



**LINN-MAR**



**Community  
School District**

**LINN-MAR COMMUNITY SCHOOL DISTRICT  
TECHNOLOGY PLAN**

**2015-2018**



Inspire Learning. **Unlock Potential. Empower Achievement.**

---

# LINN-MAR COMMUNITY SCHOOLS

## TECHNOLOGY PLAN

2999 N 10<sup>th</sup> Street  
Marion, IA 52302  
(319) 447-3000

### BOARD OF EDUCATION

Tim Isenberg  
Barry Buchholz  
Rene Gadelha  
Todd Hutcheson  
Tina Patterson  
Ann Stark  
Elizabeth Wilson  
Angie Morrison  
J.T. Anderson

DISTRICT SUPERINTENDENT  
Quintin Shepherd, PhD

## TABLE OF CONTENTS

INTRODUCTION	4
DISTRICT PROFILE AND DEMOGRAPHICS	5
DISTRICT LEADERSHIP	6
VISION AND GOALS	8
DISTRICT VISION	
DISTRICT MISSION AND GOALS	
DISTRICT TECHNOLOGY MISSION	11
CURRICULUM	15
Standards	
Student Achievement	
Access to Technology	36
Management /	
Professional Learning	37
Learning Tools	
Parent Communication	37
INFRASTRUCTURE	39
Hardware	
Technical Support	
Software	
Inventory	42
Refresh Timeline	43
Technology Department Staffing	44
Building Security	46
Disaster Recovery	47

## Introduction

This introduction contains information on how this plan was written and the team that wrote it, as well as demographic information about the district.

### The Plan Development Process

This three-year technology plan is the product of multiple team input. The team worked together through a multi-phased, planning process, collaborating both face-to-face and in online environments. The team's process included the following:

Research on technology and learning in the Twenty-First Century, including:

- The impact of technology on learning
- The evolution of the skills that students need for college and career readiness
- Best practices from other schools that are using technology in impactful ways to improve student outcomes

Collection of data on the use of technology in Linn-Mar Community School District, including the types of work done by teachers and students, the availability of technology, their skills for using these tools and the factors in each school that support or hinder adoption and expansion.

- teachers from multiple grade levels and schools
- administrators
- community of Technology Advisory Council which includes parents, teachers and technology business professionals

The resulting three-year technology plan is a collaborative document that includes a vision for the future, as well as practical steps toward achieving that goal.



## District Profile and Demographics

Linn-Mar Community School District is located in Marion, Iowa. We have schools located in both Cedar Rapids and Robins.

### 10 Schools approximately serving 7100 students:

- 7 Elementary Schools
  - Bowman Woods
  - Echo Hill
  - Indian Creek
  - Linn Grove
  - Novak
  - Westfield
  - Wilkins
- 2 Middle Schools
  - Excelsior
  - Oak Ridge
- 1 High School
  - Linn-Mar High School
  - COMPASS
  - SUCCESS
- 1022 Employees
- 2:1 Student/Computer Ratio

### Demographics

- 96% Attendance Rate
- 94% Graduation Rate
- 76% High School Students took the ACT with a composite average of 24.5
- 2% of Students are ELL – English Language Learners
- 9% of Students have IEPs – Individual Education Plans
- 20% of Students are eligible for Free/Reduced Lunch
- 581 Advanced Placement Exams taken by Seniors

### Race/Ethnicity includes

- 84% White
- 6.4% Asian
- 6.3% Black
- 3.1% Hispanic

## Linn-Mar Leadership – Superintendent’s Cabinet

Name	Title
Dr. Quintin Shepherd	Superintendent
Shannon Bisgard	Associate Superintendent & Chief Academic Officer
J.T. Anderson	Chief Financial Officer
Leisa Brietfelder	Executive Director, Student Services
Karla Christian	Executive Director, Human Resources
Rick Ironside	Executive Director, Student Support Services
Jeri Ramos	Executive Director, Technology Services
Angie Morrison	Business Manager

## District Technology Committee

Travis	Axeen
Tina	Monroe
Tiffany	Miller
Sue	Kraus
Sandy	Norfolk
Sally	Reck
Rodger	Walsh
Melissa	Alexander
Marilee	Mcconnell
Marcia	Grassfield
Mandy	Lam
Kristin	Hicks
Katie	Mulholland
Katie	Merulla
Kari	Thomsen
Jeri	Ramos

Joy	Oldfield
John	Zimmerman
John	Christian
Jeff	Gustason
Jeff	Frost
Erica	Rausch
Eric	Wasson
Ed	Rogers
Dirk	Halupnik
Deb	Wegmann
Dana	Lampe
Dan	Ludwig
Cynde	Duncan
Chad	Schumacher
Carol	O'Donnell
Carla	Clanin

Amy	Kortemeyer
Jessica	Zimmerman
Karla	Koenen
CJ	Mcdonald
Ashley	Messerli
Todd	Walker
Beth	Frangella
Jeremy	Brown



