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Irish Students and Facebook: Informal Learning Choices in a Web 2.0 World

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Abstract

While there has been a commitment in Higher Education (HE) to the use of Information and

Communications Technologies (ICT) in formal education in the Irish Republic, little is known of

the use of social-networking sites (SNSs) in informal learning by students in the Irish Republic,

particularly at secondary-school level. Furthermore, there is a lack of evidence on how these

choices compare with how Irish students are electing to use other Web 2.0 tools to informally assist

their learning. This paper presents research from a survey of Irish students on their informal use of

ICT/Web 2.0 tools, with a particular focus on Facebook, in preparation for their Leaving Certificate

examination (state exams taken by Irish students at the end of their secondary-school cycle). The

literature review looks at research that points to a preference by learners to demarcate SNSs from

formal learning spaces, not as a simple desire to keep SNSs as separate from their academic

activities, but to use these platforms in an identity-formation role as learners.

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Introduction

Irish third-level institutions have, to varying degrees, committed to integrating the educational use of ICTs into their strategic development (Donnelly & O'Rourke, 2007, p. 32). The shaping and unfolding of these strategies is in part informed by the behavioural model(s) educators and policy makers hold of their students. It follows that the more that is known of the students, the more robust the behavioural model will be, in turn lending validity to strategic decisions. Such a model requires many inputs, one of which is learner preference for the use of SNSs as a learning space.

Citing Ebner & Maurer (2008); Grosseck & Holotescu (2008); Ebner, Lienhardt, Rohs & Meyer, (2010); Ramsden, (2009), in their literature review of HE Web 2.0 use, Conole & Alevizou (2010, p. 35) record a growing body of research on SNS, learning-related use, and this paper seeks to contribute to our understanding of Irish students in a socially networked, Web 2.0 world. Of interest here is the informal-learning use of SNSs with a broad definition of informal learning taken from Bull, Thompson, Searson, Garofalo, Park, Young & Lee (2008, p. 102): "…learning and engagement that occurs outside formal school settings".

Throughout this paper specific attention is paid to Facebook. Facebook's prevalence amongst Irish and EU children is documented in the *EU Kids Online* Report (Livingstone, Haddon & Livingstone, *et al*. 2009) from the London School of Economics. Drawing on more than 400 Internet-use studies from 21 EU states, the report tells us that 81% of Irish children aged 6-17 are Internet users, 6% higher than the EU average of 75%, with a 10% higher than the EU average figure for the 11-17 age range. More recent research from the *EU Kids Online* project (Livingston, Ólafsson & Staksrud, 2011) has focused on child SNS use and reports that 82% of Irish children aged 13-16 use an SNS, with an EU average of 77%.

In 2007, citing Facebook's then "exceptional" take-up by higher education students, Selwyn continues:

> As such Facebook offers perhaps the most appropriate contemporary online setting within which to explore how social software applications 'fit' with higher educational settings and communities of educational users and, therefore, investigate the current assumptions surrounding social software and education. (Selwyn 2007, p. 3).

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The literature review begins by establishing Facebook and similar SNSs within the context of formal and informal HE learning, and then moves to examine research which indicates preferences of use for these platforms by students. Due to a lack of literature in this area in Ireland, this paper looks to our nearest neighbour, the UK, and research there on learner attitudes and use of SNSs as learning spaces. Particular attention is paid to two papers. Selwyn's (2009) study, *Faceworking: exploring student's education-related use of Facebook,* and Madge, Meek, Wellens, and Hooley's, (2009) paper, *Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work'.* Both papers offer insights into the cultural of Facebook use among HE-level learners and indicate a preference among Facebook users for a demarcation of their social networking spaces from their learning spaces.

Following this, findings are presented from a quantitative survey carried out for this paper on the levels of use for Web 2.0 tools by Irish students preparing for their end-of-secondary-school cycle, state exams. This research was carried out in October 2010, and asked first-year undergraduate students in DIT (Dublin Institute of Technology) about their use of Web 2.0 tools in preparation for their state exams at the end of the previous academic year, with particular attention given to Facebook.

The discussion section begins by looking at Irish SNS use in an EU context and proceeds to look at Facebook "reach" data to discern how users may be separating their academic activities from their online identities, suggesting that educators need to bring an awareness of learner preferences for a demarcation of different virtual spaces.

Literature Review: How learners are using Facebook

The promise of Web 2.0 tools such as Facebook, which facilitate collaborative efforts, has long been recognised (Sefton-Green, J. 2004; Thomas, 2008) as is their informal use by learners (Kurhila, 2006), and the general use of Web 2.0 applications as decentralised tools for achieving collective goals (Shirky, 2008).

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In 2002, Wiley & Edwards (p.5) identified the learning potential of decentralised, online self-organising social systems (OSOSSs). OSOSSs have been seen by some as potentially transformative, in both formal and informal learning. Bull *et al*. (2008, p.103) identify the informal use of these tools in learning as offering "a potential bridge between social media and academic content". Alexander (2006, p. 42) identifies the rise of social software as not only a major part of a Web 2.0 world, but as representing "powerful implications for education". Brown & Adler (2008, p. 3) opine that, "The most profound impact of the Internet, an impact that has yet to be fully realised, is its ability to support and expand the various aspects of social learning".

