Technology Work Group Proposal #4: Professional Development

Contents
Technology Work Group Proposal #4: Professional Development ........................................... 1
EXECUTIVE SUMMARY .................................................................................................................... 2
  Need/Purpose/Fit to TPI Mission ...................................................................................................... 2
  Objectives ..................................................................................................................................... 2
  Methodology ................................................................................................................................. 2
  Expected outcomes of the proposal ............................................................................................... 2
Narrative Description ...................................................................................................................... 3
  Need/Purpose/Fit to TPI Mission .................................................................................................... 3
  Stakeholders ................................................................................................................................. 3
  Unifying Goal .............................................................................................................................. 6
Objectives ...................................................................................................................................... 6
  Standards..................................................................................................................................... 6
Methods ......................................................................................................................................... 9
Evaluation ...................................................................................................................................... 10
Sustainability................................................................................................................................. 11
Timeline ....................................................................................................................................... 11
Budget .......................................................................................................................................... 11
EXECUTIVE SUMMARY

This document proposes a unifying focus for the professional development of SCSU faculty, to become proficient in the integration of national technology standards for P-12 teachers and students. The standards are well defined and relate closely to the work of P-12 teachers and the skills needed by P-12 students. In order for SCSU to better prepare teachers to students of the 21st century it is appropriate the faculty be familiar with these standards. SCSU faculty can be trained in these standards through existing university structures and stakeholders. The standards will serve as a unifying principle that can be expected to guide future development activities without requirement for significant new resources or funding.

Need/Purpose/Fit to TPI Mission

Through growing familiarity and mastery of these standards, SCSU faculty will come to model them for the benefit of teacher education students by implementing them in their teaching and assessing their inclusion in student projects. The resulting exposure to the standards by teacher licensure candidates will enhance their development of 21st-century instructional skills needed in the P-12 setting.

Objectives

SCSU faculty will be trained in the standards developed by the International Society for Technology in Education (ISTE) for P-12 teachers. These standards are not focused on the operation of computer hardware and software. Rather, they describe the conceptual goals and principles that must exist within P-12 classrooms to support learners’ responsible participation in 21st-century democratic life, critical thinking, communication, collaboration and creativity. After implementing this proposal, SCSU faculty will be able to explain the ISTE standards, implement them into their university classes, and evaluate teacher education students ability to demonstrate these skills through class activities.

Methodology

By working to build consensus with partner organizations on campus (including CETL, IMS, and several faculty-led groups) a series of workshops or training sessions will be developed on the application of ISTE standards to teacher education courses, along with a feedback mechanism to share success stories. Partner stakeholders were selected based on the identification that their current activities and goals are already harmonious with ISTE standards and because of their ability to work in support of these standards.

Expected outcomes of the proposal

As a result of implementing this proposal, SCSU faculty members will be able to utilize the ISTE standards and familiarize teacher education students with the 21st-century skills that the standards describe, thereby preparing new teachers to more appropriately use these same strategies and tools.
Narrative Description

The Partnership for 21st Century Skills, a national organization dedicated to preparing P-12 students to compete successfully in our global economy, has defined the skills needed by P-12 students. These skills are the traditional skills of Reading, Writing and Arithmetic (the three Rs) plus Critical Thinking, Communication, Collaboration and Creativity (the four Cs). This proposal aims to focus existing professional development activities for faculty in order to better promote integration of technological and pedagogical skills, consistent with the national, recognized standards authority. This will prepare faculty to model effectively the skills required of pre-service teacher candidates. This proposal in combination with other proposals from the Technology Work Group is designed to equip all involved with teacher preparation, university faculty, teacher candidates, P-12 teachers and administrators, to fully integrate the 21st Century Skills and the ISTE standards into all teacher preparation programs.

Need/Purpose/Fit to TPI Mission

The International Society for Technology in Education (ISTE) has developed standards known as the National Educational Technology Standards (NETS) that describe the technological and instructional competencies for teachers. Separate but related standards have been developed for P-12 students, teachers and administrators. The National Educational Technology Standards for P-12 students (NETS•S) are described as “the skills and knowledge that students need to learn effectively and live productively in a digital world.” The accompanying standards for teachers (NETS•T) defined as “standards for the skills and knowledge that teachers need to change the way they teach, the way they work, and the way they learn in an increasingly connected global and digital society.” The intended benefit resulting from proficiency in these standards is the enhancement of technology integration for teacher candidates, and therefore more effective beginning teachers. This outcome can be achieved through existing resources within the university.

This document proposes that the Center for Excellence in Teaching and Learning (CETL), InforMedia Services (IMS), the Technology and Pedagogical Resources Committee (TPR), the School of Education Curriculum and Technology Center (CTC), the School of Education Instructional Development Lab (ITDL), and the Information Media faculty in collaboration with partner school districts and community/regional experts will facilitate and provide professional development support and become engaged in process of showcasing and advancing university faculty in the development of the 21st Century Skills, with benefits observable as enhanced technology integration skills for teacher candidates.

