

# **The Role of Information and Communication Technology in Community Outreach, Academic and Research Collaboration, and Education and Support Services (IT-CARES)**

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## **Abstract**

*Introduction:* The purpose of this study is to examine the role of information and communication technology (ICT) in enhancing community outreach, academic and research collaboration, and education and support services (IT-CARES) in an academic setting.

*Methods:* A survey was deployed to assess the ICT needs in an academic setting. The survey was developed using the Delphi methodology. Questionnaire development was initiated by asking key stakeholders involved in community outreach, academic, research, education, and support to provide feedback on current ICT issues and future recommendations for relevant ICT tools that would be beneficial to them in their job, and to capture current ICT issues. Participants were asked to rate the level of importance of each ICT question on five-point Likert scales.

*Results:* The survey was sent to 359 participants, including faculty, staff, and students. The total number of respondents was 96, for a 27 percent response rate. The majority of the participants (54.1 percent,  $n = 46$ ) placed a high importance on learning the available research capabilities of the college. The majority of the participants placed moderate (43.5 percent,  $n = 37$ ) to high importance (40 percent,  $n = 34$ ) on having an intranet that could support collaborative grant writing. A majority of the participants attributed high importance to learning to interact with the online learning management system Blackboard. A majority of the participants agreed that social media should be more actively utilized for diverse activities for academic and research purposes.

*Conclusion:* The study helped to identify the current needs and challenges faced by professionals and students when interacting with ICT. More research is needed in order to effectively integrate the use of ICT in the field of higher education, especially related to the modern global public health context.

## **Background**

Information and communication technology (ICT) has contributed immensely to social and economic improvements, such as higher employment and productivity, increasing access to a higher quality of life.<sup>1</sup> ICT incorporates electronic technologies and techniques used to manage information and knowledge, including information-handling tools used to produce, store, process, distribute and exchange information.<sup>2</sup> Benefits of ICT can be achieved directly, through improved healthcare provision and disease prevention, or indirectly, through improved social infrastructure, economic growth, or other

broader determinants of population health. In the context of public health, ICT, if properly designed and implemented, can generate many positive outcomes: improved access for communities in rural or remote areas; support of healthcare professionals; real-time disease surveillance; data sharing; and data capture, storage, interpretation, and management.<sup>3</sup>

ICT can generate important contributions to public health, from education to surveillance. In the education and higher learning context, ICT enables healthcare professionals to be updated and trained on knowledge advances wherever are located.<sup>4</sup> The US National Higher Education ICT Initiative (2003) defines ICT knowledge as “the ability to use digital technology, communication tools, and/or networks appropriately to solve information problems in order to function in an information society. This includes the ability to use technology as a tool to research, organize, evaluate, and communicate information and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.”<sup>5</sup> ICT tools are also indispensable to healthcare professionals and researchers because of the current volume and complexity of information available from different sources (peer-reviewed journals, the Internet, mainstream media).<sup>6</sup> In 2003, a study reported that 55 new clinical trials were performed per day, 1,260 articles were indexed in MEDLINE per day, and 5,000 papers were published in the health field per day.<sup>7</sup> Information management tools are thus necessary for these professionals to navigate through the vast amounts of data and information available.

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), ICT “can contribute to achieving universal education worldwide, through the delivery of education and training of teachers, improved professional skills, better conditions for lifelong learning, and the potential to reach people that are outside the formal education process.”<sup>8</sup> In the United Nations Millennium Development Goals, ICT is highlighted as the means to reach the underserved, to listen and learn from their experience.<sup>9</sup> Online education is essential for students whose physical presence in class is impeded because of work or family responsibilities, geographical limitations, health issues, or other constraints.<sup>10</sup> Although face-to-face interaction in a classroom setting seems to be preferred among education professionals, the numbers of online universities and online courses offered by on-campus universities have risen in the past 10 years. In order to develop successful online programs, however, it is necessary to understand what the specific ICT needs of an institution are.

