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Computer Application Employability Skills

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Introduction

Among the skills that employers have desired of new employees over the years, computer literacy still ranks very highly. In fact, according to the National Association of Colleges and Employers' (NACE) 2006 Job Outlook survey, these skills include: (1) Communication skills (verbal and written); (2) Honesty/integrity; (3) Teamwork skills (works well with others); (4) Strong work ethic; (5) Analytical skills; (6) Flexibility/adaptability; (7) Interpersonal skills (relates well to others); (8) Motivation/Initiative; (9) Computer skills; and (10) Detail-oriented. No definition for computer skills was given. The Michigan State University's Alumni Career Services lists the results of a 1995 Collegiate Employment Research Institute employer survey that found that due to automation and increased use of computer technologies, almost every job within business, education, and government agencies requires abundant computer work (What do employers want from new hires, n.d.) This trend has continued to increase, not decrease, with new and emerging technologies. With the considerably increased availability of computer usage, has the need for basic computer skills: word processing, spreadsheets, and databases been replaced or augmented by the need for webpage design, programming, and desktop publishing skills? What are the computer skills today's employers desire?

Purpose

The purpose of this study is to extend a pilot study that was conducted in 2005 designed to determine current employers' attitudes toward basic application software skills that employees need. All universities wish their curriculum to be as pertinent as possible. Therefore, this study extended the pilot survey to include a larger sample of employers (300 surveyed as opposed to 100 in the original survey at the original university) in Texas and the addition of two other universities, one in Kansas and one in North Dakota, thus creating a sample of a cross section of the central United States. In this study the research question remains: What computer skills should we be teaching students to prepare them best to meet employers' needs and expectations.

Review of Related Literature

Each year numerous companies send recruiters to university campuses looking to hire graduates. Since technology is continually transforming the world, colleges and universities are beginning to recognize that graduates must develop and be able to demonstrate their competency in the use of technology. In fact, the Educational Testing Service has coined a new designation for technology as the fourth basic literacy (Landgraf, 2005).

Over a decade ago in the 1995-96 study by Michigan State University (Scheetz, 1996) on recruiting trends, the synopsis of needed skills for acquiring a job included not being "cyber-shy." The report showed that employers wanted to recruit those who had a command of popular office technology software. Today's employers are still looking for much the same things. In fact, Sharon Thomas Pratt, vice president of external relations and regulatory assurance for DeVry Institute of Technology, Chicago, asserts, "a background in technology is a strong skill set that is required for employment in many industries today, and will continue to become increasingly important in the future." (Expanding Workforce Greets New Grads, 2005, April 16). The Chicago-based global outplacement firm of Challenger, Gray & Christmas, Inc. stresses that since technology is prevalent in almost every type of business, to keep from being left behind, all graduates must

have technical skills regardless of their chosen field. (Expanding Workforce Greets New Grads, 2005, April 16). According to Hansen and Hansen with Quintessential Skills, "Almost all jobs now require some basic understanding of computer hardware and software, especially word processing, spreadsheets, and email." Challenger (2003) indicates that as our nation's use of and dependency on technology increases, even more jobs will require computer skills.

The fact that almost every occupation requires some degree of computer or technical skills seems often to be overlooked. McCune (1999) felt that education was "too separatist." She indicated that for those pursuing a liberal arts degree, instruction in technical skills was not considered important. However, it appears today that more universities are informing students of the computer skills for which employers are looking. The Clemson University career page, titled "Qualities Employers Desire in New College Graduates," lists the need for "established word processing, spreadsheet, database and presentation software skills" and "excellent computer literacy." Similarly, the Central Washington University career page, titled "Simply Having A Degree Is Not Enough To Get A Job In The Current Labor Market," lists the "ability to appropriately apply technology and effectively use office software and the web to accomplish job responsibilities" as a need for today's graduates. Due to the fact that businesses and organizations are relying more and more on the extensive use of information technology, Virginia's George Mason University has developed an innovative and popular undergraduate degree program to give students information technology skills that they can use to make sound business decisions (Ascoine, 2006).