Redecker, Haché & Centeno (2009, p. 9) see learning with Web 2.0 tools as being, "fostered by bottom-up take up of social computing (or 'Web 2.0') in educational contexts", thus identifying the learner population as the primary engine for the growth of Web 2.0 tool use in learning. This claim is complemented by Neil Selwyn (2007) who identifies a key difference between the much-heralded internet application of the 1990s and those of our current Web 2.0 world, namely that our present array of tools is actually in widespread use by millions, and in the case of Facebook, hundreds of millions of users (see also Alexander 2006, p. 42). It is the bottom-up culture of use that concerns this paper.

Thomas (2010, p. 505) situates any discussion of OSOSSs such as Facebook within a wider discourse around a shift from traditional learning spaces such as lecture halls, classrooms, etc., and towards a definition of learning that includes, "the full range of spaces in which learning occurs". Thomas also identifies this shift as an acknowledgement that perhaps most learning occurs outside formal learning spaces (*cf* Cross, 2007). If most learning occurs in informal spaces, and learners are driving the growth and use of these spaces, then their preferences will impact deeply on the topography of the virtual-learning landscape.

Yet amidst all the talk of innovation, profound impacts and shifts, Conole & Alevizou (2010, p. 42) identify "… a gap between the expectations/promise of the use of technologies and the actual experiences and uses". While SNSs like Facebook have been identified as agents of pedagogic change, Madge *et al.* (2009), point out that while 95% of British undergraduate students use a SNS, very little was known about this use (p. 141). So what do learners themselves think about SNSs as learning resources, and how are they using them?

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Selwyn's (2009) study, *Faceworking: exploring student's education-related use of Facebook* offers an in-depth qualitative analysis of how 909 undergraduate students in a UK university used their Facebook "wall" (where users post messages and friends can leave comments). Selwyn categorised the educational communications he recorded into 5 themes; "(1) recounting and reflecting on the university experience; (2) exchange of practical information; (3) exchange of academic information; (4) displays of supplication and/or disengagement; and (5) 'banter' (i.e. exchanges of humour and nonsense)" (p. 161). In his conclusion he makes several observations on the nature of these communications. One comment is that Facebook was primarily used for maintaining and not expanding tightly-knit social groups, and that while its use was "significant", it was also "mundane" (p. 170). Selwyn's conclusion continues:

> Much of students' 'educational' use of Facebook was therefore based around either the *post-hoc* critiquing of learning experiences and events, the exchange of logistical or factual information about teaching and assessment requirements, instances of supplication and moral support with regards to assessment or learning, or the promotion of oneself as academically incompetent and/or disengaged (p. 170).

Selwyn noted a distinctly anti-academic, anti-institutional sentiment, and his study led him to conclude that while Facebook has a prominent role in the "identity politics" of undergraduate culture, "SNSs such as Facebook do not merit any particular laudation from educators" (p. 172).

Another insight into SNS-use by first-year, undergraduate students at a British university, this time quantitative, comes from a survey carried out by Madge *et al.* (2009). Their findings show that while 46% of respondents used Facebook on at least a weekly basis to discuss academic work, only 22% said Facebook was helpful in their academic life (p. 149). The authors also found that there was, "a clear hierarchy of preference of use, with students clearly favouring social use, then informal learning purposes, but explicitly rejecting formal learning" (p.148). There was also an expressed desire for clear demarcation between student and the institutional interaction through Facebook, with 41% stating that they agreed or strongly agreed that they did not want tutors contacting them via Facebook.

This hierarchy of preference, and a strong sentiment for separation from the institution, is perhaps explained in an observation by Selwyn in his 2009 paper where he saw that, "wilful anti-

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intellectualism pervaded many of these exchanges, with students brazenly highlighting their inabilities and, by implication, the inadequacies of the university department" (p. 168). One thing Selwyn is clear about in his conclusion is that Facebook does have a role in undergraduate life, but that the role its users have primarily chosen for it is not as a learning resource, but rather as space that allows students, "the freedom to construct a set of disruptive, challenging and disengaged social identities, roles and personal biographies of 'doing university'"(p. 170). This, argues Selwyn, is vital to provisioning successful third-level education. (In a case where an SNS was formally employed by educators, Baran (2010), in a survey of 32 undergraduate students on their attitude to having Facebook incorporated in their coursework, found that the student-to-student dimension was more valued than the student-to-content or student-to-teacher relationships.)

From Selwyn (2009) and Madge *et al.* (2009), a picture emerges of undergraduate learners employing Facebook not only as a social tool, but as a space separate from the institution, and a space where distinctly anti-academic discourse has currency which itself may be vital as part of learner identity construction. How does this tally with what is know about Irish learners use of social networking tools such as Facebook?

Research Findings on Web 2.0 & SNS use by Irish students for state exam preparation

The Irish Leaving Certificate exam is a state exam taken by students at the end of their secondary school cycle. It covers 31 subjects, is predominately written, but offers oral assessment in language subjects. Approximately 55,000 sit it each year. Leaving Certificate results are translated into points, and these points are used to offer students places in most HE institutes in Ireland. The exam itself rewards rote memorisation of material.

The research carried out for this paper sought to gather data on how Leaving Certificate students were using available Web 2.0 tools in preparation for their exams. Of specific interest was the informal use of these tools. The question of identifying a suitable population to survey was challenging. Different schools have differing levels of ICT use and facilities, so securing a representative sample would be difficult. An alternative was to go to where students from all over the state were accessible as a single population. Third level institutions fit this description. The Dublin Institute of Technology has a student body of approximately 20,000. Three thousand of

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these are first-year, undergraduate students. The survey was distributed through the Institute's internal mail system to these first-year students.

