

Advances in Game-Based Learning

Series Editors

Dirk Ifenthaler

Scott Joseph Warren

Deniz Eseryel

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Katrin Becker

Choosing and Using Digital Games in the Classroom

A Practical Guide

 Springer

Katrin Becker
Mount Royal University
Calgary, AB, Canada

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Preface

“If we teach today’s students as we did yesterday’s, we are robbing them of tomorrow.”

John Dewey

Being able to assess a game’s design before it gets used in the classroom has never been more important.

Who This Book Is for

This book is primarily for teachers—both present and future—as well as those who teach teachers. It is intended to provide all the information a practitioner in education will need to be able to plan for and use games in the classroom effectively.

It is suitable for use as a textbook in a pre-service or master’s education program but down-to-earth enough to be of value to any teacher interested in learning how to use games in the classroom. It assumes no prior background in game studies but does assume you have an interest in teaching.

I am assuming that since you are reading *this* book, you are already convinced that there is potential value in using games for learning (G4L), even if you may not be really clear on how. Even though you may already be convinced, your supervisors, coworkers, or managers may not, so this volume will provide the background and research that can help you make your case.

What This Book Covers

If you only have one book about games in the classroom, this should be the one.

It covers:

- The basics of Digital Game-Based Learning (DGBL). This is about learning with games, including the theoretical underpinnings.
- The basics of Game-Based Pedagogy which is the other side of the DGBL coin. Here we talk about teaching with games, and this includes the theoretical underpinnings too, but this time from an instructional perspective.
- The challenges and rewards of using games in the classroom.
- Commercial Off-The-Shelf Games (COTS Games)
 - What they are.
 - How to choose them.
 - How to use them.
- The Magic Bullet model for assessing the learning potential in a game.
 - What it is.
 - How to use it as a tool.
 - How to evaluate games to determine if they will be a good fit for what you want.
- The four pillars of game pedagogy a.k.a. 4PEG (4 pillars of educational games), which includes:
 - The game pillar, to assess how well the game works as a game.
 - The educational content pillar, to assess the educational value of the game.
 - The teacher’s support pillar, to assess the kind of support that exists for teachers who use the game in the classroom.
 - The overall balance pillar, to assess how the educational components are balanced within the game.
- Examples of evaluations:
 - Each evaluation is explained in some detail to give you an idea of how the evaluation model works.
- A discussion of how instructional design can be adapted to game-based pedagogy and a model for creating lessons that incorporate games.
- An entire section on how to create lesson plans using games—from single lessons to complete curricula, with examples.

How This Book Is Structured

This book goes over the theory behind game-based learning and pedagogy in a way that is accessible for both pre-service and in-service teachers, as well as administrators and anyone else involved in formal education, whether that is at the K-12 level or post-secondary education. It starts with explanations and proceeds to examples.

This book is broken into three parts.

Part I provides foundational and pedagogical background.

Part II introduces the analysis models and shows how they work using examples.

Part III explains how to create lessons using games and provides examples.

Plain language is used wherever possible. This is not a stuffy academic work, but it does include references to lots of research and other resources. Games in the classroom are not a flash in the pan—there is real research behind it and this book provides hundreds of references for anyone who wants to follow up formally.

This book has extensive supplementary materials, including:

- Summaries of
 - Learning theories
 - Instructional design theories
 - Instructional design models
- Templates:
 - Game analysis
 - Lesson Plans
 - Single Unit
 - Course Plan
 - Study Guide
 - Teacher’s Guide
- Lists:
 - 20 learning theories embodied in games.
 - 15 instructional theories embodied in games.
 - 12 instructional design models for using games in the classroom.
 - 15 ways to use games in the classroom. Using a game as the lesson because it teaches the content is only one way. While games can also be used as rewards, there are many other ways to use games.
 - 101 instructional strategies for using games in the classroom.
 - Annotated list of all games and software mentioned in the book.
- An extensive glossary of terms used in the book, including a quick look-up list of abbreviations.

What You Can Get Out of This Book

The design and analysis of educational videogames is a new and developing field. This book will be among the first of its kind.

This book will help you to:

- Evaluate existing digital games for learning to ensure that they will be a good fit.
- Form effective strategies for using existing games in learning contexts.
- Make better use of educational games built by others.
- Design innovative and effective lessons using games.
- Build better educational games.
- Create the right balance of fun and learning in a game.
- Evaluate proposed designs for games being built to help ensure the games will have the best chance possible of being effective and fun.

Conventions Used in the Book

New terms and important words are italicized the first time they are used. New terms can be found in the glossary. There are many terms that have no concrete meanings and many that get used in different ways by different groups. The glossary provides the definition of the word or phrase as it is used in this book.

Names of games are in *italics*. They are not always described in the main part of the text, but all of the games mentioned in the chapters can be found in Chap. 12. Each is listed with a brief synopsis and some additional details (free/for purchase, online/console/etc., ESRB rating, etc.)

Some abbreviations are used in the book. They are explained the first time they are used, but also appear in the glossary for easy reference.

Calgary, AB, Canada

Katrin Becker

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