

Nursing Faculty Preferences on Technology Use Based on Experience

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Purpose and Background

The purpose of the study is to describe nurse faculty preferences regarding use of technologies and to examine relationships between their preferences and years of experience in teaching.

An emerging crisis factor in nursing colleges is the age of faculty members. According to American Association of Colleges of Nursing (2012), the average age of doctoral and masters prepared nursing faculty is greater than 51 years.

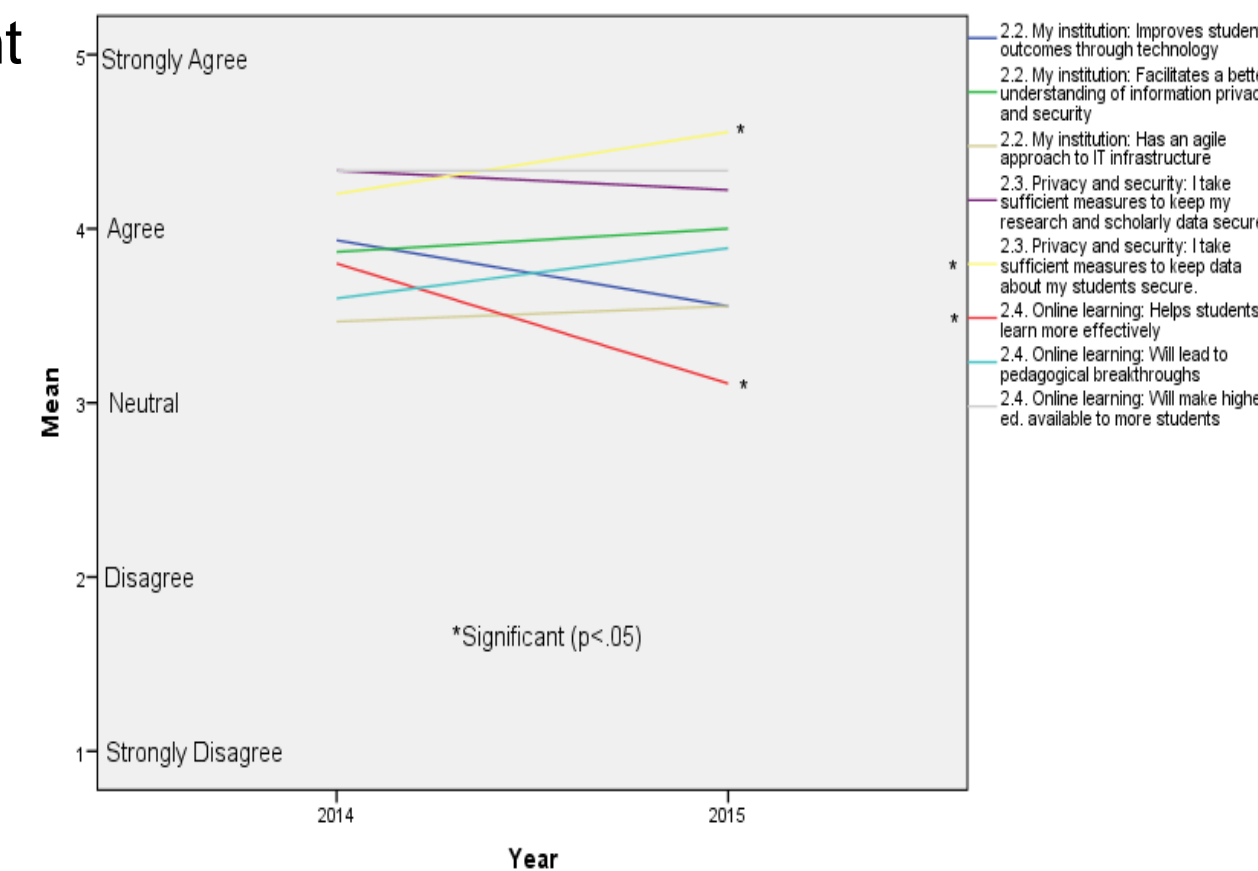
Schmitt, Sims-Giddens and Booth (2012) attribute the slow adoption of technology to the aging factor and note additional barriers for nursing faculty such as time, risks of policy, privacy violation, cost and lack of familiarity with technology.

Our current study used the Educause Center for Analysis and Research (ECAR) survey to assess student and faculty use of and attitudes towards several types of educational technology (Dalstrom and Brooks, 2014). Our institution participated in the 2014 and 2015 studies on faculty and information technology.

