

Fail early, fail often: Gaming culture, web 2.0 & successful learning environments

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Abstract: The main question the author wants to answer is if a game culture is a significant factor to support the transfer of learning in online learning environments. The conclusion is based on observation, interviews, and available records of online classes and their 80 participants. The results show that game culture can provide a push toward a successful online learning experience. Other elements of gaming such as moderation, rules and infrastructure must be considered as well.

1 Introduction: Gamer's mind and learning

Games differ from 'traditional' media like books, radio or television by its cognitive challenge. Steven Johnson, author of the best-selling book "Everything Bad Is Good for You: How Today's Popular Culture Is Actually Making US Smarter", argues that

"far more than books or movies or music, games force you to make decisions". They "force you to decide, to choose, to prioritize. All the intellectual benefits of gaming derive from this fundamental virtue, because learning how to think is ultimately about learning to make the right decisions: weighing evidence, analyzing situations, consulting your long-term goals, and then deciding. No other pop cultural form directly engages the brain's decision-making apparatus in the same way" (Johnson, 2005, 41).

Professor James Paul Gee is another expert who discusses the brain stimulus from video games, which offer new multimodal literacies for gamers. Gee says that playing video games means learning content, which is actually situated meaning to solve actual problems in the game. To play successfully, a player will follow a four-step process:

1. *"The player must probe the virtual world (which involves looking around the current environment, clicking on something, or engaging in a certain action).*
2. *Based on reflection while probing and afterward, the player must form a hypothesis about what something (a text, object, artifact, event, or action) might mean in a usefully situated way.*
3. *The player reprobates the world with that hypothesis in mind, seeing what effect he or she gets.*
4. *The player treats this effect as feedback from the world and accepts or rethinks his or her original hypothesis." (Gee, 2003, 90)*

What Gee is talking about is the typical research cycle we know from science. These four steps provide a situated analysis of a problem or unknown situation, test it, check it and refine it. It's a successful strategy in games and a state-of-the-art method in

science. It is a process of try-and-error, a process with necessary failures to learn for the next level.

2 Research question: Education 2.0 and gamer's mind?

In recent years, education experts have searched for the proper mix and use of so-called social software for learning purposes (education 2.0). It is not an accident that this group has focused on tools like wikis, blogs, eportfolios and social network applications. These tools promise better collaboration, smoother communication and greater freedom to plan and tackle individual learning goals and class objectives. One of the core characteristics of web 2.0 tools and services is their gaming aspect.

Gaming relates here to the fact of trying, falsifying and discovering useful paths to achieve the desired outcome as described above. "Beta", one of the main characteristics of web 2.0 applications, is a signal to the developers to play around with software and to give away what is not a finished product yet.

But more than that, users of these online tools will never find more than a short tutorial at all: there is no recipe or a "how-to" rule-set for a web 2.0 tool. Indeed, users have to find out by themselves how a web 2.0 application works, to what it enables and how far it can take them (e.g. by hacking it or use the offered API). In this sense, a web 2.0 user's mindset is that of a typical gamer: fail early and fail often, and you'll learn everything what you need to know about a game (system) or tool.

The main question the author wants to answer is if a game culture is a significant factor to support the transfer of learning in online learning environments.

3 Research project and methods: Web 2.0 online classes

In order to find out about the gamer mindset in online learning environments and their success, a survey was conducted with participants of such web 2.0 online classes. More than 80 participants were taught in 15 online courses the use of online tools and methods of online collaboration for their professional or private needs.

The platform was based on ePortfolio software and enabled a private area as well as a community area. Other included tools in the set of instruments were a wiki, a mind-mapping tool, an online calendar and a messenger. The classes took normally 5-6 weeks of online collaboration including live meetings through Skype conferencing and a virtual classroom tool. Two classes were part of a longer seminar (7 months) and were designed as a support-learning platform. Students of half of the classes didn't know each other before the online course.

The teaching method, which was applied by the tutor, was to use the gamer's mind approach: trying, falsifying, discovering. In detail, participants were given a goal ("create a blog and link to posts of other participants in your posts"), which should be achieved and then left „alone“ to play individually or in teams with the tools to find out how they work.

4 Results: Web 2.0 based learning environments and their effects on learning outcomes

Successful (online) learning environments help to achieve the main goal in education / learning: to transfer new knowledge into daily life.

