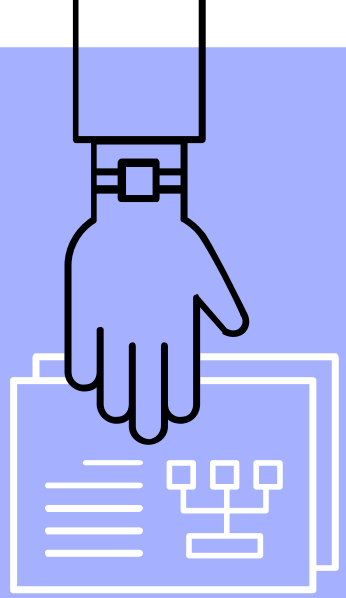
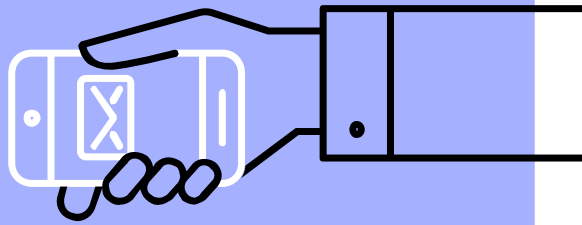
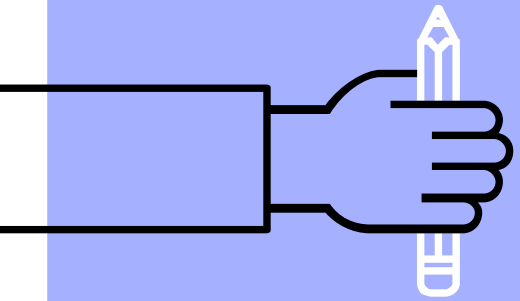
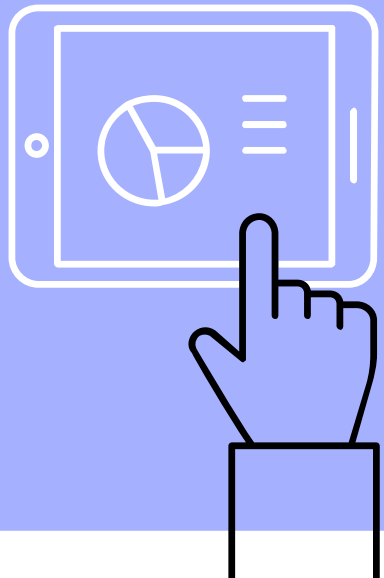




Can We Meet the Needs of the iGeneration?: Exploring Effective Technology Integration Needs of Educators



