

Computer Skills Workshop for Incoming Community College Students

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Abstract: Colleges today are requiring students to conduct more and more administrative business as well as academic tasks using computers and the Internet. Despite this, research shows there are still students entering college without these computer skills. This is particularly true at the community college level. This study examines the effects of a pre-semester basic computer skills workshop for students entering Hawaii Community College with little or no computer experience. Findings indicate participants (n=4) found the workshop effective, felt they improved their computer skills, and were as a result better prepared to enter college. However, these findings should be viewed with caution due to the small sample size of the study.

Introduction

Are there still college students in this day and age who do not know how to use computers? Though it is difficult to believe based on the current discussions about digital natives and 21st century learners, the answer is, “YES.” However, this does not change the fact that the ability to use a computer is considered a basic skill for community college students in both academic and occupational programs (Zeszotarski, 2000).

This study takes place at Hawaii Community College (HCC), a public, rural, multicultural, community college in Hawaii. HCC is part of the larger, state funded University of Hawaii (UH) system which includes three universities, seven community colleges, and more than ten educational, training and research centers located across the state of Hawaii.

HCC expects incoming students to have a basic level of computer proficiency. According to the college’s current orientation materials, this includes being able to use a computer and the Web to register for classes, and being able to log on to the school’s integrated student information system (MyUH) to check email and access other college services (Hawaii Community College, 2009). However, while this expectation exists, students’ computer skills are not currently assessed at entry. Instruction available to HCC students as of the fall 2008 semester included non-credit and credit courses on basic computing and keyboarding skills, as well as online self-tutorials for UH computing skills such as

MyUH, UH Webmail, and Laulima (Hawaii Community College, 2008). This study examines the effectiveness of a basic Internet navigation and MyUH workshop for incoming HCC students with minimal computer skills.

Review of Relevant Literature

Colleges expect incoming students to be able to operate a computer; to navigate and use the Internet to conduct and complete administrative transactions electronically. For example, Web-based applications, payments, and audits have all become virtually standard in higher education (Miller & Pope, 2003).

Faculty also expect incoming students to have basic computer skills. Osika and Sharp (2002) found that the recent increased usage of Web-based instruction in both distance education and face-to-face courses have increased faculty expectations of students. Expected skills fall into six general skill groups: (a) basic computer/keyboarding skills, (b) file management, (c) word processing, (d) Internet navigation, (e) email skills, and (f) presentation, spreadsheet, and database skills (e.g., Connecticut Distance Learning Consortium [CTDLC], 2003, 2006; Osika & Sharp, 2002).

Studies indicate that while access to technology has increased and technology education has been mandated and implemented in most K-12 curricula over the past decade, students are still entering post-secondary education with a wide range of computer skills (Edmiston & McClelland, 2001; Holmes & Csapo, 2002; Miller & Pope, 2003; Robinson & Thoms, 2001). A pilot study conducted by Stone, Hoffman, Madigan, and Vance (2006) revealed that “students actually performed at a level far below both their perception and faculty expectations” (p. 119).

Looking at the literature more carefully, research is focused on two general student groups: traditional students matriculating directly from high school, and non-traditional students such as returning and adult learners. A widely publicized view of traditional students is that they are digital natives, and are entering college computer literate. A survey conducted by Kaminski, Seel, and Cullen (2003) provided data that indicate students are entering college with sufficient computer skills. They found that only 7% of respondents did not own a computer; 98% had email accounts, of which 81% knew how to attach files to email messages; and 87% had used the Web for over two years.

In addition, public high schools are currently mandated to include technology education in their curricula. The International Society for Technology in Education (ISTE) developed the National Education Technology Standards 2007 (NETS-S) which serves as a roadmap for improved teaching and learning by educators throughout the United States. NET-S is used in all 50 states and in many foreign countries, and is credited with significantly influencing expectations for students and creating a target of excellence relating to technology (ISTE, 2007).

