

# **Standards and Competencies for Instructional Design and Technology Professionals**

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Students entering the field of instructional design must possess a wide array of competencies to be successful in their future roles (Ritzhaupt & Martin, 2014). Competencies are the knowledge, skills, and abilities professionals need in their roles, while standards speak to a pre-defined level of quality or attainment of those competencies. Competencies and standards are essential aspects to advance professionals in this field. Several professional organizations guide the development of competencies and standards. They also have certification programs for instructional designers and instructional programs. In this chapter, we review the instructional design standards and competencies both from professional organizations and those proposed by researchers who guide the educational preparation of instructional designers and also support their academic and work experiences.

## **Competency and Standard**

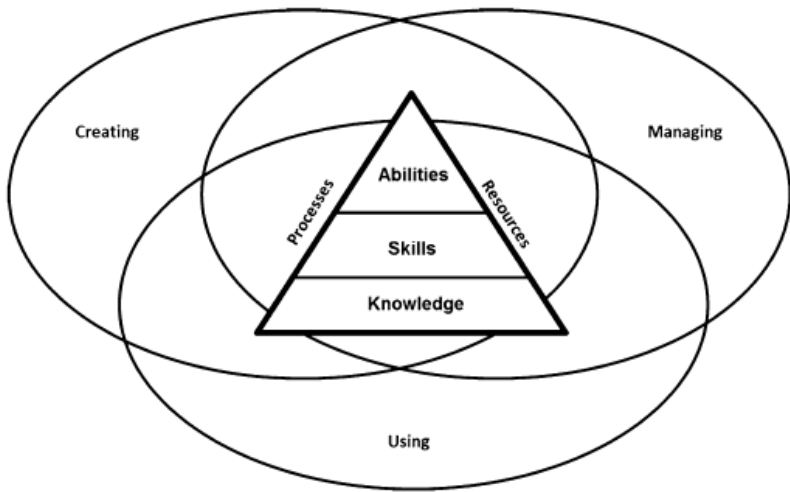
In this section, we review the term competency and standard before we introduce instructional design competencies from professional organizations and from research. Richey et al. (2001) defined competency as “a knowledge, skill or [ability] that enables one to

effectively perform the activities of a given occupation or function to the standards expected in employment” (p. 26). Spector and De la Teja (2001, p. 2) refer to the term competency as “a state of being well qualified to perform an activity, task or job function” and competency refers to the “way that a state of competence can be demonstrated to the relevant community.” Thus, competencies are specific to a community of endeavor in which professionals determine the competencies valuable to the profession. As competencies are identified and developed, professionals express these competencies as standards to assist professionals, professional associations, academic programs, and the larger community to better understand the domain of interest.

The KSA framework, comprised of Knowledge, Skills, and Abilities, has been used by researchers to study competencies in the field. Ritzhaupt et al. (2010) used the KSA framework to categorize educational technology competencies into knowledge, skills and abilities statements. Figure 1 illustrates this framework in light of three domains used to characterize the field: creating, using, and managing. The KSAs represent the core processes and resources used by those practicing in the field, which are the creation of instructional materials, learning environments, and instructional products using systematic approaches and based on research to improve learning and performance. Using refers to selecting, using, and implementing educational technologies and processes to support student learning and to enhance their pedagogy. Management refers to managing people, processes, physical infrastructures, and financial resources to create diverse learning environments and provide supportive learning communities to improve learning and performance (AECT Standards 2012, 2008).

## **Figure 1**

*Knowledge, Skill, and Abilities Statements for Educational Technologists (Adapted from Ritzhaupt et al., 2010)*



Standards are critically important to establish a foundation for a field. For instance, the field of project management established the well-known American National Standards Institute’s (ANSI) Guide to The Project Management Body of Knowledge (PMBOK), which is used as the basis for the Project Management Professional (PMP) certification program and as the official body of knowledge for the profession.

