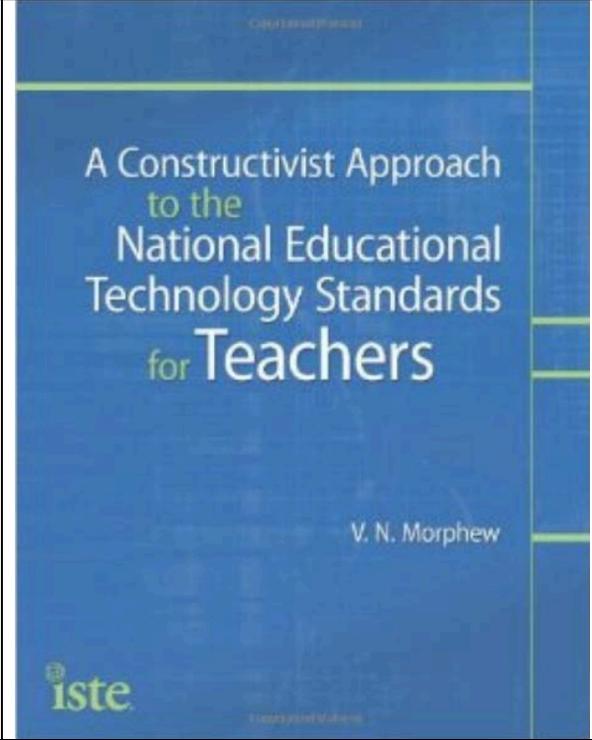


REVIEW OF A CONSTRUCTIVIST APPROACH TO THE NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS FOR TEACHERS

<p>A Constructivist Approach to the National Educational Technology Standards for Teachers</p> <p>V. N. Morphey</p> <p>2012</p> <p>ISBN: 978-1-56484-313-5 (paperback)</p> <p>ASIN: B008SD4LCO</p> <p>US \$40 (paperback)</p> <p>US \$13 (Kindle)</p> <p>370 pp.</p> <p>International Society for Technology in Education</p> <p>Eugene, OR</p>	
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Review by [Deborah Healey, University of Oregon](#)

BACKGROUND

The International Society for Technology in Education (ISTE) has been a strong player in disseminating research on and policy for the use of technology in education for over 25 years. The ISTE National Educational Technology Standards (ISTE NETS) were initially formulated in 1998 (NETS for Students) and 2000 (NETS for Teachers) and the standards were revised in 2007–2008. ISTE NETS have been widely accepted by United States school districts as their technology standards, and in some schools internationally.

The 2007–2008 versions of the ISTE Standards are a major upgrade. *A Constructivist Approach to the National Educational Technology Standards for Teachers* (here referred to as *ACA*) uses the acronym NETS•T to refer to ISTE Standards•T, most likely due to the familiarity most US-based teachers have with ISTE NETS. The new standards have a more constructivist, less technology-centered view, and are more international in outlook than the 1998–2000 versions.

ACA is an ISTE publication designed to help teachers implement the ISTE Standards•T. The author, Valerie Morphey, is a teacher educator who specializes in instructional technology at Fairmount State University in the US. She taught at middle school and high school in the US, as well as at the undergraduate and graduate level. She brings a strong teacher educator and instructional technology focus to the book.

Constructivism has a long history in teaching with its bases in Dewey in the 1900s (Dewey, 1902), Vygotsky in the 1930s (Vygotsky, 1986), and Piaget in the 1940s (Piaget, 1976), as the best-known

writers. *ACA* gives three major elements of a constructivist learning as a) meaningful experiences, b) interactions, and c) prior knowledge (p. xiii). These serve as points of reference for suggested activities related to each of the standards.

