DRAFT
Chapter I: Overview and Technology Standards

Division of Instructional Support
Office of Instructional Technology

in collaboration with

United Federation of Teachers Teachers Center
Professional Development Program

In moving towards an approach to instructional technology that calls for its full integration with content instruction, the need for a set of performance standards in this area has become acute. To satisfy this need a methodology was identified that built on the one already established for the adoption and customization of performance standards in the areas of English Language Arts, Mathematics and Science.

During the Spring of 1999 a number of individuals representing key constituencies involved in the classroom use of instructional technology responded to a public invitation issued by The Division of Instructional Support. The respondents made up a working group* which met on an ongoing basis to craft the following document.

By agreement, the "National Education Technology Standards for Students" established by The International Society for Technology in Education (ISTE)[1] were selected as an appropriate starting point from which the working group reflected on the issue of what technology skills are essential for our students . Through ongoing discussions these standards were tailored to reflect the specific needs of the New York City Board of Education and its instructional objectives and philosophy. The document will facilitate the work educators do in setting goals, planning effective instruction and monitoring and assessing student performance.

This document reflects a philosophy of seamless integration of technology into the instructional program. Therefore, it includes more than the technology standards. Chapter II aligns the technology standards to other performance standards in the content areas (language arts, mathematics, and science). Thus, teachers, in planning content-based lessons, are given insight into which technology skills may be wisely introduced through or called on to support a given activity. In addition, appropriate software and web resources are referenced to the standards, putting this document in the realm of real classroom practices.

In Chapter III, using the Principles of Learning as a framework, the technology standards are aligned to appropriate principles to define the structure of the learning environment to positively impact the acquisition of technology skills, as well as how they support it.

Chapter IV discusses how technology skills may be assessed as well as how they may be employed in assessing student performance in the content areas.

Chapter V references the technology standards to special needs children.

Tools for Enhancing Technology Skills and Learning (Technology Standards)

These standards will define the goals and objectives for Early Childhood, Elementary, and Intermediate levels.

Technology Standard **The Students will:**	**Specifics**	**Grade Level** Early Childhood	Elementary	Intermediate
T1. identify and define the uses and parts of a computer.	a. CPU	√	√	√
	b. monitor	√	√	√
	c. disk drive	√	√	√
	d. mouse	√	√	√
	e. printer	√	√	√
	f. keyboard	√	√	√
T2. know and use technical vocabulary.		√	√	√
T3. understand basic computer operations.	a. turn on/off	√	√	√
	b. bootup	√	√	√
	c. shut down	√	√	√
	d. using floppy disks	√	√	√
	e. using CD ROMs	√	√	√
	f. printing	√	√	√
T4. be able to manipulate file basics.	a. create	√	√	√
	b. open	√	√	√
	c. save	√	√	√
	d. edit		√	√
	e. delete	√	√	√
	f. print	√	√	√
T5. use essential computer devices.	a. keyboard	√	√	√
	b. mouse	√	√	√
	c. CD-ROM drive	√	√	√
	d. printer	√	√	√
T6. behave responsibly when using computers.	a. use and care of equipment	√	√	√
	b. sharing resources	√	√	√
	c. privacy		√	√
	d. etiquette		√	√
T7. use age appropriate electronic resources.	a. CD-ROMs	√	√	√
	b. Internet	√	√	√
	c. simulations	√	√	√

Technology Standard **The Students will:**	**Specifics**	**Grade Level** Early Childhood	Elementary	Intermediate
T8. use related peripheral devices.	a. digital camera	√	√	√
	b. digital drawing tablet	√	√	√
	c. scanner	√	√	√
	d. probes	√	√	√
T9. use word processing.	a. entering and editing text	√	√	√
	b. keyboarding		√	√
	c. publish		√	√
T10. create products.	d. graphics	√	√	√
	e. written work	√	√	√
	f. multimedia	√	√	√
	g. presentations	√	√	√
T11. use and create databases.	a. catalog information	√	√	√
	b. enter information	√	√	√
	c. access and interpret information	√	√	√
T12. use and create spreadsheets.	a. enter data	√	√	√
	b. format data		√	√
	c. manipulate data		√	√
	d. access and interpret data		√	√
T13. use the Internet.	a. access information		√	√
	b. communicate via e-mail, threaded discussions, etc.	√	√	√
			√	√
	c. create Web pages		√	√
T14. select appropriate technologies for a specific situation.	a. apply appropriate software genre for tasks		√	√
	b. select appropriate devices for task		√	√