## **Instructional Design and Technology Competencies and Standards From Professional Organizations**

The field of instructional design is comprised of several professional organizations, several of which define competencies and standards for the profession. Table 1 provides a summary of these professional organizations and the following section provides more details about each. Each organization has a different focus and provides standards and competencies for their relevant programs. Students should be reminded that these standards and competencies serve as ideal

frameworks, and should not be discouraged by their scope.

**Table 1**

*Professional Organizations Who Publish Instructional Design and Technology Standards*

<b>Professional Organization</b>	<b>Website Address</b>
International Board of Standards for Training, Performance and Instruction	<a href="http://ibstpi.org/">http://ibstpi.org/</a>
International Society for Performance Improvement	<a href="https://www.ispi.org/">https://www.ispi.org/</a>
Association for Talent Development	<a href="https://www.td.org/">https://www.td.org/</a>
Association for Educational Communications and Technology	<a href="https://www.aect.org/">https://www.aect.org/</a>
Online Learning Consortium	<a href="https://onlinelearningconsortium.org/">https://onlinelearningconsortium.org/</a>
International Society for Technology in Education	<a href="https://www.iste.org/">https://www.iste.org/</a>
University Professional and Continuing Education Association	<a href="https://upcea.edu/">https://upcea.edu/</a>

**International Board of Standards for Training, Performance and Instruction (IBSTPI)**

<http://ibstpi.org/>

IBSTPI Vision: To be the leader in setting international standards in the areas of training, instruction, learning, and performance improvement.

IBSTPI Mission: Develop, validate, and promote implementation of

international standards to advance training, instruction, learning, and performance improvement for individuals and organizations.

Ibstopi has competency sets for various learning and development roles, including the instructional designer. They also have competency sets for other roles such as training manager, evaluator, instructor, and learner. For the instructional designer, Ibstopi (2012) developed 22 competencies across five domains.

1. Professional Foundations
2. Planning and Analysis
3. Design and Development
4. Evaluation and Implementation
5. Management

Each of these competencies has detailed performance statements and a level of expertise (essential, managerial and advanced) identified for each of them. Ibstopi goes through a rigorous development model to identify and validate these competencies. The steps in the model include preliminary analysis of job roles, identification of foundational research, competency drafting by directors and experts, validation study design, translation of research instruments in multiple languages and implementation worldwide with working professionals, data analysis and competency validation, publishing final competencies and performance statements and disseminating the competencies to practitioners, researchers and organizations.

## **International Society for Technology in Education (ISTE)**

<https://www.iste.org/>

ISTE Vision: ISTE's vision is that all educators are empowered to harness technology to accelerate innovation in teaching and learning, and inspire learners to reach their greatest potential.

ISTE Mission: ISTE inspires educators worldwide to use technology to innovate teaching and learning, accelerate good practice, and solve tough problems in education by providing community, knowledge, and the ISTE Standards—a framework for rethinking education and empowering learners.

ISTE has developed well-adopted standards for students, teachers, administrators, coaches, and computer science educators. The ISTE standards are widely accepted in the K-12 community, and have been transformed into assessment systems (Hohlfeld et al., 2010) and a new professional credential offered by ISTE known as the ISTE Certification, which is a vendor neutral teacher certification based on the ISTE Standards for Educators. The ISTE Standards for Educators can be accessed at <https://www.iste.org > standards> for more information.

They include:

1. Learner: Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.
2. Leader: Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.
3. Citizen: Educators inspire students to positively contribute to and responsibly participate in the digital world.
4. Collaborator: Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.
5. Designer: Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.
6. Facilitator: Educators facilitate learning with technology to support student achievement of the ISTE Standards for

Students.

7. Analyst: Educators understand and use data to drive their instruction and support students in achieving their learning goals.

## **International Society for Performance Improvement (ISPI)**

<https://www.ispi.org/>

ISPI Vision: Performance improvement practices are recognized globally as an essential part of every organization's competitive strategy.