According to the Organization for Economic Co-operation and Development (OECD), investments in higher education are essential for economic growth, and the global demand for higher education is predicted to increase vastly from less than 100 million students in 2000 to more than 250 million students in 2025.<sup>11</sup> Institutions have to integrate the innovative tools made available by ICT to increase access to and improve the quality and competitiveness of higher education programs. Without these tools and technologies, individuals and institutions have poorer chances to address 21st-century issues and challenges. Therefore, higher education institutes worldwide are redesigning their educational systems, teaching methods and learning practices.<sup>12</sup> Challenges and gaps exist, however, such as uncoordinated planning and implementation, shortages of trained staff to cope with the diversity of responsibilities and tasks, resistance from staff and reluctance to be retrained, the need to recognize and utilize the appropriate technology and tools, and the need to engage staff with proper knowledge and skills, among others.<sup>13</sup> A systematic and inclusive ICT implementation, with the participation of all areas inside an academic institution, is essential to increase the chances of success.

To our knowledge, neither studies nor validated frameworks currently exist to establish an integrative approach to ICT needs assessment. The purpose of this study is to examine the role of ICT in enhancing community outreach, academic and research collaboration, and education and support services (IT-CARES) in an academic setting.

## Methods

A survey was deployed to assess the ICT needs in an academic setting, specifically at the University of Nebraska Medical Center College of Public Health (COPH). The survey was developed using the Delphi methodology, which is an iterative, multistage process designed to combine opinion into group

consensus. The methodology searches for “expert” consensus through a series of structured questionnaires.<sup>14</sup> Items from previously validated surveys<sup>15, 16</sup> were used and were modified to meet the specific needs of the current research.

Questionnaire development was initiated by asking key stakeholders in community outreach, academic, research, education, and service support settings to provide feedback on current ICT issues and future recommendations for relevant ICT tools that would be beneficial in their jobs, and to capture current ICT issues. The questions were modified to meet the needs identified by the stakeholders within the college. From their feedback, a structured questionnaire was created to address existing and future directions for resources, intranet, training, hardware, social media, support, and usability, and existing use of technologies. The initial survey was then sent back to the same key stakeholders to provide feedback and further develop the questionnaire. After recommendations were made and consensus was reached, the questionnaire was further refined to address relevant ICT questions.

Participants were asked to rate the level of importance of each ICT question on the following five-point Likert scale: high importance, moderate importance, neutral, low importance, and not at all important. Participants were also asked to answer descriptive questions about their role in the college and the nature of their work to better gauge their perspective of ICT needs. The questionnaire consisted of eight sections. These sections were developed on the basis of prior literature<sup>17, 18</sup> and were modified to meet the study needs.

The survey was uploaded to SurveyMonkey, an Internet-based survey provider, and the link was distributed to COPH faculty, staff, and students via e-mail. Inclusion criteria specified that participants were to be part of the COPH and 19 years of age or older. The survey was sent to a total number of 359 participants, including 70 faculty, 89 staff, and 200 students. An e-mail message was sent to faculty, staff, and students identified from university rosters. The survey was available online for two weeks. At the beginning of the second week, one reminder to complete the survey was sent to the participants. The participants voluntarily completed the survey and submitted it anonymously. The responses were confidential and were used to determine the needs of ICT in the academic, educational, community outreach, research, and support areas.

The survey was hosted on SurveyMonkey from November 19, 2012, to December 3, 2012. The data were gathered and analyzed during December 2012. The entirety of the study was performed at the University of Nebraska Medical Center COPH under Institutional Review Board #556-12-EX.

## **Statistical Analysis**

Descriptive analysis using univariate statistics was performed to determine frequency distributions for the categorical variables and to report the means and frequency distributions for continuous variables when appropriate. Chi-square tests or Fisher’s exact tests were conducted to examine the differences in responses by age and role in the COPH at significance level of .05 for two-tailed tests. When the comparisons were performed, responses for moderate and high importance, low and no importance, agree and strongly agree, and disagree and strongly disagree were grouped under one category each. Among the COPH roles, staff and other roles were considered in the same group. SAS version 9.1 was used to perform the required analyses.

