RedFame

Journal of Education and Training Studies
Vol. 4, No. 2; February 2016
ISSN 2324-805X E-ISSN 2324-8068
Published by Redfame Publishing
URL: http://jets.redfame.com

Is Teacher Professional Development an Effective Way to Mitigate Teachers' Gender Differences in Technology? Result from a Statewide Teacher Professional Development Program

Yi Li

Correspondence: Yi Li, Faculty of Education, Southwest University, No.2 Tiansheng Road, BeiBei District, Chongqing, 400715, P.R. China

Received: October 8, 2015 Accepted: October 19, 2015 Online Published: October 21, 2015

doi:10.11114/jets.v4i2.1124 URL: http://dx.doi.org/10.11114/jets.v4i2.1124

Abstract

This study analyzed data from a statewide professional development (PD) program to investigate whether gender difference towards technology usage was mitigated after participation in the program. Teachers responded to pre- and post-questionnaires regarding their perceptions and use of technology before and after participating in PD courses. Findings showed (a) male teachers held more positive attitudes and confidence in using technology than did females; however, this difference became insignificant after the PD; (b) female teachers exhibited an enhanced level of integrating technology in the classroom after participation in PD courses, while males did not; and (c) no significant gender differences were found regarding lower-level use of technology (e.g., access to website, bookmarking). Results support previous findings (Zhou & Xu, 2007; Yildirim, 2000) that (a) technology experience is gender-based; (b) PD training can remedy gender differences in technology use in the classroom; and (c) differing needs of teachers, by gender, should be considered for future PD programs.

Keywords: teacher professional development, online training, gender difference

1. Theoretical Framework & Objectives

1.1 Existing Gender Differences

The rapid evolution of new technologies influencing education in the last two decades is changing the ways teachers are teaching and how students are learning. Teachers' perceptions and attitudes towards these new technologies play important roles in the effective use of such technologies within the teaching and learning process (Groff & Mouza, 2008).

However, a large number of studies have documented teachers' gender disparity in the perception and use of technology within different settings. For example, Zhou & Xu (2007) surveyed a large number of full-time faculty and instructors at a large Canadian university and found that females had lower confidence and less experience in using computers as a part of their teaching strategies. Yuen & Ma (2002) surveyed 186 pre-service teachers based on the framework of the Technology Acceptance Model and found that the level of perceived usefulness, perceived ease-of-use, and intention to use computers in the classroom was much lower for females than for male teachers. Markauskaite (2005) investigated gender differences in self-reported experiences to instructional and computer technology (ICT) use and ICT literacy among first-year teachers. Questionnaires were given to 151 female and 66 male teachers. In this study, the researcher found that male teachers tended to be more confident in their ability to use computers in the classroom than were female teachers. Zogheib (2006) investigated computer use among pre-service teachers related to experience with technology, demographic factors, motivation for use, personality factors and learning styles. Zogheib's study utilized a mixed-method design collecting quantitative data via surveys and qualitative data via interviews. Data resulting from this study showed that female pre-service teachers used computers less than their male counterparts.

Lack of knowledge and experience in using technology is one of the most common reasons reported by female teachers for their negative attitudes towards technology. In investigating changes in pre-service and in-service teachers' attitudes towards computers, Yildirim (2000) found that teachers' confidence and preference for using technology significantly improved after participation in a computer literacy course. However, Yildirim's study failed to investigate the impact of the training course on female and male teachers, respectively. Yet, similar studies have shown that male and female

teachers may learn technology in different ways.

Campbell and Varnehagen (2002) surveyed 423 teachers at a large Canadian university and found that male teachers tended to learn technology skills before applying them to teaching, whereas females tended to focus on pedagogy before technology. In a similar vein, Zhou & Xu (2007) indicated that females tended to learn how to use technology from others, whereas males were more likely to learn from their own experiences.

The majority of research in pre-service and in-service teachers' education related to technology use investigated female and male teachers' technology anxiety and acceptance level of technology. Few studies, however, have addressed how gender differences related to in-service and pre-service teachers' use of and attitudes toward instructional technology have been or could be changed through professional development.

1.2 The Statewide Professional Program

The professional development (PD) program is a web-based platform that supports summer face-to-face professional development sessions, through the establishment of academic year-long online learning communities. Trained facilitators monitor the online learning groups. Using an Internet platform, participants interact with their learning community members or with other learning community groups during the PD program. One of the goals of this project is to increase teachers' use of technology in classroom instruction and increase students' use of the Internet as a resource. The PD program is supported by the state.

