TPACK Tech Talks

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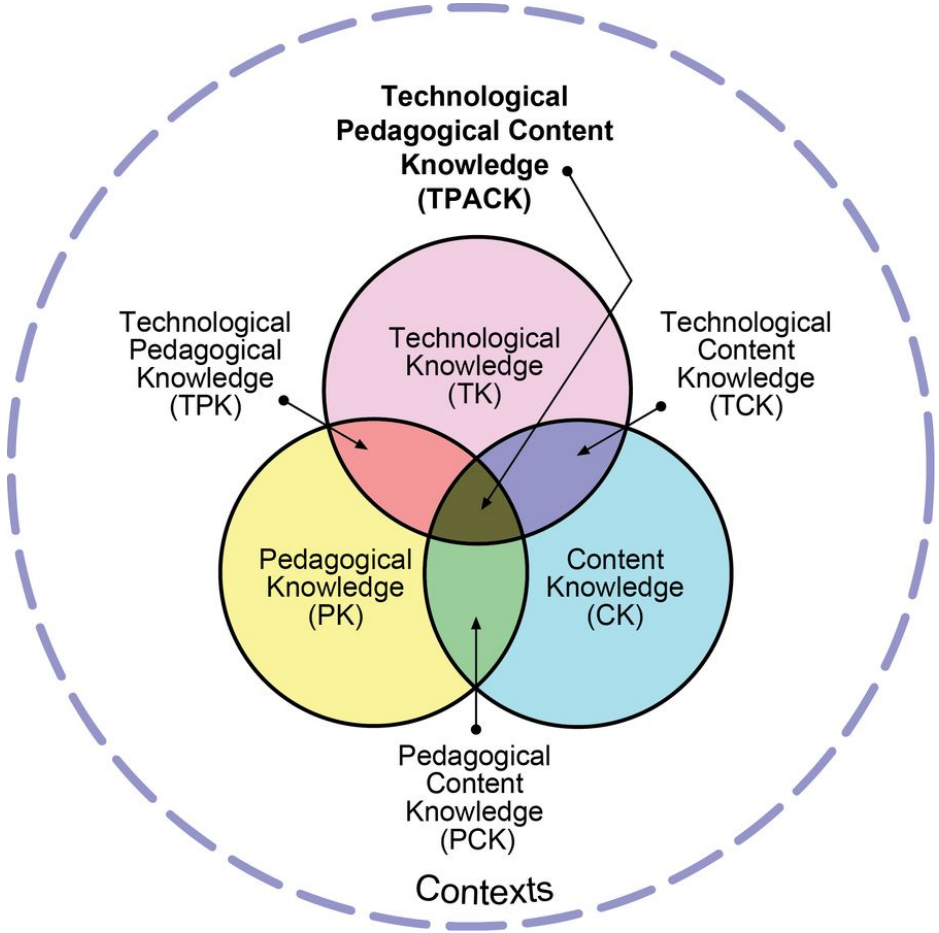

Introduced by Punya Mishra and Dr. Matthew J. Koehler of Michigan State University in 2006.

What are we doing?

- Introduction & Objective
- Why use a technology integration framework?
- Why use the TPACK model?
- Breaking down T-P-C knowledge and intersections.
- Applications
- Advice, “Goodies”, Evaluation, and Questions.

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What are we learning?

"After this training, teachers will be able to apply the seven components of the **TPACK model** to integrate technology in their classroom."

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Design a kitchen without a framework?

Need?

Future?

Success?

Compare?

White Wooden Kitchen Cabinet by Jean van der Meulen

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Why Use a Tech Integration Framework?

Integrated technology should be used to "transform learning experiences with the goal of providing greater equity and accessibility" (US Office of Educational Technology, 2017).

- Research-based
- Creativity and autonomy within structure.
- Supports digital literacy

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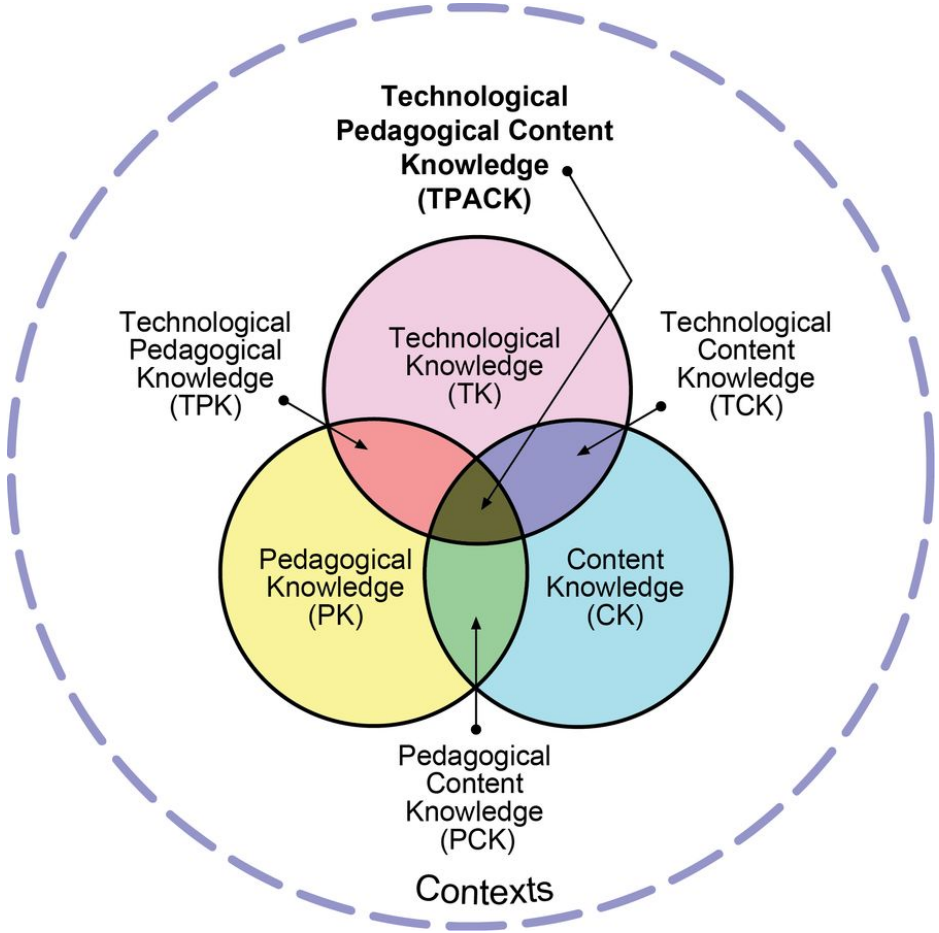