The survey was accessed via a link to a webpage which hosted the questionnaire. The first response was collected on 10th October, 2010 and the last was collected on 28th October, 2010. There were 164 responses, 162 of these were valid. Nearly two-thirds, 64% (n=103), were female, and 36% (n=59) were male. The majority, 73% (n=118) had completed their Leaving Certificate examinations only a few months before, at the end of the previous academic year, while 12% (n=20) had sat their exam in 2009, 4% (n=7) in 2008, and 11% (n=18) in 2007 or before.

Overview of Internet and SNS use: A Gender Divide?

Of the 162 valid responses, 77% (n=124) answered "Yes" to the question, "In preparing for your Leaving Cert, did you use the Internet to support your learning?" (This question was the filter to establish use of Web 2.0 tools in preparation for the Leaving Certificate exam.) Of the 23% (n=38) who did not use the Internet, only 4% (n=7) said it was because of no Internet connection or computer access (one of these sat their exam in 2008, the rest earlier).

Those who did use the Internet for their exam preparation were asked: "Did you use Facebook or other social networking sites in your exam preparation?" Just over two-thirds, 67% (n=83), answered "No", with 3% (n=4) not answering. Of the 30% (n=37) who stated that they had used a SNS, 79% (n=33) said they had used Facebook, followed by Bebo at 16% (n=6), others at 13.5% (n=5), MySpace at 5.5% (n=2) and a combination of these was used by 19% (n=7).

Of interest is the percentage who did not use the Internet at all and their gender. Although the sample size is small, of the 19% (n=31) who did not use the Internet in their exam preparation, and

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who did not indicate that this was because they could not do so, 93% (n=29) were female and only 7% (n=2) were male. Seven of these sat their exam before 2008.

Formally Supported Use of ICT Resources: Resource Modelling

Information was also gathered on the use of a wide range of Web 2.0 tools, to gauge the overall use of these resources, but also as a comparative exercise to benchmark SNSs/Facebook use. As a further comparative exercise, this time to examine formal and informal use, participants were asked: "Was any class/subject/course you took for the Leaving Certificate supported by the use of any of these [tools]?"

Of the entire sample of 162 valid responses, 39.5% (n=64) reported having used a Web 2.0 resource formally. (Texting was included as it is facilitated online via websites as well as over traditional telecommunication networks. Similarly, smartphones use both Internet and Web 2.0 resources/sites.)
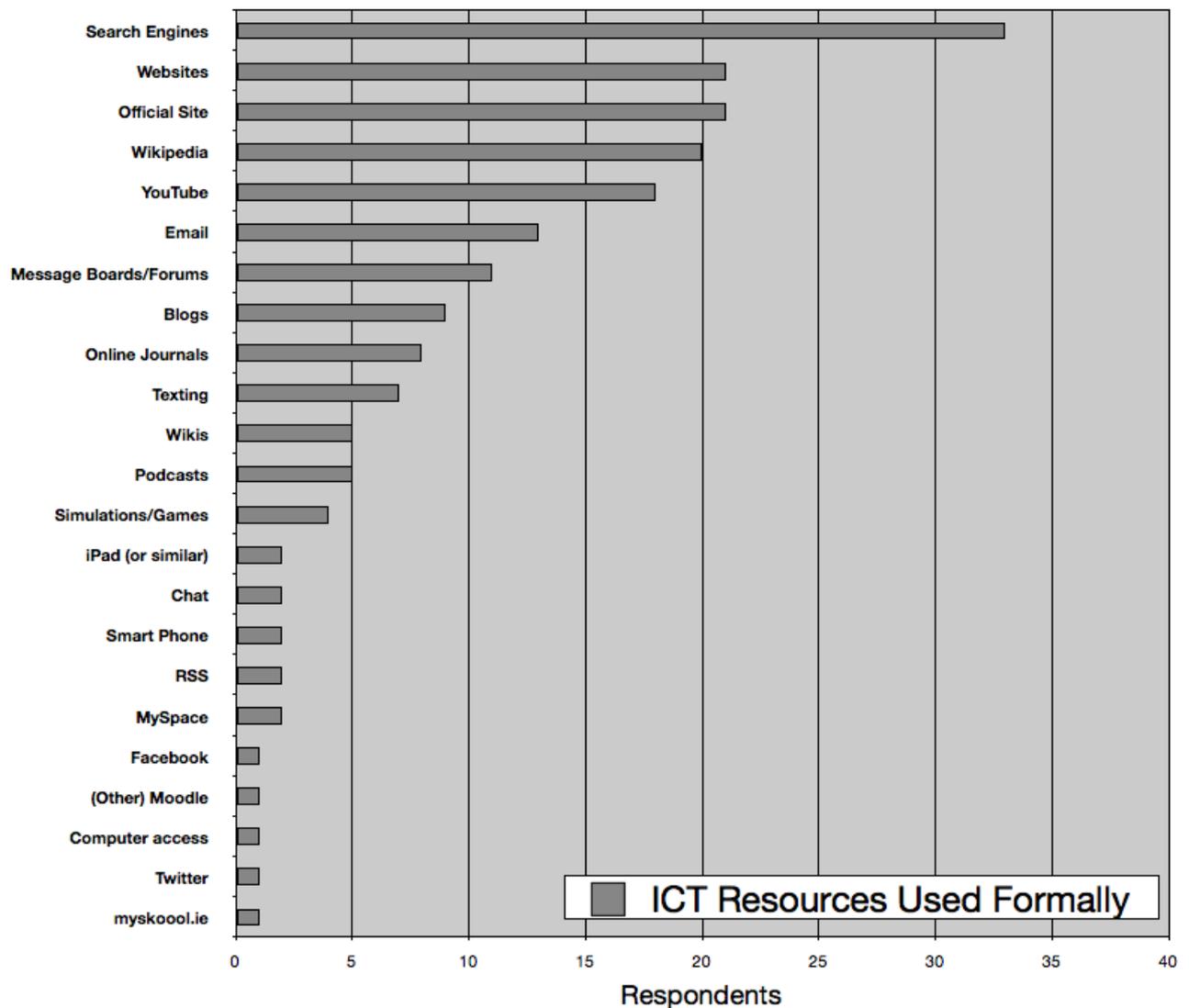
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FIGURE 1

