

Developing technology competencies of pre-service and in-service teachers

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Introductions

- Jim Wright
- Educational Technologist
- 24 years at Kennesaw State
- Career minors the growth of the www
- Research interests in online learning and student engagement



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Download Presentation at: <https://tinyurl.com/rute360>

Problem statement:

What are the technological skills and traits that make a good teacher?

How does a College of Education develop **technology competencies** in their students?

Background of University

Kennesaw State University (KSU) is in the Atlanta, Georgia metro area and has **35,000 students**.

Educator Preparation Provider (EPP) is one of the top producers of teachers in the State of Georgia. **About 2,700 student in about** 30 degree programs.

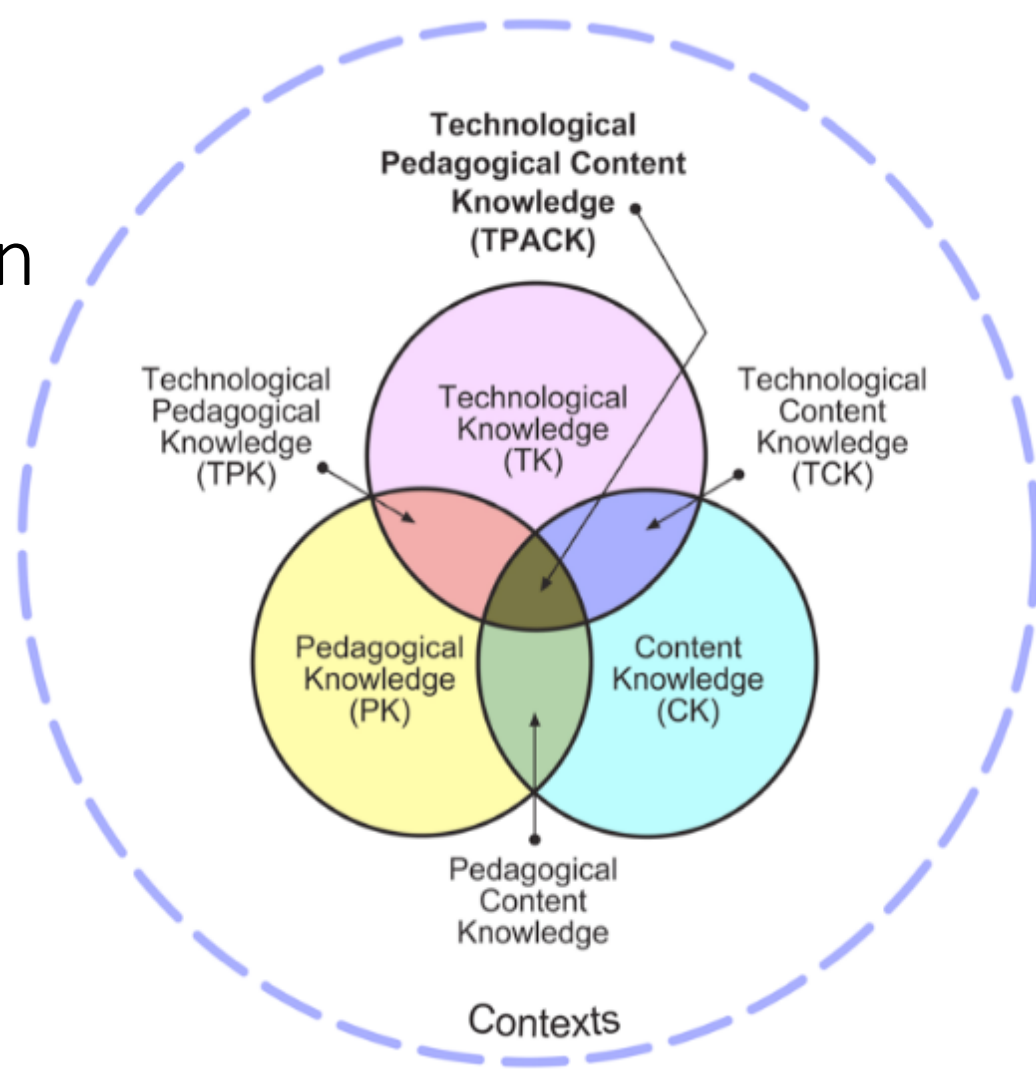
FY 2017 College of Education Graduates

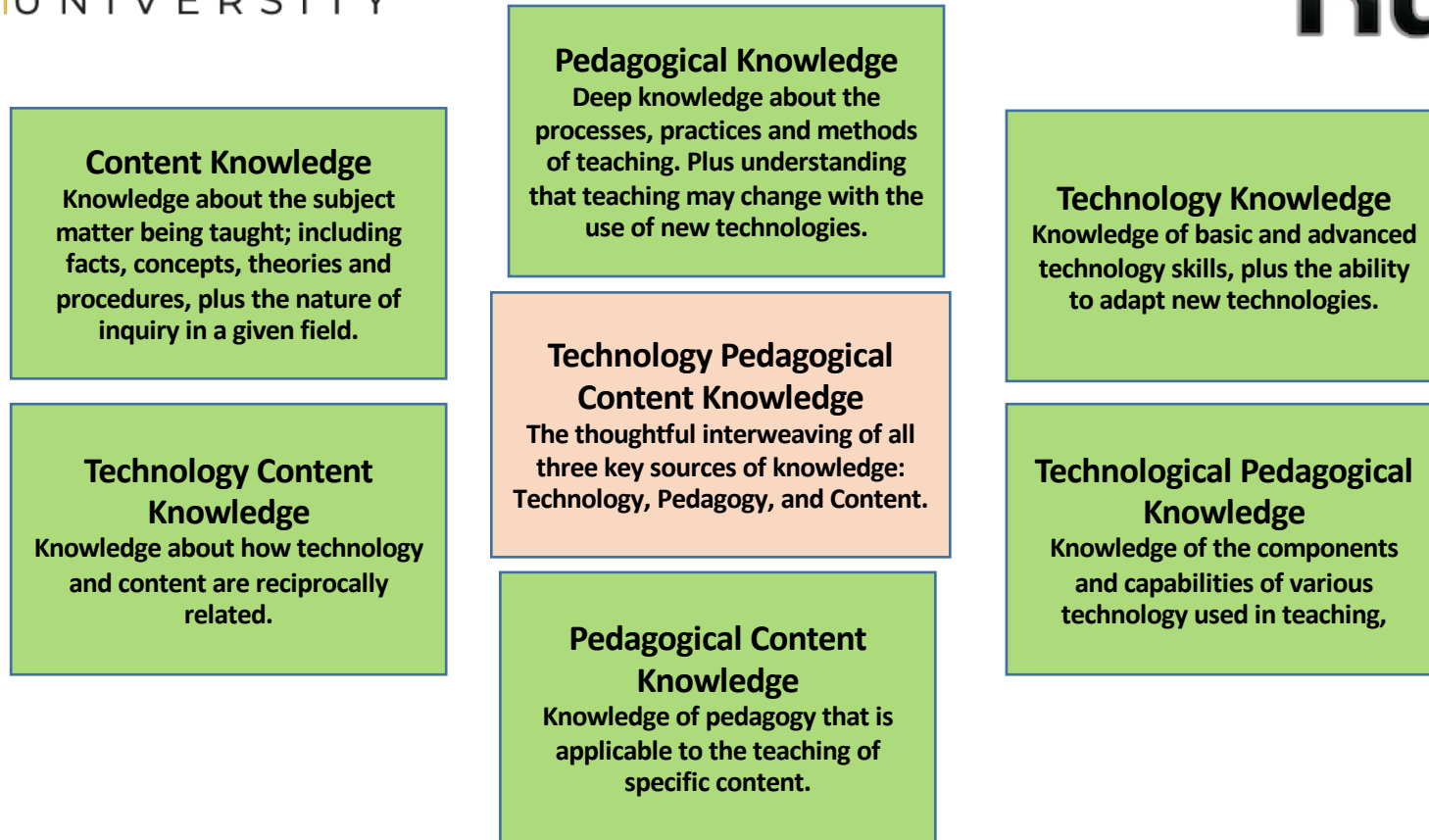
Bachelor's	199
Master's	276
Specialist's	195
Doctorate	21
Total	691

Theoretical foundation

Technological Pedagogical and Content Knowledge (TPaCK)

Mishra & Koehler (2006)
<http://tpack.org/>





Interactions of TPACK as described by Mishra & Koehler (2006), in Robin (2008).

