

Title

Capstone I: Teaching with Technology

Target Audience

This course is intended for K-12 educators who have experience with technology integration and are interested in demonstrating their proficiency in the ISTE NETS•T.

Prerequisites

To successfully participate and complete the assignments in this course, the learner must:

- Have experience using information and communication technology (e.g., Internet, word processors, spreadsheets, multimedia authoring tools) in a K-12 classroom.
- Have access to a K-12 classroom and students to implement a lesson or project.
- Be familiar with elementary, middle, or high school curriculum content.
- Have taken online courses, including the Capstone Introduction.

Course Description

This course is the first of two Capstone Program courses designed to qualify learners for a PBS TeacherLine/ISTE Certificate of Proficiency in the ISTE National Educational Technology Standards for Teachers (NETS•T). With a focus on the teacher as primary user of technology in the classroom, this course offers learners an opportunity to deepen their knowledge of the standards in practice and demonstrate their proficiency in those standards. Learners will create online portfolio exhibits that illustrate their proficiency in teaching with technology through reflections on evidence from their practice.

Instructor/Facilitator

Course coaches are assigned according to learner grade level and subject preferences.

Goals

The overall goal of this course is for learners to deepen their understanding of and demonstrate their proficiency in selected ISTE NETS•T.

By the end of this course, learners will:

- Understand a variety of roles that technology can play in supporting K-12 teaching and learning.
- Be comfortable explaining the ISTE NETS•T and how they apply to classroom teaching.
- Share strategies and resources with other educators within the Capstone community of practice.
- Develop a Capstone I Exhibit that demonstrates proficiency in selected NETS•T.

Outline of Content and Assignments

After previewing the documents in the Course Information area, learners will proceed to Course Content area to complete the following eight sessions. Throughout the sessions, learners are asked to articulate their ideas in various contexts: they are encouraged to reflect on their ideas and experiences both privately and in online discussions, and they are expected to create an online portfolio exhibit of a

classroom lesson or project that demonstrates teacher proficiency with technology to promote student learning.

This course is designed to address all of the ISTE *Educational Technology Standards and Performance Indicators for All Teachers*. These standards define the fundamental concepts, knowledge, skills, and attitudes for applying technology in educational settings, and they frame the entire Capstone Program.

Session 1: Building a Community of Practice (Weeks 1 & 2)

In the first two-week session, learners will explore what it means to be a community of practice and begin to establish their membership in the Capstone community.

Learners will:

- Reflect on the role of community in learning and how it applies to their practice.
- Identify and discuss a clearly focused “joint enterprise” for their Capstone cohort, as well as skills and techniques in their “shared repertoire.”
- Explain how computers function as tools for helping learners build knowledge.
- Discuss how uses of technology differ in three classrooms portrayed in online videos.
- Create a Capstone I Exhibit and clarify their project ideas.

Activities include:

- Reading and reflecting on “Developing a Community of Learners” by D. McGrath.
- Discussing the “joint enterprise” of the Capstone cohort.
- Reading “The Learning Return on Our Educational Investment” by C. Ringstaff and L. Kelley.
- Reflecting on how computers can help learners build knowledge.
- Taking the “EnGauge® Assessment” for educators.
- Viewing videos of teachers discussing their classroom technology use.
- Creating a Capstone I Exhibit from an exhibit plan submitted in the Capstone Introduction.

Session 2: Shared Visions of Standards in Practice (Weeks 3 & 4)

In this session, learners will work with their colleagues toward building a collective vision of what the ISTE NETS look like in practice, with an emphasis on teacher use of technology.

Learners will:

- Reflect on conditions for successful systemic technology integration in support of learning.
- Discuss a multimedia case study of technology integration, identifying where there is evidence of NETS•T in practice and where more information is needed.
- Clarify their positions on the pros and cons of using technology in the classroom.
- Discuss and justify a project idea.
- Articulate a rationale for the use of technology in their exhibit projects.
- List the types of evidence that they might use to demonstrate the standards they selected for their Capstone I Exhibits.

Activities include:

- Viewing “A Remarkable Transformation” on GLEF’s Edutopia Web site.
- Discussing multimedia case studies of technology integration and which show evidence of the NETS•T in practice.
- Reading and reflecting on “The Pros and Cons of Technology in the Classroom” by R. Pea and L. Cuban.
- Discussing justification and writing a rationale for technology use in Capstone exhibit projects.
- Reading the “Guide to NETS•T in Practice” and considering evidence for Capstone exhibits.

Session 3: Focusing on What Works (Weeks 5 & 6)

In the third session, learners will investigate research about how people learn and how technology can support teaching and learning in K-12 classrooms.

Learners will:

- Explain how they would adjust a lesson to address principles of *Universal Design for Learning* (UDL).
- Discuss how *Universal Design for Learning* applies to their teaching and how technology can help to address diverse learning needs.
- Identify relevant research about technology and learning, reflect on new understandings, and discuss implications for their teaching practice.
- Provide feedback on another learner's exhibit-in-progress, in light of guiding criteria from the rubric.

Activities include:

- Reading "What is Universal Design for Learning?" by D. Rose and A. Meyer.
- Reflecting on how to apply UDL principles to lesson design.
- Discussing implications of UDL for teaching practice.
- Identifying, reading, and discussing research on technology and learning.
- Reviewing Capstone I Exhibit rubric.
- Sharing feedback on peer partner's exhibit.