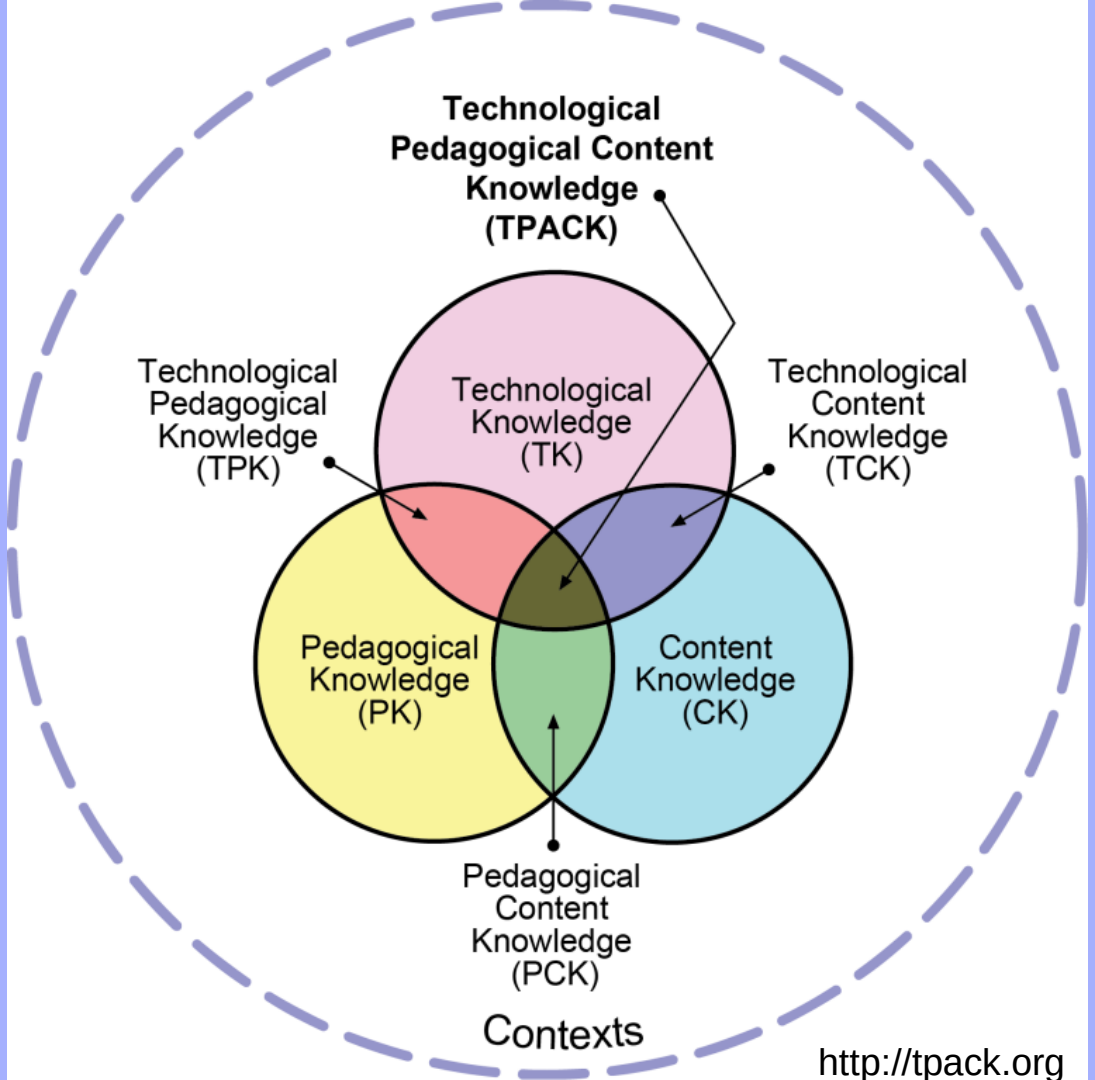


OP McCubbins, Tennessee Tech University
Will Bird, University of Tennessee - Martin
John Ricketts, Tennessee State University

TPACK Framework

Highlights the complex interplay within three areas of knowledge:

- Technology
- Pedagogy
- Content



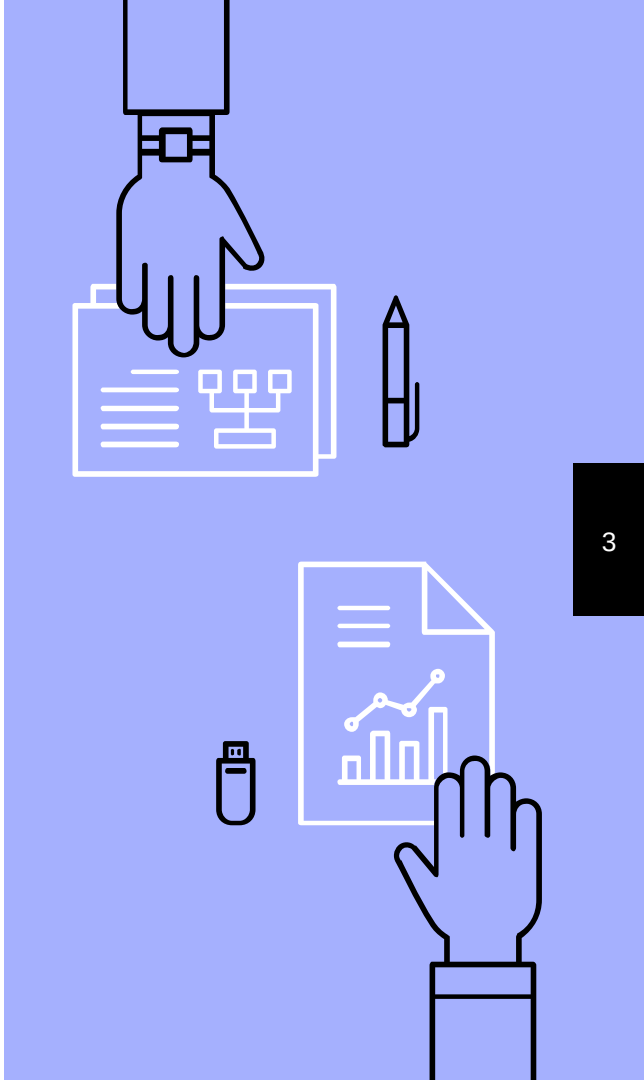
http://tpack.org

TPACK Definitions

Technology knowledge (TK): knowledge about various technologies- from low-tech to high-tech