Figure 1 illustrates the use of ICT/Web 2.0 tools where they were formally supported.

Clearly Facebook scores very poorly (n=1), with information delivery services/websites such as YouTube dominating the tool selection by schools/teachers. While Wikipedia is a site that supports collaborative content-creation, it is primarily used by readers, not creators, and its high use here does not indicate collaborative work, but rather suggests content referencing/sourcing.

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What emerges from these figures is that less than half the respondents had any use of these tools as learning resources modelled for them in their formal education. Further, those resources which were modelled, were primarily not collaborative in nature, but rather they compliment a transmissive pedagogy.

Informal Use & Preferences: Social Tools Use

Participants were also asked: "Which of these tools did you use to support your Leaving Certificate preparation that were NOT provided for or supported by your teachers/course/lecturer/school?" The response to this was higher, with 66% (n=107) of the entire valid sample (n=162) identifying at least one of the resources listed as having being used by them informally.

The first result of note is an across-the-board increase in all tool-use over the formal-use figures in Figure 1. It is clear that Wikipedia, search engines and websites, all primarily information delivery platforms, also dominate the informal choices made by these learners. Where Wikipedia increases its number of users over three-fold and tops the results as compare to its formal use, the is also a significant increase in Facebook use, which rises from 0.6% (n=1) to 12% (n=19). Other information-sharing tools, such as chat and texting, see not only an increase in users, but an advancement in the hierarchy of use.
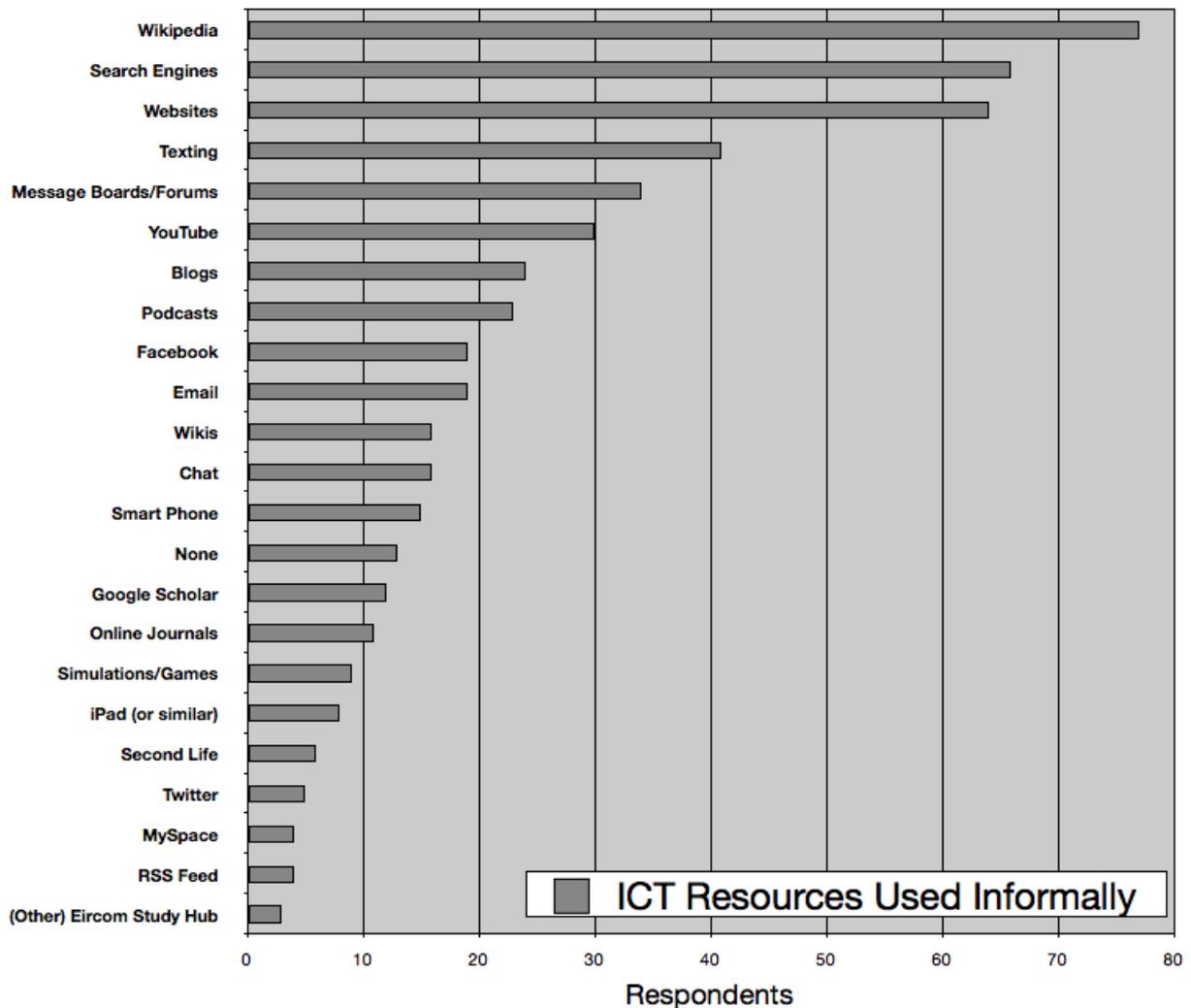
FIGURE 2