Session 4: Teaching Tools and Strategies: WebQuests (Weeks 7 & 8)

In this session, learners will explore teaching tools and strategies for using the Web in the classroom. Though a variety of models are potentially relevant, this session will feature the WebQuest, which has wide applicability across grade levels and subjects.

Learners will:

- Reflect on an experience in which the Web helped to foster transformative learning.
- Discuss a new WebQuest idea that makes effective use of the Internet to advance student learning.
- Revise an original WebQuest idea using rubric criteria.
- Discuss what they learned from the experience of using rubrics to evaluate WebQuests.
- Reflect on how their exhibit evidence demonstrates their proficiency in specific standards.

Activities include:

- Reading "What WebQuests Are (Really)" and related articles by T. March.
- Reflecting on how the Web can support "transformative learning."
- Discussing new WebQuest ideas and revising them using March's "Criteria for Assessing WebQuests."
- Reading "WebQuest Taskonomy" by B. Dodge.
- Evaluating a WebQuest using Dodge's rubric.
- Discussing learning from WebQuest assessments.
- Reflecting on how specific evidence demonstrates particular standards in portfolio exhibits.

Session 5: Issues and Challenges (Weeks 9 & 10)

In this session, learners will contemplate issues and challenges that they and other educators face in implementing the NETS in the classroom and make practical plans for addressing them.

Learners will:

- Analyze strengths and weaknesses of their school/district as a 21st century learning environment.
- Discuss barriers to progress toward 21st century learning in their district and strategies for overcoming them.

- Identify practical steps for moving your school district forward in its efforts to promote 21st century learning for all students.
- Discuss who is responsible for helping students develop 21st century skills.
- Reflect on what students learned from their Capstone lesson or project.
- Complete a draft of their Capstone I Exhibit.

Activities include:

- Reading “Learning for the 21st Century Report” by the Partnership for 21st Century Skills and browsing “EnGauge 21st Century Skills” by Learning Point Associates.
- Reflecting on challenges involved in teaching students 21st century skills.
- Taking the “EnGauge® Assessment” for district administrators.
- Discussing responsibilities and strategies for promoting 21st century learning.
- Documenting student learning related to exhibit lesson or project.

Session 6: Professional Collaboration (Weeks 11 & 12)

In this session, learners will closely review the work of a cohort peer, offer constructive feedback on a draft exhibit, and participate in synchronous online professional conversations.

Learners will:

- Evaluate a Capstone exhibit using the Capstone I Exhibit rubric.
- Discuss the peer review process and what they learned from it.
- Participate in two synchronous online professional conversations.
- Analyze and reflect on their experience participating in online professional development real-time events.
- Incorporate peer feedback in Capstone I Exhibit revisions.

Activities include:

- Reading “Tapped In” by G. Bull, G. Gull, and S. Kajder.
- Reviewing a peer partner’s exhibit and providing feedback using the Capstone I Exhibit rubric.
- Discussing the peer review process.
- Participating in synchronous online professional learning events.
- Incorporating peer feedback into portfolio exhibit revisions.

Session 7: Dissemination Plans (Weeks 13 & 14)

In this session, learners will consider their leadership roles and how they plan to share their knowledge with other educators.

Learners will:

- Reflect on a successful experience of helping another educator move forward in using technology effectively in the classroom.
- Discuss strategies for supporting educators at different stages in using technology effectively in their teaching.
- Reflect on applications of professional development strategies, principles, and mechanisms in their schools and districts.
- Discuss plans for sharing knowledge developed through the Capstone I course with local colleagues.
- Finalize their Capstone I Exhibits and share them with their cohort.

Activities include:

- Reading “Changing the Conversation about Teaching, Learning, and Technology: A Report on 10 Years of ACOT Research” from Apple Classrooms of Tomorrow.

- Reflecting on successes in helping other educators make effective use of technology in their teaching.
- Reading “Professional Development in a Technological Age” by C.M. Grant.
- Browsing NCREL’s “To the Point: Technology Leadership Team Institute” and NEIR*TEC’s “Technology Briefs for ‘No Child Left Behind’ Planners.”
- Discussing action items related to sharing knowledge and resources from Capstone course.
- Completing and sharing their Capstone I Exhibits.

Session 8: Exhibition (Week 15)

In the last session, learners will celebrate the work produced by members of their cohort and reflect on what they have accomplished.

Learners will:

- View and comment on Capstone I Exhibits of fellow learners.
- Discuss what they have learned in the Capstone I course.

Activities include:

- Reading and reflecting on exhibits of colleagues.
- Discussing the Capstone learning experience as a group.

Schedule

This course is designed to mirror a standard 15-week, 3-credit hour graduate-level course. Plan to spend a total of approximately 45 hours to complete readings, activities, reflections, and exhibit building.

Requirements

Learners are expected to:

- Complete all assignments.
- Participate actively in discussions with fellow learners.
- Be self-directed and self-motivated.
- Ask for assistance when they need it.

Materials (hardware, software, plug-ins)

Technical Requirements

- Word processor
- Internet service provider
- Web browser
- E-mail

Evaluation

This course can be taken for graduate credit on a pass/fail basis, or for a letter grade and graduate credit. See graduate credit details pertaining to specific graduate credit institutions.

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