In a 10-month study (January 2004 – October 2004) conducted by the Canadian government using the *Toronto Star, The Globe,* and the *Toronto Sun,* data was obtained on the technical skills required by employers advertising job positions. Results of their study showed how many ads specified a particular type of software proficiency such as: office suite, spreadsheet, word processing, database, and also software such as drafting, multimedia, presentation, and other specialized software. The results were then broken down further to show within a general software category whether or not a specific software package was indicated. Fang, Lee, and Koh (2005) reported an "interesting finding," in that recruiters rated personal productivity skills such as use of operating systems and packaged software (e.g., spreadsheet, word processing) as more important for new IS (information systems) hires than the "traditional programming skills such as high level and object oriented programming skills" (p. 63).

Methodology

The researchers from each university in Texas, Kansas, and North Dakota surveyed employers who recruited on their university campus. In Texas, the researchers received the recruiter database from the Office of Career Services and selected those with email addresses. A personalized email message was developed indicating a web address for them to respond to on an online survey. Surveys were tallied and results were graphed. In Kansas and North Dakota, the researchers mailed out their surveys via U.S. mail.

Participants were asked to rank on a Likert-type scale the software skills needed by the employees they were recruiting. The scale ranged from a 10, indicating required for employment, to a 1, indicating that particular software knowledge was not beneficial for job performance. The software programs included on the survey were: Microsoft Word, Microsoft Excel, Microsoft Access, Microsoft PowerPoint, Microsoft Internet Explorer/Netscape Navigator, Corel WordPerfect, Microsoft FrontPage, Macromedia Dreamweaver, Macromedia Flash, Macromedia Fireworks, Instant Messenger/Virtual Team Environment, Adobe Photoshop, and Java Programming.

Findings

Responses for the participating employers included 22 from Kansas, 44 from North Dakota, and 50 from Texas. There was no attempt to target particular employers or types of businesses. However, all employers were those who have recruited on the university campuses. The employers were from a variety of business types, which included manufacturing, service,

food service, hotel/hospitality, education, government, distribution, medical, other financial, banking, accounting, law enforcement, and other. The breakdown in percentage is shown in Figure 1 below.

In addressing the research question, "What computer skills should we be teaching students to prepare them best to meet employers' needs and expectations," it was clear from the responses that Microsoft Word and Excel are the most widely "required" software applications for the employers who recruit on these university campuses with a combined average of 83 and 82% respectively. Both North Dakota and Texas had the highest percentage requiring Microsoft Word, while Kansas had the highest percentage requiring Microsoft Excel. When looking at the breakdown of industry representatives who completed the surveys, Kansas was more heavily weighted in the accounting area, which could explain this difference. As shown in the following chart, all of the Microsoft applications were highly desired by employers recruiting in all three states (see Figure 2).

The other categories included "Needed or Useful" and "Not Needed or Useful." The breakdown of the other categories by states is shown in the following table.

	Needed or Useful				Not Needed or Useful		
	ND	KS	TX		ND	KS	TX
Word	7%	18%	22%		0%	0%	3%
Excel	7%	14%	27%		2%	0%	3%
Access	32%	36%	63%		9%	18%	24%
Power-Point	27%	36%	46%		2%	0%	17%
I/E	11%	18%	33%		5%	9%	3%
Word-Perfect	39%	27%	39%		50%	68%	56%
Front-Page	36%	32%	46%		55%	64%	51%
Dream-weaver	39%	27%	39%		57%	68%	61%
Flash	41%	32%	36%		55%	64%	61%
Fireworks	32%	27%	32%		61%	68%	68%
IM	45%	36%	34%		41%	50%	53%
Photo-shop	39%	36%	36%		50%	59%	54%
Java	36%	27%	34%		59%	68%	63%

When expanded to include "Useful for Performing Job" software knowledge with the "Required" software knowledge, the number for Microsoft Word rises to a combined average of 99% followed by Microsoft Excel with a combined average of 98%. Closely following at 94% each are Microsoft PowerPoint and Microsoft Internet Explorer/Netscape Navigator (see Figure 3).