## **Results**

The survey was made available on Survey Monkey and an e-mail message was sent to 359 participants, including faculty, staff, and students. The total number of respondents was 96, corresponding to a 27 percent response rate, and most respondents were 26 to 35 years old (see Table 1).

The results indicate that the majority of the participants attribute the least importance to learning how to create web pages, create YouTube videos, or use Skype (see Table 2). This finding may be due to the participants’ already having the necessary skills to use these tools, or a lack of knowledge about how these tools can be used in an academic or research setting. When the responses were compared by age groups, a statistically significant association was found for Skype training ( $p = .02$ ). The results show that

the majority of the participants above 50 years of age (58.3 percent,  $n = 14$ ) and 36 to 50 years of age (57.9 percent,  $n = 11$ ) attributed moderate to high importance to Skype training, compared to 50 percent ( $n = 4$ ) of those age 19 to 25 years and 22.9 percent ( $n = 8$ ) of those age 26 to 35 years. There was also a significant association between role in the COPH and the importance attributed to the ability of students and faculty to create their own web pages ( $p = .002$ ). The majority of faculty members (77.8 percent,  $n = 14$ ) and those with staff or other roles (53.3 percent,  $n = 16$ ) attributed moderate to high importance to creating web pages, compared to 33.4 percent ( $n = 12$ ) of students.

The majority of the participants (54.1 percent,  $n = 46$ ) attributed a high importance to learning what the currently available research capabilities of the college are. There seemed to be a high concern for keeping track of active projects online and learning what tools are currently available to develop research proposals and track progress. No significant association was found when comparing responses between age groups or by the participant's role in the COPH.

The participants were asked about the necessary functions of the intranet to support the internal needs of the college. The majority attributed moderate (43.5 percent,  $n = 37$ ) to high importance (40 percent,  $n = 34$ ) to the intranet being able to support collaborative grant writing, totaling 83.5 percent ( $n = 71$ ) of the responses. For the ability to view collaborative research opportunities, 47.8 percent of the respondents ( $n = 42$ ) attributed high importance to this function. The majority (53.5 percent;  $n = 48$ ) gave high importance to having a calendar of upcoming events on the intranet. The ability to disseminate student research activities was seen as highly important by 35.7 percent ( $n = 30$ ) of the respondents and as moderately important by 38.1 percent ( $n = 32$ ). The dissemination of student research interests was attributed high importance by 32.9 percent ( $n = 28$ ) of the participants, while 42.4 percent ( $n = 36$ ) attributed moderate importance to it. When comparing by role in the COPH, a significant association was found ( $p = .047$ ), with 88.9 percent ( $n = 22$ ) of students giving moderate to high importance to student research dissemination, compared to faculty (66.7 percent,  $n = 12$ ) and staff/other (59.3 percent,  $n = 18$ ). This finding was expected because the item referred specifically to dissemination of student research activities. One respondent suggested that the intranet could disseminate faculty research interests, and another suggested dissemination of staff research activities and interests. Community events as part of the intranet were also mentioned. Finally, one respondent suggested that the intranet could be "one place for the college to communicate across the departments and centers." The results seem to demonstrate that a need for more collaboration in research and grant writing exists, as well as a need for dissemination of student research interest and activities. ICT could be the means to achieve that through development of the institutional intranet.

Overall, most respondents seem to attribute high importance to learning different aspects of interaction with the Blackboard learning management system (see Table 3). Learning to navigate Blackboard was attributed high importance by 41 percent ( $n = 34$ ) of respondents and moderate importance by 33.7 percent ( $n = 28$ ). The association between using Blackboard and age groups was statistically significant ( $p = 0.03$ ), with 87.5 percent ( $n = 21$ ) of participants above 50 years attributing moderate to high importance to this item, compared to 75 percent ( $n = 6$ ) of respondents age 19 to 25 years, 64.7 percent ( $n = 11$ ) of respondents age 36 to 50 years, and 57.6 percent ( $n = 13$ ) of respondents age 26 to 35 years. More information was deemed necessary about distance learning tools. Participants also suggested that training should be available for different web design and statistical software packages. Participants identified that it is important to have additional software training for research activities, such as Excel, SPSS, STATA, SAS, R, NVivo, MATLAB, Access, and Atlas. One respondent identified the need for training of faculty and staff on instructional design, especially for the online courses.

