Self-Assessment for the CoSN Certified Education Technology Leader (CETL) Certification Exam

COSN's Self-Assessment will help you determine your readiness for the CETL certification exam. It can also help you identify personal strengths and areas for growth to support your professional development objectives and help you acquire or strengthen skills and competencies required for success as a 21st century education technology leader.

The certification exam and this Self-Assessment is built on CoSN's **Framework of Essential Skills of the K-12 CTO**, which is the body of knowledge needed to be a viable and effective CTO in today's education environment. **The Framework**, which was developed by practicing CTOs, demonstrates that the responsibilities of a CTO are unique: not only must they possess technology skills; they must know how to apply these skills in the educational environment.

The Framework is comprised of three **primary professional categories** in the education technology field. Each of these categories includes **10 essential skill areas**:

Under each of these essential skill areas are specific competencies identified in the **Framework**. This Self-Assessment is constructed from those competencies and the related knowledge identified in the **Framework**.

In each section of the Self-Assessment, review the essential skill area and the related knowledge necessary to fulfill these competencies. Using the keys provided, consider your current level of understanding and experience in each skill area. This is your personal assessment of competence. Then determine the gap, if any, that exists and whether any additional development is needed. This exercise will help you assess your current readiness for the CETL certification exam and identify areas where additional experience, study, mentoring,

Completing this Self-Assessment does not ensure mastery of the competencies required for CETL certification exam but rather helps you assess your readiness, identify your current strengths, and chart a plan for gaining knowledge and skills in areas of desired growth.

I. LEADERSHIP & VISION (40%)

A - Leadership & Vision (15%)

Definition: Work closely with the executive team and stakeholders to develop a shared vision with long-term, big-picture perspectives on district goals to plan for meaningful and effective uses of technology; provide leadership when creating a vision of how technology can help meet district goals.

Related Knowledge	Competence	Gap
Strategic planning techniques to create a vision for how technology will support a district's strategic and operational goals		
Ensuring focus on shared goals and sense of a common mission		
Systemic planning skills and use of decision-making rules for priority setting		
Organizational structure (formal and informal), history, and profile of all stakeholders		
Processes (methods) that recognize individual stakeholder contributions		
Definition of roles, responsibilities, and expectations for advisory committees necessary for effective use of technology to support district goals		
Effective collaboration and interpersonal communication skills, e.g., listening, asking questions to solicit best ideas, relationship-building, consensus-building, communicating the need for change, using effective power-sharing techniques, camaraderie to ensure success		
Personal communication skills, e.g., marketing collateral (print and online), public speaking, storytelling		
Organizational and time-management skills		
Constructive conflict management		
Current technologies		
Scope and value of emerging and promising technologies		
Technologies that can positively impact teaching and learning in the interdependent environment of assessment, curriculum, and instruction		
Role of technology to enhance efficiency and effectiveness of current practices and related cost-reduction opportunities		
Forecasting return on investment and benchmark measurements for key innovations		
Ensuring effective, challenging, and engaging learning for all students		
Sources and nature of educational content and processes		
Assessment best practices, e.g., how to assess key instructional activities, learning diagnostics, assessment of and accommodations for learning styles, educational terminology		
Cultural context of change; management and facilitation of the change process		
Role of professional development in the change process		
Building support for change through a variety of mechanisms, e.g., learning by example and personal and mass communication		
Use of data to help people draw conclusions		

KEY:

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- **4** – Expert level of understanding/experience
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Development Gap
- **3** – Little or no development needed
- **2** – Some development needed
- **1** – Considerable development needed

I. LEADERSHIP & VISION (40%) Con't

B – Strategic Planning (15%)		
Definition: Have a high-level view across the school system and work with instructional and technical teams to identify steps needed to transform the technology vision into a long-range plan, complete with specific goals, objectives, and action plans.		
Related Knowledge	**Competence**	**Gap**
Strategic planning best practices and identification of system leaders		
Technology frameworks and alignment of technology and resources (people, capital, expenses) to strategic goals		
Alignment of performance evaluations to strategic goals		
Conducting a needs assessment		
Budget development (chart of accounts)		
Funding sources (federal, state, local, and public/private grants), donations		
Use of financial information, financial and non-financial metrics		
Alignment and communication of research to support VOI best practices		
Modeling implementation of industry best practice methodologies, tools, and programs (TCO, ITIL, SDLC, Baldrige, etc.) to support strategic goals		
Project management skills and prioritization of concepts to implementation, including determining relative priorities of competing demands		
Identification of all district systems and their departments, e.g., instruction, assessment, finance, facilities, transportation, security, food service		
Integration of and relationships among various departments		
Methods of finding evidence and examples of successful technology-based solutions for each district system and department		
Measurements for how technology supports each system or department		
Communicating results of evidence and examples of successful solutions found for each district system and department, e.g., case study		
Development of a technology and systems security plan		
Periodic and ongoing backup and recovery tests		
Establishment of redundancy systems to support business and instructional initiatives, assessment of risk, and potential impact		
Use of metrics and data on goals, strategies, and budget to support technology plan		
Communicating meaningful reports to stakeholders on technology plan		
Disaster recovery/business continuing planning best practices, examples of successes and failures, and a phased-in plan to include multiple solutions		
Involving stakeholders in disaster recovery/business continuity planning—in defining and refining the plan and in drills		
Conveying complex technology concepts in familiar terms to non-technology staff, including translating data and statistics into easily understood graphical representations of goals and objectives		
Engineering solutions based on goals and objectives		
Developing solutions for creating a process of continuous improvement		