These survey results correspond closely to the recommendations found at a job search website on basic computer user skills. At this About.com site, information is provided that indicates, "many employers consider Microsoft Office skills to be among the basics." It was also interesting to note that following the Microsoft Office Suite of programs, the next highest scoring computer application desired by employers was the use of Instant Messenger or other forms of Virtual Team Environment.

Several software applications were not considered "useful" or even needed at all by a large number of the companies included in this study. More than 50% of the companies surveyed indicated that Corel WordPerfect, Microsoft FrontPage, and Adobe Photoshop fell into this category. Macromedia Dreamweaver, Macromedia Flash, Macromedia Fireworks, and Java Programming were not needed by more than sixty percent of respondents (see Figure 4).

Conclusions and Recommendations

Though some regional differences were encountered, overwhelmingly the need for proficiency in the Microsoft Suite is alive and well. Colleges and universities need to examine their current curriculum to ensure it is providing their business students with the knowledge needed for students to be successful in their careers—specifically, the first five applications listed in Figure 3.

Though there will always be those who try to boycott the "Microsoft Empire," unless those boycotters can "build a better mousetrap," it appears that the Microsoft trap is here to stay for a while. Other considerations that must be made are the levels of proficiency needed to meet the needs of employers. The next step in determining these proficiency and resulting curricula needs might be further studied to determine what features of the various programs

are most important for students to master. Though most universities do not want to be considered technical or trade schools, at what point does the lack of advanced technical skills prevent students from being able to present their knowledge in the best possible light? This is a question each university must answer for itself.

References

Ascoine, L. (2006, November 9). Technology skills for the business class: GMU program tailors IT major for business students. Retrieved December 15, 2006 from the eSchool Newsonline site: http://www.eschoolnews.com/news/showstory.cfm?ArticleID=6711

Canadian Government. (2005, January) Newspaper ad vacancy survey. *Human Resources and Skills Development Canada.* Retrieved September 10, 2005. http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/on/offices/toronto/workwaves/skills.shtml&hs=on0

Central Washington University (n.d./2005). Simply having a degree is not enough to get a job in the current labor market. Retrieved September 4, 2005, from http://www.cwu.edu/~career/skills_for_success.html

Challenger, J. A. (2003, September-October). The coming labor shortage. *The Futurist.* 24-28.

Clemson University. (n.d./2005). Career guide. Retrieved September 4, 2005, from http://clemson.placementmanual.com/jobsearch/jobsearch-03.html

Expanding Workforce Greets New Grads (2005, April 16).*USA Today*. 133.

Fang, X., Lee, S., & Koh, S. (2005). Transition of knowledge/skills requirement for entry-level professionals: An exploratory study based on recruiters' perception. *Journal of Computer Information Systems*, 46(1), 58-70. Retrieved Sunday, September 10, 2006 from the Business Source Premier database.

Hansen, R. S. & Hansen, K. (n.d./2005). What do employers really want? Top skills and values employers seek from job-seekers. *Quintessential Skills.* Retrieved September 2, 2005, from http://www.quintcareers.com/job_skills_values.html

Landgraf, K. M.. (2005). The fourth basic literacy: Technology. Educational Testing Service. Retrieved February 13, 2005 from http://www.ets.org/ictliteracy

McCune, J. C. (1999, June). The call for techsavvy employees. *Management Review, 88* (6), 10-12.

National Association of Colleges and Employers. (2006). Retrieved September 10, 2006, from http://www.naceweb.org/press/quick.htm

Scheetz, L. P. (1996, December). *Recruiting trends 1995-96. A study of 527 businesses, industries, and governmental agencies employing new college graduates.* Michigan State University, East Lansing. Collegiate Employment Research Institute.

