Examining the more positive aspects of playing computer games

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Video games: the good news

Socially isolating, or promoting interaction and growth?

It is possible to make games more educational, as well as more fun.

The bad effects of playing computer games are often referred to, and in a previous issue of *Education and Health* (Griffiths, 1994), I reviewed the evidence on their more negative aspects.

However, just recently there have been a number of newspaper articles pointing out that although they can cause addiction, aggressive tendencies and medical problems (like photosensitive epilepsy), they can also be very beneficial. In this short article I am going to examine the more positive aspects of playing computer games.

Educational benefits

Many people (including those in the video game industry) support the use of video games for educational reasons. Some psychologists have gone as far to say that some children may be drawn into learning only through fun, and have therefore argued that classroom video games could be of educational use (Silvern, 1986). In the US, some video games have now become an integral part of modern language teaching because they are seen as (i) a motivating device, (ii) a means for providing comprehensible input, and (iii) a catalyst for communicative practice and the negotiation of meaning.

In a pioneering study on the use of video games in education, Malone (1981) concluded that three primary factors in intrinsic motivation for video game play were challenge, curiosity and fantasy. The use of these components in the design of a video game could not only make the games more fun, but also more educational. Others argue that video games are a good influence because they give children access to 'state of the art' technology and equip them with computer-related skills for the future.

Although video gaming is an exercise in fantasy it can have an important impact on real issues. These include (i) the regulation of arousal (a decrease through escape or recreation, or an increase through competition), (ii) preparation for encounters in the real world (in that some games protect individuals from the full consquences of new perspectives via simulation) and (iii) the regulation of confidence (in that winning is ego-boosting and anxiety-reducing, which can materially affect other decisions). If this were not the case, the armed forces would not use video games in the testing of skilled motor performance and use games to train gunners or fighter pilots.

Social benefits

Although many people believe that video game play is socially isolating and prevents children from developing social skills, supporters of video games argue that they promote social interaction and growth (Favaro, 1982). In a study of the impact of home video games on family life, Mitchell (1985) reported that families generally felt video games promoted family interaction in a beneficial way through cooperation and competition. Another study (Creasy et al., 1986) assessed the impact of home video games on children's leisure activities, school work and peer contacts. Since none of these activities was affected, it was concluded that owning a home video game machine does not have any detrimental effects. More recently it has been reported that high-frequency video game players see friends more often outside school than low-frequency players (Colwell et al., 1995), that there is no difference

in 'sociability' between high- and low-frequency players and that games foster friendship (Rutkowska et al., 1994), and that there is no difference in social interactions between players and non-players (Phillips et al., 1995). These findings suggest that for the typical player there is little cause for concern.

Therapeutic benefits

Therapists working with children have long used games in therapy sessions with their young patients to promote fantasy expression and the ventilation of feeling. The recent technological explosion has brought a proliferation of new games that some therapists claim to be an excellent ice-breaker and rapport builder with children in therapy and behaviour management. For instance Gardner (1991) claimed that the use of video games in therapy sessions provided excellent behavioural observation opportunities. Such observations allowed him to observe:

(1) The child's repertoire of *problem-solving strategies*.

(2) The child's ability to perceive and recall subtle cues, as well as to *foresee consequences* of behaviour and act on past consequences.

(3) The release of *aggression* and control.

(4) The ability to employ appropriate methods of dealing with the *joys* of victory and *frustrations* of defeat in a more sports-orientated arena.

(5) The satisfaction of *cognitive activity* in the involvement of the recall of bits of basic information.

(6) The enjoyment of mutually co-ordinating one's activities with another in the spirit of *co-operation*.

The joys of victory and frustrations of defeat.

Using 'video game therapy' as a training aid.

Changing behaviour

Spence (1988) incorporated video games into his repertoire of behaviour-management techniques, and believes they can be used instrumentally to bring about changes in a number of areas:

(1) Development of *relations*, using video games to provide the basis to develop a therapeutic relationship. They gave an acceptable 'middle' ground for both parties to 'meet', which provided an enjoyable experience that could be shared. Relationships become close and trusting.

(2) *Motivation*, using video games as bargaining 'counters' to motivate children to do things. This simply involved negotiating with an individual for a set period of work time or tasks in return for a set period of time playing video games.

(3) *Co-operative behaviour*, using video games to develop social skills and co-operation in individuals by making them share a video with peers. Through the medium of video games, individuals developed friendships which fostered co-operation.

(4) *Aggressive behaviour*, using video games to take the 'heat' out of situations. For example, individuals played video games when they were angry, so that the 'damage' was inflicted on the characters rather than real people.

(5) *Self-esteem*, using video games as a measure of achievement to raise self-esteem. Since video games are skill-based and provide scores, they can be used to provide a basis for future goals. Beating personal high scores raised self-esteem in the individual.

