Interactive Entertainment

Effects of Playing Video Games

Introduction: media stereotype

Today's image of video games brings to mind pictures of interactive machines capable of delivering a dazzling myriad of visual effects, loud music and fictional characters involved in high degrees of violence. This image is associated with the stereotype of the user of such devices: a young male having probably a certain amount of social problems, which are proportional to his involvement in the game.

These two representations concerning video games are conveyed by every other media, and as can be expected, the immediate result of this image in our culture is that being identified as a regular user of interactive entertainment can have social consequences (Yates and Littleton, 1999). However, the major worry concerning video games is another: the fear that using such entertainment technology can develop aggressive behavior in these socially impaired individuals. Some argue (Roe and Muijis, 1998) that this negative image originates from the social context in which early

video games were played (such as bars – people rarely owned video games in the early '80s) rather than in the content of games themselves.

Still, mainstream media have often blamed video games for many current social problems, in the same way that all new media have been criticized (Roe and Muijis, 1998). Since then, parents have worried about how games affect their children, and many researchers approached the topic using the same tools and theories than those used to study the effects of TV violence (Sherry, 2001).

Despite all this research, the results have been inconclusive so far: violence (Sherry, 2001), addiction (Roe and Muijis, 1998; Yates and Littleton, 1999), psychopathological behavior (Funk and Buchman, 1996), and other negative effects of video games remain to be demonstrated. Instead, most studies conclude presenting different, and often unexpected, positive effects of video game use, while explaining observed negative effects with outside factors that are independent of the media.

Definition of video games and user engagement

Such difficulty to find negative effects may be explained by the fact that 'video games' is a name that does not reflect the real diversity of interactive media dedicated to entertain. Based on Yates' and Littleton's (1999) definition of computer gaming, we can say that interactive entertainment media is the interaction with electronic technology resulting in entertainment or relaxation. As this definition is very broad and subjective, I will limit it for the purpose of this paper to electronic technology specifically designed for such results. Expressed in such terms, the definition is still large but reflects the fact that concepts usually associated to video games are appearing in our society at many different layers, including art and human communication (Barbatsis, 1999, and Cupchik, 2001).

Our society defines its culture through works that produce new emotional or esthetical experiences. Each one of these works can be seen by its society as having different values (e.g. as art or as mass products), but in both cases they provide a significant arousing experience (Cupchik, 2001). In interactive media, the usual level of arousal of such works is enhanced by the fact that the user is engaged further by being able to decide how the experience will behave. However if the same user does not know well how to control the interface, he or she can be somewhat frustrated and will not enjoy (and therefore not engage in) the experience as much (Cupchik, 2001). The level of arousal and engagement is also increased if the work stimulates the personal abilities or values of user (Cupchik, 2001).

From this theory two things can be inferred: first, that engagement in video games enhance with experience, especially in those that offer an exploration of a detailed world (Barbatsis, 1999). Second, video games can be even more engaging if they reflect something personal to the user, allowing expression of the user and thus finding a meaning. This effect is likely to increase as the technology improves, since other experiences will become possible (Barbatsis, 1999).

But at the same time, however deep and powerful the engagement is, the user will still have a strong sense of recognition for the real world, since the sensual experience of interactive media follows rules that usually do not match with reality. Such arguments seem to suggest the exaggeration of violence in games cannot affect aggressive behavior, as the game is perceived as a fantasy (Funk and Buchman, 1996).

Even in the case that the interactive immersion does succeed to match reality to a certain extent, it stills requires the user to willingly submit to the experience. Moreover, the possibility of totally different social mechanisms, resulting from factors such as having multiple simultaneous avatars in the virtual world, will develop forms of communications that cannot be reproduced in real life (Barbatsis, 1999).

These two factors can limit the impact of the two first effects, but research shows that the effects are still present.

Experience and long term use

As predicted by the "uses and gratification" theory, survey data shows that interactive media usage for leisure increases with experience of the media (Valkenburg and Soeters, 2001). A possible model to describe interactive entertainment is an object offering a set of possibilities, which a user can use to express certain knowledge or ability (Yates and Littleton, 1999). If the possibilities are not understood, or if they do not match with personal abilities, then the user will not engage in the experience of the game. However, with experience the perception of existing possibilities in the object increases and so does the user's willingness to match these possibilities with knowledge and ability (Yates and Littleton, 1999).

Studies of how children learn to use computer technology reveal that children find their own use for the media, which can greatly differ from the original purpose (Facer, Sutherland, Furlong, and Furlong, 2001). As media ownership increases, so does the time spent using the media, but the balance between uses of different media varies depending on the country and gender (Van der Voort et al., 1998). Whatever the case, users become more proficient at gaming as they play, making each new game more accessible than the last (Facer et al., 2001).