Figure 2 illustrates the informal use of ICT tools (where their use was not supported by a school, course or teacher).

Two observations may be made here. First, in both formal and informal resources chosen, those which deliver information rank higher in terms of use. Second, while there was little exploitation of online social tools in their formal learning, a number of these students elected to use social communication tools such as Facebook in support of their informal learning. These figures tell us just how many learners used which resources, and allow us to draw initial comparisons between formal and informal choices, but just how useful did the students find these resources?

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Rating ICT Tools as Informal Learning Resources

Respondents were asked to rate a range of Web 2.0 tools. The lowest rating was 1 and the highest rating was 5. The x-axis (vertical) gives the number of respondents. The y-axis (horizontal) is the rating given from 1-5.
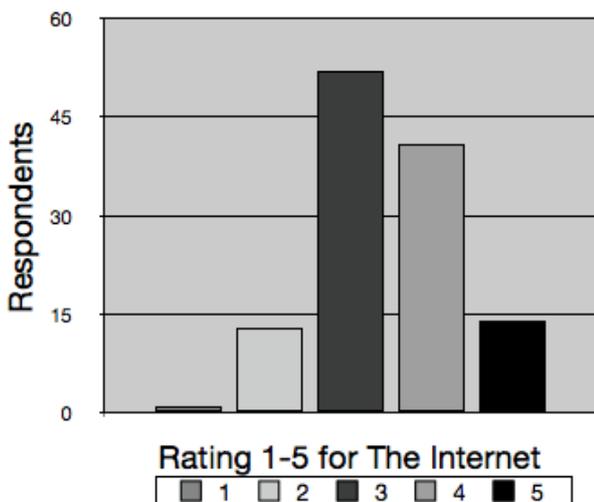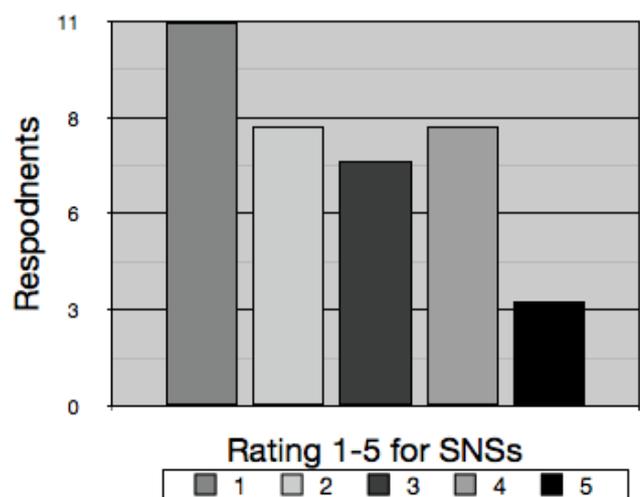
FIGURE 3   FIGURE 4

Figure 3: Answers to, "Please grade how useful you think the Internet was to your learning."

Figure 4: Answers to, "How useful [do] you think social networking sites like Facebook were to your learning?"

Looking at Figure 3, we see the Internet as a whole peeking at 3 and 4, but falling quite significantly in terms of those who were willing to give it the highest rating available. With regard to Figure 4, the low sample size necessarily limits any conclusions that may draw from the data, but

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when compared with the other data, indicates that SNSs, which are information-sharing tools, are seen as less useful, and less used than information-delivery tools.

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Figure 5: Answers to, "How useful [do] you think education support sites like skoool.ie [an exam support site] were to your learning?"

Figure 6: Answers to, "How useful [do] you think forums were to your learning?