However, Osika and Sharp (2002) concluded in their study that although students today are being introduced to technology at an early age, it does not necessarily mean students entering college are computer literate. A longitudinal study conducted by Robinson and

Thoms (2001) found that an increase in computer usage does not in itself increase computer technology skills. Furthermore, results of a survey conducted with college faculty show incoming, first year students are neither technologically fluent nor information literate (Stone et al., 2006). Although current K-12 students are being exposed to computer technology prior to entering post-secondary institutions, the same may not be true for non-traditional and adult learners. Most students in these categories graduated from high school before the current computer and technology skills requirements were put in place, and some may have been in workplaces where technology was not used (Hawkins & Oblinger, 2006). A study conducted by the CTDLC (2006) found that older students scored lower on a basic computers skills assessment than younger learners.

Non-traditional students, who have had less exposure to computers, may also experience increased computer anxiety (Waldman, 2003). As reported by Messineo and DeOllos (2005):

The increased use of computers and IT also has the potential to disadvantage students who simply lack technical skills. The lack of skills can increase anxiety among students, perhaps reducing their sense of self-efficacy and, as a result, their academic success (p. 62).

Moreover, significant segments of a community college's student population are non-traditional, first generation, minority, and socio-economically disadvantaged students who view community colleges as a primary gateway to post-secondary education (Miller & Pope, 2003). Thus, community colleges face the particular challenge that many of their incoming students do not have the computer skills that is expected in college.

Students entering college lacking basic computer skills may find their unpreparedness as a barrier to their education. Sax, Ceja and Teranishi (as cited in Kaminski et al., 2003) contended that the failure to address computer skill deficiencies could compromise a student's ability to succeed to the fullest extent in college.

Study Overview

A pre-semester, basic computer skills workshop covering basic Internet navigation and MyUH was developed and tested to help incoming HCC students with minimal computer experience better prepare for the computer skills expectations of HCC. Since the target audience has very little prior knowledge of computers, the workshop was deliberately designed to be delivered face-to-face; and to employ a combination of lecture, demonstration, and hands-on instructional activities.

The one day workshop was divided into two sections and designed to take six hours to complete. The first section covered basic Internet navigation skills. Since the target audience is students with minimal computer skills, it was necessary to provide this instruction first in order to enable them to proceed and be successful in the second section. The first section included four skill objectives:

1. Students will be able to open an Internet connection.
2. Students will be able to navigate to the MyUH Web site by typing the URL into

3. Students will be able to access and conduct a search in Google to locate the MyUH Web site.
4. Students will be able to close an Internet connection.

The second section covered the use of MyUH. It was designed to build upon the skills learned in the first section and began with a short review of Internet navigation. This section was four hours in length, and covered seven skill objectives:

1. Students will be able to log in to their MyUH account through the MyUH portal using their UH username and password.
2. Students will be able to find and view classes available at HCC as well as other UH campuses.
3. Students will be able to access the registration tool to add and drop courses.
4. Students will be able to access the Student Records tool to view charges, and make payments.
5. Students will be able to access the STAR degree check tool to view their unofficial transcript and academic journey information.
6. Students will be able to access and use their Webmail to receive and send email messages.
7. Students will be able to log out of MyUH.

The instructor utilized an ELMO document projector, and a LCD projector to first demonstrate and aid in the explanation of each topic and skill. Utilizing these tools, the participants could follow along both audibly and visually. Students, who were seated at individual computer workstations, then participated in hands-on activities to practice and demonstrate newly learned skills.

During the practice activities, the instructor moved about the room to check and provide assistance and feedback to the participants. During performance checks, the instructor assigned a task representative of the skill being taught, and again moved about the room to evaluate the students' ability to perform the task without assistance.

The workshop agenda, curriculum and materials were developed and submitted to a subject matter expert at the college prior to testing. The subject matter expert for this study was a HCC media specialist who in the scope of her position is very familiar with the use of MyUH, and is experienced in computer technology instruction to small groups. In addition, a one-on-one trial was conducted prior to the study with a current HCC student for additional feedback from a learner's perspective.