Content knowledge (CK): knowledge about the subject matter one will teach

Pedagogical knowledge (PK): knowledge of the teaching and learning process; including knowledge in classroom management, assessment, lesson plan development, and student learning.

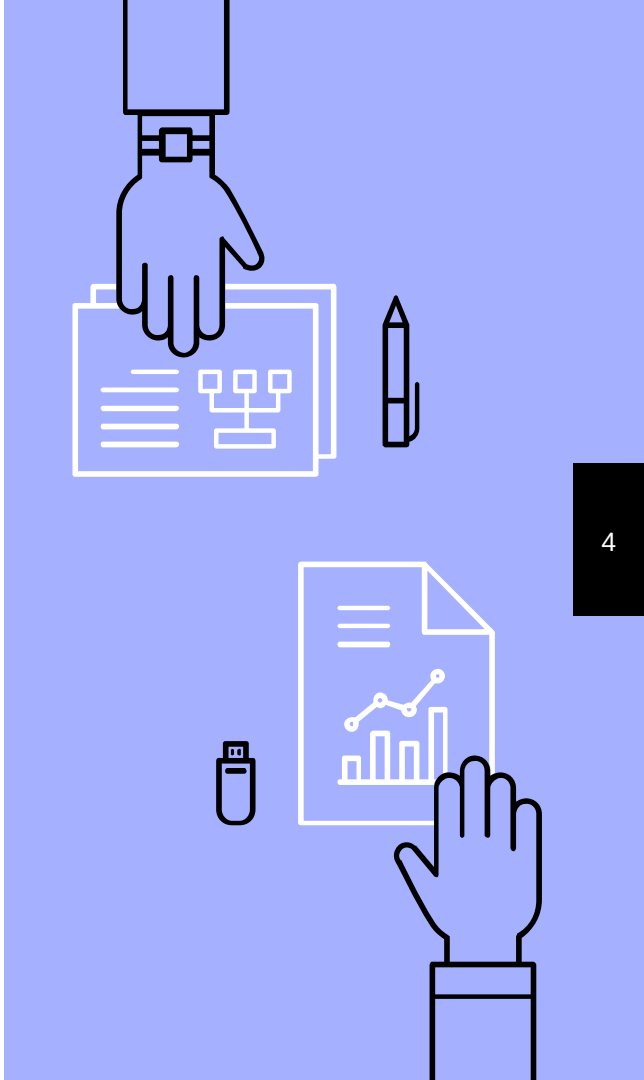


TPACK Definitions

Pedagogical content knowledge (PCK): content knowledge that deals with the teaching process that blends content and pedagogy.

Technological content knowledge (TCK): knowledge of how technology can create new representations for specific content. Understanding of technology's potential to transform student learning.