## District Technology Advisory Council

Name	Affiliation
Jeri Ramos	LM Parent, TAC Facilitator, LM Exec Dir. Technology Svcs.
Tim Isenberg	LM Parent, LM School Board President
Tom Trujillo	LM Parent IT Director Broadcast Interactive Media
Bob Neilly	LM Parent Retired GWAEA Tech Consultant
Bob Read	LMParent, LM Middle School Curriculum Dir. LM Technology Committee Facilitator
Steve Maher	LMParent, Chief Technology Officer Syncbak
David Jensen	LM Community Member, Rockwell Collins Advanced Tech Ctr
Matt Johnson	LM Community Member, Sr. Windows Engineer IPSoft
Terri Streicher	LM Parent, LM Staff -Teacher Leadership Program
Craig Miller	LM Parent, Sr. Product Marketing Mgr. Advanced Technology Platforms Honeywell Scanning & Mobility
Dennis Behrens	LM Parent, Director Product Development Intermec by Honeywell
Linda Peyton	LM Parent, Rockwell Collins
CJ McDonald	LM Staff - Teacher Leadership Program

## Strategic Plan at Linn-Mar

### The Vision



### The Mission



### The Beliefs

1. Effective teaching and meaningful learning are our highest priorities.
2. Individuals are unique and learn at different rates in a variety of ways.
3. Quality instructional programming requires a rigorous curriculum, effective teaching, and ongoing assessment.
4. Our schools and facilities shall provide safe and engaging environments where civility is evident and individuality is respected.
5. Student, staff, parents and community members are partners and all have responsibility in the educational process.
6. Meeting the learning needs of every student is an essential factor in their achievement.
7. Staff make an essential difference in the lives of children, communities, and the larger context of the role that students will play as adults in the world.



## Parameters for Decision Making

No new program, course, service and/or project will be acted upon unless it

- Meets a clearly demonstrated mission-related need
- Addresses the impact on other programs/course/services and/or projects
- Survives a cost-benefit analysis
- Sets in place an evaluation procedure
- Provides for staff training
- Provides for adequate staffing
- Has a plan and timeline for execution
- Designates a central office administrator as responsible for oversight

## Student Learning Goals

As productive, responsible, lifelong learners it is essential that Linn-Mar students be:

- **Competent Users of Core Skills and Knowledge** – *Who are proficient in reading comprehension, computation, mathematical reasoning and technology skills and who can use cultural, artistic, historical, scientific, and technological applications to explain, assess, and anticipate change as well as construct knowledge, as needed.*
- **Thinkers** – *Who independently access information and resources; who create and critically investigate multiple options; who make decisions that effectively solve a variety of problems.*
- **Self-Directed Learners** – *Who are aware of their strengths, needs, interests, and wants; who can set achievable goals, monitor and evaluate their progress; who are resourceful in responding to change.*
- **Responsible Citizens** – *Who recognize the relationships between self and others; who accept responsibility for their personal actions; who actively participate in improving themselves, their family, and local and global communities.*
- **Effective Communicators** – *Who listen, speak, write, read, and respond clearly to a variety of audiences and purposes.*
- **Collaborative Workers** – *Who use their interpersonal skills to develop constructive relationships with diverse individuals and groups.*
- **Practitioners of Healthy Lifestyles** – *Who are aware of physical, social and emotional health and wellness and incorporate appropriate practices into their everyday life.*

## 5 Strategic Goal Areas for Linn-Mar School District

- Student Achievement
- Learning Environments
- Staff Development
- Community Engagement
- Resources