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I. LEADERSHIP & VISION (40%) Con't

C – Ethics and Policies (10%)		
Definition: Manage the creation, implementation, and enforcement of policies and educational programs relating to the social, legal, and ethical issues related to technology use throughout the district and modeling responsible decision-making.		
Related Knowledge	**Competence**	**Gap**
Collaboration with all impacted departments to ensure adherence to state and federal laws		
Process for demonstrating and monitoring personal and system compliance		
Policies and procedures at all levels, e.g., district, federal, e-Rate		
Maintenance of records indicating personal and system compliance		
Examples of best practices of appropriate ethical and professional behavior for technology use		
Resources for maintaining current information about laws and legal issues and how district departments, policies, and practices are impacted		
Communication via multiple methods and current information about laws and legal issues		
Cyber security and physical security, potential vulnerabilities, and related issues for both students and staff		
Best preventive practices and policies to impact vulnerabilities		
Alignment of technology planning and implementation to goals for environmental protection, energy-saving practices, and appropriate equipment disposal		
Communicating and collaborating with others in the policy development process		
Definition of a high-performing learning environment		
Ensuring policies and the policy development process to support a high-performing learning environment		
Definition of equitable access		
Structuring technology expenditure formulas to accommodate equity		
Identification of stakeholders in the equitable process, as determined by district practice and/or policies		
Assessment of needs of diverse students and staff, e.g., Universal Design for Learning (UDL) information, IDEA, ESL, special needs		

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II. UNDERSTANDING THE EDUCATIONAL ENVIRONMENT (30%)

A – Instructional Focus and Professional Development (12%)		
Definition: Budget, plan, and coordinate ongoing, purposeful professional development for all staff using technologies; ensure a sufficient budget through the implementation and assessment process of emerging technologies.		
Related Knowledge	**Competence**	**Gap**
Conducting a needs assessment to ensure purposeful professional development, including collaboration and communication with instructional leaders and assessment of staff proficiency		
Resources (funding, technologies, and policies) needed for purposeful professional development		
Communicating with stakeholders and gathering feedback regarding professional development		
Research, collaboration with the field, and collaboration with district instructional leadership to identify and promote technologies that support educational best practices		
Alignment of technology resources to support best practices		
Alignment of technology and curriculum standards		
Alignment of job roles to available and/or needed technology resources to empower staff to successfully meet ongoing job demands		
Communication and promotion of student proficiency in 21st century skills		
Examples of standards for innovative teaching and learning that develop student proficiency in 21st century skills		
Collaboration with local education institutions to establish professional development programs of interest to teachers		
Serving in advisory capacity to develop skills for new teachers		
Organizations responsible for developing and modifying state and national standards, benchmarks, and frameworks for technology literacy		
Collaboration with staff to share updates regarding standards		
Conducting professional development targeting standards		
Diverse needs of students and other stakeholders		
Identification of technology resources to address diverse needs of students		
Providing or facilitating professional development opportunities to address diverse needs of students and other stakeholders		
Examples of effective uses of technology to maximize learning for diverse students		

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II. UNDERSTANDING THE EDUCATIONAL ENVIRONMENT (30%)