1.3 Research Objectives

The purpose of this study is to examine how the professional development program affected females' versus males' perceptions toward technology as well as to compare teachers' use and integration of technology in the classroom. The goal of the study was to provide data which supports the development and design of future technology training PD programs.

Specifically, the study explored: (1) whether there is gender difference in attitude, belief, and degree of confidence towards technology; and if so, whether the PD program helped mitigate this gap; and (2) whether there is gender difference in higher-level use of technology (e.g. integration of technology in the classroom) and lower-level use of technology (e.g. accessing of websites without specific teaching-oriented purpose); and if so, how the PD program helped change this situation.

2. Methods

2.1 Participants

In this study, data was collected by an external evaluator as part of the evaluation of the teacher professional development program (2011-2012). Data from the evaluation survey were collected from 1,020 teachers from public schools in the state. Survey sample included regular mathematics and science teachers and special education, resource, or inclusion teachers who taught at least one regularly scheduled class in Grades K-12. Excluded from the sampling were teachers' aids, assistants, school or district administrators/ supervisors, and counselors. The gender ratios of female to male teacher respondents in pre- and post- survey are listed in Table 1.

Table 1. Percentages of Female vs. Male Participants

	Pre-questionnaire		Post-questionnaire	
	n	Percent	n	Percent
Female	862	84.51	712	86.62
Male	158	15.49	110	13.38

2.2 Measures

Pre- and Post-Surveys were administered through the PD homepage. Participants completed the questionnaire as part of their first and final assignment for the course, across one academic year. Unique identifiers were used to link participants' pre- and post-questionnaire responses. The pre-surveys were administered in August of 2011 and 2012. The post-surveys were administered in December of 2011 and 2012.

Items that identified the specific educational technology characteristics of technology use, teachers' comfort level, and teachers' beliefs about educational technology were selected for use in this study. The items were from 3 sections in the evaluation survey. The section, "Use of Technology," consisted of eight items on a 5-point Likert-type scale, with responses ranging from *almost never* (1) to *very often* (5), three multiple-choice items, and one open-ended item. The section "Use of the Ohio Resource Center (ORC)," consisted of eight multiple choice items, six of which required a *yes* or *no* response and two of which provided six frequency choices ranging from *once per school year* (1) to *daily* (6). The other section "Teaching Practices" consisted of 38 items on a Likert-type scale ranging from *strongly disagree* (1) to *strongly agree* (5). Table 2 lists these selected items. Reliability of each factor to its subscales was examined by

Cronbach's alpha. Each response has been standardized with mean of zero and standard deviation of one in this analysis since responses are not consistent with one scale.

Table 2. Factors and Their Related Survey Questions

Factors	Questions
Teachers' attitudes, belief and degree of confidence (Alpha=0.87)	I am comfortable using technology to learn I am comfortable using the Web to learn and teach I value Web-based professional development I have a good understanding of how to use technology effectively in the classroom
Integration technology in classroom (Alpha=0.83)	Use the Internet to find lesson plans Use the Internet to find content references to enhance my lessons. Use the Internet to find resources to help me teach topics that I am less prepared to teach. Use the Internet to find appropriate content references for others (e.g., parents, guardians, tutors, etc.). How many teaching related websites have you book marked on your Internet browser?
Lower level use of technology (Alpha=0.67)	Have you accessed the ORC website? How frequently did you access the ORC website during the past school year?

3. Results

Mean scores and standard deviations of all the related survey items and their correlations are listed in the Appendices A and B. A significance level of $p \leq .05$ was used in this study. Table 3 indicates that male teachers held a more positive attitude, belief, and higher amount of confidence towards technology use in the classroom than did females, initially. The standardized mean score for female teachers was -0.03, compared to 0.13 for males.. After the online training course, female teachers' attitude towards technology increased from -0.03 to 0.006. The gap in technology attitude and degree of confidence between female and male teachers closed.

Table 4 shows that female teachers seemed to incorporate more technology in class than did male peers. At the beginning, female and male teachers reported utilizing the technology at the same level in their teaching. After the program, female teachers significantly exceeded male teachers in utilizing the Internet (a) to help find lesson plans, (b) to help find information about the content being taught, and (c) to help find materials or resources to use in the classroom. Females also were more likely to check out teaching related websites. The composite mean scores of female teachers' pre- and post- survey responses were 0.02 versus 0.04, as opposed to -0.11 versus -0.17 for male teachers.

