Learning 2.0 in the Information Systems Curriculum

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Abstract
This paper describes the application of Learning 2.0 ideas in the Information Systems program at BYU. Using the Drupal content management system, we developed the “island” web site with organic groups to foster learning and discussion on a variety of student-driven topics. The island site complements the formal curriculum by hosting out of class discussions, investigation into topics not included in classes, and student-alumni relationships and mentoring. The site also supports student blogs, recruiter activities and job postings, polls and events, and wiki-based knowledge centers. Learning 2.0 seems to be an effective way of promoting expertise among student learners.

1. Introduction

Today’s information systems professionals are required to know an ever-expanding set of technologies, business strategies, and practical skills [1]. Despite the increasing number of topics that are comprised within the information systems (IS) field, most university IS programs are severely limited in their course hours. Major hours must be shared between traditional IS topics like analysis and design, database, networking, and business programming and business topics like marketing, strategy, finance, and accounting. Some universities have only emphases in IS and have little hope of properly addressing the breadth contained in the IS field. Other universities have full IS majors, but these still must strike a balance between breadth and depth.

In addition to the vast number of topics that IS programs need to teach, many of the topics must be given sufficient depth for students to understand them. Most IS courses simply do not have enough time to properly engage students in topics like change management, human computer interaction, robust database design strategies, or the application of UML to different contexts.

Today’s recruiters require that universities train students to become expert professionals with practical knowledge to be competent [2,3,4]. Many universities have produced consumers of knowledge and expertise by giving students defined tasks, predictable questions, and engineered projects rather than assignments that model the real world [5,6,7]. It has been proposed that the academy must fundamentally change its curricula if it is to provide the foundation for expert learning [8]. Experts are able to deal with real-world uncertainty, apply foundational IS principles in new and difficult contexts, and continue their education as self-learners.

It has been stated that Information Systems students need to not only understand the foundation topics of the field, but they also need to develop a "feather in their cap" that will set them apart from other graduates [9]. They are thus differentiated by not only understanding the basics of the field (and are thus similar to other graduates), but also have specialized into one or more deep topic like Linux administration, computer forensics, or search engine optimization (and are thus differentiated from the other graduates).

These three needs of 1) depth vs. breadth, 2) expert preparation, and 3) student specialization require that curriculum committees use clever planning and out-of-the-box thinking to properly implement the published curriculum standards of the Association of Information Systems [10] in a way that meets recruiter and student expectations [4].

This paper briefly discusses an approach to meeting these needs through creating an online platform to support communities of learning, sometimes called Learning 2.0 in the academy or Enterprise 2.0 in practice. Through a programsponsored web site called island ("Information Systems Land"), students share blog entries, create and participate in organic groups of their own interest, share news stories, email one another, and meet with alumni and Masters-level students through ad hoc mentoring.

The paper first outlines the research behind communities of learning and Learning 2.0. It then describes the individual components of island in detail. It finishes with a discussion of how island implements the research concepts of Learning 2.0.

2. Learning 2.0

Learning 2.0 is a student-oriented learning method that attempts to produce knowledge experts in a self-driven way [11]. It is different (but often uses) Web 2.0 technologies like wikis, blogs, and social
networking sites. In contrast to Web 2.0, we describe Learning 2.0 with the following principles [an adaptation of 12]:

- **Knowledge**: Recognition that no one can master all the content that comprises a particular discipline. Students must learn to become producers, rather than only consumers, of knowledge.
- **Pedagogy**: A shift to constructivist teaching philosophies, with focus on students teaching and learning from one another in topics they are passionate about.
- **Development**: Modeling for students the creation of and participation in sustained, long-term learning communities they can participate in throughout their careers.
- **Networking**: The building of formal and informal human networks to build human capital, mentoring relationships, and networking opportunities beyond the traditional classroom.

In Learning 2.0, a student who has an interest in a deep topic can create a group for the topic. The group is then advertised to other students, alumni, and faculty, who are encouraged to sign up for the group if interested. The group then posts knowledge to share, discusses and argues the topic, and holds events as needed. The group discussions are able to foster discussions that cannot be done in class due to limited time or even by the limited interest of the greater body of students in a class. Learning becomes an ad hoc, student-driven experience that goes as fast as the group is able. Learning 2.0 adapts to the actual learning needs of the students instead of requiring the students adapt to the school's ideas [13].