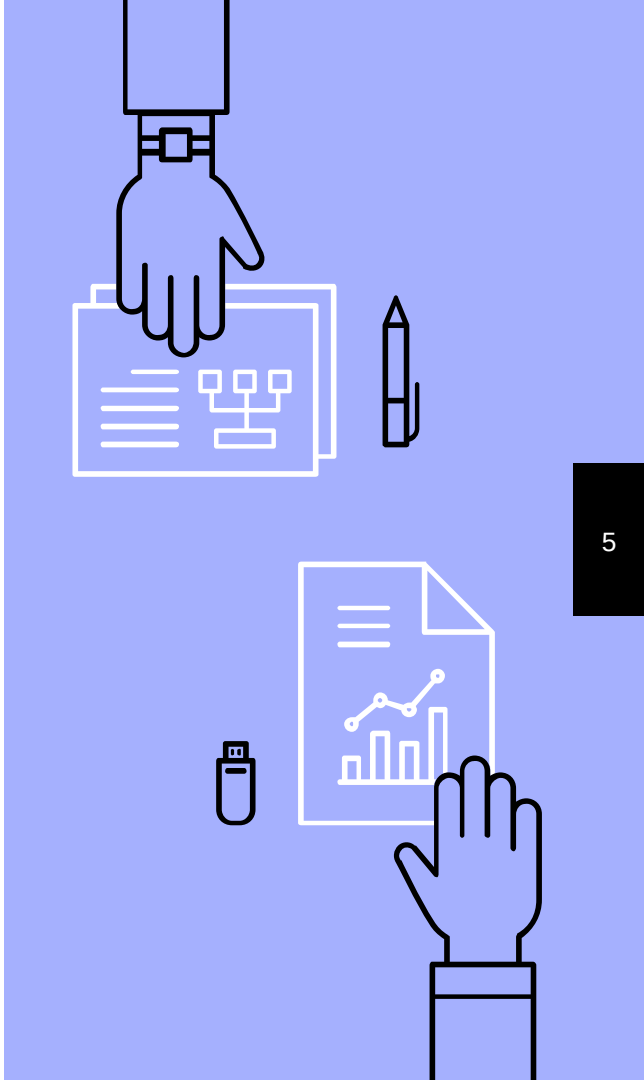
Technological pedagogical knowledge (TPK): knowledge of how various technologies can be used in teaching and understanding that technology usage can transform teaching.



Technological pedagogical content knowledge (TPACK):

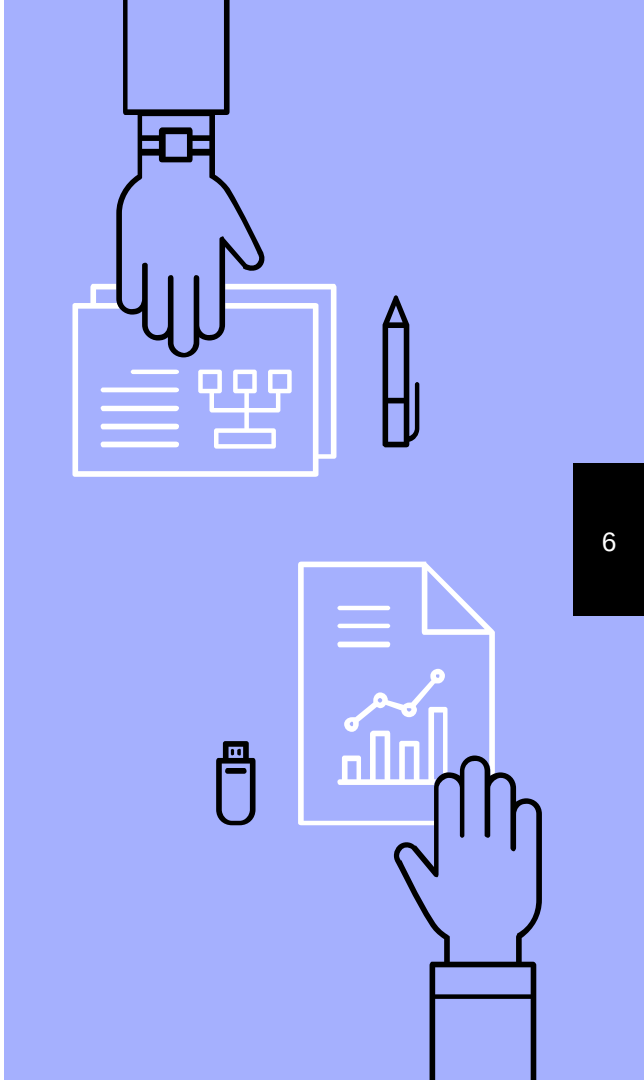
The knowledge required by teachers for integrating technology into the teaching of any content area.

An understanding of the complexities between the three basic components of knowledge (CK, PK, TK) by teaching using appropriate pedagogical methods and technologies.