Table 5 does not show any gender difference in lower-level technology use either before or after the PD program. One possible explanation is that the lower-level of technology use assesses whether or not teachers use a resource website but not "how" the website was used for teaching and learning. Also, this may not have been a goal of the PD program.

Table 3. Pre- vs Post-Technology Attitude and Confidence by Gender

	Pre-Mean	Pre-95% CL Mean		Post-Mean	Post-95% CL Mean	
Female	-0.0303	-0.0872	0.0266	0.00585	-0.0607	0.0724
Male	0.1271	-0.00848	0.2627	0.0751	-0.0984	0.2487
Diff (Female-Male)	-0.1574	-0.3023	-0.0125	-0.0693	-0.2516	0.1130

Table 4. Pre- vs Post-Integration of Technology in Class by Gender

	Pre-Mean	Pre-95% CL Mean		Post-Mean	Post-95% CL Mean	
Female	0.0158	-0.0353	0.0669	0.0414	-0.0145	0.0974
Male	-0.1090	-0.2338	0.0158	-0.1696	-0.3091	-0.0301
Diff (Female-Male)	0.1248	-0.00585	0.2554	0.2110	0.0594	0.3627

Table 5. Pre- vs Post-Lower Level of Technology Use by Gender

	Pre-Mean	Pre-95% CL Mean		Post-Mean	Post-95% CL Mean	
Female	-0.1000	-0.1617	-0.0383	-0.0469	-0.1178	0.0240
Male	-0.0771	-0.2262	0.0720	0.00435	-0.1762	0.1849
Diff (Female-Male)	-0.0229	-0.1806	0.1348	-0.0512	-0.2448	0.1423

4. Educational Importance of Findings

The professional development program successfully mitigated the gender difference in attitude and amount of confidence towards technology use for teaching purposes. The program also successfully introduced knowledge regarding how teachers integrate technology within their classrooms; helpful practices and experiences regarding how to improve female teachers' perceptions and self-confidence in using technology in the classroom; and on the continual support system provided to teachers during the professional development.

The findings revealed that there was gender difference in the implementation of the professional development. Male teachers were more confident in using technology for learning than were female in service teachers. Similar findings

were reported by other researchers. Research conducted by Shashaani & Khalili (2001) showed that females admitted that they had little confidence in using technology for learning as compared to males. Literature suggests the reasons for such gender inequality in the use of technology. Joiner et al. (2011) indicated that gender inequality were due to socially construction. For example, some parents and teachers may believe technology should belong to male's domain. So such misunderstanding may influence children on career choice and confidence in learning with technology.

The finding in of this study indicated that, after participation in the PD courses, female teachers not only improved their perceptions about technology but also were successfully provided with knowledge and experience in using technology for teaching. However, even though male teachers held more positive perceptions towards technology initially, they failed to gain as much as female counterparts regarding higher-level technology use in the classroom.

These findings resonate with Campbell and Varnehagen's (2002) study. Based on several surveys, Campbell and Varnehagen claimed that male and female teachers may learn technology in different ways. Males tend to learn a technology first, and then consider its application in teaching, whereas females tended to start by focusing on instructional needs for integrating technology. In other words, female teachers considered the technology as an assistant for their pedagogy, while males focused on the technology itself. From this stance, Campbell and Vernehagen (2002) suggested different models of professional development for males and females. They argued that female teachers may prefer pedagogically-based training where relevant technologies are presented; while, males might prefer training featuring a technology where instructional practices are taught along the way. Similarly, Zhou & Xu (2007) recommended that professional development for females should involve more real-word connections and interactions between teachers and PD facilitators, while training for males would be more appropriate if it provided more hands-on activities.

5. Conclusions

This paper used data collected from an ongoing teacher professional development program to show that this type of professional development training program appears to benefit female teachers more than male teachers in terms of technology use in the classroom. Even considering that male students had more positive perceptions towards technology prior to and in the beginning of the PD program, the expectation is that they would still improve their skills to some degree regarding integration of technology in the classroom after participating in related PD training. The findings of this research recommend that a different focus in designing these types of professional development program may be warranted. That is, future PD program designs and corresponding curriculum should be developed to take into account the particular needs of female and male teachers in order to help facilitate equality and effectiveness in these types of PD programs.