This presentation will show the results and lessons learned from the above-mentioned online classes in three dimensions of a learning environment:

- Moderation and leadership of the class: laissez-faire versus tight control
- Teaching and exercise: discovering versus presenting
- Structure and organisation: freedom of organisation versus given frames

Using an online survey, it was able to reach 61 of the former 80 participants. The survey consisted of 12 questions (aligned to the three dimensions mentioned above) and some demographic values (sex, age, online class, year of participation).

The “moderation and leadership” dimension (illustration 1) shows a preference for a governance type that is looser than tight and without strict rules. But it’s not a rule-free zone: the data suggest that you as a mentor need to be a leader who is present and anticipates questions and problems (see illustration 2). This is even more necessary with shorter classes than with longer (who show a tendency to self-governance): short-time classes are clearly in favour of stricter rules than long-time classes – 2,74 mean versus 2,13 mean.

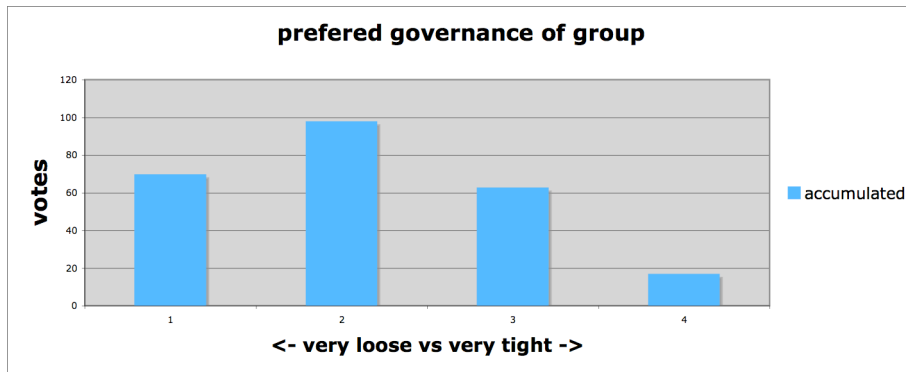


Illustration 1: the average participant needs few, basic rules. The graph shows the accumulated results of a set of four questions. “1” means a very loose governance, and “4” a very tight governance of a group.

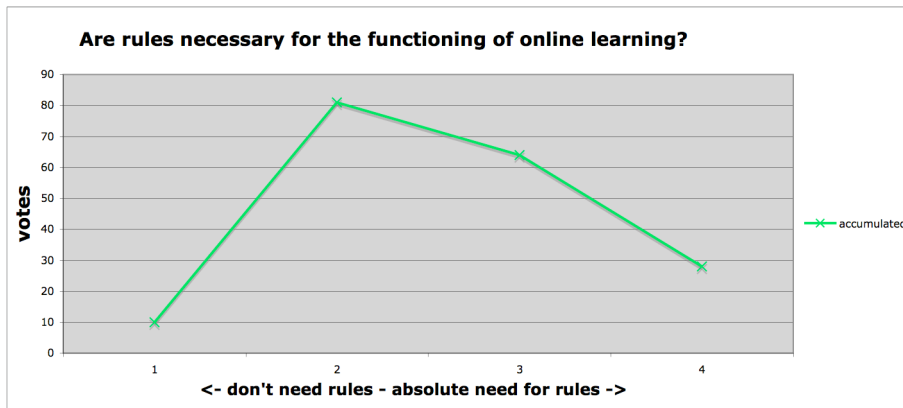


Illustration 2: responses from three questions regarding rules show that they are needed, but only to a small extent.

The “teaching” dimension is an interesting one as the question is about the preference of experimenting as learning method. As the data shows (1,856 mean, 0,80 standard deviation, illustration 3), most of the participants prefer to learn like a gamer does. Only a small minority needed examples before their own first steps using web 2.0 applications.

