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Informal online networks for learning: Making use of incidental learning through recreation

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Abstract:
Contemporary tertiary students require a different set of skills from the population of students who attended university campuses even just a decade ago. The modern student is expected to be comfortable and often proficient with both printed and digital resources. Such a level of expertise is necessary not only so students can access study materials, but to also enable them to efficiently filter information, communicate using diverse methods and store relevant resources within practical and logical systems. Many university courses now include components which provide opportunities for students to develop digital information competencies and such skills are almost essential to succeed within current academic and employment contexts.

This paper suggests that technologically related and information management skills and expertises need not only be developed within formal educational settings. It is our experience that the modern day student can be encouraged to access a variety of recreational digital resources and experience effective learning through these experiences in a more incidental, informal manner. We have identified five main categories of online networks: (1) common interest communities (e.g., e-groups, hobby sites); (2) competition and game sites (e.g., networked multi-player games, entering competitions); (3) file download sites (e.g., Napster, clipart); (4) corporate and e-commerce sites (e.g., internet banking, online shopping); and (5) information access sites (e.g., maps, timetables, White Pages). Participating in these online networks can allow students to develop many useful skills including database searching, information filtering, data storage and retrieval, critical analysis of resources and effective online communication. This paper examines a range of examples which demonstrate how a number of useful academic skills can be developed using non-traditional, less academic approaches in order to maintain and improve student motivation, enjoyment levels and learning outcomes in tertiary situations.

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Introduction

Increasingly, tertiary students are required to have appropriate online literacy skills in order to complete their studies successfully (Coaldrake & Stedman, 1997). The responsibility to teach this new repertoire of skills often rests with academics who may not necessarily have such skills themselves or the confidence to teach them to others (Atkinson & Brown, 1997). Although the teaching of some of these skills is being integrated into tertiary courses, alternative methods of acquiring the skills have not yet been fully investigated. In particular, the recreational activities of students can be an excellent method for acquiring online skills, through the use of a variety of online networks.

This paper suggests guidelines for taking advantage of students' prior knowledge levels (Pressley, Wood, Woloshyn, Martin, King & Menke, 1992; Willoughby & Wood, 1994) and existing interest areas (Pintrich, Marx & Boyle, 1993) to enhance study skills, specifically those associated with the use of online technologies. We propose that many of these skills are independently being developed by students themselves in environments relatively separate from the academic arena. By encouraging the link between students' recreational use of such online networks and their academic pursuits, we propose that many valuable and meaningful skills can be transferred to support student learning in higher education.

Theoretical background

A range of learning theories support the integration of the teaching of online informational and communication skills across academic and recreational contexts. This theoretical underpinning of incidental learning and transferral of skills across contexts suggests that the recreational use of online networks described in further detail below could be exploited to improve student learning. This section expands upon the theoretical basis for this conclusion.

Incidental learning, peripheral learning and motivation

Educators have frequently noted that much unintended learning takes place within educational institutions and in locations unrelated to formal learning contexts. Sometimes labelled "incidental learning" (Watkins & Marsick, 1992) or even "accidental learning" (School & Cooper, 1983), these types of learning outcomes may be either advantageous or unfavourable to the learner's education. In many planned educational programs in schools and universities the learning outcomes achieved within the constraints of the curriculum are frequently more diverse than the intended objectives quantify. For example, a teaching program which is centred around teaching trainee teachers how to use computer technology in primary school classrooms may also include outcomes associated with learning group work skills. Conversely, students may learn less positive skills, viewed as detrimental to learning by their lecturers, such as how to complete assignments using surface learning strategies instead of a deep learning approach (Biggs & Moore, 1993).

Learning with computer technology has been associated with many unintended learning outcomes:

> Our experience has taught us that as soon as any technology is introduced into the teaching and learning contexts, it affects, either intentionally or

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> unintentionally, what happens: sometimes for better, sometimes for worse. (Herrmann, Fox & Boyd, 2000, p. 39).