B – Team Building and Staffing (9%)		
Definition: Play an integral role in the district's strategic planning process; create and support cross-functional teams for decision-making, technology support, professional development, and other aspects of the district's technology program.		
Related Knowledge	**Competence**	**Gap**
District organization and related roles and responsibilities		
Purpose of a cross-functional team and determining when it is necessary for appropriate aspects of the district technology plan		
Creating cross functional teams, including who to pull together and when, and protocols for creating the team		
Resources (knowledge, funding, time, tools) to deliver on team's purpose		
Leadership skills to manage diverse teams, ensuring distributed leadership		
Defining and setting clear purpose, objectives, and expectations of any team		
Establishing agendas, targets, and measures		
Planning and coordinating meetings, including meeting and communication protocols, and providing post-meeting follow-up that includes everyone		
Team communication standards (who, what, when, where, how)		
Delegating responsibilities		
Ensuring everyone is clear on team expectations and individual roles		
Gathering feedback and monitoring process, progress, and results of team activities; facilitating when and how a team comes to consensus		
Ensuring proper follow-through on team commitments		
Decision-making tools to support effective teamwork, e.g., identifying who needs to be involved; establishing/monitoring timelines; determining how to meet milestones; using scorecards, dashboards, progress summary		
Framework for decision making that includes current and desired district, state, and other assessment information		
Engaging team members and ensuring everyone has opportunity for input		
Team building based on team needs and not the job		
Separating fact from opinion, reconciling mixed messages, limiting positional power, and dealing with personalities and professional interactions		
Effective screening and interviewing processes, including quantitative and qualitative data for making decisions, and validation of information sources		
Representative and clear job descriptions		
Ongoing feedback to individuals and teams on strengths and required growth, using quantitative and qualitative data, and establishing benchmarks		
Analysis of team structure and organization chart relative to supporting strategic plan, with clear team function and responsibilities		
Accurate, published organization chart, involving board/cabinet as needed		
Strategic plan for staffing requirements, aligning staffing resources to needs		
Staff skills development, including empowering others to leadership roles		
Using data to deploy or reassign staff to best meet strategic plan goals, working with HR and the budget process as necessary		

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II. UNDERSTANDING THE EDUCATIONAL ENVIRONMENT (30%)

C – Stakeholder Focus (9%)		
Definition: Build relationships with all stakeholders, taking a close look at how the district determines requirements, expectations, and preferences. Understand the key factors that lead to stakeholder satisfaction, focusing on how the district seeks knowledge, satisfaction, and loyalty of students and other stakeholders.		
Related Knowledge	**Competence**	**Gap**
Identification of all stakeholder groups needed for buy-in of vision of technology program		
Collaboration with stakeholders to create a vision for how technology will support district goals		
Soliciting input and/or feedback from stakeholders for vision for technology		
Focus groups for representative stakeholders		
Concepts for survey development		
Anticipation and clarification of stakeholder group technology needs and/or interests		
Communication models for listening to stakeholder input and feedback		
Interpersonal communication skills to collaborate with stakeholders on vision for how technology will support district's strategic goals		
Human metrics and methods of implementing successful human interactions		
Definition of "knowledge worker"		
Addressing and responding to stakeholder and all knowledge worker input, feedback, issues (positive or negative), and concerns		
Synthesizing and aligning stakeholder needs and/or concerns		
Alignment of district goals with stakeholder goals		
Ensuring stakeholders know district vision and strategic goals		
Electronic collaboration tools that assist in stakeholder involvement		
Partnerships that can yield funding via grants or charitable contributions		
Identifying appropriate technology options to support volunteer and/or alternative efforts to improve education		
Models for identifying opportunities and their requirements for supplementing district resources		
Using emerging technologies, e.g., Twitter, Facebook, messaging systems, to effectively communicate with stakeholders		
Responding to stakeholder preferred method(s) of communication		

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III. MANAGING TECHNOLOGY AND SUPPORT RESOURCES (30%)

A – Information Technology Management (9%)		
Definition: Direct, coordinate, and ensure implementation of all tasks related to technical, infrastructure, standards, and integration of technology into every facet of district operations.		
Related Knowledge	**Competence**	**Gap**
System design		
Standards concepts, e.g., networking standards and interoperability		
Available resources, e.g., funding and people, for planning all tasks related to technical systems, network infrastructure, and technology device management		
Rationale for technology choices		
Needs assessment of training, readiness, and concept of scalability		
Techniques for overseeing implementation of technical systems, network infrastructure, and technology device management		
Alignment of roles and responsibilities to tasks, and project management techniques		
Assessing impact of choices made, e.g., for outsourced options		
Staying abreast of emerging technology trends		
Evaluation of TCO and ROI		
Conducting pilot projects, e.g., to meet goals, support education, with comparison of plans to actual outcomes		
Development of evaluation instruments		
Stakeholder communication regarding evaluation results		
Application of evaluation results and making appropriate changes		
Meaning of "integration of technology into every facet of operations" in the education environment		
Systems to support specific types of operations, e.g., purchasing systems for food services		
Impact of filtering on operations		
Developing, collecting, interpreting, and reporting metrics for all aspects of IT system, e.g., utilization, uptime statistics, equity (number of devices, etc.), ratio of technicians to students or devices, mean-time-to-repair, who users are, how students and staff are using the system, staff efficiency		
How stakeholders make use of metrics		
Contrast between disaster recovery and business continuity		
Identification of "mission critical" resources		
Identification of levels of risk		
Development of disaster recovery plans built on best practices		
Development of business continuity plans built on best practices		
Managing stakeholder expectations for disaster recovery and business continuity		

