules, reward structures, feedback, player levels, time and storytelling. The discussion of how game strategies can be used to improve learning as well as its importance for the future of learning is also presented in this section to stimulate the reader's interest after they have built the solid basis on the gamification concept.

In chapter three, Kapp outlines various theories and concepts that help making gamification works. The theories presented in this section include: ARCS Model; Malone's Theory of Intrinsically Motivating Instruction; Lepper's Instructional Design Principles for Intrinsic Motivation; The Taxonomy of Intrinsic Motivation; Operant Conditioning; Self-Determination Theory (STD). These theories then followed by relevant concepts such as: Distributed Practice; Scaffolding; Episodic Memory; Cognitive Apprenticeship; Social Learning Theory; Flow. One of the most influential sections of the book is the chapter four on researches. Six different meta-analysis researches on gamification were examined deliberately here. Each individual key points were outlined, followed by the review of each meta-analysis and Kapp then provides a summary of those around the effectiveness of games and specific game elements used in learning such as reward structures, player motivation, avatars and player perspective. This book also covers substantial explanations of how motivation underlies our magnetism to games both extrinsically and intrinsically.

Moving on to chapter five to eight, and perhaps most beneficial section to the learning practitioners, Kapp presents a framework for effective game design and deliberates how it is important to consider learning domains and choose the best design for the given content. Several examples of how gamification was being used to solve problems, engage learners, or even make better doctors are given to nurture reader's understanding. This section examines player types, game patterns and how to apply gamification to various learning areas. As an example, learners often find exercises and practices to be dull and boring, especially when it involves categorizing, organizing and repetition. However, such method is needed to retain certain information and knowledge for learners. One of the idea to turn these boring practices to enjoyment is to translate this into gamification. Having learners to match an image with an idea in a game-like experience is more engaging rather than boring reiteration. There are quite a few examples of how games can be used in various context such as higher order thinking, improving motor skills and complex problem solving. One decent example is when using a game designed by university researchers.

The game is used for non-scientist players to figure out how proteins are constructed into small 3D structures, and players are competing against each other to make the proteins as small as possible. From such game like idea, several unique ways of folding proteins that non-scientist players discover can perhaps help researchers construct new proteins for vaccines.

Up to this point, some learning professionals may be curious of how can I design a game. Is there a process of game design and are there any guidelines for this? These questions are answered in chapters nine and ten, covering management of the instructional game design process and selecting the right in-game achievements. Three different design strategies used to incorporate game elements into learning were being discussed, which are ADDIE, Scrum, and a hybrid approach that combining elements of the two. Since both the ADDIE and Scrum models leave something to be anticipated for game development, Kapp provides a hybrid model that is more suitable to the task and is the most effective for learning games. He recommends readers to also researching these approaches from other sources to gain fully understanding on the implementation strategies and lists out those useful items for a design document. Additionally, Kapp suggests learning professionals to develop a paper prototype to determine whether the game is worth pursuing before launching it into full-scale production. This involves paper mockups, prototyping and concept art, which are vital to design strategies and often missing in standard instructional design paradigms. Since the core game design team typically consists of a project manager, instructional game designer, artist, at least one subject-matter expert, and a programmer or two. Therefore, Kapp emphasizes that the team members are crucial factor for a successful full-scale game development effort. These advices can apply even to those planning for a digital game. Readers will be most likely appreciated the step-by-step design approach and project management tools that included in chapter nine while learning the explicitly explanation on different in-game achievements items and its best practices to help learning professionals select the right ones that best suits their gamified context in chapter ten.

In the last few chapters of this book, Kapp interestingly expresses gaming from a gamer's viewpoint through several perspectives and case studies from guest contributors. First, the perspective of a gamer by a seventeen years old male who has grown up playing video games sheds some insights into video games he has played and the learning outcomes that have been achieved. Second, a case study of how the Defense Acquisition University (DAU) uses casual games which was an effective tool to produce organizational learning and can be used to promote learning information. Last, the augmented reality games (ARG) and how it can be used for corporate learning. He ends the book by describing research in gamification, motivation, game elements, and player types with two examples of gamification for learning.

From the aforementioned review of The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education, this book is certainly a good introduction to the concepts of games in learning. It conveys all aspects about games, learning, and instruction in a one-stop shop. Although this book alone is not sufficient as a guide book of how to but one that provides evidence that gamification is effective in most types of learning. Throughout the book, Kapp reasonably describes gamification deployed to diverse types of learning, design, and application in a variety of situations, and case studies. The real value of The Gamification of Learning and Instruction comes from plentiful of examples, practical advices, tips, and descriptions of how to intersect learning and games effectively. The book reiterates that careful planning and thoughtful gamification design are critical to successful learning outcomes. Leaning professionals will be inspired to reconsider the standard and stale learning approaches to be a more effective one.