ISPI Mission: ISPI and its members use evidence-based performance improvement research and practices to effect sustainable, measurable results and add value to stakeholders in the private, public, and social sectors.

ISPI has proposed 10 Human Performance Practitioner Standards for instructional designers who assume the specialized role of performance consultants. The ten standards include,

1. Focus on Results or Outcomes
2. Take a Systemic View
3. Add Value
4. Work in Partnership with Clients and Stakeholders
5. Determine Need or Opportunity
6. Determine Cause
7. Design Solutions including Implementation and Evaluation
8. Ensure Solutions' Conformity and Feasibility
9. Implement Solutions
10. Evaluate Results and Impact

In addition to the practitioner standards, ISPI also has accreditation standards for organizations and programs/courses. ISPI certifies

practitioners through a rigorous peer-review process and with the opportunity for the practitioners to be re-certified every three years.

## **Association for Talent Development (ATD)**

<https://www.td.org/>

ATD Vision: Create a World That Works Better

ATD Mission: Empower Professionals to Develop Talent in the Workplace

ATD certifies professionals in learning and performance (CPLP) and associate professionals in talent development. The Certified Professional in Learning and Performance (CPLP) candidates are tested on [ten \(10\) areas of expertise](#) and include

1. Performance improvement
2. Instructional Design
3. Training Delivery
4. Learning Technologies
5. Evaluating Learning Impact
6. Managing Learning Programs
7. Integrated Talent Management
8. Coaching
9. Knowledge Management
10. Change Management

ATD also has a competency model for learning and development through which they identify roles, areas of expertise, and foundational competencies for professionals in learning and performance.



## **Association for Educational Communications and Technology (AECT)**

<https://www.aect.org/>

AECT Vision: We seek to be the premier international organization in educational technology, the organization to which others refer for research and best practices.

AECT Mission: Provide international leadership by promoting scholarship and best practices in the creation, use, and management of technologies for effective teaching and learning.

Januszewski and Molenda (2007) defined Educational Technology as “Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (p.1).

AECT has developed standards for educational technologists in five areas. [These standards can be accessed from the AECT website.](#)

1. Content Knowledge
2. Content Pedagogy
3. Learning Environments
4. Professional Knowledge and Skills
5. Research

For each of the standards, there are several indicators provided. AECT certifies graduate certificate programs in higher education who prepare educational technologists based on these standards.

## **University Professional and Continuing Education Association (UPCEA)**

<https://upcea.edu/>

UPCEA is a leading association of professional, continuing and online education. Their goal is to provide high quality, professional, continuing and online education programs of practice in higher education.

UPCEA® Purposes:

- To promote quality in professional and continuing higher education.

UPCEA has seven standards identified to provide excellence in online learning leadership.

1. Internal Advocacy
2. Entrepreneurial Initiative
3. Faculty Support
4. Student Support
5. Digital Technology
6. External Advocacy
7. Professionalism

## **Online Learning Consortium**

<https://onlinelearningconsortium.org/>

OLC® Vision: Setting the global standard in online and digital learning

OLC® Mission: Creating community and connections around quality online and digital learning while driving innovation

OLC's Five Pillars of Quality Online Education include

1. Learning Effectiveness
2. Scale
3. Access
4. Faculty Satisfaction
5. Student Satisfaction

## **Instructional Design and Technology Competencies From Research**

In addition to the professional organizations, several researchers have examined instructional design competencies and standards over the years. Table 2 below provides details of researchers and the competencies and standards examined for various instructional design professionals. These articles can be used to plan professional development, academic programs, and learning experiences for our professionals and emerging professionals.