This method of learning obviously does not replace the need for basic IS topics taught in the traditional fashion; rather, it complements the traditional approach by adding both breadth and depth to the learning experience that students go through. This approach can be seen as a set of channels to which students can subscribe to build "feathers in their caps" and expert knowledge during their college career. Indeed, the approach is difficult to measure and assess learning within. But as a complementary approach, it fills a significant gap in IS program curriculum.

### 2.1. Supply-Push vs. Demand-Pull

Supply-push describes the traditional curriculum model, where faculty plan their courses to push knowledge to students. Demand-pull describes the type of learning typically done by extracurricular learners. For example, a person desiring more knowledge (demand) about RFID tags might search the Internet and pull information from various web pages. Supply-push models work best when resources are scarce, such as when professors are the sole source of information. Demand-pull models seem best when resources are abundant. Today’s Internet provides a tidal wave of information that learners can access [14]. If learners are able to form learning groups with knowledge repository technologies, they compile and link information for future learners. These resources are then available for students to pull on demand more effective than attempting to push knowledge into students. Learning 2.0 acknowledges that “people learn in response to need” [15].

Brown and Adler state that “the demand-pull approach is based on providing students with access to rich (sometimes virtual) learning communities built around a practice. It is passion-based learning, motivated by the student either wanting to become a member of a particular community of practice or just wanting to learn about, make, or perform something. Often the learning that transpires is informal rather than formally conducted in a structured setting. Learning occurs in part through a form of reflective practicum, but in this case the reflection comes from being embedded in a community of practice that may be supported by both a physical and a virtual presence and by collaboration between newcomers and professional practitioners/scholars.” [16]

### 2.2. Cost Efficiencies

In addition to developing expertise, it is less expensive to host an online learning community to address the wide variety of IS topics than to continue to create classes on topics. Once the technology is in place, setting up a new topics group doesn't require a curriculum committee meeting, classroom space, professor time, or any other expense. Instead, it only requires a few passionate learners.

Figure 1 depicts the a modified supply/demand curve as applied to the two types of learning. Traditional teaching has a significant startup cost (purchasing of buildings and classrooms, hiring of professors, etc.). The marginal cost of each additional class is minimal as long as the resources support it. At some point it runs up against hard constraints (number of classrooms / number of professors / number of students required to justify a class). Once resources are exhausted, the marginal cost increases significantly because only a few students are interested in niche topics. In the traditional sense, we equate learning communities to individual classes provided by the major.

Learning 2.0 has a more linear curve. The startup cost is minimal (web server setup, Internet connection)
because we assume students already own laptops to access communities through. Since groups are student-supported, each additional group requires minimal cost. In the Learning 2.0 model, learning communities are individual groups that students can participate in.

Figure 1. Supply/Demand Graph

We depict the demand curves as vertical lines because we hold fixed number of students within in a given major. For simplicity, we assume these students have a fixed number of interests in learning topics. The three demand lines are as follows:

1. A traditional (non-IS) major with a limited number of topics. These majors are able to fit their curricula within the resources provided to them.
2. A typical IS major teaching the model curriculum as published by the AIS. Because most IS programs have limited resources and hours, most programs are stretched to the limit of their resources, and some must make tradeoffs.
3. This demand line represents the true level of interest of IS students. Because students have a wide variety of interests related to IS topics, a large number of learning communities are required.

The linear Learning 2.0 line in Figure 1 illustrates the “long tail” often attributed to learning communities [18]. For example, Amazon.com can store a virtually unlimited number of books in its warehouses while a traditional bookseller must balance availability with space limitations. Amazon.com is able to capitalize on a long tail of availability. In the same sense, there are a large number of niche topics that students would like to learn but that do not qualify as core concepts. Learning 2.0 complements the core competencies by meeting these long tail needs.

This radical reworking of the costs for creating new learning communities changes many assumptions held by colleges on what can and should be taught. A similar shift can be seen in the media field. New media technologies such as blogs and picture and video sharing sites have made it exceptionally easy for users to publish media. This has led to an explosion of user-generated content available on the Internet and has vastly expanded the diversity of available media. Rather than the push of content through traditional media (TV, radio, etc.), users are able to pull content specific to their interests.