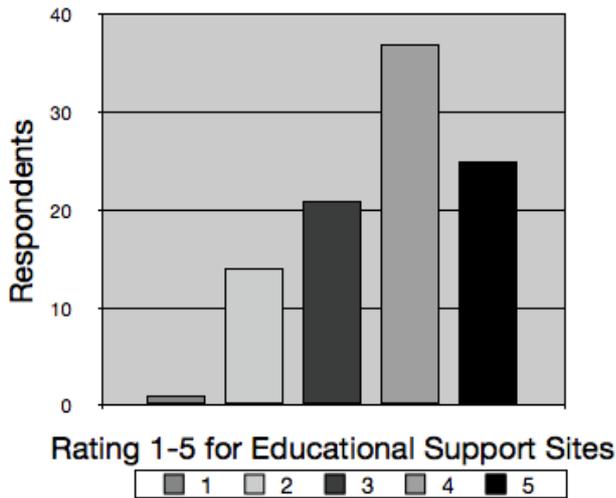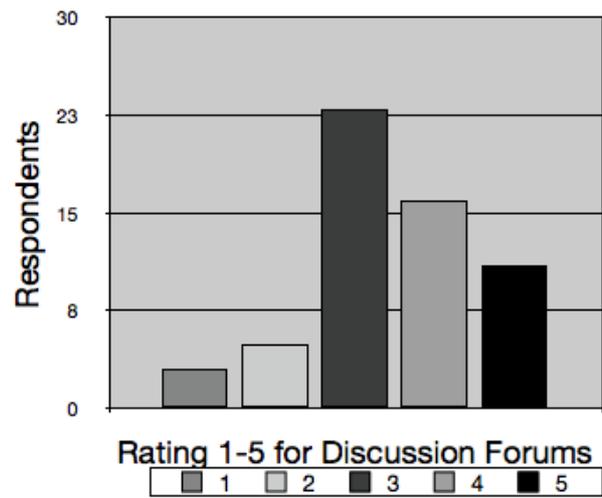FIGURE 5   FIGURE 6

A popular, exam-preparation site, skoool.ie delivers podcasts, subject handouts and interactive lessons. It is a content delivery service, and scores well. Interestingly, discussion forums, collaborative tools where content is generated by the users, scores better the SNSs. That being said, forums may also be used as information sources without any interaction or contributions being made by the user.

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Figure 7: Answer to, "How useful [do] you think search engines like Google were to your learning?"
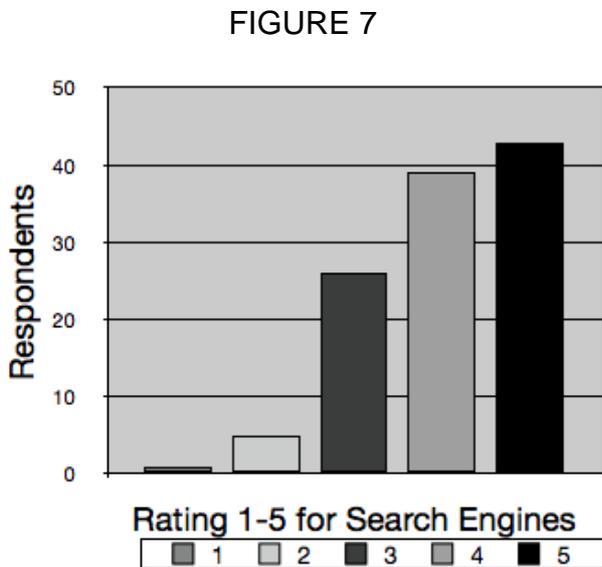
FIGURE 7

Search engines received the highest ratings. There is no breakdown on the nature of these searches, however, their prime function is to deliver information, not to share or collaborate.

Across these individual rating results (figures 3 to 7), content delivery platforms such as search engines and dedicated support sites were well rated, while SNSs obtained the lowest rating. As noted, forums received a better rating than SNSs, but forums can be used without contributing, and solely as sources of information. We must also note the smaller sample size of the SNSs responses.

This trend to rate information delivery resources over sharing resources is reflected in the results from Figure 8, where the averages from figures 3-7 are given for comparison.

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Figure 8: Average ratings of all ICT/Web tools rated.
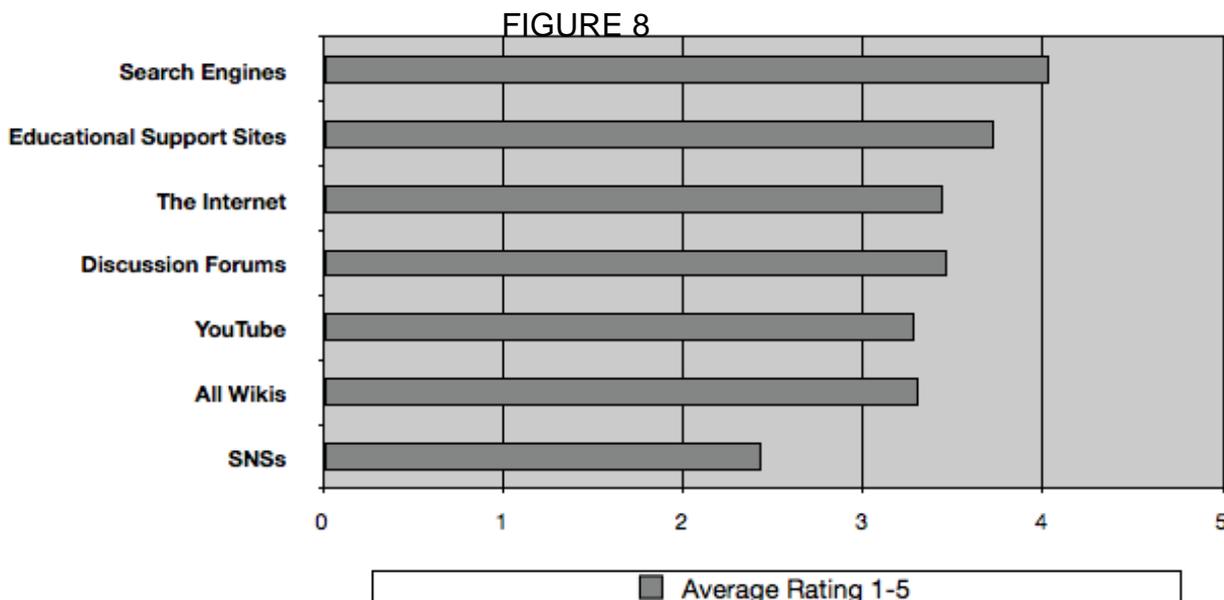
From the above, some general comments can be made about the use of Web 2.0 resources by Irish Leaving Certificate students. First, just over three-quarters turned to the Internet as an informal learning resource. They used a wide range of tools, but certainly favoured and valued information delivery tools over collaborative ones (assuming Wikipedia use was as readers, not contributors). They gave the Internet, as a general resource, a moderate approval in their rating of 3.45 on a 1-5 rating scale. Just less than a quarter of respondents used a SNS like Facebook to support their learning, and not only was the average rating for these the lowest, but it was the only one that saw a peak at the lowest rating, 1. There was an increase in the informal use of these resources over formally-supported use, and this itself points to a culture of informal use that has not been shaped by formal education, in turn telling us that learners have probably had no skills training or modelling in the use of these tools as learning resources. This raises questions as to what we can expect from a population of learners who are being educated to pass an exam that rewards rote memory over higher-order thinking skills such as collaborative learning. To what extent are these informal choices made by learners a reflection of their formal learning culture? Or perhaps learners simply do not want to use their SNSs for formal or informal learning, as they have designated a different role for these resources. A look at how learners at secondary-level are including, or excluding their education status in the SNS identifies may reveal more.