As we saw earlier, ease of use creates a more powerful involvement in the game, but the effects of the involvement are not what the media stereotype expect. Researchers tried to find a correlation between length of use and aggressive behavior, and between level of involvement, self-concept, and academic achievement. Early research on length of use (pre-1990) finds no direct negative impact to user's self-esteem, as the results show that prolonged exposure creates the impression of having an increased "Athletic Competence". However, this illusion can have a negative

outcome in the long term if this virtual skill is developed to detriment of other real social skills (Funk and Buchman, 1996).

In this case the negative effect does not originate from the entertainment media itself, but from the society that associates a negative image with its usage (Yates and Littleton, 1999). Also, some real skills are often believed to increase with video game use (such as computer proficiency and attention to detail), however more research is required to prove a direct relationship (Roe and Muijs, 1998). In either case, the impression of developing skills can help to overcome existing personal problems (even in adults), such as social timidity coming from a disability (Turkle, 1997).

Games can therefore have a therapeutic and/or educational role, which is facilitated by the fact that this is not the role associated with them and therefore users will more eagerly engage in these activities, as they are not perceived as "boring" (Facer et al., 2001).

Educational role

Furthermore, the exploration of a world is more engaging and therefore gives more possibilities to learn (Barbatsis, 1999). Researchers have divided games in different types, and they conclude that the type of game can have different effects, although overall the educational potential of games is not fully developed yet (Amory, Naicker, Vincent and Adams, 1999).

When seen through the optics of traditional educational environments, games are believed to negatively impact the academic results of users. Game playing can hinder academic improvement if it's too time-consuming, as uses of other media (such as books) decreases (Van Der Voort et al., 1998; Roe and Muijs, 1998). However, there is evidence that video game play can originate from the need to overcome already

existing poor academic results, or to gain a sense of control of an environment (Roe and Muijs, 1998).

The first step to these academic difficulties originates with school as it affects the personal concepts of both successful and failing individuals. More research needs to be done to see how a school-generated negative personal concept can be prevented or improved, but it is likely that when schools implement systems to that end, video games will not be believed to affect grades as much as now (Roe and Muijs, p. 1998).

The most surprising finding, when considering the stereotype, is perhaps that aggressive behavior decrease with length of video game use, which seems to support the "catharsis" theory for interactive entertainment. It is even argued that limitation of game time by parents can have opposite results than expected, as children interrupt their session when their level of arousal is still high (Sherry, 2001). This seems to go against the results of studies for TV violence, but we must consider that interactive media has a totally different role and function (Sherry, 2001). TV and radio require and fosters a "sequential" thought process, whereas interactive entertainment fosters "parallel" thought process (Roe and Muijs, 1998).

This required parallel thinking, as well as other (real or virtual) developed skills can have different effects on learning, but it also creates a sense of belonging to a special environment.

Social groups and gender

The tendency to form social groups around video games appears most in young male groups (Roe and Muijs, 1998), and many early studies focus only on such groups. Skill in entertainment media becomes a point of comparison between males (Facer et al., 2001), and to the group such skills can become as significant (if not more) as real athletic achievement. This observed group behavior recalls the individual perception of such skills, mentioned earlier (Funk and Buchman, 1996).

However, this gender role only becomes defined during adolescence, so it can be argued that they are not intrinsic of video games but rather depend on a social perception of the media (Facer et al., 2001). Some authors believe that these gender differences on video games depend from a difference in social behavior that do not allow construction of female groups praising 'virtual' skills (Funk and Buchman, 1996). Or more plainly, others argue the fact that women are less prone to fantasy than males, and therefore are more likely to accept situations similar to reality instead of exaggerated fantasies (Valkenburg and Soeters, 2001).

Nevertheless, female groups seem to trust the opinions of male groups when having to choose a game (Facer et al., 2001). This observation indicates that the lack of acceptance of video games by female groups can be explained more with factors that explain differences in other media use (such as TV) rather than in differences in the medium itself. In this light, if video games were to offer type of entertainment more appealing to women, then female groups would engage as much in video games as male groups (Van der Voort et al., 1998).

Other studies show very different results. They explain these differences as diversified perceptions of existing contexts originating from social culture. In an experiment (Yates and Littleton, 1996), two groups were presented with a piece of software for their use. The two groups shared the same environment, software, and interface for the study. However, in one group the software was described as a skill test, while in the other group it was described as a game. Boys in both groups performed similarly, however girls did not perform as well when the software was presented as a game. But the most surprising result is that in the 'skill test' group, girls had as good results as boys had.