Because publishing was expensive, media outlets had to filter supply and could publish only core media of interest to most users. The Internet’s pull mechanism allows all content to be published first and then the best content is filtered through rating systems and other free market principles. This model represents the philosophy of letting a thousand flowers bloom and then picking the best. [19]

In the same way, traditional classes are only provided when they are seen as high value and of interest to a sufficient number of students. Because of the high cost (especially in faculty time), curriculum planners are usually conservative about experimenting with classes on new topics or classes taught in a different teaching style.

Learning 2.0 allows experimentation with new topics without significant risks or costs. Creating a new learning group online takes less than a minute and costs almost nothing to the institution. The student creator automatically becomes the group moderator and manages the group. Certainly, universities must provide some oversight on topics and discussions, but the groups generally police their own space effectively. Students and professors can create new learning communities on what they are passionate about and not have to wait for a new class to be approved. The most successful communities inform curriculum planners of important topics; a popular group with many active learners is evidence of demand for a class on that subject.

2.3. Long-Lived Communities

Another advantage to Learning 2.0 communities is they don’t have to disband at end of a school term. Even the best classes often just hit their stride near the end of the semester. Each new set of students must start anew the effort of community building, culture sharing, and knowledge discovery. Online learning communities can span multiple years and become an
and learning than particular details of their instructor's assignments is a far stronger predictor of engagement used by students to study and do homework collaborate in innovative ways.

people with common interests to meet, share ideas, and participate. Because they have the resources created by previous semesters. Students are able to better prepare for class and point to discussions or wiki pages created in past semesters. Students are able to better prepare for class because they have the resources created by previous participants.

Brown and Duguid write that “escaping the temporal confines of the classroom, class websites provide students and teachers access to documents separately and in their own time. They also help class documents to grow incrementally over time, making changes (by both teachers and students) available for all in the class to see and annotate. In this way, these sites are powerful resources for a community of interpretation. But they are usually an extension of, not a replacement for, face-to-face meetings of such a community.” [15]

As each community matures, its level of experience and knowledge deepens. As students graduate and move into the workforce, they will stay connected with new students through the Learning 2.0 platform. The alumni's professional experience and the Learning 2.0 tools will facilitate invaluable informal mentoring between students and alumni.

A Wikipedia article grows in a similar manner to an online learning community. A typical Wikipedia article starts as a “stub.” For example, the article for wheat started its life on February 25, 2002 as a 37-word stub. “Wheat is a plant (a grass) that is cultivated around the world. The seeds are harvested and ground into [flour]. It is thought that wheat was first domesticated in the fertile crescent area of the Middle East.” [20]

The stub attracted other users who were interested in the subject, and each added their knowledge to the article. Six years and over 1,000 revisions later, the wheat article has 2900 words, 13 major sections, an extensive reference listing, and dozens of contributors.

The heart of Learning 2.0 is that learning should be social in nature. Social learning has been a common thread in student-centered learning since the work of Vgotsky. Learning 2.0 tries to connect students not just to ideas but also to each other. “[Learning 2.0] allows people with common interests to meet, share ideas, and collaborate in innovative ways.” [16]

A study by R. Light showed that “the method used by students to study and do homework assignments is a far stronger predictor of engagement and learning than particular details of their instructor’s teaching style. Specifically, those students who study outside of class in small groups of four to six students, even just once a week, benefit enormously... Students [who study in small groups] are far more engaged and better prepared for class, [and] learn significantly more.” [21]

In groups, Brown and Alder wrote, “students...can ask questions to clarify areas of uncertainty or confusion, can improve their grasp of the material by hearing the answers to questions from fellow students, and perhaps most powerfully, can take on the role of teacher to help other group members benefit from their understanding.” [16]

2.4. Unifying Framework

To become an effective Information Systems professional, a student must enter the community of IS professionals and develop expertise in foundation topics. Traditional education does this by providing classrooms and scheduled times for students and existing experts (professors) to meet.

Learning 2.0 complements this approach by providing a platform for creation of online communities of learners. Much like the traditional classroom, it provides a place to meet with other interested learners and contains a mixture of learners at levels from novice to expert. It allows users to interact in innovative ways [16].