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Discussion

Every Facebook user creates a "profile", information about themselves, which others can view. This can be as sparse as one's name, or include an education and employment history, photos, favourite films, books, etc. If Selwyn is correct in identifying Facebook as playing a role in identity creation, and if Madge *et al.* (2009) is correct in identifying a preference for separation of Facebook and the institution, then this too should be reflected in the information included, or excluded in students' profiles.

Through Facebook's AdPlanner service, "reach" figures for use by exact age-range can be obtained (all Facebook data in this paper was accessed on May 31st, 2011 http://www.facebook.com/ads/create/#). A word of caution on these "exact" figures; the Central Statistics Office (CSO, 2009) figure from the 2006 national census gives a population of 290,257 people aged between 15 and 19. For the same age range Facebook gives a user figure of 313,380. Even with a population increase between 2006 and 2011, Facebook are claiming 100% of this age range (Facebook estimates 1,936,580 users in Ireland, out of a 2006 population figure of 4,239,484). With this in mind, this paper will look briefly at the information Facebook users are choosing to include in their personal profiles at secondary level.

The Department of Education and Skills figure for full-time, secondary students in Ireland is 350,687 (DoES, 2011). The Facebook "reach" figure for those include the information that they are attending secondary school in Ireland is 16,340. The recent EU Kids Online report (Livingstone, *et al*., p. 13) on SNS tells us that 47% of Irish 13-16 year olds have a Facebook account, so with Facebook claiming nearly half the secondary school population, a figure of 16,340 who have included the school-status in their identity is very low.

It is not known why students have not chosen to include their secondary-school status in their profile. Some users may simply not fill out their profile, or are concerned over privacy issues. Or perhaps everyone they know knows that they are a student, so why bother? It does seem that while a secondary-school student, there is little perceived value, or desire, or need for users to including their learner status in their profile. While this data does not allow us to go so far as to say this is an articulation of a disconnect as argued for by Selwyn (2009) and suggested by Madge *et al.* (2009), it is certainly congruent with their research.

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Returning to the survey run for this paper, only 23% of those ICT users used a SNS like Facebook in their informal learning, and they gave SNSs their lowest usefulness rating. This is a relatively low usage figure and poor rating suggest that either SNSs are not fit for purpose, or students do not possess the skill-sets necessary to exploit them. (If so, this may be offered as either an alternative or a compliment to Selwyn's demarcation findings.) As mentioned in the previous section, some of the data collected suggests a deficit of formal training in these resources at school.

From the information gathered on the formally supported use of Web 2.0 tools, Facebook hardly registered in comparison to tools such as Wikipedia and search engines. This indicates that there is little if any formal instruction in how to use SNS-type platforms to learn. If learners are not provided with learning models which demonstrate the ability of platforms like Facebook to support their learning, then to what extent will they informally adopt these tools to this end when left to their own devices? In a desk study on formal and informal HE learning and Web 2.0 use, Trinder, Guiller, Margarayan, Littlejohn & Nicol (2008, p. 37) found that a, "lack of understanding of the functionality of social software sites was common". The authors go on to say that in general, learners were unaware of the potential of Web 2.0 tools for learning and many had poor digital literacy skills (p. 39). Bennett, Maton & Kervin (2008, p. 778), in their review of the Digital Natives debate, report that "… a survey of 4374 students across 13 institutions in the United States (Kvavik, Caruso & Morgan, 2004) found that […] a significant proportion of students had lower level skills than might be expected of digital natives."

There is another issue, and one which can only be touched on briefly here. It questions whether collaborative learning itself is being rejected by learners. Certainly from the evidence from this research, collaborative tools are used and valued less than information-delivery tools.