ORGANIZATION

ACA is organized by standards, with one chapter for each standard, plus an introduction and a conclusion. Each chapter in *ACA* starts with the standard in brief, a list of the performance indicators, a bit of background information about the standard, then the learning outcomes for the chapter. The chapter is then divided into the four performance indicators for that standard. With each performance indicator comes a lengthy explanation of the relationship between that performance indicator, theory, and practice. The earlier chapters and performance indicators have more general explanatory material about constructivism and technology use than later chapters. With each performance indicator come suggested activities and technologies that can be used to meet that performance indicator. Also included in each section are “In your experience,” where readers are encouraged to respond to a question based on the performance indicator, using their previous experience; “Explorations,” where readers have five or more suggested activities to build their skill in the areas referenced in that section; and “Review,” which serves as a brief recap of the information in that section. Figures and tables provide a visual representation of information, although some figures add little to the content. Resource Lists interspersed throughout the chapters offer related websites. The end of each chapter has a summary of the chapter, endnotes, and references for the chapter.

COMMENTS

This is a very useful book for those new to the ISTE Standards, constructivist teaching, and appropriate use of technology in teaching. The reflective questions and activities in the Explorations for each performance indicator serve to strengthen understanding of the core concepts in that section. For example, performance indicator t1a for Standard 1 focuses on facilitating and inspiring student creativity. One of the Explorations is to “Create a graphic organizer that represents your understanding of creativity and the creative process.” (p. 26). If the chapters had been built around the Explorations rather than the other way around, the organization may have felt tighter and the focus on constructivism clearer.

General background information is packed into each section, especially in the first two chapters. Bloom’s revised taxonomy (Anderson & Krathwohl, 2001) and Gardner’s Multiple Intelligence theory (Gardner, 1999) are explained and used as the basis of Standard 1’s creativity focus. A description of research methods in general, steps for sourcing technology, and differentiated instruction are included as part of Standard 2: “Design and develop digital-age learning experiences and assessments.” The added background information can make the organization hard to follow and sometimes also results in irrelevancies. For example, a discussion of performance indicator t1b about exploring real-world issues included Nintendo’s baseball wii game. It is a good example of turning a non-computer game into a computer game, but hardly related to a real-world problem.

As one of the members of TESOL’s Technology Standards Task Force and a co-author of *TESOL’s Technology Standards: Description, Implementation, Integration*, I was very interested in reading more about the revised ISTE standards and how they can be applied in a constructivist way. The work of the TESOL Task Force was informed by the 1998 ISTE NETS for Students (ISTE, 1998) and the 2000 ISTE NETS for Teachers (ISTE, 2000), as well as the United Nations Education, Scientific and Cultural Organization’s (UNESCO’s) Information and Communication Technologies Competency Standards for Teachers (UNESCO, 2008). Both the ISTE and the UNESCO standards assume a centralized system of education and age-appropriate literacy. These are not universally true in English language teaching settings. In developing the TESOL Technology Standards, the Task Force examined ways that different regions of the world implement technology in teaching. The result was an emphasis in the TESOL

standards on “available technology” and locally appropriate practice. The TESOL standards include vignettes that show implementation of the standards and performance indicators in high-, medium-, and low-resource contexts internationally, and in a variety of teaching settings: with children, teens, and adults; with learners at a range of literacy and English proficiency; for a variety of purposes.

I was quite happy to see the emphasis on transfer in the new Standard 3’s performance indicator t3a, “Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.” The ability to take prior knowledge and adapt it to a new situation is really the heart of being an effective technology-using teacher in a world of constantly-changing technologies.

Also heartening was Standard 5’s performance indicator t5b: “Encourage 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.” As in the TESOL Technology Standards, teachers are urged to make technology an integrated part of teaching, and administrators are encouraged to provide training and resources for teachers so that they can use technology effectively. This is certainly constructivist in its community building emphasis. Infused technology is also a hallmark of “normalized CALL” (Bax, 2003).