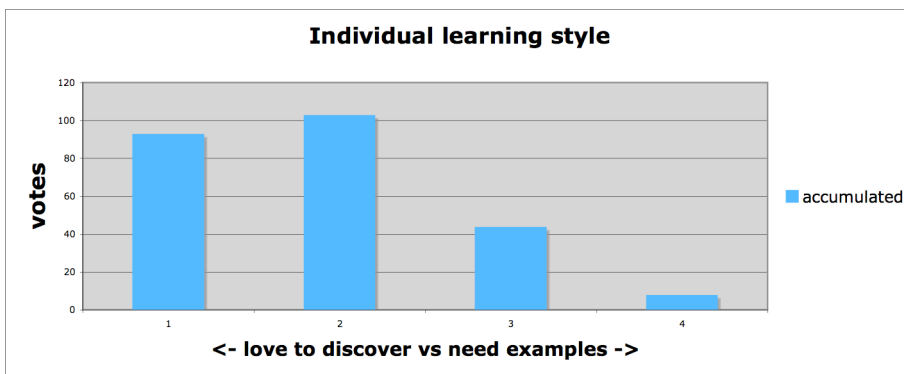


Illustration 3: “playing around” is a popular method with students

For most of the students, experimenting during online learning was quite a success as illustration 4 reveals. One reason for a successful learning experience was that the tasks were designed as feasible and didn’t lead into frustration when playing around.

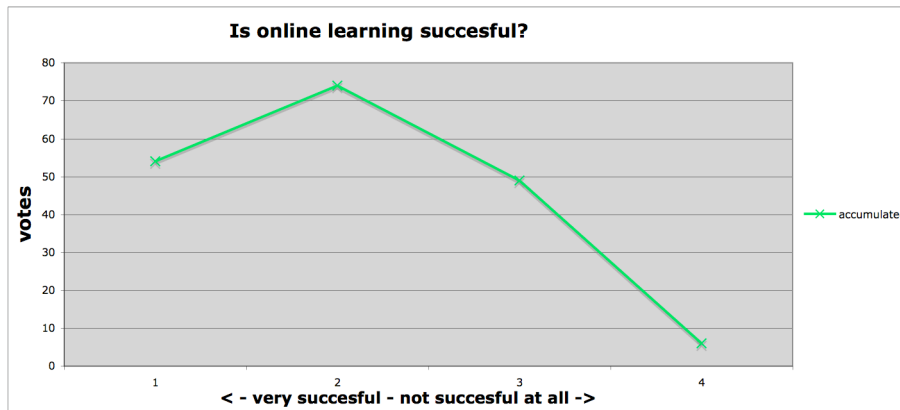


Illustration 4: for the majority, the online classes were a successful way to transfer knowledge

The last researched dimension was about the “self-organizing capabilities” of online classes. In this typical case (most of the classes took 5-6 weeks), participants asked for more prepared structures like a folksonomy, a directory or wiki sub-pages. The freedom of self-organizing an area (which is left after the course) doesn’t seem to be of interest or to constitute a time / resource problem to the participants (illustration 5).

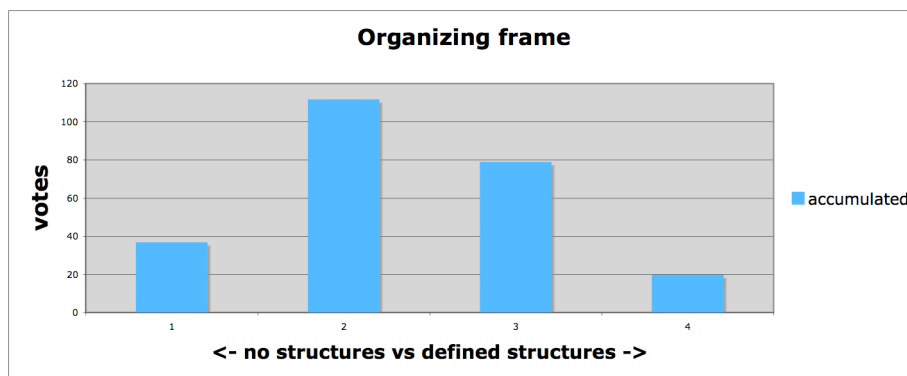


Illustration 5: a class needs prepared structures to minimize the time effort of the student

5 Conclusions

The main question the author wanted to answer is how much of a gamer’s mind and culture is necessary and useful to support the transfer of learning in online learning environments. So, were the participants in those 15 classes ‘gamers’ in the sense of Gee? The data supports assumption (illustration 6) in general.