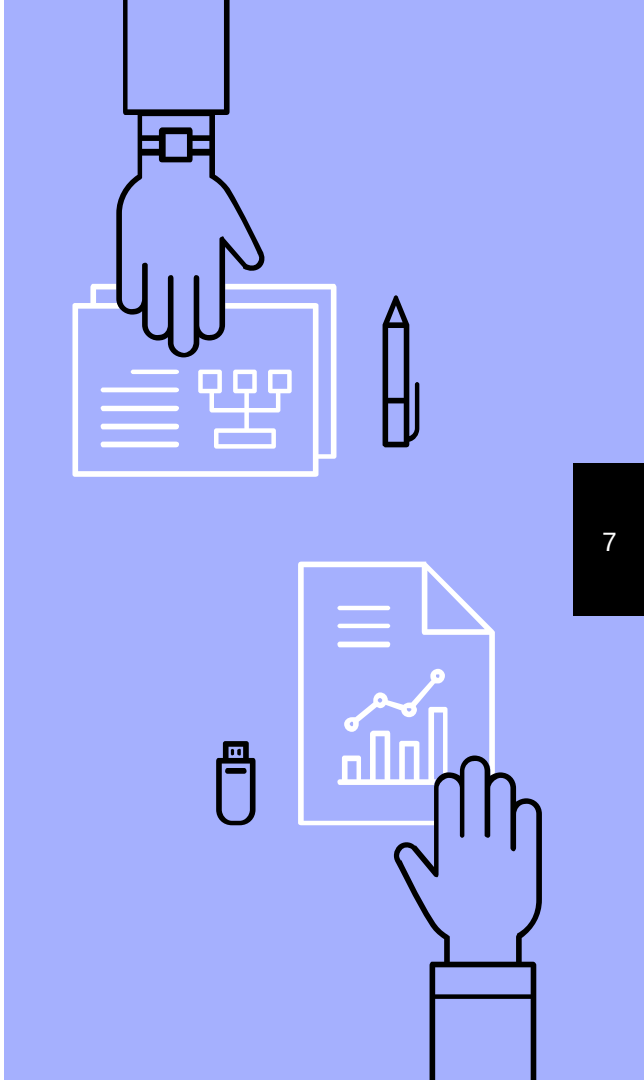
The Why

Interested in examining how preservice teachers develop technological pedagogical content knowledge.



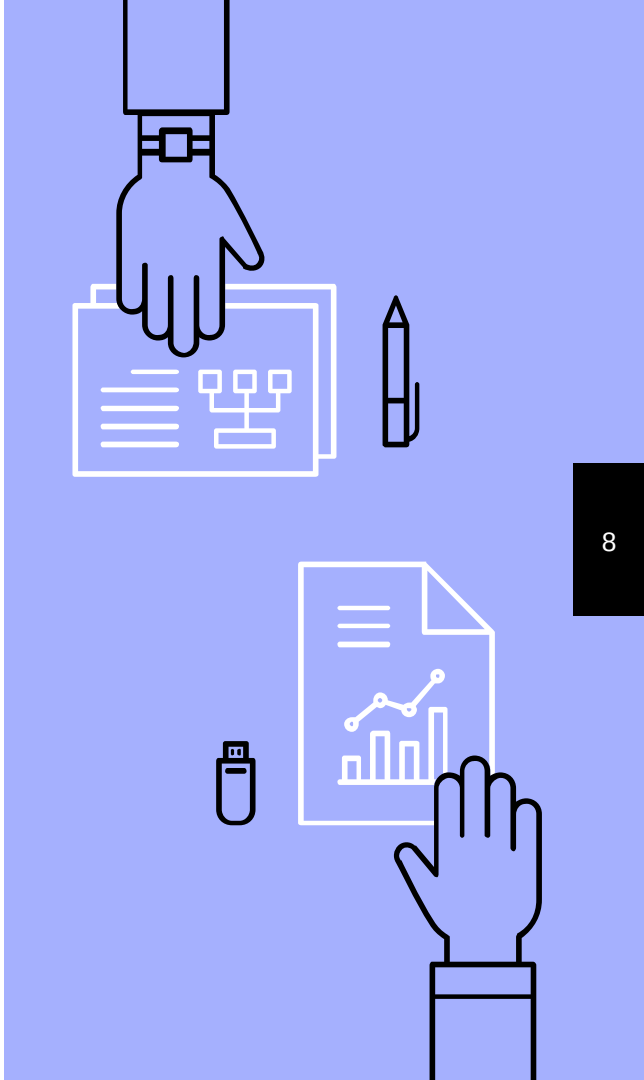
The How

- Survey of Preservice Teachers' Knowledge of Teaching and Technology (Schmidt et al., 2009)
  - Qualtrics
- Initial Target Population: All preservice teachers at TTU & UTM($N = 40$)
- Revised Target Population: Junior/Senior preservice teachers at TTU & UTM($N = 10$)
  - Response rate: 80% ($n = 8$)