The survey presented in this paper has its limits. The sample size is small (162 respondents out of a population of about 3,000) with a margin of error of plus or minus 7.5. The population is from an institute of technology, and it may be argued that students who elect to attend a technical institution (although not all courses are technical) would be more disposed to using Web 2.0 tools than those who would attend a more humanities-orientated institute. Nevertheless, the research presented here suggests that Irish learners have chosen not to use SNSs as informal-learning resources, favouring instead Web 2.0 resources which deliver information. This mirrors a pedagogy that is transmissive rather collaborative.

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If Selwyn's findings are correct, and there is a desire to demarcate SNS such as Facebook from formal learning spaces, then the question arises as to how to detect and strategise for resistance to formal education encroaching into virtual spaces, and how much authority should be granted to learners to delimit education strategy?

Recognition of the role of users, and of the collective, is discussed by Thomas (2010, p. 506) who notes, that, "Within OSOSSs [Online Self-Organising Social Systems], individual participants will be guided by their own preferences". Thomas continues, with reference to Siemens' (2004, p. 508) formulation of connectivism, that any learning that may occur within an OSOSS will be an emergent property of that space. These emergent properties may not be what educators have anticipated and therefore educators need to give space to learners before these properties emerge. In a wider argument over separation or integration of e-learning tools into LMSs, Dalsgaard (2006) identifies online social tools as supporting a social constructivist approach and notes that the selection and employment of social software by learners is necessarily open-ended and it is the learners who will drive use. As Conole, Laat, Dillon & Darby (2006, p.6) comment, "They [learners] are critically aware of the pros and cons of the use of different technologies and 'vote with their feet' – i.e. they don't use technologies just for the sake of it – there needs to be a purpose and clear personal benefit".

However, the clear personal benefit learners may see in SNSs such as Facebook may be antithetical to the transformative role writers like Dalsgaard (2006), Brown & Adler (2008) Alexander (2006) and Redecker *et al.* (2009) have envisioned for social software tools, and the reality of SNS uptake may be, as Selwyn noted with Facebook, quite mundane. Educators may need to accept that learners will decide that there are spaces which, despite their rich, learning-support potential, will remain separate from formal learning.

Yet we must also consider the Trinder *et al.* (2008, p. 37) and that, "lack of understanding of the functionality of social software sites was common." From this an argument may be fairly made that a desire to demarcate SNSs as non-learning spaces is in part due to an ignorance of their learning potential. To push this further, is resistance to SNS-use indicative of resistance to collaborative learning for the same reasons? These questions suggest research into the effects of modelling Web 2.0 resources as learning tools with learners, and observing their subsequent informal choices of Web 2.0 tools. Comparative analysis of these informal choices between students embedded in a transmissive pedagogy and a population of students embedded in a constructivist population may also be illuminating. Both these strands of research would speak to the culture of learning in which

students find them selves, and how this impacts upon how they perceive and use available Web 2.0 tools. Such research may also serve as a litmus test for the general health, or otherwise, of the constructivist agenda in our current pedagogy. Perhaps the current data already serves this function.

In as much as Donnelly & O'Rourke (2007, p. 33) have identified "the traditional inertia of mainstream education practices", which lag behind the growing field of educational technology, perhaps there also exists a "learning-approach inertia". While information-transfer models of learning have fallen from academic grace, to what degree have they actually fallen away on the ground? If social constructivist pedagogy were the prevailing approach, or even a significant voice in secondary and third-level education, it would be reasonable to expect students to use Web 2.0 tools suitable for the collaborative learning. The Irish Leaving Certificate students presented in this paper did not make these choices. The research from Selwyn (2009) and Madge *et al.* (2009) on SNS use in UK universities also tells us that learners are electing not to use SNSs to socially construct knowledge. What does this tell us about the health of social constructivism on the ground, and to what degree its ideas have been accepted by learners?

Conclusion

This paper began by arguing that the better informed our models of our students are, the more robust our strategic decisions will be. The research presented here indicates a learner who, when allowed to make his or her own choice, values information gathering over information sharing and collaboration, itself perhaps a reflection on the prevailing pedagogic practice as they experience it. The pervading pedagogy in turn is failing to offer learners models of how these tools may be used to support their learning, raising the question, are learners not using these collaborative tools because they do not value them, or because they do not recognise the value in them? The picture is further complicated by research which suggests that learners, at least at third level, may have a preference not to use SNSs such as Facebook as a learning space, informal or not.

Further research would help further our understanding of relationship between the availability of resource modelling and informal, learning-resource choices. One research option would be an action research project, whereby a group of Leaving Certificate students would have the use of social tools as learning resources modelled for them. Following this, and along side a control group, support would be withdrawn and their informal choices of ICT tools would be monitored.

The issue of gender is another research area prompted by this research. Nineteen percent (n=31) of participants did not use the Internet at all during their exam preparation. Twenty nine of these (93%) were female. It would be useful to repeat this survey to establish the significance of this figure. Such a repeat would benefit from qualitative analysis to seek insights into how resources were used.

Finally, it would be of interest to compare the informal choices made by a cohort of learners at both secondary and third level to see if the shift in pedagogy as they transition from second to third level would impact on their informal-learning resource choices. This would be a longitudinal study tracking a group from pre-Leaving Certificate to their final, undergraduate year.

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