This result seems to indicate that neither the content nor the media has an influence in uses by different genders, but rather the difference is created by existing disparities of perception. Such perception is created by social values instead of biological differences (Yates and Littleton, 1996). Proof for this real lack of difference in

video game play between genders is reinforced by a small study done in college students, where there is barely any divergence on how the games are perceived (Amory et al., 1999).

So although social bonds are created and seem to vary with gender, this observation does not reflect reality: women are actually as good at video games as men, but social pressure keeps them from openly displaying such skills (Yates and Littleton, 1996). If gender does not affect playing that much, then there has to be another explanation to the divergence: how games are perceived between individuals.

Underlying social role

When TV is compared to video games, the conclusion is that games have a different role in society, and the question is raised about what exactly is this role (Sherry, 2001). It is also pointed out that while TV is a medium in which there are no individuals but a mass public reached at once, interactive entertainment deals with unique individuals in personal contact with the medium (Yates and Littleton, 1996).

As a result of this personal involvement, children may identify to their favorite game characters, and whatever happens to their avatars can impact the child's self-concept (McDonald and Kim, 2001).. However there is not much difference (for a children's learning) between video games stories and other stories told by more traditional mediums, such as direct interpersonal communication.

As a result, children benefit greatly from games as they can explore different (positive or negative) aspects of personality traits. The possible negative impacts of such exploration are limited by the diversity of games, which makes it difficult to identify to a single game character/world, and the social discussion of the game, which keeps the game's world separated from reality (McDonald and Kim, 2001).

Video games foster the creation of social bonds not only between groups of users, but also between user and their families if the family accompanies the use of the media and therefore integrates it (Roe and Muijs, 1998). Other already existing groups (i.e. not brought together by video games) often use interactive entertainment as a topic of conversation among other things (tips, controversies, etc.). In such view, video games have the same bonding role as a hobby shared by members of a club.

The reasons for this are probably that interactive entertainment is an already widespread medium. Video games therefore have a certain social role, but they still need to be socially accepted. They will probably gain more acceptances as people gradually leave passive entertainment (TV) for interactive media (Yates and Littleton, 1996).

Conclusion and future perspectives

The potential of video games is very high, as is reflected in some areas of our society or in foreign countries. Game playing has rarely been a solitary activity (since playing a game facilitates certain social contacts), and today the Internet allows the creation of complete virtual worlds in which players can immerse and interact. In these worlds many players organize in 'clans' or 'guilds' with other real-life persons, as they construct their own set of social codes and values without even meeting each other in real life. However, the immersion in this virtual reality remains conscious and voluntary, and research results confirm that even 'heavy' players keep both feet on the ground.

On the side of these 'heavy' users are many people who claim being nothing more than 'very occasional' players, while in fact they spend a significant amount of time per day playing with the simple entertainment offered by computers, handheld devices and cellular phones. This unvoiced intertwining of video games with our society will likely have a certain amount of effects.

However, when considering the social dimension (presence and group activity) of video games, many negative effects for which they are blamed cannot be proven. Practically all studies found while researching for this paper seem to counter this negative side, but this does not mean that games have no negative effects in their current state. Although current research seems to focus in disproving the stereotype conveyed by traditional media, particular kinds of violent games seem to invade the current commercially available choices. These violent games are designed solely to sell in high numbers, and deal with existing stereotypes as a sales argument. Even today, a single look at store shelves will reveal that many titles sold are essentially the same game mechanism with an equal amount of violence and slight differences in story or graphics only.

Creativity still exists, but is as rare as its commercial success. However, there are exceptions for titles dealing with unexplored areas. The game 'Pokemon' (which predates all the animated series and other commercial by-products bearing the same name) depends strongly on social interaction. To win the game, players need to raise a series of 'Pocket Monsters' of different breeds, which they supposedly carry in their hand-held video game machine. The game adapts to each individual player, as they are free to choose their own 'raising style'. Another other key element of the game is that some breeds being much rarer than others, players are required to exchange their 'prodigal sons' with each other to successfully complete the game (this is similar to traditional trade card collecting). As a result of these two mechanisms, the game is highly appealing to all ages and to both genders. For some reason (probably to facilitate marketing and reduce costs) all by-products are now targeted for a younger audience, but the original game had an enormous success in adults as well, creating in some cases an additional bond between children and parents (who need an excuse to play the game).

Much more social interaction with video games is possible. In some Asian countries, some video games are so popular that failure to know about them can be as

socially unacceptable as lacking a proper dressing style or table manners. In our western culture, the integration is also evident: elements associated with video games (visuals, storytelling styles, etc.) are starting to appear in other mediums, such as movies and magazines. These new sensorial and social experiences conveyed by new interactive entertainment will create interesting results in both culture and art. Their evolution will open many doors for future research.

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