6. Limitations

One limitation of this study is that it only involved analysis and findings from one state-level professional development program. Should a similar future study be conducted, it would need to synthesize findings from multiple professional development programs in order to reveal a better understanding of gender differences and male and female teachers' changes in perceptions and use of technology before and after PD programs. Moreover, another limitation is that this study used only the evaluation survey data. This survey only generally collected data on teachers' views of use of technology. This may have limited finding on the difference between general technology (e.g. Internet) and specific instructional technology (e.g. Blackboard) usage in the classroom. Future studies would need to consider more systematic and a more specifically designed set of data collection instruments which could assess gender difference issues in teacher professional development programs. Additional qualitative techniques, such as interviews and focus groups, can be used to explore other reasons why female student have less confidence in using technology for learning than do their peers. Then, the professional development programs have guidance to be designed in practice.

Acknowledgements

The research is supported by Chongqing Federation Social Science Plan Funds (2014BS120) and the Scientific Research Plan Funds for the Faculty of Education at Southwest University (2014YBXM20).

References

Campbell, K., & Varnhagen, S. (2002). When faculty use instructional technologies: Using clark's delivery model to understand gender differences. *The Canadian Journal of Higher Education, 32*(1), 1-29.

Groff, J., & Mouza, C. (2008). A framework for addressing challenges to classroom technology use. *AACE Journal, 16*(1), 21-46.

Joiner, R., Iacovides, J., Owen, M., Gavin, C., Clibbery, S., Darling, J., & Drew, B. (2011). Digital games, gender and learning in engineering: Do females benefit as much as males? *Journal of Science Educational Technology, 20,* 178-185. http://dx.doi.org/10.1007/s10956-010-9244-5

Markauskaite, L. (2005). *Exploring differences in trainee teachers' ICT literacy: Does gender matter?* Proceedings of the 22nd ASCILITE Conference, Brisbane, Australia.

Shashaani, L., & Khalili, A. (2001). Gender and computers: Similarities and differences in Iranian college students' attitudes toward computers. *Computers & Education, 37*(3), 363-375. http://dx.doi.org/10.1016/S0360-1315(01)00059-8

Yildirim, S. (2000). Effects of an educational computing course on preservice and inservice teachers: A discussion and analysis of attitudes and use. *Journal of Research on Computing in Education, 32*(4), 479-495. http://dx.doi.org/10.1080/08886504.2000.10782293

Yuen, H. K. A., & Ma, W. K. W. (2002). Gender differences in teacher computer acceptance. *Technology and Teacher Education, 10*(3), 365-382.

Zhou, G., & Xu, J. (2007). Adoption of educational technology: How does Gender Matter? *International Journal of Teaching and Learning in Higher Education, 19*(2), 140-153.

Zogheib, S. (2006). *Explaining computer use among preservice teachers: Towards the development of a richer conceptual model incorporating experience, demographic, motivation, personality, and learning style clusters of variables* (Unpublished doctoral dissertation). University of Windsor, Ontario, Canada.

Appendix A: Means & Standard Deviations of Related Items

PRE	Questions	N	Mean	St.d	Min	Max
Q1	Have you accessed the ORC website?	1045	0.7	0.46	0	1
Q2	How frequently did you access the ORC website during the past school year?	919	2.35	1.24	1	6
Q3	In my teaching, I use the Internet to find lesson plans.	1043	3.46	1.05	1	5
Q4	In my teaching, I use the Internet to find content references to enhance my lessons.	1047	3.82	0.9	1	5
Q5	In my teaching, I use the Internet to find resources to help me teach topics that I am less prepared to teach.	1038	3.82	0.91	1	5
Q6	In my teaching, I use the Internet to find appropriate content references for others (e.g., parents, guardians, tutors, etc.).	1042	3.37	0.98	1	5
Q7	How many teaching related websites have you bookmarked on your Internet browser	1051	3.04	0.97	1	4
Q8	I am comfortable using technology to learn.	1051	4.15	0.76	1	5
Q9	I am comfortable using the Web to learn and teach.	1041	4.13	0.77	1	5
Q10	I value Web-based professional development.	1049	4.2	0.7	1	5
Q11	I have a good understanding of how to use technology effectively in the classroom.	773	3.9	0.78	1	5
POST						
Q1	Have you accessed the ORC website?	900	0.99	0.12	0	1
Q2	How frequently did you access the ORC website during the past school year?	905	2.89	1	1	6
Q3	In my teaching, I use the Internet to find lesson plans.	906	3.54	0.98	1	5
Q4	In my teaching, I use the Internet to find content references to enhance my lessons.	904	3.9	0.88	1	5
Q5	In my teaching, I use the Internet to find resources to help me teach topics that I am less prepared to teach.	902	3.87	0.91	1	5
Q6	In my teaching, I use the Internet to find appropriate content references for others (e.g., parents, guardians, tutors, etc.).	904	3.39	0.98	1	5
Q7	How many teaching related websites have you bookmarked on your Internet browser?	912	3.14	0.91	1	4
Q8	I am comfortable using technology to learn.	911	4.19	0.72	1	5
Q9	I am comfortable using the Web to learn and teach.	916	4.21	0.72	1	5
Q10	I value Web-based professional development.	913	4.27	0.65	1	5
Q11	I have a good understanding of how to use technology effectively in the classroom.	905	4.05	0.75	1	5