**Table 2**

*Instructional Design and Technology Competencies From Research*

<b>Authors</b>	<b>Audience</b>	<b>Research Method</b>	<b>Competencies Identified</b>
Tennyson (2001)	Instructional Technologists	Development of competency worksheet	Educational foundations, instructional systems design methodology, and instructional design process experience
Liu, Gibby, Quiros, and Demps (2002)	Instructional Designers	Interviews	Problem-solving and decision-making skills

Brown, Sugar and Daniels (2007)	Media Producers in entry-level multimedia production	Biennial Survey	Authoring applications media producers regularly use and attributes that are most important to the choice of an authoring application
Kenny, Zhang, Schwier and Campbell (2007)	Instructional Designers	Literature Review	Communication skills, knowledge of instructional design models, problem-solving/decision-making skills, and technology skills
Ritzhaupt, Martin and Daniels (2010)	Educational Technologists	Job Announcement Analysis and Survey of Professionals	Multimedia competencies for educational technologists
Lowenthal, Wilson and Dunlap (2010)	Instructional Designers	Job Announcement Analysis	Instructional design experience, communication skills and collaboration skills
Wakefield, Warren and Mills (2012)	Instructional Designers	Job Announcement Analysis	Communication and interpersonal skills, managing multiple instructional Design projects, specific traits, and collaborative skills
Ritzhaupt and Kumar (2015)	Instructional Designers in Higher Education	In-depth Interviews	Solid foundation in instructional design and learning theory, possess soft skills and technical skills, and have a willingness to learn on the job
Kang and Ritzhaupt (2015)	Educational Technologists	Job Announcement Analysis	Instructional design, project management, technical skills, and soft skills
Ritzhaupt, Martin, Pastore and Kang (2018)	Educational Technologists	Survey of Professionals	Instructional design, development, facilitation, assessment, evaluation, communication, problem-solving, and interpersonal skills

Learning theory also guides ethical decision-making when engaged in the creation of a wide-array of learning solutions. Professionals must also stay abreast in emerging learning technologies and should possess both the ability to learn independently and the commitment to lifelong learning. Other knowledge, skills, and abilities were identified in these studies, but these areas noted were frequently observed and noted.

## **Conclusion**

Professional competencies and standards are helpful ways to communicate the value-add of our professionals to stakeholders outside of our community in various professional contexts (e.g., healthcare), to assist our professionals and emerging professionals in planning professional development and lifelong learning (e.g., which webinar to attend), and to guide our academic programs to align with the expectations of the needs in our field (e.g., selecting which topics to cover in an instructional design course). While no list of competencies and standards is complete, those enumerated in this chapter provide readers a glimpse of the status of the profession as described by our professional organizations and existing research literature. Students entering the profession should spend time on learning these competencies and standards to identify career paths and professional development opportunities. We conclude the chapter with some independent learning activities for your edification.

## Application Exercises

1. How should professional competencies and standards be identified, documented, and used by professionals in our field? What forms of research methods have been used to identify and document these competencies and standards? Write a brief overview of how you think competencies and standards should be developed in our profession by reviewing the existing articles listed in Table 2.
2. Read three of the recent articles listed in Table 2. Using the competencies and standards provided in these articles, write a short list of professional learning outcomes for yourself to achieve in the next calendar year.
3. Explore one of the professional organizations discussed in this chapter to identify more detailed information about the organization, including when the professional organization hosts its annual conference, the cost of membership, the list of readings available with membership, and any of professional learning (e.g., webinars) provided by the organization for its members.
4. Some scholars, such as Ritzhaupt and Martin (2010; 2014; 2018) have expressed the competencies of professionals using knowledge, skill, and ability statements. Using this approach, search and identify 10 instructional design professional position announcements using tools like indeed.com. After identifying the announcements, code the knowledge, skill, and ability statements found in these announcements.

## References

Brown, A., Sugar, B. & Daniels, L. (2007). Media production curriculum and competencies: Identifying entry-level multimedia production competencies and skills of instructional design and technology professionals: Results from a biennial survey. Paper

presented at Association of Educational Communications and Technology.