The majority of the participants attributed high importance to dealing with problems such as personal computer speed (71.1 percent,  $n = 59$ ), Internet access (80.7 percent,  $n = 67$ ), printer issues (65.1 percent,  $n = 54$ ), and computer backup procedures (51.8 percent,  $n = 43$ ). None of the participants attributed low importance to any of these four items, and only two participants deemed it not at all important to deal with computer backup procedures. No statistical differences were observed when comparing responses by the participants' age or role in the COPH. One respondent identified iPads and iPhones as crucial hardware. Live streaming was also a concern related to hardware, as was functioning hardware on

classroom computers. Furthermore, concerns about the functionality of the configuration of shared drives were expressed, as indicated in the response “the shared drive is too full to be useful as a resource for collaboration.” ICT support in relation to the technologies used in the classrooms and conference rooms was seen as highly important by the majority of respondents (Figure 1). Participants also identified ICT support needs for workstation computers, in electronic testing environments, and for general support and timely maintenance to enable faculty to do their jobs more effectively.

The majority of the participants attributed moderate to high importance to the use of social media for diverse activities in an academic and research setting (see Table 4). Online discussions were attributed high importance by 24.4 percent ( $n = 20$ ) of participants and moderate importance by 31.7 percent ( $n = 26$ ). Dissemination of research activities was also deemed highly important by 32.1 percent ( $n = 26$ ), and moderately important by 40.7 percent ( $n = 33$ ). The importance attributed to dissemination of research activities was significantly associated with role in the COPH: 88.2 percent ( $n = 30$ ) of students and 72.2 percent ( $n = 13$ ) of faculty attributed moderate to high importance to this item, compared to 53.6 percent ( $n = 15$ ) of staff/other. Finally, community engagement and outreach activities by students and faculty through the use of social media was considered to be of high importance by 39.5 percent ( $n = 32$ ) and of moderate importance by 37.0 percent ( $n = 30$ ) of the participants.

The majority of participants reported that they use the COPH website frequently (63.1 percent,  $n = 53$ ), are confident using the site (59.8 percent,  $n = 49$ ), and learned how to use it quickly (50.6 percent,  $n = 42$ ) (see Table 5). However, there is little agreement on the complexity, consistency, functionality, and ease of use of the website. An association was found between complexity and different roles in the COPH ( $p = .02$ ), with 50 percent ( $n = 15$ ) of staff/other and 44.4 percent ( $n = 8$ ) of faculty agreeing or strongly agreeing that the COPH website is complex, compared to 20 percent ( $n = 7$ ) of students. Similarly, a higher percentage of staff/other (50 percent,  $n = 14$ ) and faculty (47 percent,  $n = 8$ ) agreed or strongly agreed that there is inconsistency in the COPH website, compared to 32.4 percent ( $n = 11$ ) of students ( $p = .04$ ). No differences were found among the age groups.

