Believe it or not, the use of games that teach can be traced back many thousands of years. For example, China used board games and war games over 5000 years ago. Fast-forward a few years … business games starting surfacing in the late 1950s/early 1960s. Even with these examples, the use of games as a learning tool has still not gained widespread acceptance. Despite its history, the use of “games” as an instructional tool is often viewed with suspicion by serious educators, who wonder, “How can games teach?” “Is this just being used for filler, so the teacher doesn't have to teach?” “We’re not offering coursework to teach people how to play games … we’re running a business here!”

Times, however, are starting to change. According to Ruben (1999), in the 1970s and early 80s some educators embraced games and simulations as “an attractive and novel alternative to traditional classroom lectures and other one-way information-dispensing methods” (p. 3). Part of the reason for this, the author suggests, is that experience-based (experiential) models have a greater potential to “address many of the limitations of the traditional paradigm.” Specifically, they “accommodated more complex and diverse approaches to the learning processes and outcomes; allowed for interactivity; promoted collaboration and peer learning; allowed for addressing cognitive as well as affective learning issues; and, perhaps most important, fostered active learning” (Ruben, 1999, p. 3).

A 1995 Training and Development survey indicated that 100% of training professionals surveyed indicated that they used some type(s) of training games and seventy-six percent indicated they used them in all or most of their programs (Salopek, 1999). The figures are higher today. Educators in the public sector have long used games to enhance the learning process and engage learners, but if our experiences are any guide, gaming was typically used in the lower grades—elementary school. All that has changed, as well.

In a business context, a recent USA Today article discussed the increase in the use of games and toys with executive groups as they conduct strategic visioning, creativity and planning sessions (Horovitz, 2002). In the article, entitled “Toys Bring Out Kid in Corporate America,” the author suggests that one of the reasons for the rise in popularity of toys and games is based on the belief that “Most executives are basically kids in adult clothing” (Horovitz, 2002, p.1). The value proposition for many organizations that use gaming and toys and that realize the value of “play” is that such things allow us to anchor back to a time when we were most creative and open to new ideas—something business and educational environments say they value.

It is not the purpose of this article to have the final say on the efficacy of gaming in learning. Rather, it is our goal to discuss:

- the theoretical foundations behind the use of games in teaching and training in both college and corporate settings.
- various uses of games in learning.
- tools and techniques that help bridge the gap between experiencing the game and tying it to the learning objectives.
- the value of games as tools that support different learning styles.

We have been very encouraged by the learner feedback we have received as a result of our use of games to support learning. There is certainly an abundance of literature to support the use of games as tools that help learners, among other things, to reflect on new information, reinforce what they already know, enhance knowledge transfer, and as a tool for both formative and summative evaluation to support key learning.

**What Is a Game?**
There are a number of different terms and definitions used to describe “games”—such as experiential learning (Salopek, 1999), instructional simulations, and group learning (Mantyla, 1999). Carolyn Nilson, author of More Team Games for Trainers, defines a game as a “structured activity with learning at the end” (Salopek, 1999, p. 29). Steve Sugar, President of The Game Group and author of a book entitled Games that Teach, defines games simply as “fun with a purpose” (Salopek, 1999, p. 30). The key phrase in this definition, in our minds, is with a purpose. At times, we can get more caught up with the “bells and whistles” than with the actual content we are trying to transfer to the learner. Fetro and David (2000) are even more pointed when they emphasize the importance of course and student objectives when determining how (or if) to incorporate educational games into the classroom instruction.

**Why Use Games?**

We consider several factors when deciding whether to use games or not to support learning.

From a course design standpoint, effective instructional design in both traditional and distance environments is driven by how learners are connected to the content, the instructor, and each other. Given this, one of the greatest strengths of using games for learning is that they are excellent tools for connecting learners to knowledge, key concepts, facts, and processes in a way that is fun and purposeful. Because they are often fun, games also help learners construct meaning and to discover things about a subject area in a more personal way and in a safe environment.

In addition to helping learners to “reinforce and review course information by allowing learners to apply what they have learned” (Mantyla, 1999, p. 91), “conceptualizing education as a game restores enjoyment, healthy competition, cooperation, and discipline to teaching and learning” (Schwartzman, 1997, p. 1). Depending on their design, games can also improve teamwork (Sugar, 2002; Nemerow, 1996).

From a practical standpoint, the profile of learners has changed (Prensky, 2001). Consider this—today's children (who are quickly becoming tomorrow's college students and adult learners):

- spend over 10,000 hours playing video games.
- receive and send over 200,000 emails and instant messages
- spend over 10,000 hours talking on digital cell phones and over 20,000 hours watching TV (a high percentage fast speed MTV).

According to Prensky, (2001), they do all of this before they ever even leave for college! As a result, he suggests, “learning via digital games is one good way to reach Digital Natives in their ‘native language’ ” (Prensky, 2001, p.1).

From a technology standpoint, there is a proliferation of new and emerging computer capabilities that enable greater collaboration and interactivity across time zones and geography (Berson, 1996). This is not to suggest that the traditional barriers to entry relative to technology-enhanced learning do not still surface—issues such as access, comfort with technology, support infrastructures, etc. It is to say, however, that the ability to engage with learners through the use of computers is increasingly attractive, based on learner profiles, and possible, based on current technology capabilities. Prensky (2001) is quick to caution “if some games don’t produce learning it is not because they are games, or because the concept of ‘game-based learning’ is faulty. It is because those particular games are badly designed” (Prensky, 2001, p. 4).