Herrmann, Fox and Boyd acknowledge that unintended learning outcomes can result from the use of technology *within* educational contexts. This paper examines this issue from a different perspective –from *outside* the educational context. We purport that much valuable learning, primarily unintended, can take place away from the formal calculated context of universities and learning institutions. Like Herrmann, Fox and Boyd, we also acknowledge that some of these outcomes may be positive and contribute to the learner's knowledge bank in a long lasting and useful manner. By recognising the existence of such incidental, accidental and peripheral learning experiences, academic staff may encourage students to extend their repertoire of learning skills within both informal and formal contexts. Such learning may be more motivational and enjoyable for students, especially those already burdened with high course workloads. Since "various cognitive processes can be influenced by students' motivational beliefs" (Pintrich, Marx & Boyle, 1993, p. 175), it is worthwhile to consider such influences when optimising any learning environment.

The online socio-cognitive environment and peer tutoring

Online networks can provide other opportunities for students to be involved in recreational activities which foster the development of skills useful to their academic life. Internet users who search for information across worldwide databases of information are in fact practising skills that are useful when researching literature to support academic essays for university assignments. Similarly, situations when students collaborate online by using email or bulletin boards create contexts that are conducive to the socio-cognitive development of knowledge to occur (Gallini & Zhang, 1997; Stock, 1998). Interactions with other students and associates within these collaborative online environments frequently occur in recreational contexts. The skills utilised in such environments can translate to the academic learning environment when students are required to complete group assignments, share research information and correspond with other students. King (1990) suggests that the process of constructing new knowledge or the process of transforming previous knowledge into new formats is actually enhanced through peer interaction. Additionally, Bleed (2000) reports on the importance of socialisation in the learning process. So, promoting learning partnerships and peer tutoring opportunities within online environments may be useful strategies to enhance greater academic understanding in adult learning environments.

Online networks

For the purposes of this paper, we have identified five main categories of internet activities. Each category can contribute to the development of a variety of online skills, which in turn will aid successful study at a tertiary level. These activities are typically accessed within online networks. The categories of internet activities emerged from observation of the use of frequently accessed sites within two local universities populations and are outlined below:

1. Common interest communities

Students are naturally attracted to online communities which reflect their interests and hobbies. For example, students might join e-groups or mailing lists related to a vast range topics, for example, surfing, travelling to Bali, chess or movies (for examplehttp://groups.yahoo.com). Others may become more involved in specific sites

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related to hobbies. For example, those with an interest in creative writing may regularly contribute pieces of their writing to a particular site (for example, www.writtenbyme.com orwww.epinions.com) or students trying to trace their family history might join lists or frequently visit key sites where they can search for information about their descendants (www.ancestry.com or www.gencircles.com).

2. Competition and game sites

Another set of key online recreational networks are those related to computer games and competitions. Students may participate in online multi-player games such as Quake or Red Alert, either through access sites online or directly modem-to-modem. Competition sites are also attractive as students can win goods or money without risk (for example, game sites such as www.uproar.com orwww.flipside.com).

3. Download sites

These sites offer students electronic resources in convenient, inexpensive or free formats. The most well-known of these is Napster (www.napster.com), where students can download music files (MP3s) from the hard drives of other users, using the Napster software as an interface. Other sites also exist where students can download a variety of files and software, such as clipart, desktop schemes, and video and audio files (for example www.free-graphics.com or www.soundcentral.com).

4. Corporate and e-commerce sites

Students may increasingly use the internet for commercial transactions, such as shopping for books, software, second-hand goods or even food from their local supermarket (for example, www.amazon.com, www.quokka-online.com, and www.dewsons.com). They may also use financial sites such as internet banking or share trading (for example, www.comsec.com.au). Such sites are becoming increasingly safe to use as corporations install online security systems, encrypting programs and firewalls.

5 Information access sites

Finally, students may also acquire online skills when searching for information as part of their recreation practices. For example, when planning a trip, students may look at sites which give them information about their destination, accommodation and activities (such aswww.lonelyplanet.com). They may also use search engines to find additional information (for example, www.yahoo.com orwww.google.com).

Participating in these five main online network types gives students the opportunity to acquire many practical online skills in a more incidental, informal manner. These skills can include database searching, information filtering, data storage and retrieval, critical analysis of resources and effective online communication. Clearly, such skills are useful for tertiary students from a wide range of backgrounds from general study habits required by undergraduate students to the more refined research expertise required for postgraduate study.