Faculty Technology Adoption and Use

Of the many variables examined, two significant changes were observed:

- *Faculty showed significant gains in taking sufficient measures to keep data about their students secure.
- *Faculty significantly decreased in their attitudes regarding online learning helping students to learn more effectively.



Correlations Between Faculty Years of Experience and Technology Variables

Respondents with more years of faculty experience tended to have higher ratings on their experience with technologies - classroom-based ($\rho=.32$, $p=.012$), communication ($\rho=.57$, $p<.001$), online or virtual ($\rho=.44$, $p=.012$), and specialized teaching software ($\rho=.40$, $p=.025$). Faculty with more years of experience tended to be less interested in online early alerts for suggestions about new academic resources for students ($\rho=-.47$, $p=.011$).

Variable	rho	p-value
2.1.a Rating of experience with: Classroom-based technology resources	0.316	0.012
2.1.a Rating of experience with: Communication technologies	0.57	<.0001
2.1.a Rating of experience with: Online or virtual technologies	0.44	0.012
2.1.a Rating of experience with: Specialized teaching software	0.401	0.025
3.3. ^b Institutional alerts: Suggestions about new or different academic resources for your students	-0.465	0.011
3.4. ^c More effective if better skilled with integrating: LMS	-0.212	0.027
3.4. ^c More effective if better skilled with integrating: E-books or e-textbooks	-0.217	0.023
3.4. ^c More effective if better skilled with integrating: Free, web-based content	-0.238	0.012
3.4. ^c More effective if better skilled with integrating: Lecture capture/recordings	-0.195	0.043
4.5. ^d Classroom tech: Refresh/update frequency of software	0.4	0.026
4.6. ^d LMS: Ongoing training/professional development	0.361	0.042
4.6. ^d LMS: Engaging in meaningful interactions with students	0.222	0.024

a. 1-Poor to 5-Excellent
b. 1-Not at All Interested to 5-Extremely Interested
c. 1-Strongly Disagree to 5-Strongly Agree
d. 1-Very Dissatisfied to 5-Very Satisfied

Of particular interest are the results from the section asking faculty to rate *whether they would be more effective instructors if they were better skilled* at integrating certain technologies into their courses. Faculty with more years of experience were less likely to agree that their instruction would be improved if they were better skilled at integrating the LMS ($\rho=-.21$, $p=.027$), E-books ($\rho=-.22$, $p=.023$), web-based content ($\rho=-.24$, $p=.012$), and lecture capture ($\rho=-.20$, $p=.043$). They were, however, more likely to be satisfied with their frequency of software updates ($\rho=.40$, $p=.026$), with their training with LMS ($\rho=.36$, $p=.042$), and their interactions with students on LMS ($\rho=.22$, $p=.024$).

Discussion

Overall, the faculty in our study are making good use of new educational technology. The most surprising results from this analysis are the negative relationships observed between years of faculty experience and attitudes towards the value of obtaining increased skills for technology integration within the curriculum.

Faculty with more years of experience were more likely to disagree that improving their technology knowledge related to using the learning management system, E-books, web-based content, and lecture capture would help them be a better instructor. Newer faculty were more likely to see the value in becoming better skilled at technology integration in their curriculum. This finding parallels the national ECAR finding that faculty with less than 10 years of experience feel that better LMS integration and other technologies will enhance their teaching and learning experience.

One limitation of this study is that the ECAR survey did not request the faculty members' age, only years of experience. Age and years of experience are certainly not one in the same, as faculty start at many different ages, but age and experience of course should still be highly related. Although the relationship does make intuitive sense, it is interesting to note that those with more experience in teaching are more reluctant to adopt new technologies or strategies into their courses.