Based on an extensive literature review, Herrington and Oliver [17] proposed a nine-element framework for the type of learning that enables students to acquire expertise as opposed to formal knowledge only. This framework exhibits elements of the ideas of Learning 2.0 and is one of the best summaries of the concepts therein. It serves as the primary unifying framework for this paper. The nine elements are summarized into Table 1, and they are applied to the Island web site later in the discussion section.

<table>
<thead>
<tr>
<th>Table 1. Herrington and Oliver framework</th>
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<tr>
<td><strong>Authentic Contexts</strong></td>
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<tr>
<td>• Use complex, life-like situations</td>
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<tr>
<td>• Provide a wide variety of diverse resources</td>
</tr>
<tr>
<td>• Avoid simplifying problems/situations</td>
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<tr>
<td><strong>Authentic Activities</strong></td>
</tr>
<tr>
<td>• Provide activities with real-life relevance</td>
</tr>
<tr>
<td>• Do not overly define tasks/assignments</td>
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<tr>
<td>• Provide less tasks that are more complex</td>
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<tr>
<td>• Integrate tasks across subjects</td>
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<tr>
<td><strong>Community of Practice</strong></td>
</tr>
<tr>
<td>• Access to experts and learners at various stages of expertise</td>
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<td>• Opportunity to share experiences</td>
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<tr>
<td>• Ability to observe others in real-life like situations</td>
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<tr>
<td><strong>Multiple</strong></td>
</tr>
<tr>
<td>• Provide different perspectives on</td>
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the Information Systems program at BYU.

**Personas:**
Prospective IS student John visits Island to see if he wants to become an IS major. He reads discussions and information in different groups/wiki to get a feel for what it’s like to be an IS student.

Current IS student Fred visits Island to share and learn knowledge. He creates and join groups to learn with fellow students/faculty about topics he’s passionate about. He finds new friends in the major that share his interests.

Alumni student Jane visits Island to keep up on the latest news and trends in Information Systems. She keeps in touch with friends she made while in school. She shares experiences from her job as an IT Auditor with others who have joined her at one of the Big 4. She organizes BYU IS Alumni meetings in San Jose where she lives.

Faculty member Dr. Carver visits Island to learn from and share his knowledge with IS students and faculty. He loves the great news articles that students find and posts as it helps him stay up-to-date in his field amidst his busy schedule. He loves learning with his students and the opportunities Island gives him to mentor and teach students as he realizes that more than anything else, teaching is modeling.

As can be seen from its mission statement, Island is built for all students connected to the IS program—from prospective students to alumni. However, the primary focus and users of the site to date has been on current students, who use the site to supplement course material, ask questions and get technical help, share notes, and discuss extra-curricular topics of interest.

One of the primary goals of the site design is to combine static with dynamic content. Most IS program web sites are static, providing (often outdated) application information, faculty research projects, and recruiter information. While these are important topics for a program web site, they do not provide any incentive for current students and alumni to frequent the site. Students will only visit daily or even weekly if new posts are constantly showing on the home page and in group centers.

To achieve both static and dynamic elements, each island page (including the home page) is split into a semi-permanent wiki page on the left and a dynamic, story-oriented feed on the right. This allows the placement of static text (such as information that is important across time or that introduces new visitors to

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<tr>
<th>Roles and Perspectives</th>
<th>materials</th>
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<tbody>
<tr>
<td>• Opportunity to express different points of view</td>
<td></td>
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<tr>
<td>• Reusing complex situations from different viewpoints</td>
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<tr>
<th>Collaboration</th>
<th>• Assign tasks to groups</th>
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<tr>
<td>• Organize classes into groups</td>
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<td>• Provide incentives for whole-group involvement</td>
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<tr>
<th>Reflection and Abstraction</th>
<th>• Allow students to revisit older ideas and build upon them</th>
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<tr>
<td>• Opportunities for learners to compare themselves to other learners and experts</td>
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</tr>
<tr>
<td>• Enable groups to reflect upon material</td>
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<tr>
<th>Presenting Opportunities</th>
<th>• Assign tasks that require students to make tacit knowledge into explicit presentations</th>
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<tr>
<td>• Create expectations for students to present and defend their work within the group and to the class</td>
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<tr>
<th>Coaching and Support</th>
<th>• Provide a work-like environment with no intrinsic coaching</th>
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<tr>
<td>• Have students mentor and support each other</td>
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<tr>
<td>• Set aside time and availability for professors to serve as coaches as needed by individuals</td>
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<tr>
<th>Authentic Assessment</th>
<th>• Assessment should be true to the given context of the task</th>
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<tbody>
<tr>
<td>• Multiple assessment should be integrated into the tasks</td>
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<tr>
<td>• Assessment criteria should be both reliable and valid to the task</td>
<td></td>
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<tr>
<td>• Students should be exposed to the work of other students</td>
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The goals of the web site can be summarized in the following hypothesis, which we discuss using a case study approach:

*Island’s Learning 2.0 concepts, as summarized by Herrington and Oliver’s nine elements, provide opportunity for deep exploration of student-driven IS concepts and support the development of expert learners.*

### 3. Elements of Island

The island web site, currently hosted at [http://island.byu.edu](http://island.byu.edu), is an implementation of the Learning 2.0 principles described in the previous section. The island mission statement is as follows:

*Island is an online platform built to facilitate deeply personalized, passion based learning*
the group) that can be modified by any group member. It also allows a changing, interesting river of stories, blog posts, polls, and discussions to take place for the primary members of the group.

In addition to the web-oriented island site, the server provides an email list that most students subscribe to. Students are required to sign up when they are accepted to the program, but they are free to drop off later if they wish. The email list provides a forum for quick questions that do not warrant the overhead of the web site. Often, topics that start on the email list move to full groups on island. For example, in Summer 2008, an email thread sharing Nintendo Wii racing identification numbers had significant interest. As it gained in popularity, several subscribers moved the topic into an island group so those interested could continue the conversation.

The home page of the island site is shown in Figure 1. Note the two primary sections of the screen (wiki and stories). The main site wiki page contains a FAQ for new members of the site, pointing users to existing groups, blog entries, and job postings.

The elements of the technology are described in the following sections. The Drupal modules that enable the features described in each section are listed for reader benefit.

### 3.1. Foundation Technology

The island site is built upon Drupal, a popular, PHP-based, open source content management system (http://drupal.org) and upon the Mailman email list manager (http://www.gnu.org/software/mailman/). Drupal was built in 2000 by Dries Buytaert and Hans Snijder at the University of Antwerp to serve as a news site and web board. The original name of the software, *Dorp*, is Dutch for 'village'; the current name, a simplification of the Dutch word *Druppel*, continues the village theme in a typical, misspelled Internet way [22]. The island idea could easily have been done with other content management systems, but Drupal seemed the best fit for the needs of the project as well as the open source preferences of the designers.

The Drupal engine itself is little more than a module manager; the primary functionality in Drupal is achieved through the installation of several of over 1,800 available modules [27]. These module provide functionality for page layout, user administration, syndication, file management, filtering, import/export, mail, organic groups, search, security, and many more areas. The island site is a combination of modules that achieve the organic functionality of the site.

The content layout is achieved with the *Panels* module. This Drupal module is one of the more advanced (and complex) modules that allows subpages within each web page on the site. It contains templates to ensure a common layout for each group home page (i.e. the wiki and story sections).

User administration is done through an *Idap* module that connects directly to the University authentication server. When students first log in with their University ID, their University password is authenticated, and their user account is automatically created. This important connection decreases the startup cost, an important factor to any groupware site [23]. Users are then encouraged to fill out an extended user profile that includes their personal information, social networking names (such as Skype, Twitter, Facebook, MySpace, and LinkedIn names), contact preferences, and blog information.

Island includes modules for simplified content creation in the Textile markup language. The types of content that can be created are as follows:

- **Wiki blocks or full pages** on the left-side of any group home page. In typical wiki style, the left-side block of the group home page can link to an unlimited number of full-page wiki pages behind it.
- **Discussions** that run on the right-side river of news. **Discussions** are for less-permanent, discussion-oriented topics about current news, knowledge exploration, or web site links related to the topic. **Discussions** are the primary mechanism for group members to discuss and communicate with one another. If Discussions are deemed interesting for all island users, site moderators can promote the discussion to the island home page.
- **Events** that show in a block on the very right side of the group home page. Events are

![Figure 1. Island Home Page](image-url)
typically face-to-face or online meetings for group activities.