Hohlfeld, T. N., Ritzhaupt, A. D., & Barron, A. E. (2010). Development and validation of the Student Tool for Technology Literacy (ST2L). *Journal of Research on Technology in Education*, 42(4), 361-389.

Januszewski, A., Molenda, M., & Harris, P. (Eds.). (2008). *Educational technology: A definition with commentary* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associate

Kang, Y., & Ritzhaupt, A. D. (2015). A job announcement analysis of educational technology professional positions: Knowledge, skills, and abilities. *Journal of Educational Technology Systems*, 43(3), 231-256.

Kenny, R.F., Zhang, Z., Schwier, R.A., & Campbell, K. (2008). A review of what instructional designers do: Questions answered and questions not asked. *Canadian Journal of Learning and Technology*, 31(1).

Liu, M., Gibby, S., Quiros, O. & Demps, E. (2002). Challenges of being an instructional designer for new media development: A view from the practitioners. *Journal of Educational Multimedia and Hypermedia*, 11(3), 195-219.

Lowenthal, P., Wilson, B. G., & Dunlap, J. C. (2010). An analysis of what instructional designers need to know and be able to do to get a job. Presented at the annual meeting of the Association for Educational Communications and Technology. Anaheim, CA.

Ritzhaupt, A. D., & Kumar, S. (2015). Knowledge and skills needed by instructional designers in higher education. *Performance Improvement Quarterly*, 28(3), 51-69.

Ritzhaupt, A. D., & Martin, F. (2014). Development and validation of the educational technologist multimedia competency survey.

*Educational Technology Research and Development*, 62(1), 13-33.

Ritzhaupt, A., Martin, F., & Daniels, K. (2010). Multimedia competencies for an educational technologist: A survey of professionals and job announcement analysis. *Journal of Educational Multimedia and Hypermedia*, 19(4), 421-449.

Ritzhaupt, A. D., Martin, F., Pastore, R., & Kang, Y. (2018). Development and validation of the educational technologist competencies survey (ETCS): Knowledge, skills, and abilities. *Journal of Computing in Higher Education*, 30(1), 3-33.

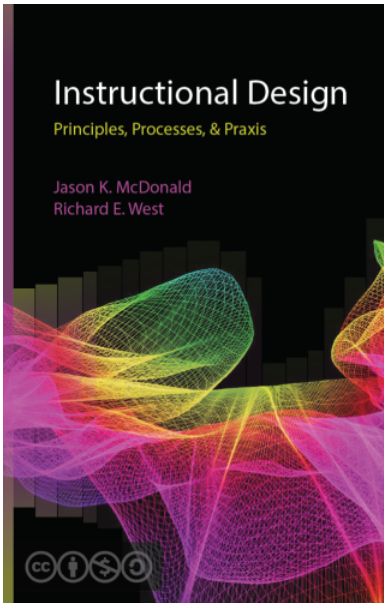
Spector, J. M., & De la Teja, I. (2001). *Competencies for online teaching*. ERIC Clearinghouse on Information & Technology, Syracuse University.

Tennyson, R. D. (2001). Defining core competencies of an instructional technologist. *Computers in Human Behavior*, 17, 355-361.

Williams van Rooij, S. (2013). The career path to instructional design project management: An expert perspective from the US professional services sector. *International Journal of Training and Development*, 17(1), 33-53.

Wakefield, J., Warren, S., & Mills, L. (2012). Traits, skills, and competencies aligned with workplace demands: What today's instructional designers need to master. In P. Resta (Ed.), *Proceedings of society for information technology and teacher education international conference 2012* (pp.3126-3132).





Martin, F. & Ritzhaupt, A. D. (2020). Standards and Competencies for Instructional Design and Technology Professionals. In J. K. McDonald & R. E. West (Eds.), *Design for Learning*. EdTech Books. Retrieved from [https://edtechbooks.org/id/standards\\_and\\_competencies](https://edtechbooks.org/id/standards_and_competencies)



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