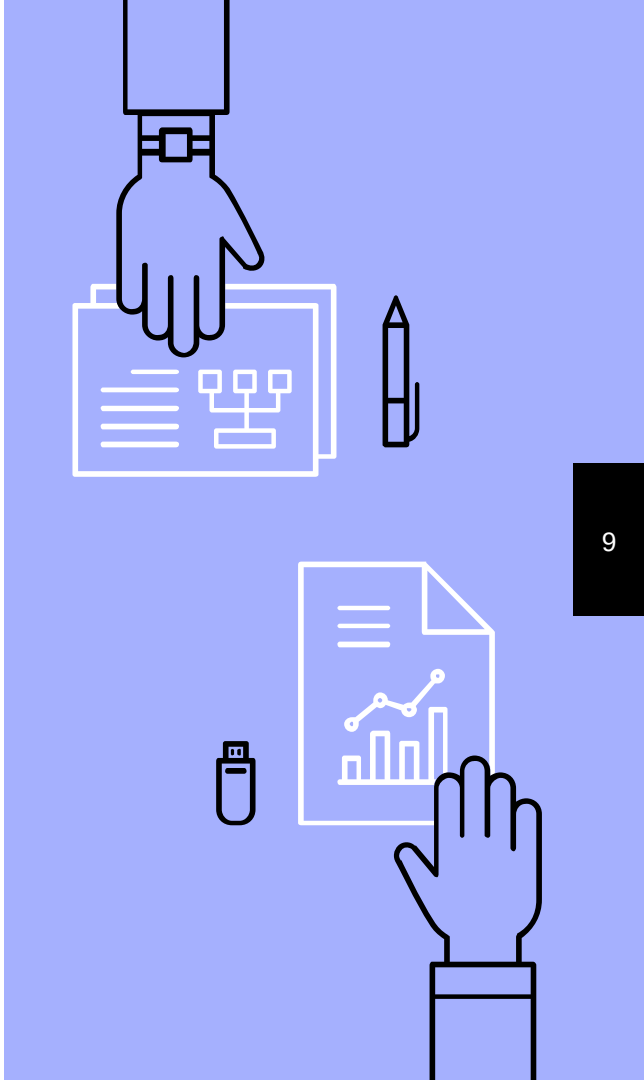
Reliability

TPACK Domain	Schmidt et al., 2009	Current Study
Technology Knowledge	.86	.86
Content Knowledge	.78 - .83	.68 - .97
Pedagogy Knowledge	.87	.76
Pedagogical Content Knowledge	.87	.66
Technological Pedagogical Knowledge	.93	.95
Technological Content Knowledge	.86	.81
Technological Pedagogical Content Knowledge	.89	.83