- **Blog** entries are journal entries by group members. Each island user has a general-use blog page that he or she can post directly to or aggregate postings from another location (for example, if the user instead blogs on a site like Blogspot).
- **Polls** that gauge group member thinking or opinions on topics related to the group.
- **Comments** are individual discussion items [comments aren't nodes in a drupally sense] that occur on stories, events, or blog entries.
- **Emails** sent to the student list. These contributions go through the server, but they are not archived or stored in the Drupal system. They simply go directly to the inboxes of those subscribed to the list.

The Drupal modules used for content functionality include freelinking, marksmarty, FeedAPI, Event, Wikitools, User's Groups, Forum, and Blog.

### 3.2. User Profiles

One goal of island is to connect new and advanced students, alumni, and faculty in an ad-hoc, low cost way through discussions and group participation. Traditional mentoring can be seen as a heavy, expensive activity: it requires formal setup, time commitments on both sides, and meetings in person or electronically. While traditional mentoring is certainly useful, it saw limited success because it was simply too difficult to set up and maintain.

User profiles in island allow users (students, alumni, faculty) to learn about other users' interests and group participation. They provide the connecting point for communication on island as well as many other sites (Skype, Twitter, Facebook, MySpace, LinkedIn, and others). As users find each other through user profiles or through group discussions, low-cost and quick "mentoring" is done in a context-specific way. Advanced users in a given topic are able to mentor new users. Rather than forcing the mentoring relationship, the length and depth of relationships are managed through a free economy approach. In short, they occur and continue as long as they make sense.

Finally, the user profile page allows subscriptions to various groups, including the generic student email list. Students that register for different topics are automatically sent emails for new content that is posted to those topics.

The Drupal modules used for user profiles include the following: Profile, Advanced Profile Kit, Tagadelic, Views, and mailman-manager.

### 3.3. Organic Groups

The module "organic groups" provides the foundation of the island web site. The module allows participants to create groups on any topic, even topics not related to IS but still of general interest to site users. While some moderation is done on the creation of groups to ensure appropriateness, groups are almost always approved and are allowed to compete for popularity among other groups on the site. Groups that achieve an interested and active community continue; groups that do not create communities are removed after a period of time. It is up to the group leader to recruit other students, post the initial content, and create interesting discussions and/or events to ensure the success of his or her group. Students often discuss topics in class, on the email list, or elsewhere before starting formal island groups.

New group home pages are provided a wiki template for the left side of the screen. The Template for wiki starts with the invitation, "Hey Group Admin -- Work on this area first!". The text then continues with an example of what the initial wiki page should look like. An example for a group about StrongBad [24] is provided for the new group leader to modify and change to a topic overview. This template encourages site clarity and jump starts group leaders in their new role.

Island encourages the creation of two types of groups: topic-oriented and geographic. Topic -oriented groups have been described thus far in the paper. Geographic groups provide a meeting place for alumni working in various areas of the world. These groups help alumni find one another, connect for meetings and activities, and support one another in their geographic areas. Alumni are also encouraged to post information about their areas on the wiki portion of their group, such as typical housing prices, popular companies where alumni work, visiting information, weather and climate, and other topics of interest to students considering recruiting in their area. It allows these students to find alumni to discuss potential work opportunities with.

Many times, group topics start in the discussion area as stories. Discussions that seem to gain popularity and interest or discussions that hold timeless and important information are often promoted to the wiki page for more permanence.

The home page for the Business Intelligence group is shown in Figure 2.
The Drupal modules used for organic groups include the following: Organic groups.

### 3.4. Blogs

Student blogs are an important aspect of expert knowledge creation. A blog entry requires that a student turn tacit knowledge into explicit understanding on paper. Island supports two types of blog entries: blogging directly on island and blogging elsewhere. Most students entering the program have never blogged before. In one of the first classes new IS students take, students are encouraged to start a blog on island to record their thoughts, interesting web sites, and knowledge gained during the program. Students are introduced to the culture surrounding blogging, including topics appropriate for blogging and other norms.

