

Appendix 1

Table A1.

Teachers TPACK-confidence questionnaire, and differences between pre- and post-workshop questionnaires, per question.

Scales and items	pre- vs. post-workshop questionnaires
Technological Pedagogical Content Knowledge (TPACK)^a	
TPCK1. Find and use online animations that effectively demonstrate a specific scientific principle.	*
TPCK2. Use digital technologies to facilitate scientific inquiry in the classroom.	-
TPCK3. Use digital technologies that facilitate topic-specific science activities in the classroom.	*
TPCK4. Help students use digital technologies that extend their ability to observe scientific phenomenon.	**
TPCK5. Help students use digital technologies that allow them to create and/or manipulate models of scientific phenomenon.	**
Technological Pedagogical Knowledge (TPK)^a	
TPK1. Use digital technologies to improve my teaching productivity.	-
TPK2. Use digital technologies to improve communication with students.	*
TPK3. Effectively manage a technology-rich classroom.	**
TPK4. Use digital technologies to motivate learners.	-
TPK5. Use digital technologies to improve the presentation of information to learners.	*
TPK6. Use digital technologies to actively engage students in learning.	**
TPK7. Use digital technologies to help in assessing student learning.	*
Technological Knowledge (TK)^b	
TK1. Searching Google	-
TK2. Searching YouTube	-
TK3. Downloading a video from YouTube	*
TK4. Downloading and installing programs	-
TK5. Searching for relevant programs on the Web	-
TK6. Working with a video editing program	*
TK7. Adding effects to a video	*
TK8. Adding music to a video	*
TK9. Editing a video	*
TK10. Adding subtitles to a video	**
TK11. Adding pictures to a video	**
TK12. Connecting two videos	**
TK13. Cutting a video	**
TK14. Converting files from one format to another (e.g., flv/mp to mpg/avi)	-
Content knowledge (CK)^c	
CK1. The influence of the environment on gene expression.	-
CK2. Methylation processes and their influence on gene expression.	*
CK3. The connection between methylation processes and the development of cancer.	**
CK4. Molecular processes leading to cancer.	*

^a Adapted from Graham et al. (2009): "Rate how confident you are in your current ability to complete each of the following tasks on the following scale: 1=Not confident at all, 2=slightly confident, 3=somewhat confident, 4=fairly confident, 5=quite confident, 6=completely confident.

^b Adapted from Author et al. (2013): "Please grade your abilities on the following scale: I am afraid to use (grade = 0), I do not know (grade = 1), I know but I do not use (grade = 2), I know and I use (grade = 3)".

^c Developed for this study.

The Wilcoxon Signed Rank test was applied to compare between pre and post results,

*p < 0.05, **p < 0.01, - p>0.05 not significant (N = 12).