When asked about challenges experienced with laptops, cell phones, or tablets, 25 percent of participants reported e-mail access issues ( $n = 24$ ). Of these, 62.5 percent ( $n = 15$ ) had problems accessing e-mail on their cell phone, 45.8 percent ( $n = 11$ ) found challenges with their laptop, and 29.2 percent ( $n = 7$ ) had problems with their tablet. Internet and Blackboard access challenges were also reported (21.9 percent,  $n = 21$ , each). Among the respondents who reported Internet access challenges, 61.9 percent ( $n = 13$ ) identified problems accessing the Internet from their cell phone; 52.4 percent ( $n = 11$ ), from their laptop; and 19 percent ( $n = 4$ ), from their tablet. Among the participants who reported Blackboard access challenges, 71.4 percent ( $n = 15$ ) experienced problems accessing the Internet with their cell phone; 38.1 percent ( $n = 8$ ), with their laptop; and 23.8 percent ( $n = 5$ ), with their tablet. Browser compatibility problems were identified by 19.8 percent of participants ( $n = 19$ ). Of these, 68.4 percent ( $n = 13$ ) experienced problems related to laptops; 63.2 percent ( $n = 12$ ), related to cell phones; and 42.1 percent ( $n = 8$ ), related to tablets. Challenges with live video streaming were identified by 18.7 percent of participants ( $n = 18$ ). Of these, 66.7 percent ( $n = 12$ ) reported problems with live video streaming from their laptop; 33.3 percent ( $n = 6$ ), from their cell phone; and 22.2 percent ( $n = 4$ ), from their tablet. Virtual private network issues were reported by 11.5 percent of participants ( $n = 11$ ). Of these, 54.5 percent of participants ( $n = 6$ ) experienced challenges with their laptop, and the same number had problems with their cell phone; only three people reported problems with their tablet. Participants indicated that “IT staff struggle endlessly with problems with inadequate communication with the user” and “general website filters for UNMC are not conducive to the work I need to do.” A participant identified the current web-based e-mail system as frustrating, and expressed that “much work happens during travel and at home. I have missed emails or have trouble finding [them] because of the way this web product groups email history.”

## **Discussion**

The results indicate that ICT strategies in the setting examined should take into account the dissemination of research capabilities of the college, and the available learning tools to develop proposals and track progress. Collaboration on research and grant writing should be also taken into consideration.

Student participants attributed great importance to disseminating their research activities through the intranet, which was also supported by faculty and staff to a lesser extent and should be taken into account. The least importance was assigned to learning how to create web pages, create YouTube videos, and use Skype. Reasons for these findings could be a lack of understanding of the potential uses of these tools in the academic and research setting. Participants of older age groups, however, more often attributed moderate to high importance to Skype training, which may be the result of a generational gap in familiarity with the use of such communication technologies.

Interaction with the Blackboard system was given high importance among the participants, which may signify that more training on how to operate the system is needed before users become confident with it. Tools involving graphic design and digital audio and video were not given as much importance as other tools, which may signify that they are currently underused. This finding may signal a missed opportunity because such tools can be effectively used to support public health messages, in the development of social marketing campaigns, or in behavioral change theories and models, for example.<sup>19</sup> The results may indicate that ICT personnel should work in close partnership with faculty and staff when developing the COPH website in order to decrease its complexity level and inconsistency related to website use and the users' specific needs.

ICT problems reported to be of high importance were personal computer speed, Internet access, printer issues, and computer backup procedures. Classroom and conference room technology maintenance and support is of high importance for the participants and should be prioritized by ICT personnel. Personal portable devices such as iPads and iPhones have been indicated as crucial hardware in the academic setting, which attests to the necessity of incorporating them in the development of ICT strategies and tools. Social media is also becoming part of academia and research, and the majority of the participants gave moderate to high importance to its use.

The study has several limitations. The overall survey response rate was low, which may limit the generalizability of the results. Unfortunately, response rates for e-mail surveys are commonly low. The average response rate for online surveys in higher education environments is 30 percent or lower.<sup>20, 21</sup> Nonresponse bias may have been introduced into the study because it is not possible to assess how the individuals who participated in the study differ from ones who did not. It is possible to conjecture, however, that the survey respondents have a stronger interest in ICT issues at the COPH, which may have led to their attributing overall higher importance to the questions asked. Another limitation of the study was the self-reported assessment of the individuals' perceptions about the use of ICT, which might result in under- or overestimation of the study findings. However, an effort has been made to examine various aspects of how ICT can be effectively used in an academic and research setting for diverse audiences. The impact of ICT in the COPH community outreach efforts could not be assessed through the current survey. Future research should be conducted to capture the community perspectives through a study of community perceptions.

The study contributes to the necessary research on ICT in the academic and research setting, in a public health context. It has helped to identify the current needs and challenges faced by professionals and students when interacting with ICT. More research is needed in order to effectively integrate the use of ICT into the field of higher education, especially related to the modern global public health context. Without the support of ICT, health workers have a very limited ability to deal with the volume and complexity of knowledge and information available.<sup>22</sup> Furthermore, ICT has the potential to increase access to training in public health worldwide through online courses and the use of distance learning tools.<sup>23</sup> Achieving this potential will depend on understanding the current needs, challenges, and limitations of ICT use in different academic settings.