Stakeholders

Each of the above groups has made a direct link with the Teacher Preparation Initiative (TPI) by delegating a representative to the TPI Technology Working Group. Additionally, all are important stakeholders in the implementation of ISTE-NETS standards by virtue of their mission and accomplishments:

Center for Excellence in Teaching and Learning (CETL)

The Center for Excellence in Teaching and Learning exists to

- teach and promote collaborative and active learning;
• develop and promote teaching and learning communities;
• facilitate and promote exploration and productive dialogue about faculty work including teaching, scholarship, ongoing professional and leadership development and service;
• facilitate university-wide conversations about students’ academic success, holistic student growth and achievement among academic and social support offices, academic departments, the University’s colleges, and the administration; and
• develop and support communities of knowledgeable peers and peer tutoring across the disciplines.

Mission. “The Center for Excellence in Teaching and Learning fosters, supports and celebrates communities of scholars engaged in collaborative inquiry to achieve shared intellectual and personal growth.”

Vision. “The Center for Excellence in Teaching and Learning supports St. Cloud State University as a vibrant culture within which faculty, staff and students can be deeply engaged with the wider community in developing transformational and integrated experiences, skills and knowledge for a diverse and sustainable global environment.”

(Source: http://www.stcloudstate.edu/teaching/about/)

InforMedia Services (IMS)

A goal of the IMS faculty is helping people find valuable educational opportunities in modern computerized information technologies, multimedia production and presentation resources.

Services. With experience in instructional technology, multimedia design and production, and instructional design using computer applications, IMS faculty provide service to faculty and students across the St. Cloud State University campus. They are enthusiastic about applying technology to teaching, information presentation and research support.

Members. The IMS faculty:

• Train faculty, staff and students on specific computer applications;
• Help faculty design courses and instruction to use SCSU’s resources;
• Join faculty in the classroom to help students learn to use software for the class;
• Consult with faculty on instructional design issues, particularly those that use the World Wide Web and multimedia techniques;
• Collaborate with faculty and staff on technology related projects;
• Work with colleges in technology planning, acquisition and use;
• Respond to the faculty requests and technology developments;
• Provide statistical consulting and research support for faculty and graduate students working on research requiring data analysis;

(Source: http://huskynet.stcloudstate.edu/departments/ims/default.asp)
Curriculum and Technology Center (CTC)

The Vera W. Russell Curriculum and Technology Center provides print and non-print (technology and web-based) resources designed to support the academic programs within the SCSU School of Education.

Curricular focus. Resources are provided for patrons to evaluate and use both for classroom and practicum purposes. Collection acquisition is based on the needs of academic departments within the School of Education and the curricula being used in Minnesota P-12 classrooms.

Location. Located in the School of Education (EB A-126) the CTC provides students, staff, and faculty a state of the art facility for investigating new methods and materials in education.

(Source: [http://www.stcloudstate.edu/ctc/default.asp](http://www.stcloudstate.edu/ctc/default.asp))

Technology and Pedagogical Resources (TPR)

TPR is a standing committee of the Faculty Association (FA) and provides a governance function which interfaces faculty expertise with technology decision-making.

Membership. One member is elected from of the schools, colleges and centers defined as a “Major Unit” in the SCSU-FA’s constitution. (Note: Following the university re-organization, the FA constitution subsequently was re-written and ratified by a vote of the membership. At the time of this writing, FA members also have cast ballots for the election of officers to those committees, including TPR. The committee is expected to function as before, keeping a linkage to the TPI Technology Working Group.)

Duties. Faculty elected to serve via the TPR:

- Promote the development and use of technology and pedagogical resources on campus, including (but not limited to) computers, library books, and classroom supplies for academic programs;
- Review the formulation of the budgetary and general policies for technology and pedagogical resources on campus and make recommendations to the Faculty Senate;
- Solicit information from faculty members regarding campus needs and issues related to technology and pedagogy;
- Provide information regarding policies and practices related to technology and pedagogical resources to the faculty;
- Recommend technology and pedagogical resource policies for acquisitions, usage, and repair;
- Provide feedback to the Learning Resources (formerly LR&TS) faculty in the Library, IMS, Academic & Pedagogical Technologies Workgroup, and IM faculty on policy recommendations and changes.