Look to the standards

International Society for Technology in Education (ISTE)



<https://www.iste.org/standards>





We developed our own technology standards

Standard 1: Technology Proficiency

Standard 2: Technology Integration

Standard 3: Blended/Online Learning

Standard 4: Field and Clinical Experiences

<https://bagwell.kennesaw.edu/epp-standards.php>

Standard 1: Technology Proficiency

Candidate demonstrates proficiency with current and emerging technologies.

- 1.1 Candidate **explores and uses** a variety of current and emerging technologies to support learning.
- 1.2 Candidate **troubleshoots basic technology** issues in the classroom.

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Standard 2: Technology Integration

Candidate demonstrates the ability to **integrate technology** into standards-based teaching, learning, and assessment.

2.1 Candidate **selects and evaluates digital tools and resources** (academic content, technology tools, and information) for quality, accuracy, and effectiveness, and uses developmentally appropriate resources aligned with standards to engage learners.

2.2 Candidate **plans and implements technology-enhanced learning** experiences using a variety of evidence-based instructional strategies (e.g. higher order thinking, problem solving, creativity, authentic learning, and collaborative learning).

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Standard 2: Technology Integration

2.3. Candidate uses technology tools to **facilitate communication** and collaboration of learners, families, and colleagues in local and global learning communities.

2.4 Candidate uses technology **to personalize learning** by designing and customizing instruction to support learner strengths, needs, and interests.

2.5 Candidate uses technology to engage learners in **assessment practices** and adjust instruction to meet learner needs.

2.6 Candidate **implements effective classroom management** strategies when integrating technology and ensures learners are engaged and using technology for learning.

<https://bagwell.kennesaw.edu/epp-standards.php>

Standard 2: Technology Integration

- 2.7 Candidate **promotes equitable access** to digital tools and resources.
- 2.8 Candidate **promotes digital citizenship** by modeling the safe, legal, and ethical use of digital information and technologies, including appropriate documentation of sources and responsible use of social media.
- 2.9 Candidate uses digital tools and resources to **ensure accessibility and relevance for all learners**.
- 2.10 Candidate engages in **ongoing professional learning** by connecting online with other educators and using social media tools to build a professional learning network (PLN).

<https://bagwell.kennesaw.edu/epp-standards.php>

Should we teach undergraduate students to teach online?

No

Yes

I am not
sure

Standard 3: Blended/Online Learning

Candidate demonstrates the specialized knowledge and skills necessary for teaching and learning in a blended/online learning environment.

- 3.1 Candidate **identifies** basic principles of effective blended/online learning.
- 3.2 Candidate **designs** learning experiences for a blended/online learning environment

<https://bagwell.kennesaw.edu/epp-standards.php>

Standard 4: Field and Clinical Experiences

Candidate demonstrates technology proficiency, technology integration, and competency in a blended/online learning environment during field and clinical experiences.

4.1 Candidate engages in field and clinical experiences demonstrating the knowledge, skills, and dispositions identified in these technology standards.

<https://bagwell.kennesaw.edu/epp-standards.php>

Department of Instructional Technology

Different Levels of Technology Competencies

Degree	Goal	Target Personal
Bachelor Degree (all programs)	Classroom Technology Integration	Classroom Teacher
Master's Degree or Specialist Degree	Technology Coaching	Classroom Teacher or School Level Support
Doctor of Education	Technology Leadership	School Level or System Level



Classroom Technology Integration

- Stand Alone Undergraduate Technology Class
- Face-to-face class customized for each subject area:
 - Elementary Education
 - Middle Grades Education (Math, Science, Language Arts, and Social Studies)
 - High School (Math, Science, History, and Physical Education)
- Student build a portfolio to show competencies (and future employers)

Student Portfolio

Portfolio Entry One: Introduction

Portfolio Entry Two: Instructional Software Selection and Evaluation

Portfolio Entry Three: Basic Productivity Software (BPTs)

Portfolio Entry Four: Beyond-the-Basic Productivity Tools (BBPTs)

Portfolio Entry Five: Interactive Presentations (NearPod)

Portfolio Entry Six: Student Response/Assessment Tools (SRTs)