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Why Use the TPACK Model?

- Accounts for **3 key components** to successful tech integration and emphasizes their **relationships**.
- Builds on existing instructional design (i.e. **PCK**).
- **TPACK** provides the **breadth** and SAMR provides the depth.

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Breaking down T-P-C Knowledge

- Content Knowledge (CK) - What must students learn (e.g. standards, curriculum, social skills)?
- Pedagogical Knowledge (PK) - What are the best ways for students to learn (i.e. best practices)?
- Technological Knowledge (TK) - What technology tools are available?
    - OPSRC Tech Talks for some ideas.

Breaking down T-P-C Intersections

- Pedagogical Content (PCK) - how is instruction facilitated in content areas?
- Technological Pedagogical (TPK) - how is technology integrated in content areas?
- Technological Content (TCK) - how is technology selected and managed throughout the learning experience?

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TPACK & Learning Activity Types (LATs)

- **TPACK - How does technology support what and how students learn?**
- Learning Activity Types (LATs)- 9 curriculum based taxonomies that are designed to apply TPACK.

K-6 literacy	Mathematics	Music
Physical Education	Social Studies	
Science	Secondary English Language Arts	
Visual Arts	World Languages	

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TPACK Applications - K-6 Literacy

Activity Type	Brief Description	Possible Technologies
Vocabulary Analysis	Students build and sort words to study their patterns	Word processing software [Docs], concept mapping software [Coggle], educational software, drawing software [Seesaw], interactive whiteboard [Nearpod]

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TPACK Applications - Math

Activity Type	Brief Description	Possible Technologies
Do a Demonstration	The student makes a demonstration on some topic to show their understanding of a mathematical idea or process. Technology may assist in the development or presentation of the product.	Interactive whiteboard [Nearpod], video creation software [Adobe Spark], document camera [Zoom/Meet], presentation software [Slides], podcasts [Audacity/Garageband], video sharing site [YouTube]

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TPACK Applications - Physical Education

Activity Type	Brief Description	Possible Technologies
Imitate/execute the mechanics of a motor skill	Students imitates specific skill mechanics over and over to address a particular motor skill (e.g. stance, follow-through, etc.)	Digital video camera [Flipgrid], Web sites [YouTube], Exergames [Wii Sports/Kinect Xbox/Playstation Move]

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TPACK Applications – Visual Arts

Activity Type	Brief Description	Possible Technologies
Visit	Students travel to physical or virtual field trip sites and perhaps develop their own tours; synchronous or asynchronous	Online art galleries [NGA], museums and digital image libraries [MetKids], WebQuests, digital video editing software [Adobe Spark], podcasting tools [Audacity], screen capture software [Zoom], virtual field trips [Cardboard], virtual worlds [Nearpod]

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TPACK Applications - World Languages

Activity Type	Brief Description	Possible Technologies
Create a newsletter/news magazine/brochure /comic	Students synthesize information from textbooks, encyclopedias, and/or websites and develop a print-based or electronic periodical.	Word processing software [Jamboard/Immersive Reader], Desktop publishing software [Canva/Adobe Spark], Web authoring software [Blogger/Google Sites], Comic creation software [Book Creator]

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Starting Advice

- Start small.
- Let them play.
- Anticipate support.
- Be patient.
- Focus on purpose.

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TPACK Goodies

- Learning Activity Types (LATs) by Judi Harris and Mark Hofer - 9 curriculum based taxonomies that are designed to apply TPACK.
- TPACK Videos assembled by Punya Mishra - a collection of TPACK presentations by its founders.
- TPACK Explained by Dr. Matt Koehler - breaks down the 7 components of TPACK and has a content library made by one of its founders.
- The TPACK Framework Explained (With Classroom Examples) by Dylan Rodgers of Schoology - alternative explanation and application of TPACK.
- Handbook of Technological Pedagogical Content Knowledge (TPCK) for Educations: Introducing TPCK by Dr. Koehler and Mishra - a book excerpt with a detailed explanation of TPACK by its founders.

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Other Tech Integration Goodies pt. 1

- SAMR Model by Dr. Ruben Puentedura - categorizes technology integration into a 4-level hierarchy organized from less to most complex level of integration.
- Technology Integration Matrix (TIM) by Florida Center for Instructional Technology - compares 5 characteristics of meaningful learning environments to 5 levels of tech integration.
- 2017 National Education Technology Plan by the US Office of Technology Education - national policy document.

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Other Tech Integration Goodies pt. 2

- ISTE Standards for Students by the International Society for Technology in Education (ISTE) - standards are available for educators, administrators, and more.
- PIC-RAT Framework by Dr. Royce Kimmons - analyzes the intersection between students' and the teacher's role in technology.
- Triple E Framework by Liz Kolb - measures to what degree technology is being integrated into a lesson.

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Thank you!

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