What do employers want from new hires? (n.d.) Retrieved January 24, 2007, from http://www.msualum.com/careers/What%20Do%20Employers%20Want%20From%20New%20Hires.htm.

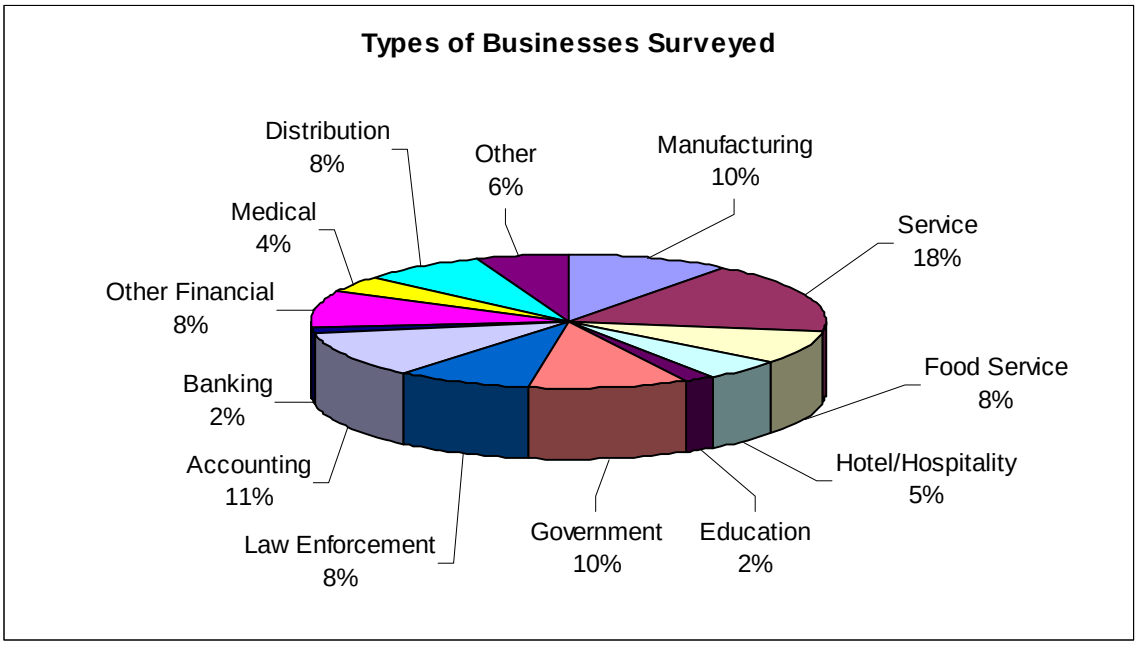

Figure 1

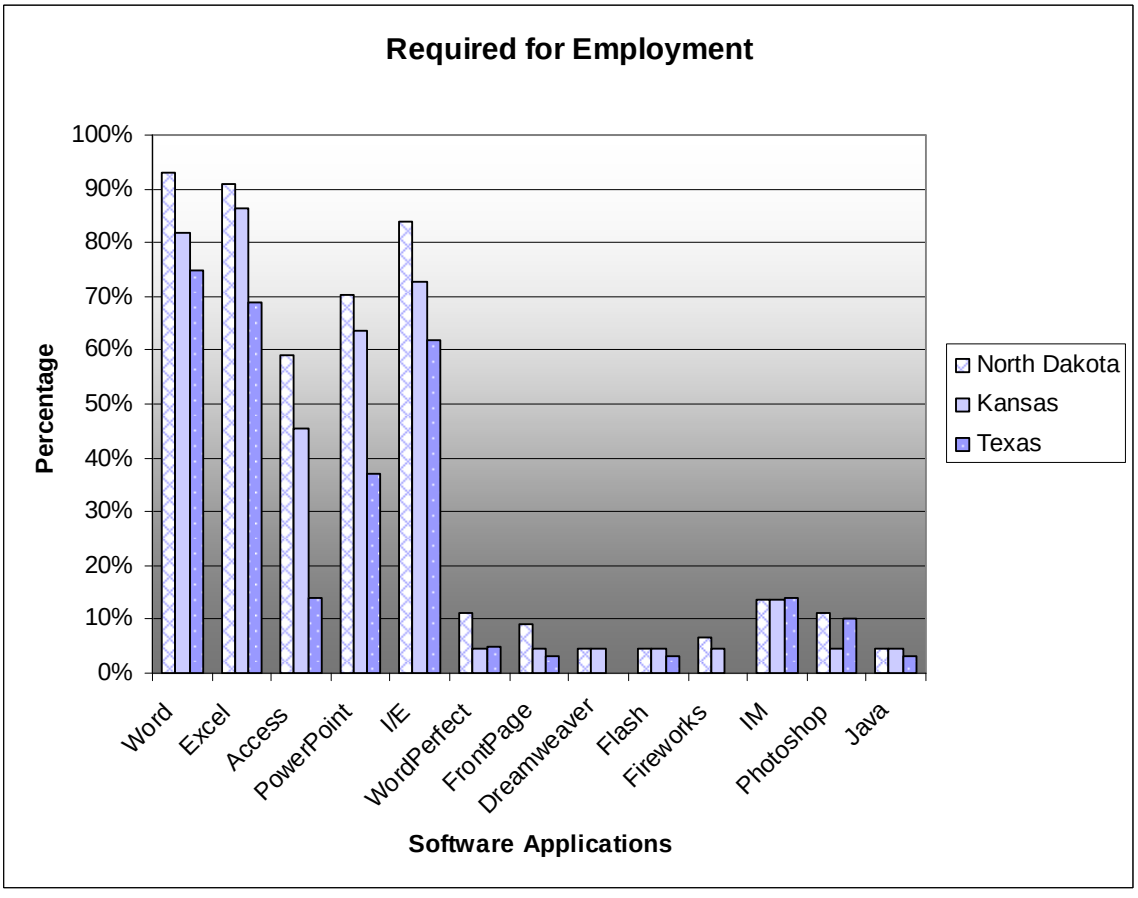