Some students enter the IS program with existing blogs on Blogspot or other web sites. Island has a module which aggregates those blog entries to the island site so other students can read them. Students are encouraged to use RSS readers to sign up for other student blogs to learn from one another.

The Drupal modules used for blogging include the following: Blog and FeedAPI.

### 3.5. Recruiters, Internships, and Jobs

A special group on island is specific to recruiters. It contains an additional content type, job_post, which allows recruiters to post job and internship offerings to students. This form contains structured fields for job type (career-oriented, internship, quick consulting gig, etc.), location, pay rate, All students are encouraged to join this group so new job postings are sent to them. In addition, a block on the island home page shows the ten most recent job postings to give this group additional real estate on the site.

A common recruiter login account is used for recruiters (creating a separate account for each recruiter that wants to post jobs requires too much overhead). This account allows recruiters to post their own jobs and internships as well as participate in discussions (generally student questions) that occur on these posts. The recruiter account is monitored and the password is changed periodically to maintain some security on the account.

The recruiter group wiki contains a FAQ for new recruiters to the IS program. It describes the steps involved in posting a job or internship and hosting a student event. The FAQ answers explain the campus resources available to recruiters, the primary contacts within the program, links to student leadership, what jobs are appropriate for posting, the difference between CS and IS programs, and when to visit campus. It is a resource for recruiter training as well as a medium for standard setting on recruiter activities within the program.

Typically, about 1-3 jobs are posted to the site each week. Most job postings do not generate discussion, but students either subscribe to the group itself or watch the group via RSS readers.

The Drupal modules used for job postings include the following: modules for structured fields (Number, Link, Option Widgets, Text, Fieldgroup) and CCK.

### 4. Discussion

We begin the discussion with two examples of how the Learning 2.0 platform has helped people connect. One group set up on island is the Houston group. Many BYU ISys graduates take jobs in Houston. Several recent graduates who took jobs in Houston had questions about there new home. One asked where is the best place to live. Another asked what is the best bank or credit union. Another asked which power company is best. Each question had 2-4 answers with different alumni in Houston giving their opinion.

In the Entrepreneurship group, a student asked, “At one time or another, we may think, ‘I have an idea….’ But how do we know whether it’s a good idea or a tar pit?”

Four students responded to the question over nine comments. The conversation ranged from a general comment on how innovation happens, to a framework for deciding whether an idea is good or not, to a comparison of Silicon Valley to Utah explaining why Silicon Valley supports more innovation than Utah.

Returning to the hypothesis of the paper, the Herrington and Oliver framework [17] can be compared with the features built into island. This comparison is shown in Table 2.

| Island groups provide the context for a wide | Authentic |
As of this writing, the island web site has been active for about three months. Web site analytics are the most empirical data we have available. The site has not yet reached a critical mass where surveys and other assessments of its success can be administered. During Summer, 2008, the site received about 75 unique visitors per day. Traffic to groups has been quite differential; some groups, such as a new politics group (being an election year in the USA), have received significant attention while other groups have little activity. Three blog posts (of many hundreds) received general Internet attention and had a significant number of visitors outside the student body. We expect these statistics to change dramatically as Fall semester starts.

Any discussion of Learning 2.0 must include the drawback of assessment. Assessment can be extremely difficult in the organic environment of student-run groups. As is the problem with many constructivist implementations, traditional exams and assignments do not map well. This is especially true with island because most groups have no direct connections with classes, and by design many topics are extracurricular to the core curriculum. As the site moves forward, we hope that creative and clever assessments can be used to tie island better to existing courses and curriculum.

5. Conclusion

The island web site represents a particular implementation of Learning 2.0 principles. As with any IS project, it is important to remember that technology only a small part of a successful implementation. In addition to technical solvency, the implementation must build culture, facilitate faculty creation of circles of knowledge building [25], and entice students to participate and learn.

A future direction for island is the inclusion of situated software [26] to support traditional classroom activities. These include developing course-specific knowledge wikis, flash voting in class, peer-reviews of assignments and code, instant feedback for professors during and after class, student-centered question and answer forums during class, blog entries, and student help facilitation.

Finally, we believe island will connect students to professionals in the community (including alumni and other program friends) via the creation of a "learning ecology" [28]. The site will become a home for existing and previous students, faculty, and recruiters of program graduates.

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