Appendix B: Pearson Correlation Coefficients

Number of Observations

		Pre											Post										
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
pre	Q1	1	0.5	0.21	0.12	0.14	0.18	0.11	0.13	0.14	0.15	0.16	0.13	0.14	0.16	0.07	0.11	0.11	0.07	0.15	0.14	0.1	0.13
		1045	912	1037	1041	1032	1036	1042	1043	1033	1041	767	824	828	829	827	825	827	834	833	838	835	828
	Q2	0.5	1	0.25	0.18	0.16	0.19	0.17	0.1	0.09	0.17	0.13	0.11	0.51	0.17	0.15	0.17	0.14	0.16	0.12	0.14	0.2	0.11
		912	919	911	915	908	910	916	918	910	916	669	724	729	728	729	725	728	732	732	736	734	726
	Q3	0.21	0.25	1	0.62	0.63	0.54	0.31	0.22	0.25	0.21	0.2	0.04	0.2	0.61	0.4	0.42	0.38	0.29	0.16	0.22	0.21	0.16
		1037	911	1043	1042	1034	1038	1040	1041	1031	1039	769	823	828	829	827	825	827	834	832	837	834	827
	Q4	0.12	0.18	0.62	1	0.7	0.55	0.36	0.34	0.4	0.31	0.33	0.03	0.13	0.43	0.58	0.45	0.38	0.35	0.26	0.3	0.23	0.26
		1041	915	1042	1047	1037	1041	1044	1045	1035	1043	770	827	832	833	831	829	831	838	836	841	838	831
	Q5	0.14	0.16	0.63	0.7	1	0.57	0.33	0.27	0.32	0.27	0.24	0.03	0.13	0.47	0.49	0.54	0.39	0.31	0.25	0.28	0.23	0.2
		1032	908	1034	1037	1038	1033	1035	1036	1026	1035	766	818	823	824	822	820	822	829	827	832	829	822
	Q6	0.18	0.19	0.54	0.55	0.57	1	0.27	0.29	0.33	0.24	0.34	0.05	0.11	0.35	0.37	0.38	0.49	0.21	0.26	0.27	0.2	0.24
		1036	910	1038	1041	1033	1042	1039	1040	1030	1038	766	824	829	830	829	826	828	835	833	838	835	828
	Q7	0.11	0.17	0.31	0.36	0.33	0.27	1	0.26	0.25	0.18	0.23	-0.05	0.13	0.22	0.29	0.26	0.22	0.66	0.27	0.25	0.2	0.18
		1042	916	1040	1044	1035	1039	1051	1048	1038	1047	772	828	832	833	831	829	831	838	837	842	839	832
	Q8	0.13	0.1	0.22	0.34	0.27	0.29	0.26	1	0.8	0.56	0.68	0	0.06	0.17	0.27	0.2	0.25	0.28	0.54	0.49	0.3	0.49
		1043	918	1041	1045	1036	1040	1048	1051	1040	1047	771	830	834	835	833	831	833	840	839	844	841	834
	Q9	0.14	0.09	0.25	0.4	0.32	0.33	0.25	0.8	1	0.59	0.66	0.01	0.05	0.21	0.31	0.23	0.28	0.26	0.51	0.5	0.31	0.45
		1033	910	1031	1035	1026	1030	1038	1040	1041	1037	765	822	826	827	825	823	825	832	831	836	833	826
	Q10	0.15	0.17	0.21	0.31	0.27	0.24	0.18	0.56	0.59	1	0.47	0.07	0.14	0.19	0.24	0.21	0.25	0.2	0.36	0.37	0.42	0.35
		1041	916	1039	1043	1035	1038	1047	1047	1037	1049	770	827	831	832	830	828	830	837	836	841	838	831
	Q11	0.16	0.13	0.2	0.33	0.24	0.34	0.23	0.68	0.66	0.47	1	-0.04	0.04	0.18	0.3	0.2	0.29	0.24	0.47	0.46	0.24	0.52
		767	669	769	770	766	766	772	771	765	770	773	600	606	604	604	602	604	608	608	612	609	603

Appendix B: Pearson Correlation Coefficients (Cont.)

