Pre-Service Technology Competencies

All teacher candidates are expected to meet the Idaho Core Teacher Standards, pre-service technology competencies, and the Idaho Comprehensive Literacy competencies. Each candidate shall also meet the Foundation and Enhancement standards specific to their discipline area(s) at the "acceptable" level or above. Additionally, all teacher candidates are expected to meet the requirements defined in State Board Rule (08.02.02: Rules Governing Uniformity).

The following knowledge and performance statements for the pre-service technology competencies are widely recognized, but not all-encompassing or absolute, indicators that teacher candidates have met the standards and competencies. It is the responsibility of a teacher preparation program to use indicators in a manner that is consistent with its conceptual framework and that assures attainment of the competencies. These competencies reflect the principles of Universal Design related to technology.   (Universal design is ``the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design'.)

An important component of the teaching profession is a candidate's disposition. Professional dispositions are how candidates view the teaching profession, their content area, and/or students and their learning. Every teacher preparation program at each institution is responsible for establishing and promoting a comprehensive set of guidelines for candidate dispositions in which *pre-service teachers design, develop, and evaluate technology-based learning experiences and assessments to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the National Educational Technology Standards (NETS)•for Teachers.*

* This language was written by a committee of content experts and has been adopted verbatim.

Standard 1: Knowledge of Subject Matter – The teacher understands the central concepts, types of and uses of technology and creates learning experiences that make technology meaningful for learners.

Knowledge
1. Awareness of use types and usage of technology tools (i.e. 21st Century Skills; hardware; software; web-based; mobile technology).
2. Pre-service teachers understand the central concepts of technology and current standards for best practice in preparing students for the global community of the future.
3. Pre-service teachers understand how students learn and develop, and provide opportunities that support their intellectual, social, and personal development.
4. Promoting designs that engage all students of all abilities is sometimes referred to as promoting "Universal Design".
5. Pre-service teachers understand how students differ in their approaches to learning and how to adapt for learners with diverse needs.
6. Pre-service teachers understand how students use collaborative tools to reflect on and clarify their own thinking, planning, and creativity.
7. Pre-service teachers understand the legal and ethical use of digital information and technology, including digital etiquette and responsible social interactions.
8. Pre-service teachers understand how to use and interpret formal and informal assessment strategies to evaluate and advance student performance and to determine program effectiveness.

9. Pre-service teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community.
10. Pre-service teachers understand the importance of reflective practice.
11. Pre-service teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.
12. Pre-service teachers understand how technology supports cultural diversity and collaboration.

- *Target: Knowledge competency test through a basic skills test (i.e. Cbest or PPST I for Technology Basic Competency Skills)*

Performance
1. All performance indicators included with individual standards.

Note: These links provide some examples of artifacts collected in current intro to edtech and teacher preservice programs. However, they do not necessarily demonstrate the level of exposure and knowledge we would expect of future teachers.
- https://sites.google.com/a/boisestate.edu/barbara-schroeder/Home
- http://lesson.taskstream.com/lessonbuilder/v.asp?LID=uffph8erc0hfzozu
- https://sites.google.com/a/u.boisestate.edu/browning-portfolio/home
- https://sites.google.com/a/u.boisestate.edu/sylvia-portfolio/

Standard 2: Knowledge of Human Development and Learning - The teacher understands how students learn and develop, and provides opportunities that support their intellectual, social, and personal development.

Performance
1. Pre-service teachers customize and personalize learning activities with technology that include accessible instructional materials and technologies to support the learning styles, work strategies, abilities, and developmental levels of all students.

Suggested Artifact(s)
- Lesson plan or unit development
- *Target: Practicum where lesson/unit is implemented and evaluated.*

Standard 3: Adapting Instruction for Individual Needs - The teacher understands how students differ in their approaches to learning and creates instructional opportunities that support their intellectual, social and personal development.

Performance
1. Pre-service teachers create digital-age media and formats ensuring equal access for people of all capabilities.
2. Pre-service teachers address the diverse needs of all students by using learner-centered strategies and providing equitable access to appropriate digital tools and resources including hardware, accessible instructional materials, and online resources.

Suggested Artifact(s)
- Development of digital materials using principles of Universal Design for Learning.

Pre-Service Technology Competencies: PSC Approved 6/18/2010, SBOE 8/11/10

- Demonstration of knowledge through product development.
- "Accessibility Features on My Computer" discussion forum.
- Virtual practicum demonstrating learner-centered strategies (i.e., Second Life).
- Assistive Technology blog post.
- Accessibility resource list.
- *Target: Practicum where lesson/unit is implemented and evaluated.*

Standard # 4: Multiple Instructional Strategies - The teacher understands and uses a variety of instructional strategies to develop students' critical thinking, problem solving, and performance skills.

1. Pre-service teachers model and facilitate effective use of current and emerging digital tools, to locate, analyze, evaluate, and use information resources which will aid in the dissemination of content and support individual learning strategies.
2. Pre-service teachers promote student learning and creativity by creating learning experiences that include students' use of technology tools to research and collect information online and to create a report, presentation, or other products.
3. Pre-service teachers use technology to promote student reflection to clarify their own critical thinking, planning, and creativity.
4. Pre-service teachers understand and use a variety of instructional strategies and communication techniques to develop students' critical thinking, problem solving, and performance skills.

Suggested Artifact(s)
- Web site or Internet WebQuest.
- *Target: Practicum where lesson/unit is implemented and evaluated.*

Standard 5: Classroom Motivation and Management Skills - The teacher understands individual and group motivation and behavior and creates a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation in a digital age.