(Source: [http://scsufa.org/](http://scsufa.org/))

Instructional Technology Development Lab (ITDL)

The ITDL will be a physical space in which teacher candidates can learn to creatively engage P-12 students using a variety of emerging and existing technologies, including interactive whiteboard technologies, mobile computing technologies, GPS equipment, Individual Response systems or
“clickers,” digital video, Web 2.0 tools, assistive technologies, and other interactive technologies. Together with faculty, cooperating teachers, and library media specialists, teacher candidates will have the opportunity to explore possibilities and practice using both state of the art and common technologies. These ideas will then be modeled in P-12 classrooms and evaluated for their effectiveness.

(Source: http://www.stcloudstate.edu/soe/documents/Fall2010COEnewsletterHIGHLIGHTS.pdf)

**Unifying Goal**

Each of these university-based technology specialization groups has accrued tremendous pedagogical, technological, and interpersonal resources. Their combined functions include effectiveness with training, hardware, and logistics. The objective of this proposal is to open communication among these groups and introduce the NETS standards as a unifying purpose to focus the training of university faculty members in a manner that integrates with the conversations taking place among P-12 partners.

**Rationale**

The ISTE-NETS Standards encompass many of the goals already targeted by each of the technology stakeholders. For this reason, articulating the standards is likely to prompt a conversation of consensus rather than fractious debate. The standards are focused on building effective pedagogy rather than using specific technology applications. By implication, the standards are platform-independent and vendor-neutral. The standards assert that P-12 teachers must demonstrate proficiency integrating technology with pedagogy in order to prepare students for the challenges of living in a 21st century democracy. As such, we believe that the unified capabilities of CETL, IMS, TPR, CTC and ITDL are likely to be effective supporting the implementation of the NETS standards in faculty development, and that this will directly benefit the preparation of teacher candidates.

**Objectives**

After implementing this proposal, the following objectives will be met:

1. University faculty will be able to identify effective examples of technology integration in the classroom and relate them to the ISTE NETS•S and NET•T.
2. University faculty will be able to design instruction that incorporates the NETS•S and NET•T into their classes.
3. University faculty will be able to seek and receive support from different groups on campus in order to achieve their objectives.
4. University faculty will use their new knowledge of the NETS•S and NET•T to effectively prepare all SCSU students, with particular attention to those SCSU students entering teacher preparation programs.

**Standards**

The ISTE standards are categorized according to standards for teachers and standards for P-12 students.
For Teachers (NETS•T)

1. Facilitate and Inspire Student Learning and Creativity. Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments. Teachers:
   a. Promote, support, and model creative and innovative thinking and inventiveness.
   b. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources.
   c. Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes.
   d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments.

2. Design and Develop Digital-Age Learning Experiences and Assessments. Teachers design, develop, and evaluate authentic learning experiences and assessment incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S. Teachers:
   a. Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity.
   b. Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress.
   c. Customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources.
   d. Provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching.

3. Model Digital-Age Work and Learning. Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:
   a. Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.
   b. Collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation.
   c. Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats.
   d. Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning.

4. Promote and Model Digital Citizenship and Responsibility. Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:
   a. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.
b. Address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources.

c. Promote and model digital etiquette and responsible social interactions related to the use of technology and information.

d. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools.

5. Engage in Professional Growth and Leadership. Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

Teachers:

a. Participate in local and global learning communities to explore creative applications of technology to improve student learning.

b. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others.

c. Evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning.

d. Contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community.


For Students (NET•S)

1. Creativity and Innovation. Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

   a. Apply existing knowledge to generate new ideas, products, or processes.
   
   b. Create original works as a means of personal or group expression.
   
   c. Use models and simulations to explore complex systems and issues.
   
   d. Identify trends and forecast possibilities.

2. Communication and Collaboration. Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

   a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
   
   b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
   
   c. Develop cultural understanding and global awareness by engaging with learners of other cultures.
   
   d. Contribute to project teams to produce original works or solve problems.
3. Research and Information Fluency. Students apply digital tools to gather, evaluate, and use information. Students:
   a. Plan strategies to guide inquiry.
   b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
   c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
   d. Process data and report results.

4. Critical Thinking, Problem Solving, and Decision Making. Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. Students:
   a. Identify and define authentic problems and significant questions for investigation.
   b. Plan and manage activities to develop a solution or complete a project.
   c. Collect and analyze data to identify solutions and/or make informed decisions.
   d. Use multiple processes and diverse perspectives to explore alternative solutions.

5. Digital Citizenship. Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:
   a. Advocate and practice safe, legal, and responsible use of information and technology.
   b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
   c. Demonstrate personal responsibility for lifelong learning.
   d. Exhibit leadership for digital citizenship.

6. Technology Operations and Concepts. Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:
   a. Understand and use technology systems.
   b. Select and use applications effectively and productively.
   c. Troubleshoot systems and applications.
   d. Transfer current knowledge to learning of new technologies.