Methodology

The participants in this study were four Hawaii Community College students. An interest flyer was distributed to 46 students after they completed placement testing, and 83% (n=38) replied to the flyer. Respondents were contacted via phone, and asked additional questions to determine their general computer skills. All who were interested in the workshop were invited to attend, while those who had little or no experience with

computers and MyUH were informed of, and asked to participate in the study.

Of the 38 respondents, 12 agreed to attend the workshop, with nine agreeing to participate in the study. The remaining three had higher levels of computer proficiency and were invited to attend the workshop but would not take part in the study.

However, one week prior to the workshop the researcher was notified that the MyUH Web site was to be unavailable the day of the scheduled workshop. This unforeseen inaccessibility to the MyUH Web site necessitated a last minute rescheduling of the workshop, resulting in only two of the original nine study participants attending. Consequently, a second participant recruitment was conducted, which yielded two additional study participants. A second workshop session was conducted with the additional participants, resulting in a total number of four study participants.

Survey data were collected through pre- and post-workshop surveys that were conducted as part of the introduction and conclusion of the workshop. Each survey consisted of 10 Likert-scale questions (scaled least comfortable to most comfortable) that focused on participants' perceptions of their computer skills.

In addition to the Likert-type questions, both surveys also included open-ended questions that allowed for qualitative answers. The pre-workshop survey contained two questions regarding their educational goals and their expectations of the workshop. The post-workshop survey contained four questions regarding their expectations of the workshop, their current feelings about entering college, their opinions regarding the necessity of the workshop, and their interest in future workshops.

A group interview was conducted immediately after each workshop to obtain additional qualitative data. It was moderated by the researcher, and a note taker was utilized to assist in the recording of data. Participants were asked five questions regarding their experiences, views, and opinions about the workshop.

Lastly, follow-up phone interviews were conducted six weeks after the workshop. The individual interviews consisted of five Likert-type items (scaled least comfortable to most comfortable) that focused on participants' perceptions of their computer skills, three Likert-type items (scaled strongly disagree to strongly agree) regarding their experiences entering college, and four open-ended questions. Open-ended questions pertained to their post-workshop utilization of MyUH, their current computer skill level, and their opinions about having participated in the workshop.

Results

The two workshop sessions were held in January 2009. The summary results for quantitative data collected from the four respondents regarding their self-assessed skills using MyUH are presented in Tables 1 and 2.

Table 1. Correlation Between Self-Assessed Skills: Pre- and Post-Workshop

Skill	Participant #1		Participant #2		Participant #3		Participant #4		Average Change
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
Checking Class Availability	3	5	1	4	1	4	3	4	+2.25
Using Registration Tools	2	5	1	4	1	4	2	3	+2.50
Using UH Email	2	5	1	4	4	5	1	3	+2.25
Making UH Payments Online	2	5	1	4	1	5	1	3	+3.00
Using STAR Degree Check	2	5	1	4	1	4	3	4	+2.50

Note: Values represent Likert-scale question responses (1 = least comfortable to 5 = most comfortable).

As shown in Table 1, the pre-workshop responses were primarily ones and twos, indicating the participants felt uncomfortable with their computer skills. This data also further substantiates the study participants' low level of computer proficiency prior to the workshop. The data in Table 1 also reflect positive gains in each skill by all participants, as well as an average gain of between two and three points after the workshop.

Table 2. Correlation Between Self-Assessed Skills: Post-Workshop and Follow-Up Interview

Skill	Participant #1		Participant #2		Participant #3		Participant #4	
	Post	Follow-up	Post	Follow-up	Post	Follow-up	Post	Follow-up
Checking Class Availability	5	5	4	4	4	4	4	4
Using Registration Tools	5	5	4	3	4	4	3	4
Using UH Email	5	5	4	4	5	5	3	4
Making UH Payments Online	5	5	4	4	5	5	3	3
Using STAR Degree Check	5	5	4	4	4	4	4	4

Note: Values represent Likert-scale question responses (1 = least comfortable to 5 = most comfortable).

Data displayed in Table 2 reflect responses collected from follow-up interviews conducted six weeks after the workshop, compared with the data collected in the post-workshop survey. Data indicate participants experienced relatively no loss in skills. There was only one participant who indicated for one skill, a comfort level less than what was reported immediately after the workshop.