Figure 2

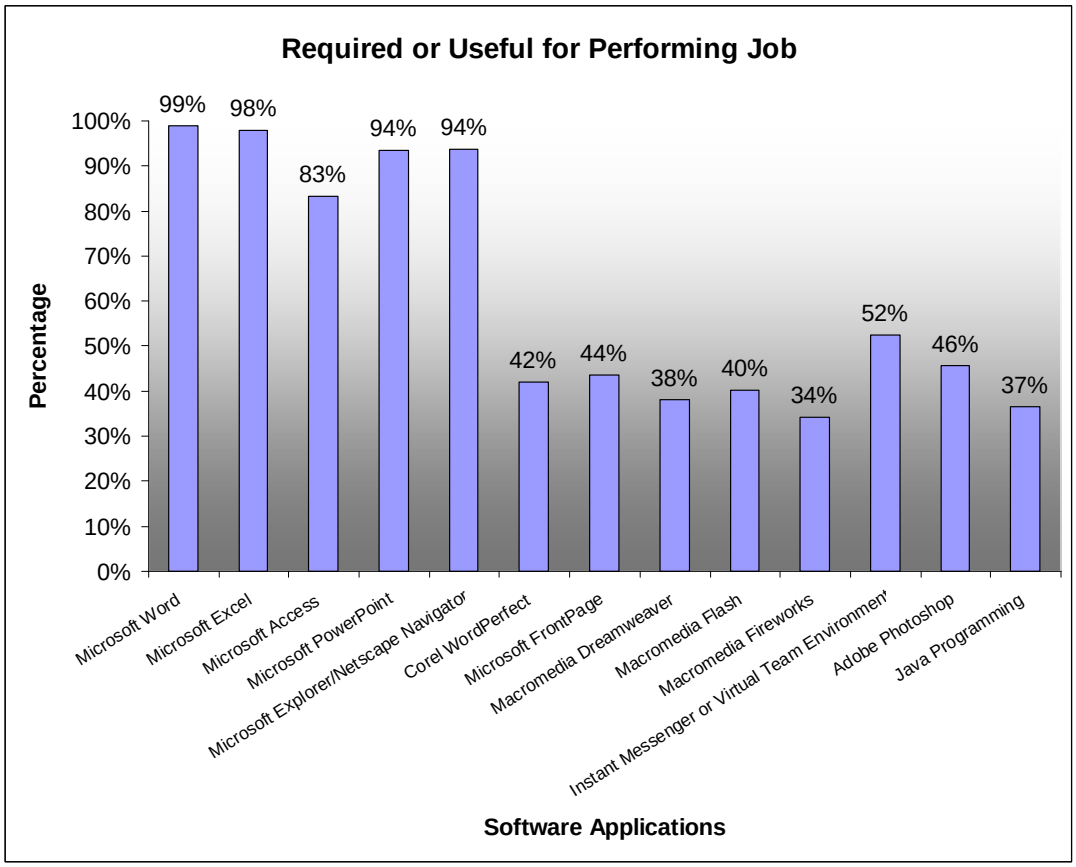

Figure 3

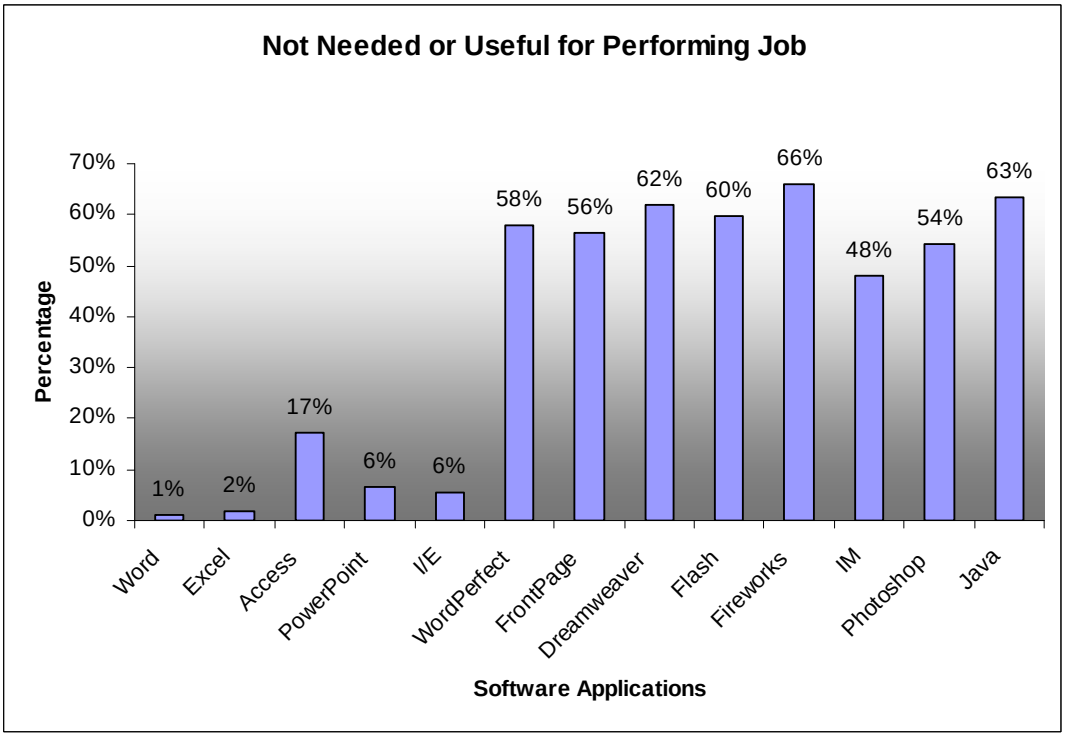

Figure 4