Number of Observations

		Pre											Post										
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
post	Q1	0.13	0.11	0.04	0.03	0.03	0.05	-0.05	0	0.01	0.07	-0.04	1	0.1	0.04	0.01	0.09	0.07	0	0.04	0.05	0.04	0.06
		824	724	823	827	818	824	828	830	822	827	600	900	889	889	887	885	887	895	894	899	896	889
	Q2	0.14	0.51	0.2	0.13	0.13	0.11	0.13	0.06	0.05	0.14	0.04	0.1	1	0.27	0.17	0.22	0.19	0.2	0.08	0.11	0.14	0.1
		828	729	828	832	823	829	832	834	826	831	606	889	905	895	893	891	893	901	899	904	901	893
	Q3	0.16	0.17	0.61	0.43	0.47	0.35	0.22	0.17	0.21	0.19	0.18	0.04	0.27	1	0.59	0.62	0.48	0.34	0.21	0.25	0.22	0.2
		829	728	829	833	824	830	833	835	827	832	604	889	895	906	900	898	900	903	900	905	902	894
	Q4	0.07	0.15	0.4	0.58	0.49	0.37	0.29	0.27	0.31	0.24	0.3	0.01	0.17	0.59	1	0.69	0.48	0.4	0.34	0.38	0.24	0.34
		827	729	827	831	822	829	831	833	825	830	604	887	893	900	904	898	900	901	898	903	900	892
	Q5	0.11	0.17	0.42	0.45	0.54	0.38	0.26	0.2	0.23	0.21	0.2	0.09	0.22	0.62	0.69	1	0.56	0.35	0.29	0.32	0.26	0.25
		825	725	825	829	820	826	829	831	823	828	602	885	891	898	898	902	899	899	897	901	898	891
	Q6	0.11	0.14	0.38	0.38	0.39	0.49	0.22	0.25	0.28	0.25	0.29	0.07	0.19	0.48	0.48	0.56	1	0.29	0.28	0.31	0.26	0.29
		827	728	827	831	822	828	831	833	825	830	604	887	893	900	900	899	904	901	899	904	901	893
	Q7	0.07	0.16	0.29	0.35	0.31	0.21	0.66	0.28	0.26	0.2	0.24	0	0.2	0.34	0.4	0.35	0.29	1	0.3	0.31	0.2	0.25
		834	732	834	838	829	835	838	840	832	837	608	895	901	903	901	899	901	912	906	911	908	900
	Q8	0.15	0.12	0.16	0.26	0.25	0.26	0.27	0.54	0.51	0.36	0.47	0.04	0.08	0.21	0.34	0.29	0.28	0.3	1	0.81	0.49	0.71
		833	732	832	836	827	833	837	839	831	836	608	894	899	900	898	897	899	906	911	911	908	901
	Q9	0.14	0.14	0.22	0.3	0.28	0.27	0.25	0.49	0.5	0.37	0.46	0.05	0.11	0.25	0.38	0.32	0.31	0.31	0.81	1	0.53	0.68
		838	736	837	841	832	838	842	844	836	841	612	899	904	905	903	901	904	911	911	916	913	905
	Q10	0.1	0.2	0.21	0.23	0.23	0.2	0.2	0.3	0.31	0.42	0.24	0.04	0.14	0.22	0.24	0.26	0.26	0.2	0.49	0.53	1	0.43
		835	734	834	838	829	835	839	841	833	838	609	896	901	902	900	898	901	908	908	913	913	902
	Q11	0.13	0.11	0.16	0.26	0.2	0.24	0.18	0.49	0.45	0.35	0.52	0.06	0.1	0.2	0.34	0.25	0.29	0.25	0.71	0.68	0.43	1
		828	726	827	831	822	828	832	834	826	831	603	889	893	894	892	891	893	900	901	905	902	905