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## Notes

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**Table 1**

## Sample Characteristics

<b>Variables</b>	<b>Frequency, % (n)</b>
Age group	
19–25 years	10% (n = 9)
26–35 years	43% (n = 40)
36–50 years	22% (n = 21)
Above 50 years	25% (n = 24)
<i>Skipped</i>	<i>N = 2</i>
Individual's role	
Student	43% (n = 40)
Faculty	20% (n = 19)
Staff	35% (n = 33)
Other	2% (n = 2)
<i>Skipped</i>	<i>N = 2</i>
Student enrollment	
Certificate program	18% (n = 7)
Master of Public Health program	59% (n = 23)
Doctoral program	23% (n = 9)
<i>Skipped</i>	<i>N = 57</i>
Department participation	
Environmental, Agricultural and Occupational Health	10% (n = 5)
Biostatistics	16% (n = 8)
Epidemiology	18% (n = 9)
Health Services Research Administration	28% (n = 14)
Health Promotion, Social and Behavioral Health	29% (n = 15)
Other	31% (n = 16)
<i>Skipped</i>	<i>N = 45</i>
Online course enrollment	
Yes	13% (n = 12)
No	87% (n = 81)
<i>Skipped</i>	<i>N = 3</i>

**Table 2**

Importance of Specific ICT Resources

<b>Variables</b>	<b>High Importance, % (n)</b>	<b>Moderate Importance, % (n)</b>	<b>Neutral, % (n)</b>	<b>Low Importance, % (n)</b>	<b>Not at All Important, % (n)</b>
Students and faculty able to record their presentations	43.5% (n = 37)	36.5% (n = 31)	15.3% (n = 13)	3.5% (n = 3)	1.2% (n = 1)
Students and faculty able to build their own web pages	15.3% (n = 13)	35.3% (n = 30)	34.1% (n = 29)	14.1% (n = 12)	1.2% (n = 1)
Training module on how to create a YouTube video	14.1% (n = 12)	31.8% (n = 27)	27.1% (n = 23)	22.4% (n = 19)	4.7% (n = 4)
Training module on how to use Skype	12.8% (n = 11)	30.2% (n = 26)	24.4% (n = 21)	16.3% (n = 14)	16.3% (n = 14)
Link to other community sites	18.8% (n = 16)	43.5% (n = 37)	23.5% (n = 20)	11.8% (n = 10)	2.4% (n = 2)
Funding opportunities using information technologies	30.2% (n = 26)	37.2% (n = 32)	19.8% (n = 17)	9.3% (n = 8)	3.5% (n = 3)
Online survey assessments	39.8% (n = 33)	34.9% (n = 29)	16.9% (n = 14)	8.4% (n = 7)	0.0% (n = 0)
Available research capabilities such as electronic data capturing of research data	54.1% (n = 46)	24.7% (n = 21)	16.5% (n = 14)	4.7% (n = 4)	0.0% (n = 0)
Ability to view online all active research projects within the College of Public Health	43.0% (n = 37)	29.1% (n = 25)	22.1% (n = 19)	5.8% (n = 5)	0.0% (n = 0)
Available research capabilities to develop research proposals and track progress	44.2% (n = 38)	34.9% (n = 30)	16.3% (n = 14)	4.7% (n = 4)	0.0% (n = 0)

