Chapter 7
Processing Change Instigated by Immersed New Media Usage and its Implications for School-Based and Informal Learning

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EXECUTIVE SUMMARY

This case presented in this chapter[1] revolves around the hypothesis that information processing has changed from a linear format, within a chronological progression, to a partially controlled chaotic format, with tracking achieved primarily through hypertextual nodes which goes against the enforced linearity of most institutionally imposed hierarchical learning. Suggestions are given as to how basic schooling methodologies may need to be modified to conform to new learning practices. The possibility of the informal learning option more amenable to hypertextual processing is also explored. Online whimsical searches and acquisition of information through social software interaction and other new media technology immersion has changed the breadth of informal learning, particularly self-directed and incidental learning. In a study of University of Malta students that requested self-perceptive descriptions of learning preferences (formal study/independent acquisition). 70% opted for formal study, explainable by their traditional academic context. 30% preferred flexibility and the intrinsic motivation stimulated by self-direction; a significant number given that a decision about a life choice was requested.

BACKGROUND

Internet usage in more technologically advanced continents has grown massively as shown in Table 1. There has been a huge usage growth since 2000, and there is a 50.1% penetration in Europe, 60.1% in Oceania/Australia, and a massive 73.9% in North America. At least in Europe, quoting slightly older statistics, 73% of young people aged 16 to 24 use the Internet at least once a week (Eurostat News Release, 2006). There can be no doubt that this has grown exponentially.

In the main the majority of researchers agree that the Web permits, among many other intrinsic and extrinsic gains, "learning through frequent interaction and feedback" (Donnerstein, 2002, p.

DOI: 10.4018/978-1-60960-015-0.ch007

320). The same applies to video games, which are multi-layered problem-solving experiences in which, for example, identities are assumed that promote intrinsic learning (Gee, 2003, Shaffer, 2006). More formally, learning can even be digital game-based, all about "the coming together of two seemingly diametrically opposed worlds: *serious learning* in schools and in businesses, and *interactive entertainment* – computer games, video games…" (Prensky, 2007, p.15)

Some research results are not so positive, indicating the possibility of Internet addiction. For example McKay, Thurlow and Tommey Zimmerman (2005) treat optimistic research about motivation resulting from immersed internet usage with caution and wonder as to whether young users are becoming little more than "techno slaves." This goes as far back as Greenfield's 1999 reference to "netheads [and] cyberfreaks." Internet addiction seems to be a well-analysed social fear (Chou, Condron, & Belland, 2005). The same applies to video games, with research indicating that immersed users' scholastic grades suffer (Anand, 2007) while at the same time admitting that determining whether this is because of time management disruption caused by dependence or because of other, collateral factors is difficult. Time loss through video gaming was considered to have both negative and positive outcomes in research by Wood, Griffiths, and Parke (2007), though the contexts of this research are predominantly social. Teaming up video gaming with the internet in the form of Massive Multi-user Online Role-Playing Games (MMORPGs) is often considered lethal and addiction almost a natural and accepted side-effect (Young, 2009).

The focus in this chapter is on processing changes caused by New Media immersion that are more intimately related to cognitive acquisition which have recently begun to be explored (Salonius-Pasternak & Gelfond, 2005), rather than to Internet-affected social interaction. The negative effects of Internet and other New Media usage may be exaggerated and sensationalized and may blind researchers to other intrinsic changes that are happening because of the usage. I am not negating that addiction is a distinct possibility, given the affective strength of the media in question, but my arguments are that if the literature were to concentrate entirely on that aspect, the side to New Media immersion that invokes, provokes and consolidates processing changes, and that needs understanding, can easily lag behind.

As a result of this immersion, informal learning — that "vast reservoir of learning possibilities" (Tuschling & Engemann, 2006[2]) — is gaining an advantage over more formalized, school-based learning. This chapter also deals with the growing

Table 1. Internet usage and world population dtatistics for June 30, 2009

World Regions	Population (2009 Est.)	Internet Users Latest Data	Penetrati on (% Population)	Growth 2000-2009	Internet users by World Region
Africa	999,002,342	65,903,900	6.7%	1,359.9%	3.9%
Asia	3,808,070,503	704,213,930	18.5%	516.1%	42.2%
Europe	803,850,858	402,380,474	50.1%	282.9%	24.2%
Middle East	202,687,005	47,964,146	23.7%	1,360.2%	2.9%
North America	340,831,831	251,735,500	73.9%	132.9%	15.1%
Latin America/Caribbean	586,662,468	175,834,439	30.0%	873.1%	10.5%
Oceania/Australia	34,700,201	20,838,019	60.1%	173.4%	1.2%
World Total	6,767,805,208	1,668,870,408	24.7%	362.3%	100.0%

Source: www.Internetworldstats.com. © 2001-2009, Miniwatts Marketing Group