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III. MANAGING TECHNOLOGY AND SUPPORT RESOURCES (30%)

B – Communication Systems Management (7%)		
Definition: Use technology to improve communication, directing and coordinating the use of e-mail, district websites, web tools, voice mail systems, and other forms of communication to facilitate decision-making and enhance effective communication with key stakeholders.		
Related Knowledge	**Competence**	**Gap**
Communication systems currently installed and in use, their interoperability with one another, and the scalability of each		
Identification of which stakeholders are accessing which systems and how		
Emerging access options, devices, and communication tools and the potential use of each in the education environment		
Collaboration with stakeholders in the field about what is effective and maintaining collaboration and connections		
Building relationships and communicating with experts for recommendations and information on standards, interoperability, and other districts' successful use of communication systems		
Gathering and responding to feedback from stakeholders on communication systems issues and needs		
Organizational policies, e.g., acceptable use policy for students and employees; student information; copyrights; ethical use of district resources and internet necessary to keep district, school, and teacher websites and other communication tools updated, compliant, and operational		
Collaboration with experts and stakeholders to establish standard framework for content and security to keep district, school, and teacher websites and other communication tools updated, compliant, and operational		
Organizations responsible for sharing information on emerging technologies that enhance communications		
Identifying internal support capabilities and available resources		
Research on support options, including uptime requirements and the relationship to support		
Compliance requirements, e.g., archiving, use and abuse, security, records retention		

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III. MANAGING TECHNOLOGY AND SUPPORT RESOURCES (30%)

C – Business Management (7%)

Definition: Manage the budget and serve as a strong business leader who guides purchasing decisions, assists in determining return on investment for all technology implementations, and fosters good relationships with vendors, potential funders, and other key groups.

Related Knowledge	Competence	Gap
Funding sources available to meet district and programmatic goals - grants, federal funds, state funds, matching funds, others		
Differences between recurring resources and one-time funding		
Differences between capital and operational expenses and funding		
Differences between leasing and purchasing and/or multi-year purchasing		
Differences between fixed and variable expenses		
Differences between unit costs and extended costs		
Differences between budgeted costs and actual costs		
Differences between TCO and VOI (soft and hard benefits) and tradeoffs		
Differences between line item budgeting and categorical budgeting		
Federal guidelines, e.g., Title I and e-Rate certifications and guidelines		
Salary administration		
Budget cycle and fiscal year		
Bid and RFP processes and preparation		
Bulk purchasing, warehousing, just-in-time purchasing, volume purchasing		
Aligning purchasing to strategic goals and needs		
Laws and monetary limits		
Quotes, contracts, and contract negotiations, including rules for negotiation		
Impact of inventory and insurance practices on purchasing decisions		
Asset management life cycle		
Financial reporting and forecasting		
Budget rollover or carryover		
Role of governing bodies in (re)appropriation of funds		
District and state policies and guidelines, e.g., monetary limits, lunch and other benefits, legal requirements, purchasing guidelines relevant to negotiating with and managing vendors and business partners		
Discounts		
Ethical purchasing		
Creating task forces to bring in business partners		
Collaborating with business partners and maintaining appropriate contacts with vendors		
Donations and in-kind contributions		
Vendor performance management, process for a non-performing vendor, and milestones for contract payments based on implementation		
Analyzing the scope of necessary professional development for staff using technologies, budgeting and implementing it, including analysis of in-house services against contracted services		

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III. MANAGING TECHNOLOGY AND SUPPORT RESOURCES (30%)

D – Data Management (7%)		
Definition: Manage the establishment and maintenance of systems and tools for gathering, mining, integrating, and reporting data in usable and meaningful ways to produce an information culture in which data management is critical to strategic planning.		
Related Knowledge	**Competence**	**Gap**
Basic understanding of database structures and concepts for gathering, warehousing, mining, integrating, and reporting data in meaningful ways		
Systems and tools for gathering, warehousing, mining, integrating, and reporting data in meaningful ways		
Effects of invalid data		
Authorization and security standards		
Data streams and systems		
Platforms and interoperability		
Data frameworks and multi-dimensional cubes		
Assessing scalability		
Evaluating and managing user needs		
Requirements gathering		
Data migrations		
Data loss management		
Monitoring health of data systems through reporting		
Differences between web-based computing and cloud computing		
Differences between hosted and self-hosting		
Availability of on-demand data for decision making to support all stakeholders		
Conducting a stakeholder needs assessment and/or gap analysis for decision making		
Automation of data capture		
Ensuring access to the right data for the right people		
Definition, description, and differentiation between SIF and SCORM and other industry standards		
Alignment of input to output necessary for responding to information reporting requirements related to government mandates		
Collection of data to produce necessary reports		
Data validation processes		
Identification of end-user data needs		

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