Technology Standard The Students will:	Specifics	Grade Level Early Childhood	Elementary	Intermediate
T15. understand and practice responsible use of information.	a. make informed choices when using resources		√	√
	b. demonstrate ethical behavior when using electronic information		√	√
T16. create and implement assessment components.	a. rubrics		√	√
	b. electronic portfolios	√	√	√
	c. presentations	√	√	√

Definition of Terms

- Standards – What students should know and be able to do.
- Benchmarks – What students should know and be able to do on the way to meeting the standard.
- Performance Indicators/Global Skills –Actual skills that students are able perform.
- Performance Standard- How good is good enough?

Benchmark Grades

- At or about the end of grade 2 **Students will** be able to meet grade level performance indicators.
- At or about the end of grade 5 **Students will** be able to meet grade level performance indicators.
- At or about the end of grade 8 **Students will** be able to meet grade level performance indicators.

Genres of Software Applications

- Tool Software (Microsoft Office, AppleWorks/ClarisWorks)
- Reference/Research (CD-ROM Encyclopedia, Internet)
- Multimedia
  - Presentation (HyperStudio/PowerPoint)
  - Interactive Multimedia (Living Books)

[1]A Comparison of the NYC Board of Education Technology Standards and ISTE Standards

As computer using educators have realized for some time, there exists a need for instructional technology standards. Students were graduating from elementary, intermediate and high schools with varying degrees of computer knowledge and competencies. Further, many teachers found themselves overlapping or ignoring key areas in instructional technology. Part of instructional technology standards must include a profile of a technology literate student listing age appropriate skills.

The International Society of Technology in Education (ISTE) also recognized these needs and published their "Technology Foundation Standards for all Students." When we began working on "The New York City Board of Education Instructional Technology Standards" we first looked at ISTE's publication. We found their document to encompass much of the information that we also felt was relevant for teachers to know regarding instructional technology in the K-8 classroom setting. In our endeavor we further subdivided the areas listed by ISTE to clarify specifics in each category. Consequently, this document requires a comparison between our standards and ISTE's.

NYC Board of Education	**ISTE**
The instructional technology standards developed by the NYC Board of Education are divided into 16 specific areas. Standards within each area are to be introduced, reinforced, and mastered by students in conjunction with regular curriculum standards. The technology standards provide a framework for linking curriculum area activities with instructional technology. Teachers can use these standards and activities as guidelines for planning curriculum-based activities in which students that reflect the integration of instructional technology to achieve success in learning, communication, and life skills.	The technology foundation standards for students are divided into six broad categories. Standards within each category are to be introduced, reinforced, and mastered by students. These categories provide a framework for linking performance indicators found within the Profiles for Technology Literate Students to the standards. Teachers can use these standards and profiles as guidelines for planning technology-based activities in which students achieve success in learning, communication, and life skills.
Technology Standards **Students will:** T1. identify and define the uses and parts of a computer T2. know and use technical vocabulary T3. understand basic computer operations	**Technology Foundation Standards for Students** 1. Basic operations and concepts · Students demonstrate a sound understanding of the nature and operation of technology systems.

T4. be able to manipulate file basics T5. use essential computer devices T8. use related peripheral devices	· Students are proficient in the use of technology.
T6. behave responsibly when using computers T15. understand and practice responsible use of information	2. Social, ethical, and human issues · Students understand the ethical, cultural, and societal issues related to technology. · Students practice responsible use of technology systems, information, and software. · Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
T9. use word-processing T10. create products T11. use and create databases T12. use and create spreadsheets	3. Technology productivity tools · Students use technology tools to enhance learning, increase productivity, and promote creativity. · Students use productivity tools to collaborate in constructing technology-enhanced models, preparing publications, and producing other creative works.
T13. use the Internet T15. understand and practice responsible use of information	4. Technology communications tools · Students use the Internet to collaborate, publish, and interact with peers, experts, and other audiences. · Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
T7. use age appropriate electronic resources T15. understand and practice responsible use of information	5. Technology research tools · Students use technology to locate, evaluate, and collect information from a variety of sources. · Students use technology tools to process data and report

	results. · Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.
T14. select appropriate technologies for a specific situation	6. Technology problem-solving and decision-making tools · Students use technology resources for solving problems and making informed decisions. · Students employ technology in the development of strategies for solving problems in the real world.
T16. create and implement assessment components	

*The Working Group Members

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