Methods

In summary, the objectives will be met by opening and coordinating a conversation among stakeholders pertaining to the ISTE NETS•S standards, and continuing to provide input that supports stakeholders’ independent activities toward the goals. The sequence of steps is as follows:

1. The TPI Technology Work Group will meet initially with representatives from CETL, IMS, TPR, CTC and ITDL, and will provide training workshops to explain the NETS•S standards so that stakeholders will have the background knowledge to provide support.
2. CETL will be asked to focus a round of professional development activities on the NETS•T standards with emphasis how to apply these standards through effective instruction, as well as for faculty to discuss successes and challenges of employing the NETS•T and NETS•S standards.

3. IMS will be asked to plan a series of professional development activities for faculty to further develop their command of the NETStandards while integrating instructional technologies into their classes. These activities typically use the format of small group and one-to-one instruction.

4. CTC and the ITDL is a facility that is available to all teacher education faculty and pre-service teachers to become familiar with the NETS•S and NETS•T while using technology hardware including SMARTBoards (TM), iPads, iPods, GPS equipment, clickers, digital video, assistive technology devices and other interactive technologies. Faculty and graduate assistants familiar with the NETStandards and the technologies are available to assist and provide guidance and instruction.

5. TPR will advise and/or lead governance functions that will support and harmonize with the efforts of faculty to integrate technology and pedagogy in ways harmonious with the NETS•S standards.

6. All groups will contribute “success stories” to be shared through a technological medium (as described separately by this work group in “Recommendation #4: Mechanisms will be established to recognize faculty engaged in the teaching and application of 21st Century Skills and technology integration/development through appropriate channels including social media”).

7. Faculty members who incorporate these standards through university coursework in turn model them for teacher candidates who are SCSU students.

**Evaluation**

1. Each named organization will track the number of workshops/discussion sessions/consultations, and follow-up sessions with faculty interested in incorporating the NETStandards into their instruction. Each unit will identify the number of sessions conducted, the number of faculty who attended, topics covered, and questions asked. This will not only give the TPI Technology Workgroup a picture of what took place, but also what knowledge and experience the faculty might have had about NETStandards already, and how they furthered their knowledge.

2. Faculty who are engaged in developing instruction that incorporates the NETStandards into their classes are likely to have consulted with CETL, IMS, and colleagues within their own departments when designing and executing instruction that incorporates the NETSstandards. Therefore, the technology stakeholders will have a variety of avenues to learn of successful examples of NETStandards integration. These “success stories” will be shared with the department, the school/college, or to the university as a whole using the vehicle proposed by this work group in “Recommendation #4: Mechanisms will be established to recognize faculty engaged in the teaching and application of 21st-Century Skills and technology integration/development through appropriate channels including social media.”

3. Successful implementation implies that faculty members will have integrated NETStandards into their curriculum and course objectives. Teacher Education Advisory Council (TEAC) and the UCC can determine whether Liberal Education courses meet three out of the six NETS•S standards.

4. Successful implementation implies that SCSU students will be able to demonstrate NETS•S standards through their coursework, and that those enrolled in the teacher preparation programs will be able to use and demonstrate NETS•T and NETS•S standards in their coursework and fieldwork with P-12 students.
Sustainability

This proposal does not add further responsibilities to the roles of CETL, IMS, TPR, CTC or ITDL. All of these groups currently offer workshops and support for SCSU faculty in technology integration in pedagogy. Also, this proposal does not change the responsibilities of faculty for professional development. Rather, this proposal focuses the goals of professional development and clarifies how internal stakeholders can support technology development within the context of teacher education. Finally, this proposal does not change the purpose of faculty development activities. The NETStandards are conceptualized to provide structure and agreement, a shared space between autonomous agents.

Timeline

The proposal can be initiated immediately upon approval. Members of the TPI Technology Working Group can make contact with representatives of each stakeholder group, and provide facilitation to begin discussions. Each stakeholder has experience and proficiency with the types of professional development programs envisioned. It is anticipated that planning for trainings of faculty members can begin during the academic year 2011-2012 and continuing through the next several years as needed. The first students admitted to the TPI program will be fall 2012. Students typically take mainly Liberal Education courses during their first two years at SCSU. Offer workshop and training opportunities beginning in the 2011-12 academic year will allow faculty the time to redesign their courses to integrate the NETStandards prior to the delivery of these courses to teacher candidates.

Budget

Each group named in this proposal has an existing budget allocation for workshops and training sessions to serve SCSU faculty members. This proposal essentially calls for no new services, and simply introduces a unifying framework to conceptualize existing services in terms of the NETStandards. Therefore, an additional budgeting process is unnecessary. However, a nominal budget of $500 for the first year is requested to support initial training of stakeholders in the NETStandards. For example, these may include support for duplication costs and incidental costs in organizing workshops for probationary, tenure-track faculty from a variety of university units, who may be present for training.