

Computer Technology Competency Needs for Collegiate Agricultural Education Students

Assumption VS. Reality



ASSUMPTION



Technology-oriented Learn new technology quickly Use technology all the time

REALITY



• (Edgar et al. (2012)



MORE REALITY



REALITY (in Ag Industries) Trained workers with computer skills (Holt and Brockett,

3D visualization Microsoft Office programs (Lovett et (Doye, 2004) data analysis software (Lecca et al., 2011) Technology-based training (Bedgood et al., 2008)

Synthesize abstract information and evaluate usefulness (Ezziane, 2007)

Mismatch



Recommendations

Survey employer

- Identify specific computer skills
- Review current programs and curricular
- Develop technology related competencies

Research on students' efficacy

- Identify missing skills
- Identify training needs
- Develop competency-based curricular

The Competencies

Based on Bloom's Taxonomy



References

Ahn, J. (2011). Digital Divides and Social Network Sites: Which Students Participate in Social Media? Journal of Educational Computing Research, 45(2), 147-163. Retrieved November 16, 2011, from http://ahnjune.com/wp-content/uploads/2011/11/Ahn-JCER.pdf

0

- Ø Bandura, A. 1986. Social foundations of thought and action: A social-cognitive view. Englewood Cliffs, NJ: Prentice-Hall.
- Bedgood, L., Murphrey, T. P., & Dooley, K. E. (2008). A qualitative study of technology-based training in organizations that hire agriculture and life sciences students. Journal of Agricultural Education, 49(1), 39-50. doi: 10.5032/jae.2008.01039
- 0
- Blankenship, M. (2010, November). <u>How Social Media Can and Should Impact Higher Education</u>. *Hispanic Outlook in Higher Education*, 76(7), 39-42. Retrieved November 16, 2011, from http://vnweb.hwwilsonweb.com/hww/results/results common.jhtml;
- 0
- Burris, B. H. (1998). Computerization of the workplace. Annu. Rev. Sociol., 24, 141-157.

0

- Cui, G., Lockee, B., & Meng, C. (2013). Building modern online social presence: A review of social presence theory and its instructional design implications for future trends. Educ Inf Technol, 18, 661-685. doi: 10.1007/s10639-012-9192-1
- 0

O Davis, F.D., Bagozzi, R., & Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models, Management Science, 35 (8), 982–1003.

0

- O Doye, D. (2004). The use of electronic technology in teaching farm record keeping. American Journal of Agricultural Economics, 86(3), 762-766.
- 0
- Edgar, L. D., Johnson, D. M., & Cox, C. (2012). A 10-year assessment of information and communication technology tasks required in undergraduate agriculture courses. Computers & Education, 59, 741-749. doi: 10.1016/j.compedu.2012.03.008
- O Ezziane, Z. (2007). Information technology literacy: Implications on teaching and learning. Educational Technology & Society, 10(3), 175-191.
- Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. Academy of Management. the Academy of Management Review, 17(2), 183. Retrieved from http://search.proquest.com/docview/210946771?accountid=7082

0

Holt, L., & Brockett, R. G. (2012). Self direction and factors influencing technology use: Examining the relationships for the 21st century workplace. Computers in Human Behavior, 28, 2075-2082. Retrieved from http://dx.doi.org/10.1016/j.chb.2012.06.011

0

- Karahanna, E., & Straub, D. (1999). The psychological origins of perceived usefulness and ease-of-use. Information & Management, 35, 237-250.
- Kock, N. (2005). Media richness or media naturalness? the evolution of our biological communication apparatus and its influence on our behavior toward e-communication tools. IEEE Transactions of Professional Communication, 48(2), 117-130. doi: 10.1109/TPC.2005.849649
- Lecca, G., Petitdidier, M., Hluchy, M., Ivanovic, M., Kussul, N., Ray, N., & Thieron, V. (2011). Grid computing technology for hydrological applications. Journal of Hydrology, 403, 186-199. doi: 10.1016/j.jhydrol.2011.04.003
- Mazmanian, M., Orlikowski, W. J., & Yates, J. (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. Organization Science, 24(5), 1337-1357. Retrieved from http://www.jstor.org.lib-ezproxy.tamu.edu:2048/stable/42002909
- Murphrey, T. P., Rutherford, T. A., Doerfert, D. L., Edgar, L. D., & Edgar, D. W. (2012). Technology acceptance related to second life[™], social networking, twitter[™], and content management systems: Are agricultural students ready, willing, and able?. Journal of Agricultural Education, 53(3), 56-70. doi: 10.5032/jae.2012.03056
- Noe, R.A. (2010). Employee training and development (5th ed). New York, NY: McGraw-Hill.
- Robinson, C., & Sebba, J. (2010). Personalising learning through the use of technology. Computers & Education, 54, 767-775. doi: 10.1016/j.compedu.2009.09.021
- Suh, K. S. (1999). Impact of communication medium on task performance and satisfaction: An examination of media-richness theory. Information & Management, 35, 295-312.
- Venkatesh, V., & Davis, F.D. (1996). A model of the antecedents of perceived ease of use: Development and test, *Decision Sciences*, 27 (3), 451–481.