The revised ISTE standards are certainly appropriate to current teaching, including constructivist language teaching. However, I was hoping to see much more of an international perspective both in the new standards and in ISTE publications about them. In many places around the world, access to technology resources is limited. The resource lists and examples of technology tools in the text do not mention whether they are commercial or free resources. This is an important distinction for many teachers without a technology budget. Listing that information would also help the author and editor be aware when a resource list consists almost entirely of commercial products, and non-commercial options could be added before publication.

Standard 3 calls on teachers to act in ways “representative of an innovative professional in a global and digital society.” Both performance indicator 3b and 3c emphasize collaboration and communication with digital tools. *ACA*’s only concern in communicating with parents is whether or not they have Internet access. This misses a substantial concern about language, especially when the parents speak a language that the teacher does not. Multilingual environments are the norm in a global society.

Standard 4 makes reference to global societal issues and responsibilities, which could have enabled some discussion of international concerns related to technology use. The discussion about copyright is US-based, with references to US copyright law. A few resources that do not reference the US should have been included, such as [RightsDirect](#) and the [World Intellectual Property Organization](#). It would also be helpful to note that many parts of the world do not see plagiarism the way that the US does.

Performance indicator 4d asks teachers to: “Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools.” The explanation of collaboration tools and projects offers information about resources that have a global reach. Global SchoolNet is a good choice; sadly, ThinkQuest is no longer available. A missing but worthwhile resource is [TakingITGlobal](#), a portal for international projects and collaborations with a focus on teens and young adults. The Explorations are interesting and useful, but they assume that teachers have a basic knowledge of what “global awareness” is and how to promote it. The overall impression given in this section is that use of these resources will automatically mean global awareness and understanding. Students and teachers still need to know how to communicate effectively with those who are culturally different and who may be located halfway around the world.

Of greatest concern are two related areas. One is the general tone of the book. Technology is almost always seen as a solution. In Chapter 5, teachers are encouraged to participate in lifelong learning in a number of ways, including formal learning with distance education and teacher-to-teacher learning.

Second Life is used as an example of a virtual world for learning. Consistent with the rest of the book, this section provides advantages of learning in these different modes without mentioning potential drawbacks. Distance learning is a very good approach for autonomous learners, for example, but does not work well for those who need a more high-touch, personal environment. Virtual worlds can be wonderful for those who know where to go and what to do. Newcomers without a guide to the virtual world may find physical text-based information more accessible.

In keeping with the view that technology is a solution, the problems that technology can cause are rarely mentioned. This plays into the myth that all technology change is progress, and all progress is positive. We know that there are large risks created by technology, including loss of privacy, misrepresentation and theft of personal information and data, dissemination of harmful or hateful information to a broad audience, and the ability to make life substantially worse for a very large number of people quickly due to the links among computer-based systems. For teachers, technology does not always work seamlessly, and creating a Plan B for technology failure takes additional time.

The other area of concern is the frequent focus on technology and technology resources rather than on a teacher's use of the technology. For example, the author states, "Creating rubrics is easy if technology is used" (p. 121). Technology does not create good rubrics; a knowledgeable teacher creates good rubrics that fit specific classroom objectives, and then uses technology to help with formatting the rubrics appropriately.

It is very easy for all of us as technology-using educators to slip into a technology-focused perspective. At this point in time, however, we should no longer be trying to encourage teachers to use technology. Our focus instead should be on giving teachers helpful approaches to wise use of technology. Much of *ACA* does just that. Those who work through the reflections and the explorations will have an opportunity to build expertise in making decisions about when, where, and how to use technology, both appropriately and constructively.

ABOUT THE AUTHOR

Dr. Deborah Healey has taught English and trained teachers for over 35 years. She currently offers online courses for teachers internationally through the University of Oregon's American English Institute and teaches in the University of Oregon's Master's program in Linguistics. She has presented extensively throughout the Middle East, North Africa, Asia, and Latin America on technology in education. She is a co-author of *TESOL Technology Standards: Description, Implementation, Integration* and lead linguist for the ELT game, *Trace Effects*. Her Ph.D. is in computers in education.

E-mail: dhealey@uoregon.edu

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