**Table 3**

## Software Training Needs

<b>Variables</b>	<b>High Importance, % (n)</b>	<b>Moderate Importance, % (n)</b>	<b>Neutral, % (n)</b>	<b>Low Importance, % (n)</b>	<b>Not at All Important, % (n)</b>
Navigating Blackboard	41.0% (n = 34)	33.7% (n = 28)	9.6% (n = 8)	8.4% (n = 7)	7.2% (n = 6)
Troubleshooting with Blackboard	35.7% (n = 30)	38.1% (n = 32)	13.1% (n = 11)	7.1% (n = 6)	6.0% (n = 5)
Creating courses with Blackboard	25.3% (n = 21)	32.5% (n = 27)	18.1% (n = 15)	7.2% (n = 6)	16.9% (n = 14)
Creating quizzes and exams with Blackboard	19.8% (n = 16)	34.6% (n = 28)	19.8% (n = 16)	8.6% (n = 7)	17.3% (n = 14)
Using communications with Blackboard	34.1% (n = 28)	35.4% (n = 29)	17.1% (n = 14)	3.7% (n = 3)	9.8% (n = 8)
Information about distance learning tools	32.9% (n = 27)	34.1% (n = 28)	19.5% (n = 16)	4.9% (n = 4)	8.5% (n = 7)
Copyright/intellectual property–related information	28.0% (n = 23)	32.9% (n = 27)	25.6% (n = 21)	6.1% (n = 5)	7.3% (n = 6)
Graphic design for classes	17.1% (n = 14)	34.1% (n = 28)	28.0% (n = 23)	11.0% (n = 9)	9.8% (n = 8)
Digital audio and video editing	16.0% (n = 13)	44.4% (n = 36)	23.5% (n = 19)	7.4% (n = 6)	8.6% (n = 7)
Software tutorials	28.2% (n = 22)	37.2% (n = 29)	17.9% (n = 14)	9.0% (n = 7)	7.7% (n = 6)