From a learner-centered standpoint, games can be intrinsically motivating and can adapt to different styles of learners, as well as different learning styles. This is a theme that emerges in much of the literature on games (Nemerow, 1997). Adult learning theory suggests that learners like to be in charge of their own learning—and they like to experience it. Experience-based learning can foster greater diversity in approaches to learning, opportunities for interactivity, collaboration and peer-to-peer learning. If it is true, as some suggest, that all learning is social, this is a particularly compelling argument for more active levels of learning —something that learning games can satisfy. As well, to be meaningful, the learning venue must link to real world problems, ideas, concepts, etc. Games can be constructed to bridge to real-world relevance.

When constructed with different learning styles in mind, games can often accelerate the learning process. For example, because games involve ‘doing’, this provides the kinesthetic learner with opportunities to engage in his or her own learning in a physically interactive way. For example, a history teacher in the social studies teacher, used interactive
games with technology as the enabling tool in his class. He found that more visual learners were not only able to enhance their critical thinking skills, but they also increased their ability to interpret visual cues such as maps and graphs.

One of the foremost experts in the use of games that teach, Sivasailiam Thiagarajan—“Thiagi”—instructs trainers and educators that “an awareness of your participants and an understanding of their needs and learning styles are vital to using training games effectively” (Salopek, 1999, p. 30). This perspective includes not only the learning style of the individual, but also the cultural orientation. For example, some cultures are less comfortable with games and activities that require high degrees participation in teams or self-disclosure.

Games can also provide useful tools for generating feedback for the learner as to how well he or she has internalized the learning (Sugar, 2002). This feedback loop extends to the instructor, as well. The opportunity for both formative and summative evaluation is relevant in both an academic setting, in which evaluation is a huge component, and corporate settings, where the link to business outcomes is of primary concern throughout the instructional design process.

The Value of Play in the Context of Games

“We find the commonsense tendency is for people to define play as the opposite of work” (Rieber, 1996, p. 2).

We have found this statement to be true in many academic and business settings. The mantras, “we don’t pay you to play!” and “You’re here to learn, not to have fun!” resonate through the halls of corporate America and universities, alike. Why this is so remains one of the ultimate ironies if you consider the positive impact of play on things such as stress levels, problem-solving, and creativity.

Literature on the subject of play (Rieber, 1998, p. 2) usually revolves around four themes:

- **Play as progress**—engaging in play leads to other outcomes, such as learning. Play, in this context, provides the backdrop for this article.
- **Play as fantasy**—where play is intended to unleash creativity, which is why things like LEGOs, Silly Putty, and Etch-a-Sketch are popping up in corporate America! (Horovitz, 2002).
- **Play as self**—acknowledges that play itself is to be valued without regard to secondary outcomes—that is, play for its own sake, to enhance one’s quality of life.
- **Play as power** involves our traditional competitive view of play where there are winners and losers. In the context of play for learning, however, some authors (Hark, 1997; Nemerow 1996) believe that games used to foster learning work best when competitive elements are minimized and emphasis is placed on the value of the experience and learning itself.

Elements of Games That Teach

According to Thiagi (1998), well-constructed games share the following characteristics:

- **Conflict**—Players must have a goal to achieve, as well as various obstacles that must be overcome to achieve the goal.
- **Control**—The game must have a clear set of rules that indicate how to play the game (making moves, taking turns, etc.).
- **Closure**—It must be clear how and under what conditions the game ends (e.g., when a certain point total is achieved, after a specific time limit, when players are eliminated, etc.)
- **Contrivance**—Those things that allow learners to say, “After all, it’s only a game!”
- **Competency**—Refers to the specific skill or knowledge areas that the game is designed to improve.

Games and Learning Strategies

There are several important factors to consider in the instructional design phase of course development—where and when to incorporate a game into your lesson. Questions to ask yourself may include:
Is it important to reinforce specific learning points immediately after a single lesson or should a learning game be incorporated at the end of a unit as a summative evaluation tool?

Can the game be placed in the beginning of the lesson as a way to create the context for learning about a specific topic?

Is the subject matter highly sensitive (e.g., sexual harassment) and, therefore, requires selecting a game that engages the learner but in no way trivializes the subject matter?

Where can I incorporate my game where it is the most seamless to the learner (doesn’t disrupt the flow or instruction or seems as if it was just dumped into the lesson)?

Are there any logistical considerations that would limit the type of games that are feasible (do I have support for any technology-delivered games or must I rely more on a less-sophisticated approach when devising and/or selecting a learning game)?

Other useful questions to consider are offered by Madelyn Callahan (cited in Salopek, 1999):

- What should the game communicate to the group?
- How large is the group?
- What is the audience profile (demographics, culture, and previous knowledge of the subject matter)?
- Is the game most appropriate for introducing, reinforcing, or demonstrating learning points?
- Is the game “playable”?
- Is a game the best method for achieving my learning objectives?

Conclusions

Some of the lessons we have learned in our journey into educational games are that:

- The use of games as a learning strategy has added great value to the variety and quality of the learning experience for our respective audiences.
- Regardless of whether you are in an academic or a corporate setting, games can enhance the learning process.
- Every forward-thinking teacher/facilitator needs a techie and every forward-thinking techie needs a teacher to partner with when creating games that teach.

Lastly, we encourage you to visit our web site for gaming ideas and templates: http://facstaff.uww.edu/jonesd/games/

References


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