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Benefits of utilising students' recreational internet use

By incorporating the skills developed as a result of using online networks into academic environments, students will be able to utilise their prior knowledge and current skills in a manner which complements their developing academic skill bank. The prior existence of such skills should not be ignored when designing courses which require students to operate within online or intra-university computer networks.

After observing a variety of frequently used sites accessed by a mixture of academic staff and students at two local universities, a number of common types of sites emerged. The results of this observation informed the development of five different categories of website (as outlined in Table 1). Furthermore, skill development occurs in different ways across the five identified categories of recreational online networks. For example, using Napster to download favourite songs extends a student's keyword searching abilities, as they are likely to learn the most successful methods for searching (e.g., fewer or more words from a title or artist; using wildcards to increase number of matches). Playing computer games online, which often have a chat facility for players to chat to each other while they are playing, allows students to learn the protocols and nuances of online chat, which can be a useful skill when participating in an online unit at tertiary education level. Weston, Gandell, McAlpine & Finkelstein (1999) discuss the importance of students developing both technical and social computer literacy skills in the current educational context. By accessing and utilising online networks, students are able to observe and develop such skills.

	Common interest	Competition & game	Download	Corporate & e-commerce	Information access
Keyword searching	ü		ü	ü	ü
Information filtering					ü
Data storage & retrieval		ü	ü	ü	ü
Critical analysis of information	ü			ü	ü
Email/asynchronous communication	ü			ü	
Chat/synchronous communication	ü	ü	ü		
Overview and summarising				ü	ü
Time management	ü	ü		ü	
Completing online forms		ü		ü	

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Technical skills (e.g., installing software)			ü	ü	

Table 1: Skill development possibilities for different online network categories

Table 1 indicates the variety and depth of skills that many contemporary students are able to develop by accessing online networks. Also indicated by the table is the link between the skills developed within these networks in relation to the skills required to succeed academically in higher education today. It seems a waste not to exploit this link for the benefit of students, academics and universities alike. Students will no doubt benefit by being increasingly motivated to learn and refine relevant skills whereas the burden for academic staff to teach students such skills will be lessened. Lastly, by combining students' involvement in recreational and academic contexts, learning will become more relevant and meaningful.

Making use of recreational skill acquisition

Recognising students' current interests and knowledge reflects the importance of the first step of instructional design process in any higher education course, that of analysing the audience for whom the instruction is intended. By acknowledging the target students' "thought processes, preconceptions, learning strategies, motives, beliefs, feelings and background knowledge" (Wittrock, 1991, p. 173), the course can be tailored to suit those involved. This paper suggests that the utilisation of such existing backgrounds can result in benefits to both students and academics involved with higher education courses involving online technology.

By being involved in online networks associated with retail, communication and leisure domains, students can develop useful skills that may be used in the academic realm. Instead of using the more traditional methods of encouraging skill development within on-campus and home study situations, students should be encouraged to develop some of these skills within a more recreational context. Learning in such an environment may also be conducive to the development of positive motivational outcomes associated with increased success rates (Ames & Ames, 1991; Archer, 1994; Biggs & Moore, 1993; Meece, 1991). Bleed's suggestion to integrate socialisation, study and recreational opportunities in a "half bricks, half clicks" hybrid university structure echoes the blurring of the boundaries that we are promoting in this paper (Bleed, 2001, p. 18).

After examining various contexts where students are able to develop skills in online networks, a number of guidelines are suggested regarding ways in which academics can encourage effective student use of informal learning networks:

- explicitly encourage the use of non-academic recreational use of online networks (for example, re-examining student internet quotas to allow some recreational use)
- evaluate the prior skills and knowledge of students with specific regard to incidental learning from online networks
- indicate links between the skills used in recreational online networks and learning contexts and encourage students to develop a metacognitive awareness of their own study skills
- integrate recreational online learning networks within academic contexts

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So, rather than continuing the separation that often exists between the recreational and academic uses of online technologies, academics and students alike may benefit from a more integrated review of the two contexts. Our future research will put this theoretical perspective into practice to examine more closely the learning benefits students can achieve incidentally through recreational online experience, and provide more detailed guidelines on how teaching staff can usefully exploit the knowledge and skills students have acquired.

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