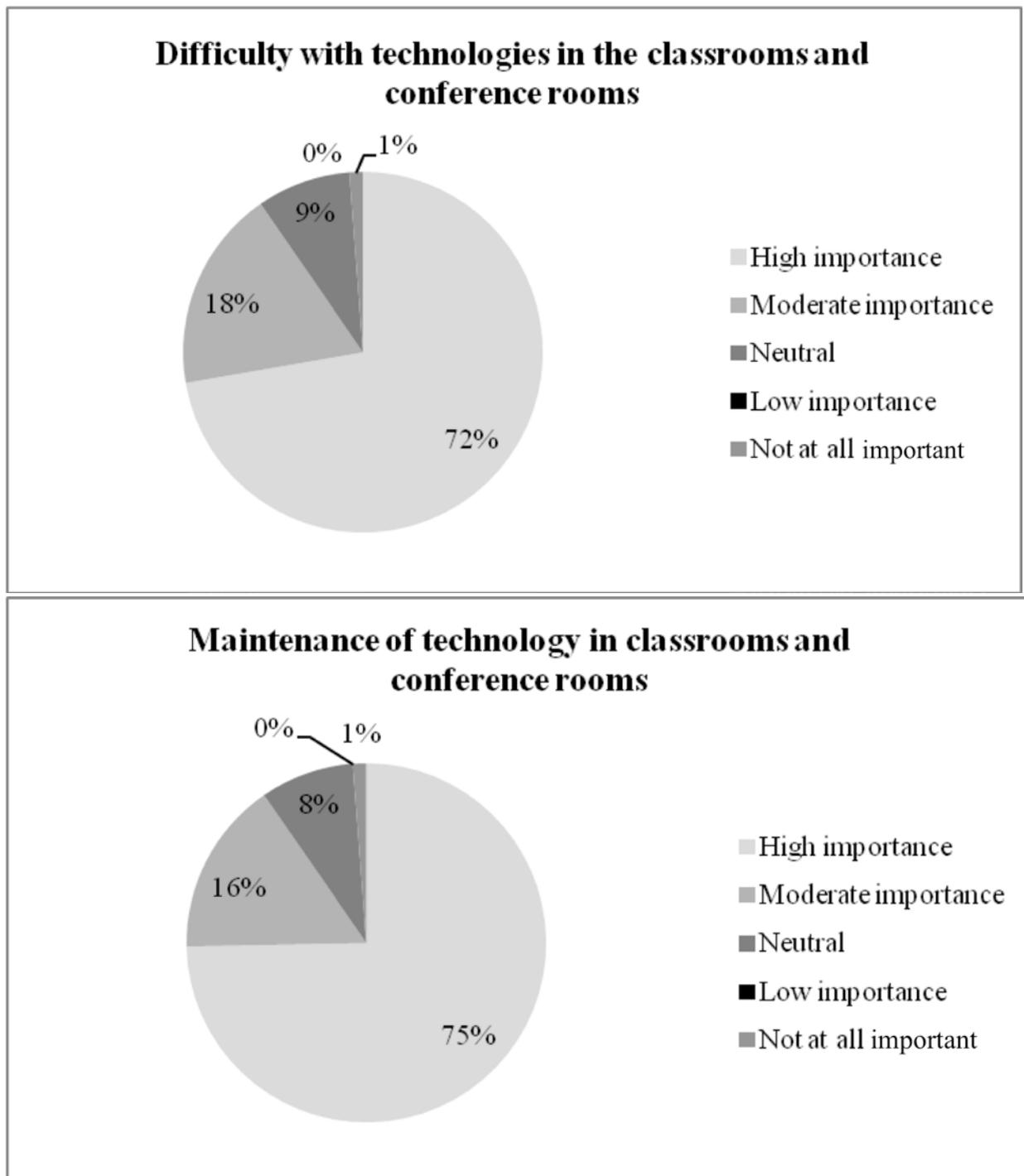
**Table 4**

Use of Social Media in the Academic Setting

<b>Variables</b>	<b>High Importance, % (n)</b>	<b>Moderate Importance, % (n)</b>	<b>Neutral, % (n)</b>	<b>Low Importance, % (n)</b>	<b>Not at all Important, % (n)</b>
Online discussions	24.4% (n = 20)	31.7% (n = 26)	28.0% (n = 23)	12.2% (n = 10)	3.7% (n = 3)
Electronic brochures	22.2% (n = 18)	40.7% (n = 33)	28.4% (n = 23)	4.9% (n = 4)	3.7% (n = 3)
Dissemination of research activities	32.1% (n = 26)	40.7% (n = 33)	21.0% (n = 17)	2.5% (n = 2)	3.7% (n = 3)
Dissemination of strengths of our educational programs	33.3% (n = 27)	43.2% (n = 35)	21.0% (n = 17)	0.0% (n = 0)	2.5% (n = 2)
Community engagement and outreach activities by students and faculty	39.5% (n = 32)	37.0% (n = 30)	19.8% (n = 16)	1.2% (n = 1)	2.5% (n = 2)

**Figure 1**

ICT Support Needs According to Importance Attributed by Survey Participants



**Table 5**

Usability of the College of Public Health (COPH) Website

<b>Variables</b>	<b>Strongly Agree, % (n)</b>	<b>Agree, % (n)</b>	<b>Neutral, % (n)</b>	<b>Disagree, % (n)</b>	<b>Strongly Disagree, % (n)</b>
I use the COPH website frequently.	20.2% (n = 17)	42.9% (n = 36)	16.7% (n = 14)	14.3% (n = 12)	6.0% (n = 5)
The COPH website is complex.	12.0% (n = 10)	25.3% (n = 21)	34.9% (n = 29)	27.7% (n = 23)	0.0% (n = 0)
The COPH website is easy to use.	10.0% (n = 8)	25.0% (n = 20)	42.5% (n = 34)	20.0% (n = 16)	2.5% (n = 2)
The various functions in the COPH website are well integrated.	6.0% (n = 5)	31.3% (n = 26)	44.6% (n = 37)	14.5% (n = 12)	3.6% (n = 3)
There is inconsistency on the COPH website.	7.4% (n = 6)	34.6% (n = 28)	38.3% (n = 31)	19.8% (n = 16)	0.0% (n = 0)
I learned to use the COPH website quickly.	10.8% (n = 9)	39.8% (n = 33)	42.2% (n = 35)	6.0% (n = 5)	1.2% (n = 1)
I am confident using the COPH website.	9.8% (n = 8)	50.0% (n = 41)	29.3% (n = 24)	8.5% (n = 7)	2.4% (n = 2)