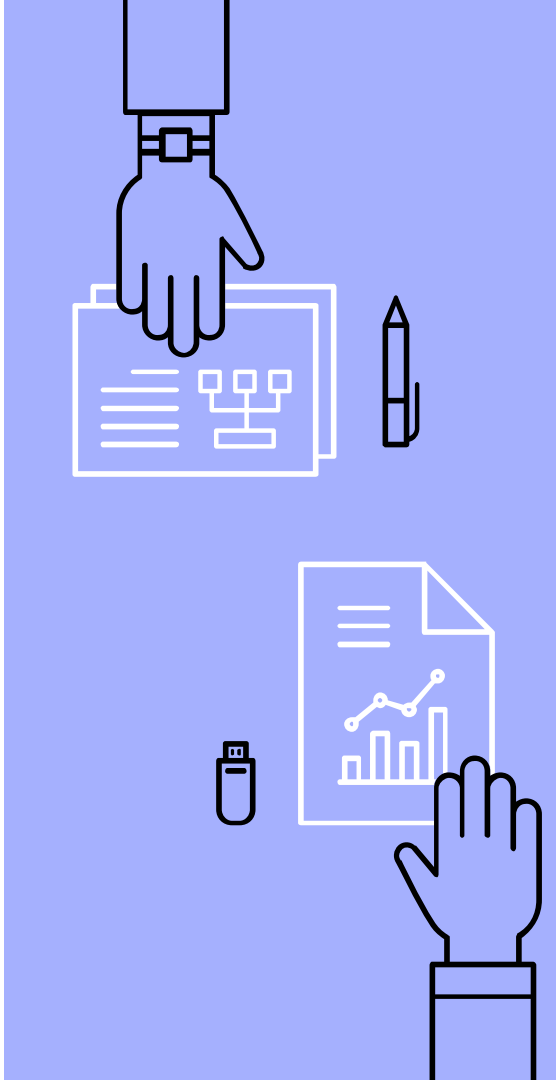
Results

Descriptive Statistics for Preservice TPACK				
Construct	*M*	*SD*	*Min*	*Max*
TK	3.23	0.91	1	4
CK	3.47	0.75	2	4
PK	3.81	0.38	2	4
PCK	3.56	0.78	2	4
TPK	3.48	.71	2	5
TCK	3.53	0.83	2	4
TPACK	3.67	0.69	2	5



Models of TPACK

Descriptive Statistics for Preservice TPACK Models				
Models	*M*	*SD*	*Min*	*Max*
Ag Ed	3.88	0.64	3	5
Ag Content	2.53	0.81	1	4
Gen Ed	1.88	0.84	1	3
Ins. Tech.	3.88	0.64	3	5
Ed. Found.	4.13	0.64	3	5
Coop Teacher	2.63	1.061	2	5

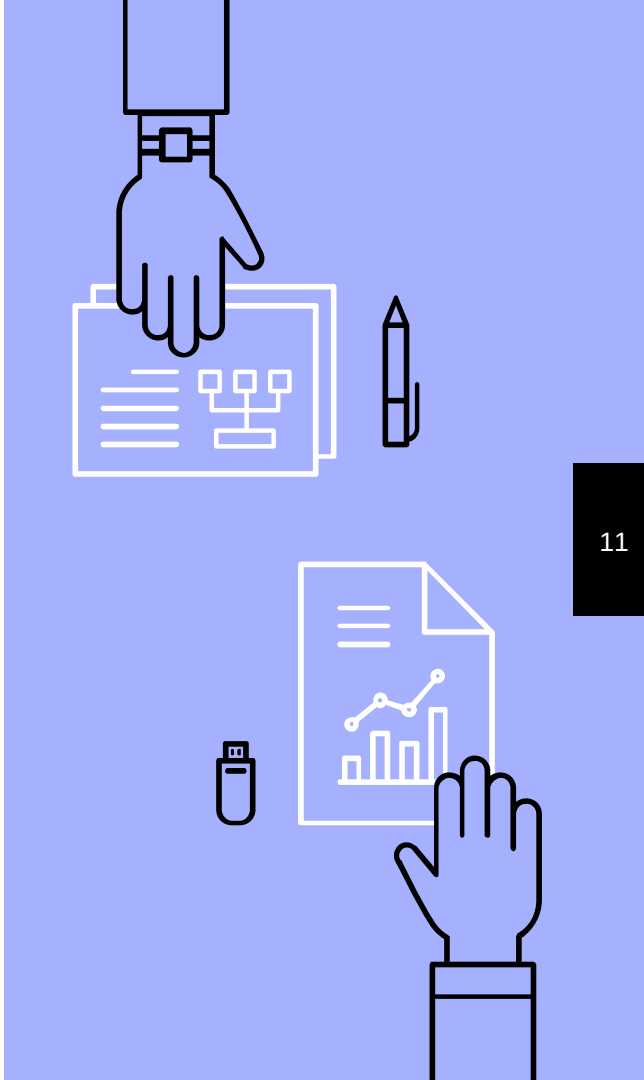


Conclusions

Preservice teachers feel efficacious in the various areas related to TPACK.

