



Great Public Schools for Every Student

Technology Integration: Learner

Educator improves their practice by learning from and with others through the exploration of best practices that leverage technology to improve student learning.

Key Method

The educators demonstrate professional growth through goal setting, applying research-based pedagogical approaches into lessons, and participating in learning networks. They reflect on the effectiveness of technology use and continually adjust their learning to meet the needs of their students.

Method Components

Setting Professional Goals

Educators reflect on their current use of technology in the classroom and set related professional goals. They may consider the SAMR model (Substitution, Augmentation, Modification, and Redefinition) as they reflect on technology integration in their classroom. You may use the following process to guide you in setting professional goals:

- Understand what various levels of technology integration look like
- Using the SAMR framework, assess your current level of technology integration
- Set a SMART goal for technology integration in your practice
- Monitor the effectiveness and the progress toward meeting your goal
- Reflect on student use and the effectiveness of technology in your classroom
- Adjust or create new goals

Developing Pedagogical Understanding

Educators develop and improve their practice through pedagogical understandings. Some of the things you can do to gain deeper understanding of technology integration are:

- Research a variety of tools, approaches, and methods of technology integration
- Select tools or approaches to try out in your classroom
- Plan for use and monitoring effectiveness
- Consider and reflect on the following big ideas:
 - What is the difference between integration and use?
 - How can you manage and organize your learning environment to make technology integration ubiquitous?
 - How are students using technology to support learning?

Expanding your Professional Network

To improve their practice, educators seek out local and global networks that are relevant to their interests, needs, and/or content area. The following strategies will help you expand your professional learning networks beyond the walls of your school/district.

- Seek out and actively participate in online professional groups (NEA edCommunities has many professional groups)
- Read blogs and explore the resources that are discussed
- Explore websites that collect and share resources
- Critically evaluate online professional resources and consider how the ideas may enhance your classroom
- Use forums to ask other teachers how they are using technology

Tools for Integration

To develop and hone their skills, educators explore and practice using a variety of digital tools. Below are some tips for guiding your exploration and practice:

- Choose tools that support your professional goals
- Consider your grade level, content, district requirements and availability/accessibility of devices and digital tools
- Select 3–5 tools from the resources below or from other sources
- Create opportunities within the constructs of your teaching to practice using the tools
- Use these tools with your students and ask them for feedback
- Don't be afraid to try new tools and get out of your comfort zone

Supporting Research

Babette Moeller & Tim Reitzes (2011) Education Development Center, Inc. (EDC). Integrating Technology with Student-Centered Learning. Quincy, MA: Nellie Mae Education Foundation.

<https://www.nmefoundation.org/wp-content/uploads/2020/05/Integrating-Technology-with-Student-Centered-Learning.pdf>

Bebell, D. & O'Dwyer, L.M. (2010). Educational Outcomes and Research from 1:1 Computing Settings. Journal of Technology, Learning, and Assessment, 9(1). Retrieved [date] from

<https://files.eric.ed.gov/fulltext/EJ873675.pdf>

Echazarra, A. (2018), "How has Internet use changed between 2012 and 2015?", PISA in Focus, No. 83, OECD Publishing, Paris,

<https://doi.org/10.1787/1e912a10-en>.

Lemke, C., Coughlin, E., and Reifsneider, D. (2009). *Technology in Schools: What the Research Says* (PDF). Culver City, CA: Commissioned by Cisco.

https://www.cisco.com/c/dam/en_us/solutions/industries/docs/education/TechnologyinSchoolsReport.pdf

National Research Council. 2000. *How People Learn: Brain, Mind, Experience, and School: Expanded Edition*. Washington, DC: The National Academies Press.

<https://doi.org/10.17226/9853>.

OECD (2018). "What does innovation in pedagogy look like?" Teaching in Focus, No. 21, OECD Publishing, Paris,

<https://doi.org/10.1787/cca19081-en>.

Paniagua, A. and D. Istance (2018). Teachers as Designers of Learning Environments: The Importance of Innovative Pedagogies, Educational Research and Innovation, OECD Publishing, Paris

<https://doi.org/10.1787/9789264085374-en>

U.S. Department of Education, Office of Educational Technology, Understanding the Implications of Online Learning for Educational Productivity, Washington, D.C., 2012.

