

California Commission on Teacher Credentialing (CCTC)
Standards of Quality and Effectiveness for Professional Teacher Preparation Programs

Program Standard 9: Using Computer-Based Technology in the Classroom

In the professional teacher preparation program, each candidate learns and begins to use appropriately computer-based technology to facilitate the teaching and learning process. Each candidate demonstrates knowledge of current basic computer hardware and software terminology and demonstrates competency in the operation and care of computer related hardware. Each candidate demonstrates knowledge and understanding of the legal and ethical issues concerned with the use of computer-based technology. Each candidate demonstrates knowledge and understanding of the appropriate use of computer-based technology for information collection, analysis and management in the instructional setting. Each candidate is able to select and evaluate digital media and software for effective use in relation to the adopted academic curriculum.

Program Elements for Standard 9

An accreditation team determines whether the preliminary teacher preparation program meets this standard based on evidence provided by the program sponsor. The team must determine that the quality of the program has been clearly and effectively substantiated in relation to each of the following elements.

- 9(a) Each candidate is familiar with basic principles of operation of computer hardware and software, (e.g. cleaning input devices, avoiding proximity to magnets, proper startup and shut down sequences, scanning for viruses, and formatting storage media) and implements basic troubleshooting techniques for computer systems and related peripheral devices before accessing the appropriate avenue of technical support (e.g. checking the connections, isolating the problem components, distinguishing between software and hardware problems).
- 9(b) Each candidate uses computer applications to manage records (e.g. gradebook, attendance, and assessment records) and to communicate through printed media (e.g. newsletters incorporating graphics and charts, course descriptions, and student reports).
- 9(c) Each candidate interacts with others using e-mail and is familiar with a variety of computer-based collaborative tools (e.g. threaded discussion groups, newsgroups, list servers, online chat, and audio/video conferences).
- 9(d) Each candidate examines a variety of current educational digital media and uses established selection criteria to evaluate materials, for example, multimedia, Internet resources, telecommunications, computer-assisted instruction, and productivity and presentation tools. (See California State guidelines and evaluations.)
- 9(e) Each candidate chooses software for its relevance, effectiveness, alignment with content standards, and value added to student learning.
- 9(f) Each candidate demonstrates competence in the use of electronic research tools (e.g. access the Internet to search for and retrieve information and the ability to assess the authenticity, reliability, and bias of the data gathered).
- 9(g) Each candidate considers the content to be taught and selects the best technological resources to support, manage, and enhance student learning in relation to prior experiences and level of academic accomplishment.

9(h) Each candidate analyzes best practices and research findings on the use of technology and designs lessons accordingly.

9(i) Each candidate demonstrates knowledge of copyright issues (e.g. distribution of copyrighted materials and proper citing of sources and of privacy, security, and safety issues (e.g. appropriate use of chatrooms, confidentiality of records including graded student work, publishing names and pictures of minors, and Acceptable Use Policies).

Standard 9: Technology in the Subject Matter Program - Multiple Subject Credential

Study and utilization of current and emerging technologies are integral characteristics of the subject matter program for prospective multiple-subject teachers.

Required Elements for Standard 9: Technology in the Subject Matter Program

9.1 The institution provides adequate access to technology resources for prospective multiple-subject teachers in the subject matter program.

9.2 In the program, prospective teachers use current and emerging technologies in efforts to increase their subject matter knowledge and understanding. Prospective teachers learn to use technologies for multiple applications including research, analysis, communication and presentation applications. The program selects technologies on the basis of their effective and appropriate uses.

9.3 In the program, prospective teachers analyze, compare and evaluate technologies as effective tools of study and learning in the seven major subject areas of study.

9.4 In the program, prospective teachers are introduced to ethical and social issues related to technology, including issues of access, equity, privacy, the protection of children, and ownership of intellectual property.

Standards of Quality and Effectiveness for Professional Teacher Preparation Programs

Standard 15: Using Computer Based Technology to Support Student Learning

Each participating teacher builds upon the knowledge, skills, and abilities acquired during preliminary preparation for the delivery of comprehensive, specialized use of appropriate computer-based technology to facilitate the teaching and learning process. Each participating teacher is a fluent, critical user of technology to provide a relevant education and to prepare his/her students to be life-long learners in an information-based, interactive society. Each participating teacher makes appropriate and efficient use of software applications and related media to access and evaluate information, analyze and solve problems, and communicate ideas in order to maximize the instructional process. Such use of technology supports teaching and learning regardless of individual learning style, socioeconomic background, culture, ethnicity, or geographic location. Each participating teacher integrates these technology-related tools into the educational experience of students, including those with special needs.

As a part of the program approval process, the program collects evidence to demonstrate that this standard, including all of the following elements, has been met.

Program Elements for Standard 15: Using Computer Based Technology to Support Student Learning

15(a) Each participating teacher communicates through a variety of electronic media (e.g., presentations incorporating images and sound, web pages, and portfolios).

15(b) Each participating teacher interacts and collaborates with others using computer-based collaborative tools (e.g., threaded discussion groups, newsgroups, electronic list management applications, online chat, and audio/video conferencing).

15(c) Each participating teacher demonstrates competence in evaluating the authenticity, reliability and bias of the data gathered, determines outcomes, and evaluates the success or effectiveness of the process used. He/she frequently monitors and reflects upon the results of using technology in instruction and adapts lessons accordingly.

15(d) Each participating teacher optimizes lessons based upon the technological resources available in the classroom, school library media centers, computer labs, local and county facilities, and other locations.

15(e) Each participating teacher designs, adapts, and uses lessons which address the students' needs to develop information literacy and problem solving skills as tools for lifelong learning.

15(f) Each participating teacher uses technology in lessons to increase students' ability to plan, locate, evaluate, select, and use information to solve problems and draw conclusions. He/she creates or makes use of learning environments inside the classroom, as well as in library media centers or computer labs, that promote effective use of technology aligned with the curriculum.

15(g) Each participating teacher uses technology as a tool for assessing student learning and for providing feedback to students and their parents. He/she uses computer applications to manipulate and analyze data (e.g. create, use, and report from a database; create charts and reports from a spreadsheet).