Performance
1. Pre-service selects and demonstrates the use of technology resources that enables students to explore questions and issues of individual interest and to plan, manage, and assess their own learning.
2. Pre-service teachers develop technology enriched learning that enables all students to pursue their individual curiosities and become active participants in learning.
3. Pre-service teachers engage students in researching real-world problems and issues and evaluating diverse solutions using digital tools and resources.

Suggested Artifact(s)
- Create a WebQuest
- *Target: Pre-service collects and shares student created artifacts that demonstrate learning with technology using individual initiative and interest.*

Standard #6: Communication Skills - The teacher uses a variety of digital communication tools and strategies to foster inquiry, collaboration and supportive interaction in and beyond the classroom.

Performance
1. Pre-service teachers communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media (i.e. asynchronous and synchronous tools).
2. Pre-service teachers promote and model digital etiquette and responsible social interactions.

Suggested Artifact(s)
- Web site or web page communicating information about their lesson or course.
- Email communications.
- Online communications using digital tools like Web conferencing, chat or Skype.
- Letter to parents created using word processing technology.
- Set of rules developed through consensus using digital collaboration tools.
- Demonstrated participation in a social work (i.e., join a network, participate, take a screenshot of participation and share).
- *Target: Evidence of asynchronous and synchronous communications with peers, parents and students.*

Standard #7: Instructional Planning Skills - The teacher plans, prepares instruction, and integrates technology into instructional planning based upon knowledge of subject matter, students, the community, and curriculum goals.

Performance
1. Pre-service teachers plan and prepare instruction utilizing a variety of technology tools.
2. Pre-service teachers demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.

Suggested Artifact(s)
- Sample lesson plan that demonstrates how technology can be integrated into content area instruction (see *Handbook of Technological Pedagogical Content Knowledge (TPCK) for Educators*, 2008 - Chapter 11, Guiding Pre-service Teachers in TPCK).
- Demonstrated use of emerging or innovative technology for learning.
- Research emerging (not widely available) technology and analyze its potential impact on and implementation in the classroom.
- *Target: Practicum where lesson/unit integrating technology into instruction is implemented, observed (live or digitally recorded) and evaluated.*

Standard #8: Assessment of Student Learning - The teacher understands, uses, and interprets formal and informal assessment strategies to evaluate and advance student performance and to determine program effectiveness.

Performance
1. Pre-service teachers assess student's use of technology.
2. Pre-service teachers use technology to formally and informally assess student learning (i.e. polling, proctored test, ISAT).
3. Pre-service teachers use technology to gather and interpret assessment data to inform teaching practice and program effectiveness.

Suggested Artifact(s)

- Sample of student work assessed by candidate (i.e., Rubric created with Rubistar (or other electronic rubric creation tool).
- Electronic quiz.
- Poll created in Web Conferencing tool.
- Poll conducted using clickers.
- Electronic gradebook (spreadsheet), run basic statistics, interpretation of the data.
- *Target: Pretest, lesson, postest, analysis, interpretation, and lesson revision based on data.*

Standard #9: Professional Commitment and Responsibility - The teacher is a reflective practitioner who demonstrates a commitment to professional standards and is continuously engaged in purposeful mastery of the art and science of teaching, including the ethical, legal and responsible use of technology.

Performance

1. Pre-service teachers evaluate and reflect on current technology for learning research and professional practice to inform teaching practice.
2. Pre-service teachers promote the effective use of digital tools and resources.
3. Pre-service teachers promote and model digital citizenship and responsibility (i.e., digital literacy, information literacy, copyright, privacy, legal)
4. Pre-service teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, analysis, creativity, and innovation in both face-to-face and virtual environments.
5. Pre-service teachers advocate and teach safe, legal, and ethical use of digital information and technology modeling acceptable use policies including respect for copyright, intellectual property, the appropriate documentation of sources, and strategies for addressing threats to security of technology systems, data, and information.

Suggested Artifact(s)

- Join a network devoted to technology using teachers like classroom 2.0
- Be an active member of a professional learning network
- Offer an Internet Ethics Resource for community members
- Write a letter convincing the school board to remove blocks from Internet usage at your school
- Role play scenario for social networking arguing for and against advantages/disadvantages
- View a school's acceptable use policy - demonstrate understanding
- *Target: Practicum where lesson/unit is implemented and evaluated.*

Standard 10: Community and Partnerships - The teacher interacts in an innovative professional, effective manner with colleagues, parents, and other members of the community to support students' learning and well being. Models digital-age work and exhibits knowledge, skills, and abilities that are representative of a global and digital society.

Performance

1. Pre-service teachers collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation by sharing information and supporting creativity, innovation, and improved learning outcomes.

Pre-Service Technology Competencies: PSC Approved 6/18/2010, SBOE 8/11/10

2. Pre-service teachers *promote opportunities for students of all capabilities* to engage with other students, colleagues, and community members in either face-to-face or virtual environments (i.e., collaborative knowledge construction, participatory culture).
3. Pre-service teachers participate in and use local and global learning communities to explore creative applications of technology to improve student learning.
4. Pre-service teachers provide opportunities for students to apply communications technology resources to interact with students or experts from other communities and other countries.

Suggested Artifact(s)
- Be an active member of a professional learning network
- Create own network for learning or join with other classrooms (i.e. epal; iearn; globalschool.net; jason project; go north; NASA)
- Develop lesson that uses one of the social networks
- Use web conferencing to view a class using technology in action; create a list of items you want to integrate into teaching; reflect and incorporate practices learned into teaching.
- Offer an Internet Ethics Resource for community members
- *Target: Practicum where lesson/unit integrating community and partnership is implemented and evaluated.*