When the responses to open-ended questions were analyzed, three themes emerged from the data: (a) the importance of the workshop for new students, (b) the application of skills learned, and (c) the impact of the workshop beyond computer skills.

The importance of the workshop for new students. The participants were unanimous, all replying that the workshop was important for new, incoming HCC students. All participants also commented that they would recommend the workshop be offered at the

beginning of each semester for future incoming students. Two of the four participants further suggested that the workshop be made mandatory for all incoming students. It can be implied from those responses that there may be value in having this workshop for all students, regardless of their skill level. As one participant wrote, “(The workshop) is really important. It should be mandatory. Even if some student have (computer) skills, it’s good to brush up. Also, there are a lot of tools in MyUH...more than I thought.”

The application of skills learned. In the follow-up phone interviews conducted six weeks after the workshop, participants were asked if they had used the tools they had learned about in the workshop. All participants replied that they had used at least two of the tools. All replied that they had used the UH Webmail, while the other tools mentioned varied. As one participant responded, “I now understand the tools, and have even shown others (how to use them).”

As further indication of skills application, three of the four participants also noted that they had found and used other MyUH tools that were not covered in the workshop. These tools included the help menu, campus links, calendar, financial aid services, and library account information.

The impact of the workshop beyond computer skills. Participants were asked in the post-workshop survey, group-interview, and follow-up interview about the impact they felt the workshop had on them. Participants generally felt uncomfortable with using the computer and MyUH prior to the workshop:

- “I almost didn’t come to the workshop because I was embarrassed that I didn’t know how to use the computer.”
- “I was very intimidated by MyUH but after this workshop I feel comfortable with it.”

Subsequently, when asked what they felt they had gained from participated in the workshop, responses included:

- “Confidence. I know where to go to see classes, what info to input.”
- “Knowledge about how to register, how to use email, and how to use the Internet.”
- “Now I know that I can manage things on my own and don’t have to wait to see someone.”
- “I feel better about school, and now know some of the lingo.”
- “I have a better understanding of MyUH and the STAR degree check.”

While the responses varied, it can be inferred that the workshop had a positive impact on the participants. All participants stated that they felt the workshop was worthwhile. They commented that as a result of participating in the workshop, they had improved their computer and MyUH skills, as well as increased their confidence in their computer skills.

Conclusions and Discussion

This study set out to determine the effectiveness of a basic Internet navigation and MyUH workshop for incoming Hawaii Community College students who have minimal

computer skills. Although the data collected reflect self-assessed achievement, the following conclusions can be drawn from the present study. First, the quantitative data reflects gains in all topics and skills covered in the workshop with little or no loss in retention after four weeks. This implies that the workshop was effective in increasing students' skills related to MyUH in incoming students with little or no computer experience. Second, the qualitative data indicate students valued the workshop, and as a result of participating in the workshop, felt better about their computer skills as they entered college.

One important limitation of this study was the small sample size. Due to the limited number of students who participated in this study, these conclusions are offered cautiously. In addition, whether these findings are generalizable for all incoming students with little or no computer experience remains to be seen, prompting a need to continue this line of research with a larger sample.

However, the fact that this study suggests that a pre-semester basic computer skills workshop was successful in improving students' computer skills and confidence in entering college points to the possibility of future research to investigate the impact of early intervention efforts on the retention and graduation rates of students.

As a final point, this current study is the beginning of a work in progress. The workshop designed for this study focused on a very narrow, specific skill group, and other workshops could be developed to create a series that could be implemented to strengthen new, incoming students' computer skills at the beginning of their college career. Several students in this study also commented on the importance of the workshop, and indicated interest in future workshops. This brings to light another opportunity for future research; to investigate the need for, and the effects of, pre-semester workshops for students of all skill levels.

While not all students need instruction on basic skills, there are likely many students who could benefit from instruction at the intermediate and advanced levels. While instruction at the basic level may be best accomplished in face-to-face workshops, there could also be the possibility of developing online workshops to cover specific intermediate and advanced skills.

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