Portfolio Entry Seven: Twitter, Blogs and Other Website Creation Tools

Portfolio Entry Eight: Multimedia Authoring (Audio/Video)

Portfolio Entry Nine: Online Projects and Student Publishing

Portfolio Entry Ten: Reflection Entry

Student Examples

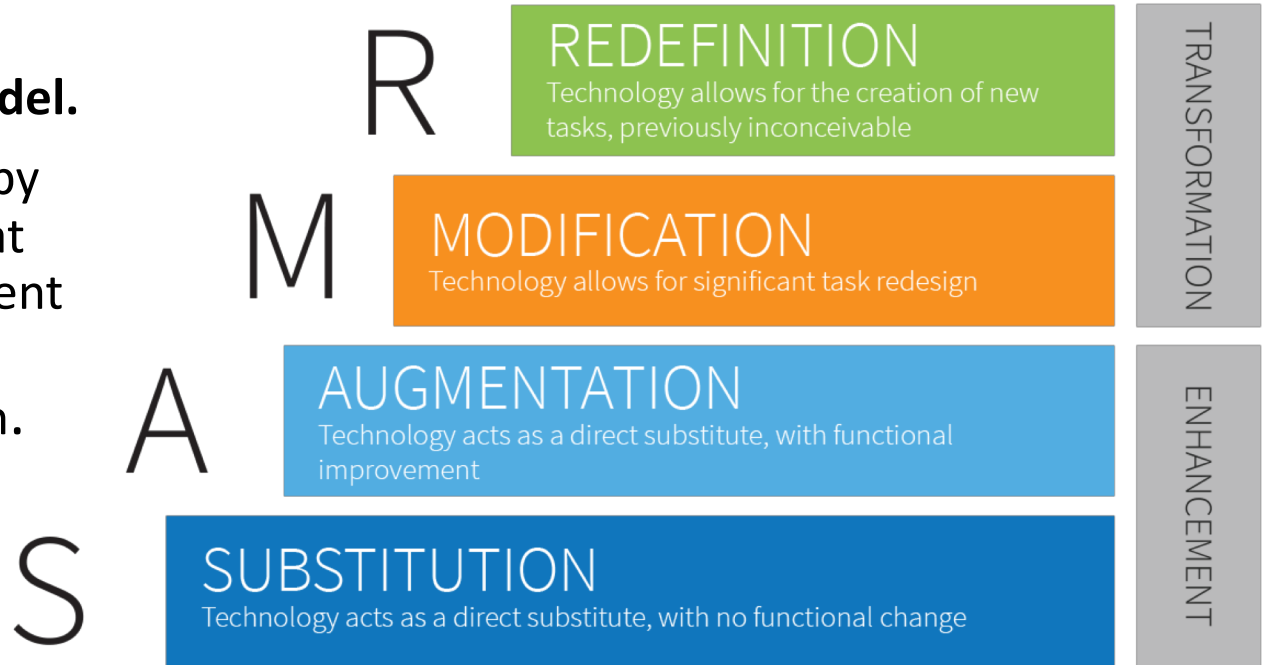
<http://garberprofessionalportfolio.weebly.com/>

<http://rodriguezprofessionalportfolio.weebly.com/>

How to measure technology integration?

We use the **SAMR Model**.

A framework created by Ruben Puentedura that categorizes four different degrees of classroom technology integration.



The Technology Integration Matrix (TIM)



Future issues and concerns

- Virtual and augmented reality
- The role of Artificial Intelligence (AI) and intelligent tutor system in education
- Personalized Learning
- Security and transport of student records (Blockchain maybe?)



How do I get started?

21 Things for Students

<https://21things4students.net/21things4students/21/begin-here/>

1. Basics
2. Visual Learning
3. Cloud Initiation
4. Collaboration
5. Digital Footprint
6. Cyber Safety
7. Be Legal & Fair
8. Troubleshooting
9. Search Strategies
10. Digital Images
11. Powerful Presentations

12. Interactives
13. Dig the Data
14. Social Networking
15. Design Thinking
16. Career Prep
17. Creative Communications
18. Digital Storytelling
19. Buyer Beware
20. Mobile Computing
21. Coding and Game Design

preguntas?



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