Ag Ed/College of Ed faculty effectively model TPACK

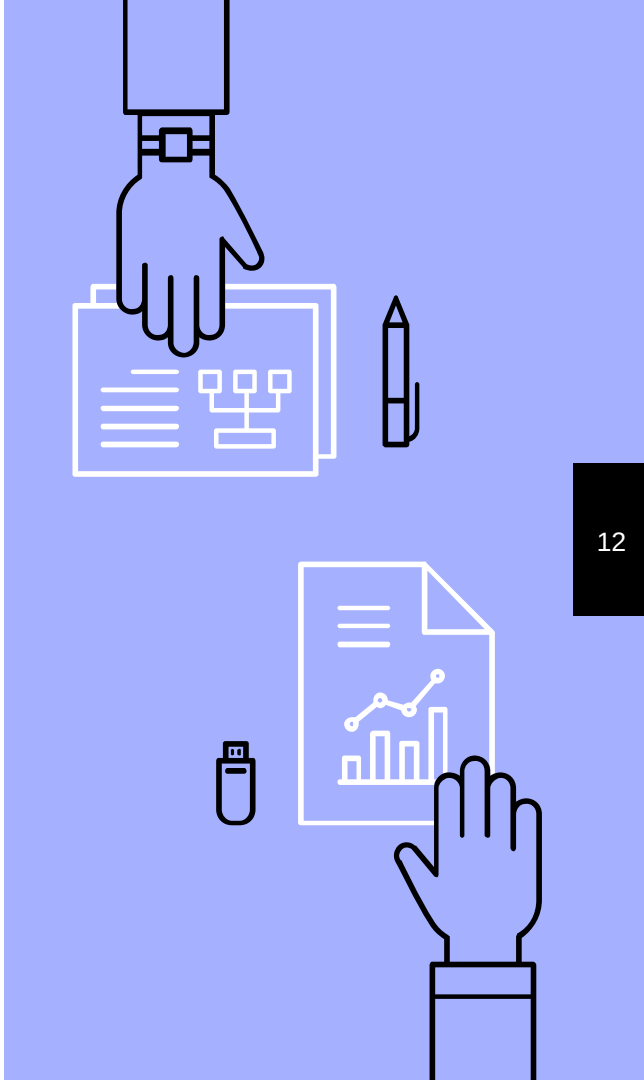
Ag content area/Gen Ed professors, & cooperating teachers lag in effective TPACK modelling



Recommendations

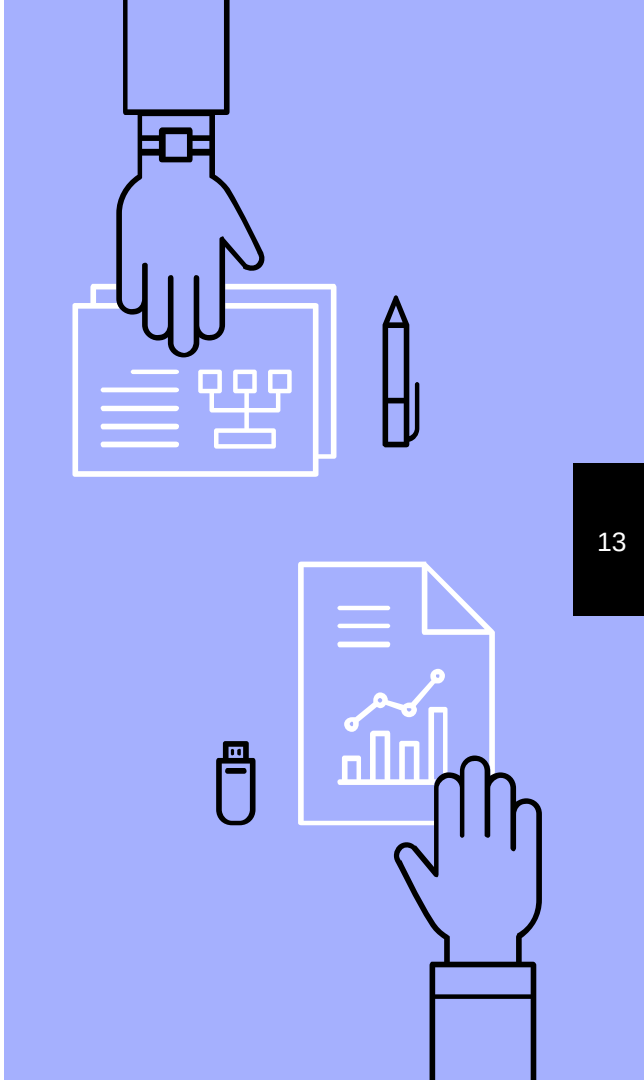
Examine effects of targeted interventions on preservice teachers TPACK measures

Effective technology integration for agriculture faculty



Recommendations

Develop comprehensive list of technologies to be utilized in various Ag Ed content areas



THANKS!

Any questions?

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