<https://tech.ed.gov/files/2013/10/implications-online-learning.pdf>

Resources

Standards

ISTE Standards for Educators

<https://www.iste.org/standards/for-educators>

ISTE Standards for Students

<https://www.iste.org/standards/for-students>

Articles

Framework: ISTE Standards, a Roadmap

<https://www.edsurge.com/news/2017-10-29-framework-iste-standards-a-roadmap>

Aspiring School Administrators' Perceived Ability to Meet Technology Standards and Technological Needs for Professional Development

<https://www.tandfonline.com/doi/abs/10.1080/15391523.2016.1215168>

What is Successful Technology Integration?

<https://www.edutopia.org/technology-integration-guide-description>

Technology Integration and Blended Learning

<https://www.digitallearning.org/technology-integration-and-blended-learning>

Goal Setting as Teacher Development Practice

<https://files.eric.ed.gov/fulltext/EJ1135994.pdf>

Goal Setting for Teachers

<https://www.cultofpedagogy.com/goal-setting-for-teachers/>

Setting SMART goals

<https://www.smartsheet.com/blog/essential-guide-writing-smart-goals>

What is Tech Integration?

https://www.educationworld.com/a_tech/tech/tech243.shtml

What is Successful Tech Integration?

<https://www.edutopia.org/technology-integration-guide-description>

Resources for Technology Integration

<https://www.edutopia.org/technology-integration-guide-resources>

8 Examples of Transforming Lessons Through the SAMR Model

<https://www.emergingedtech.com/2015/04/examples-of-transforming-lessons-through-samr/>

Integration vs. Use of Technology in Education

<https://www.teachthought.com/technology/difference-technology-use-technology-integration/>

How SAMR and Technology Can Transform Assessment

<https://www.edsurge.com/news/2018-02-01-how-samr-and-tech-can-help-teachers-truly-transform->

assessment

Video

Reimagining Classrooms: Teachers as Learners and Students as Leaders | Kayla Delzer

https://www.youtube.com/watchtime_continue=1&v=w6vVXmwYvgs

Gwynn's Technology Integration Playlist

https://www.youtube.com/watchv=AgLNRKQR3AI&list=PLJHRhVsWVgYxkPWJ6-514Fdf3_K1DFFJ7

Teaching Resources

Common Sense Media-Digital Citizenship

<https://www.commonsense.org/education/digital-citizenship>

Kathy Schrock's Guide to Everything

<http://www.schrockguide.net/>

Google for Education Teaching Center

<https://edu.google.com/teacher-center>

FreeTech4Teachers

<https://www.freetech4teachers.com/>

Tool Comparison Matrix

https://docs.google.com/document/d/1aGM_rkms3T6tkS2Cv3MEwutzyt7TMF-4yC477cwHWuU/edit?usp=sharing

Tools to Try

This is a partial list to get you thinking about your professional growth. You do not need to explore all of these, but they may serve as a starting point.

GSuite Learning Center (Docs, Classroom, Sites, Sheets, Earth...)

<https://gsuite.google.com/learning-center/products/docs/get-started/#!/>

Padlet

<https://padlet.com/>

Bunce

<https://app.edu.buncee.com/>

Classflow

www.classflow.com

Nearpod

www.nearpod.com

Peardeck

www.peardeck.com

Freckle Education

www.freckle.com

YouTube for Educators

<https://www.youtube.com/channel/UCt84aUC9OG6di8kSdKzEHTQ>

Apple Classroom

<https://support.apple.com/en-us/HT206151>

Best Educational Apps for iPad

<https://www.teachthought.com/technology/the-55-best-best-free-education-apps-for-ipad/>

Blogger

www.blogger.google.com

Kahoot

www.kahoot.it

Adobe Spark

www.spark.adobe.com

Edmodo

www.edmodo.com

Discovery Education

www.discoveryeducation.com

Brainpop

www.brainpop.com

Submission Guidelines & Evaluation Criteria

To earn this micro-credential, please submit the following **three artifacts** as evidence of your learning. Please do not include any information that will make you or your students identifiable to your reviewers.