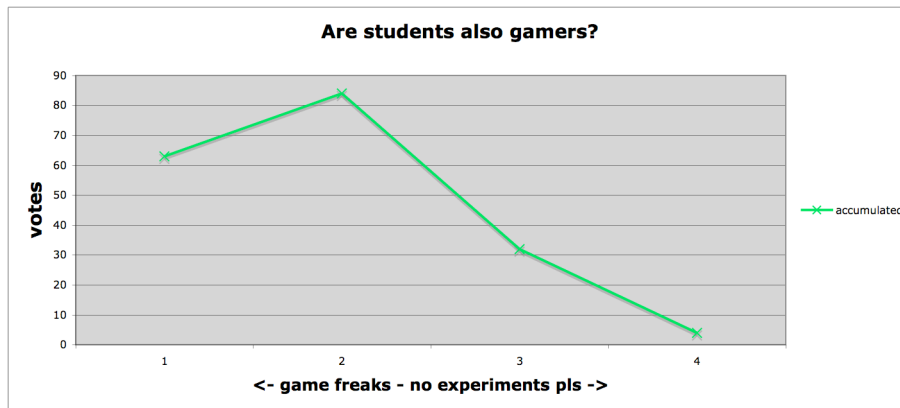


Illustration 6

To be more precise, the surveyed data relates to some typical elements of online gaming:

- “Game rules and inventory”: Even in times of self-organizing web spaces, you need clear instructions and given frames to learning communities to minimize the effort of the students and to let them focus on the main objectives of a class.
- “Online support”: Online platforms as communities need a mentor who is present and guiding.
- “Gamer mentality”: Learning by gaming (discovering, experimenting) is very appreciated, but should consider the skill-level of the individual student.
- Web 2.0 tools are great instruments to be introduced in online environments to enhance group communication and content generation (illustration 7).

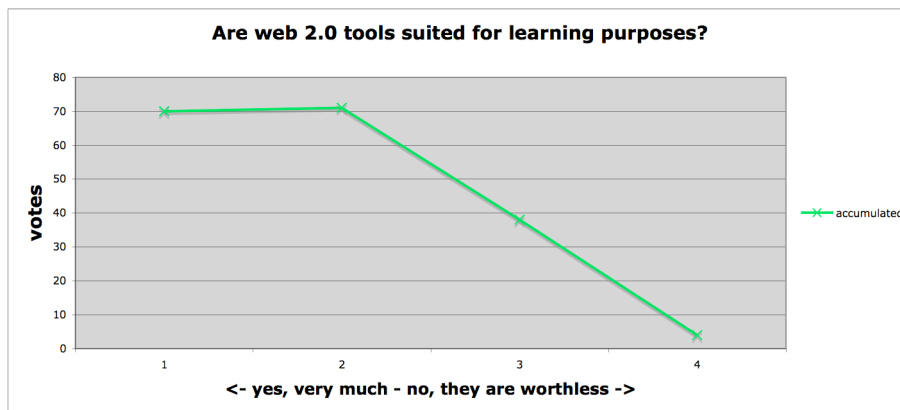


Illustration 7: a very high preference for web2.0 tools for learning usage

Appendix: Interview questions

Dimension of “moderation and leadership”

- How was your overall acceptance of this type of online course?
- Would you have liked more moderation from the course teacher?
- Did your group collaborated and tried to solve tasks / problems as a group?
- Did you have felt the presence of the moderator besides the online meetings as well?

Dimension of “teaching and exercise”

- Have you been able to solve the tasks alone or in the group successfully?
- Do you think that the used tools (online learning environment, wiki, skype, virtual classroom) are appropriate to transfer knowledge in such a course?
- Do you feel that the type of learning – trial and error by yourself – have helped you to learn deeper?
- Did you wish to have been taught by precise examples before being asked to try to solve own tasks?

Dimension of “structure and organisation”

- Did you receive enough information to solve your tasks through the moderator?
- Did you wish a clear structure and organisation of the online course wiki pages and tagging?
- Does have the group tried to create own ways of structuring and presenting the results of the tasks within the online learning environment?
- How much do you use the tools and methods learned in the course during your private and professional tasks?

References

- Gee, James Paul (2003). What Video Games Teach Us about Learning and Literacy. New York: Plagrave Macmillian.
- Johnson, Steven (2005). Everything Bad Is Good for You: How Today’s Popular Culture Is Actually Making US Smarter. New York: Riverhead Books.

Curriculum vitae:

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