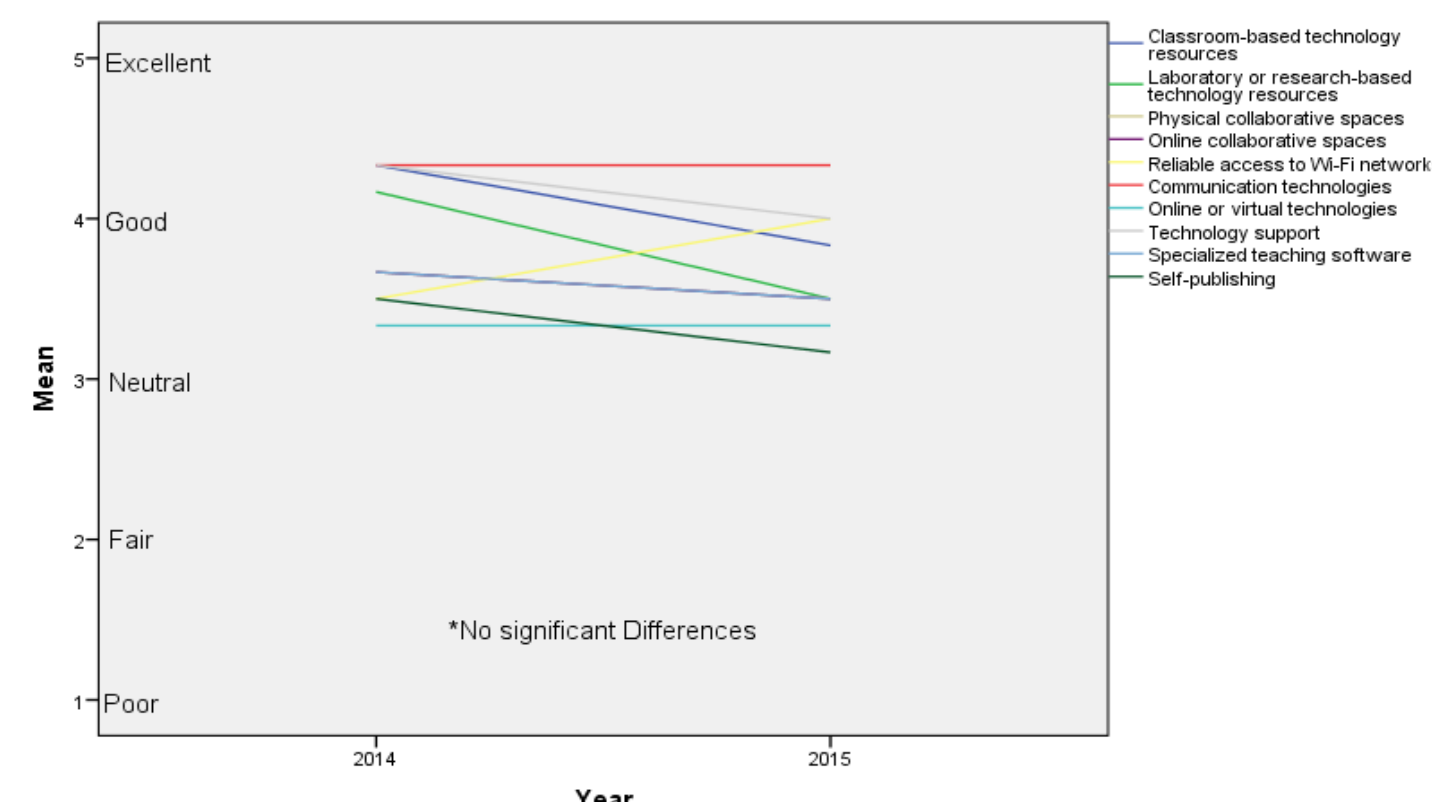
Conclusion and Future Directions

Newer faculty were more likely than experienced faculty to have positive attitudes and motivation for newer technology use and adoption. The explanation for this is unclear from the current study.

Future research studies focused on use, adoption of technology, experience, and age of faculty are needed. We predict that there may be several contributing factors influencing their reluctance to embark on new technologies.

Possible barriers include: viewing technology as a distraction, lack of knowledge, insufficient resources, unreliability of hardware and software platforms, pressure from administrators and students, and using outdated platforms and tools.

Faculty Experience with Technology



- Upon examining changes in technology use over time, no significant changes were observed.
- Average experience with all types of technologies covered in the survey was above the midpoint of the scale, mostly in the "good" range (around 4 on the 1-5 scale).
- The highest rated type of technology was communication technologies and the lowest was self-publishing.

References

- American Association of Colleges of Nursing. (2012). *Nursing faculty shortage*. Retrieved from www.aacn.nche.edu/media-relations/fact-sheets/nursing-faculty-shortage
- Dahlstrom, E. & Brooks, D. with a foreword by Oblinger, D. (2014) *ECAR Study of Faculty and Information Technology, 2014*. Research report. Louisville, CO: ECAR. Available from <http://www.educause.edu/ecar>
- Schmitt, T. L., Sims-Giddens, S. S., & Booth, R. G. (2012). Social media use in nursing education. *Online Journal of Issues in Nursing*, 17, 3. Retrieved from <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TabelleofContents/Vol-17-2012/No3-Sept-2012/Social-Media-in-Nursing-Education.html>