Part 1. Overview Questions

400 - 500 words

Please answer the following contextual questions to help our assessor understand your current situation. Please do not include any information that will make you identifiable to your reviewers.

- What is your reason for selecting this micro-credential, and what do you think will be the benefit of earning it?
- Describe the community in which you teach. Share important information such as population, demographics, size of school district, and additional information that may help paint a clear picture of the community.
- Describe your school setting. What grade level and subjects do you currently work with? How many students do you see in a day? Add any other pertinent information necessary to understand your unique teaching situation.
- Describe the type and number of devices that you and your students have access to (Chromebooks, iPads, computer lab, 1:1, shared cart, etc.)
- Are there any restrictions at the district or building level that affect student access?

- **Passing:** Response provides reasonable and accurate information that justifies choosing this micro-credential to address specific needs of both the teacher and the student. Educator includes a learning goal that describes what they hope to gain from earning this micro-credential.

Part 2. Work Examples / Artifacts

Artifact 1: SAMR Reflection and Goal

Reflect on your current use of technology. You may use the SAMR model as a guide. Set a goal that identifies your beginning level of technology use and how you created a professional goal that is specific, measurable, attainable, relevant and timebound (SMART)

Artifact 2: Tools Comparison Matrix

Complete the Tool Comparison Matrix (found in the Resources section above) for 3 tools that you have integrated into your instruction.

Artifact 3: Examples of Networking

Turn in two screenshots showing how you have collaborated with and/or learned from a discussion in an online learning group. (You may want to join the NEA EdCommunities groups for this artifact). Combine these two screenshots and your explanation of learning in one document to submit.

Include:

- The forum’s name
- Group topic
- Entire thread that you participated in
- An explanation of how participating in a learning network supported your professional growth. (150–200 words)
- Black out any names and/or use an anonymous screen name to participate

	Proficient	Basic	Developing
Artifact 1: SAMR Reflection and Goal	<p>Educator identifies a professional goal that relates to technology integration</p> <p>SMART goal has all components included</p>	<p>Educator identifies a professional goal, but it may not relate to technology integration</p> <p>SMART goal is missing 1 component</p>	<p>Educator does not identify a professional goal</p> <p>Or</p> <p>SMART goal has 2 or more components missing</p>
Artifact 2: Matrix for Tools Comparison	<p>Matrix has either 3 different tools or the same tool used in 3 different SAMR levels</p> <p>All portions of the matrix are completed for 3 tools</p> <p>Name Purpose How used Results SAMR level Professional goal connection</p>	<p>Matrix has fewer than 3 tools or levels represented</p> <p>There are 1–4 sections incomplete on the matrix for the 3 tools</p> <p>Name Purpose How used Results SAMR level Professional goal connection</p>	<p>Describe what elements are needed for a developing score</p> <p>More than 4 sections are incomplete on the matrix for the 3 tools</p> <p>Name Purpose How used Results SAMR level Professional goal connection</p>
Artifact 3: Examples of Networking	<p>Educator has included 2 screenshots of their networking and includes annotation that clearly demonstrates how they have participated in a network for learning.</p>	<p>Educator has included 2 screenshots but has not included annotations that demonstrate how they have used their network to learn.</p>	<p>Educator does not include 2 screenshots or annotations are missing.</p>

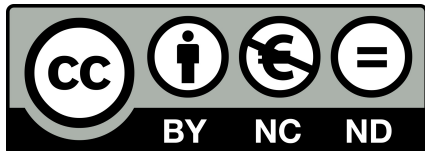
Reflection

400 - 500 words

Please answer the following reflective questions. Please do not include any information that will make you identifiable to your reviewers.

1. Describe how you decided on your initial SAMR level and how you used this information to set your professional goal.
2. Which tool or tools did you focus on for this micro-credential? Explain how you learned about using them and how you changed your lesson to utilize the technology. Be sure to explain what SAMR level you think the use was.
3. What was the overall impact on your students when you used one digital tool? Include information on what aspect of student learning you were focusing on as you integrated this tool into your lesson: engagement, checking for understanding, creativity, student choice, etc.

- **Passing:** All questions are answered. Reflection provides evidence that this activity has had a positive impact on both educator practice and student success. Specific examples are cited directly from personal or work-related experiences to support claims.



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