There have also been a number of innovative uses of video games in other therapeutic contexts. For instance, 'video game therapy' has been used as a training aid for some cognitive and perceptual-motor disorders (e.g. stroke patients). Other case studies include using video games as physiotherapy for someone with an arm injury (Szer, 1983) and the using of a hand-held video game to stop an 8-year-old boy picking at his face (Phillips, 1991). There are also many studies showing video games being used as a diversion from the side-effects of cancer chemotherapy during childhood: such distraction tasks can reduce the amount of painkillers needed by the children (Kolko et al., 1985; Redd et al., 1987; Vasterling et al., 1993).

Miscellaneous benefits

With regard to the debate on video-game violence and aggression, some authors have argued that the aggressive content of video games (rather than having a negative effect) actually allows the players to release their stress and aggression in a non-destructive way, and has the effect of relaxing the players (Kestenbaum et al., 1985). However, there is little empirical support for such an assertion. Further positive effects cited in the literature have included increased hand-eye co-ordination, attention span, and motivation; the enhancement of cognitive skills; a sense of mastery, control, and accomplishment; and a reduction in other youth problems due to the 'addictive interest' in video games (Anderson et al., 1986)!

Concluding remark

Research into home video games is still a relatively little-studied phenomenon. If care is taken in their design, and if games are put into the right context, they have the potential to be used as training aids in classrooms and therapeutic settings, and to provide skills in psychomotor co-ordination in simulations of real life events, As I have argued before (Griffiths, 1993), there is also a need for a general taxonomy of video games, as it could be the case that particular types of games have very positive effects while other types are not so positive.

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References

Anderson, C. A. & Ford, C. M. (1986). Effect of the game player: Short-term effects of highly and mildly aggressive video games. *Personality and Social Psychology Bulletin*, 12, 390-402.

Colwell, J., Grady, C. & Rhaiti, S. (1995). Computer games, self-esteem, and gratification of needs in adolescents. *Journal of Community and Applied Social Psychology*, 5, 195-206.

Creasey, G. L. & Myers, B. J. (1986). Video games and children: Effects in leisure activities, schoolwork and peer involvement. *Merrill-Palmer Quarterly*, 32, 251-262.

Favaro, P. J. (1982). Games for cooperation and growth — an alternative for designers. *Softside*, 6, 18-21.

Gardner, J. E. (1991) Can the Mario Bros. help? Nintendo games as an adjunct in psychotherapy with children. *Psychotherapy*, 28, 667-670.

Griffiths, M. D. (1993). Are computer games bad for children? *The Psychologist*: Bulletin of the British Psychological Society, 6, 401-407.

Griffiths, M. D. (1994). Computer games: Harmless or addictive? *Education and Health*, 12, 28-29.

Kestenbaum, G. I. & Weinstein, L. (1985). Personality, psychopathology, and developmental issues in male adolescent video game use. *Journal of the American Academy of Child Psychiatry*, 24, 325-337.

Kolko, D. J. & Rickard-Figueroa (1985). Effects of video games on the adverse corollaries of chemotherapy in pediatric oncology patients. *Journal of Consulting and Clinical Psychology*, 53, 223-228.

Malone, T. (1981). Toward a theory of intrinsically motivating instruction. *Cognitive Science*, 4, 333-369.

Mitchell, E. (1985). The dynamics of family interaction around home video games. *Marriage and Family Review*, 8 (1-2), 121-135.

Phillips, C. A., Rolls, S., Rouse, A. & Griffiths, M. (1995). Home video game playing in schoolchildren: A study of incidence and patterns of play. *Journal of Adolescence*, 18, 687-691.

Phillips, W. R. (1991) Video game therapy. *New England Journal of Medicine*, 325, 1056-1057.

Redd, W. H. et al. (1987). Cognitive-attentional distraction in the control of conditioned nausea in pediatric cancer patients receiving chemotherapy. *Journal of Consulting and Clinical Psychology*, 55, 391-395.

Rutkowska, J. C. & Carlton, T. (1994). *Computer games in 12-13 year olds' activities and social networks*. Paper presented at the British Psychological Society Annual Conference.

Silvern, S. B. (1986). Classroom use of video games. *Education Research Quarterly*, 10, 10-16.

Spence, J. (1988). The use of computer arcade games in behaviour management. *Maladjustment and Therapeutic Education*, 6, 64-68.

Szer, J. (1983). Video games as physiotherapy. *Medical Journal of Australia*, 1, 401-402.

Vasterling, J. et al. (1993). Cognitive distraction and relaxation training for the control of side effects due to cancer chemotherapy. *Journal of Behaviour Medicine*, 16, 65-80.