<b>Student Achievement:</b> All action on teaching and learning will focus on empowering achievement at the highest level for each student.	<b>Learning Environments:</b> All buildings and facilities will support the learning and teaching needed to unlock the potential in each student.	<b>Staff Development:</b> All staff will learn, perform and lead in such a manner as to inspire learning for students.	<b>Community Engagement:</b> The entire school community will engage the residents and stakeholders of Linn-Mar for the purpose of increasing opportunities for students.	<b>Resources:</b> All resources, real and potential, will be planned, and allocated in the spirit of providing an exciting and secure future for the students and District.
<ul style="list-style-type: none"> <li>▪ <b>PreK-12 Academic Achievement:</b> <ul style="list-style-type: none"> <li>- Implement the Iowa Core Curriculum and National Curriculum Standards</li> <li>- Develop and implement benchmarks for achievement</li> <li>- Develop and implement formative assessments for all curricular areas</li> <li>- Increase the number of students performing at or above grade level on standard measures</li> </ul> </li> <li>▪ <b>21<sup>st</sup> Century Capacities:</b> <ul style="list-style-type: none"> <li>- Focus on diversity and cultural competence</li> <li>- Create an e-learning environment by embedding the use of technology as a tool for learning and teaching</li> <li>- Make high quality writing a critical component of all learning</li> <li>- Incorporate internships for all HS students related to a career aspiration</li> <li>- Expand project-based and/or hands on experiences</li> <li>- Develop global partnerships to support learning</li> <li>- Empower students to be accountable for their learning through increased student engagement</li> </ul> </li> <li>▪ <b>Explore non-traditional World Language and cultural experiences for all students, including K-8 students, and initiate models based on research</b></li> <li>▪ <b>Expand high school course offerings in developing fields by engaging community resources</b> <ul style="list-style-type: none"> <li>- Add college courses to the curricula provided for HS students who have met the required competencies for graduation</li> <li>- Investigate and implement alternative methods for student demonstration of meeting course and graduation requirements (e.g. digital portfolios, senior projects)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Provide safe, flexible and efficient buildings and facilities</b> <ul style="list-style-type: none"> <li>- PRIDE and Olweus programs to build school climate</li> <li>- Recycling programs</li> </ul> </li> <li>▪ <b>Implement the Energy Efficiency Plan and Program</b> <ul style="list-style-type: none"> <li>- Focus on "green" for construction, renovation, and operations</li> <li>- Support staff and student involvement in being "green"</li> </ul> </li> <li>▪ <b>Follow the 10 Year Master Facilities Plan that connects our forecasted physical needs of our "customer" groups with changes and advancements in learning methods and styles</b> <ul style="list-style-type: none"> <li>- Design classrooms for the future</li> <li>- Complete facilities that meet student needs activity and athletic needs</li> <li>- Incorporate "green" concepts when the cost/benefit ratio is balanced for academics, athletics, activities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Focus on Diversity as integral in developing</b> <ul style="list-style-type: none"> <li>- global citizens,</li> <li>- innovation, and</li> <li>- a vibrant education and economic interdependence</li> </ul> </li> <li>▪ <b>Align Staff Development with District Goals</b> <ul style="list-style-type: none"> <li>- Provide staff with best practices examples from around the world</li> <li>- Create an environment that encourages innovation, quality and effective productivity</li> <li>- Provide on-site staff development and courses using L-M expertise</li> <li>- Support Technology-Driven Staff Development on instructional strategies utilizing current technologies such as interactive learning seminars</li> </ul> </li> <li>▪ <b>Develop leadership capacity</b> <ul style="list-style-type: none"> <li>- Implement instructional and leadership coaching and mentoring</li> <li>- Olweus training for teachers and staff</li> </ul> </li> <li>▪ <b>Wellness initiatives for all staff to include</b> <ul style="list-style-type: none"> <li>- wellness assessments</li> <li>- preventative options</li> <li>- wellness classes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Engage our diverse constituent groups through advisories, forums, e-communication to listen and seek input and feedback</b> <ul style="list-style-type: none"> <li>- Gather and present information from all stakeholder groups on how to create high achievers in student learning focused on all students.</li> <li>- Provide engagement opportunities for empty nesters and senior citizens</li> </ul> </li> <li>▪ <b>Provide a Community Web Portal as a "learning resource" to the community about aspects of the District</b></li> <li>▪ <b>Implement a yearly community research process (quantitative and focus groups) that measure the perceptions toward L-M schools</b> <ul style="list-style-type: none"> <li>- Utilize other methods in addition to focus groups</li> </ul> </li> <li>▪ <b>Create system of overlapping target groups and match communication and interaction to needs of group</b></li> <li>▪ <b>Welcome new families through contact and support</b></li> <li>▪ <b>Involve parents:</b> <ul style="list-style-type: none"> <li>- Communication systems for all students regarding learning and achievement including parental access</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Maintain appropriate financial solvency ratio through a strong and realistic budgetary process</b></li> <li>▪ <b>Continue to focus on financial planning with a 5 year focus</b> <ul style="list-style-type: none"> <li>- Formulate a set of "what if" scenarios with a 5 year timeline/horizon to allow us to perform sensitivity looks and develop contingency plans in advance of both bad and good budgetary news.</li> <li>- Address property assessment challenges, TIF districts, and other influences on levies</li> </ul> </li> <li>▪ <b>Seek grants</b> <ul style="list-style-type: none"> <li>- Tap into community expertise</li> <li>- Work with the Foundation, GWAEA</li> </ul> </li> <li>▪ <b>Explore and act on ways to reallocate current resources</b> <ul style="list-style-type: none"> <li>- Open Source software</li> <li>- Outsourcing</li> </ul> </li> <li>▪ <b>Explore and strongly encourage sharing agreements with other school districts</b></li> <li>▪ <b>Strengthen the integrity of our financial processes</b> <ul style="list-style-type: none"> <li>- Review our audit and control procedures and apply learnings</li> <li>- Streamline budget and purchasing processes</li> </ul> </li> <li>▪ <b>Develop business partnerships with schools (2-3 per school)</b></li> <li>▪ <b>Streamline HR Services for benefits, leaves, employment support</b></li> </ul>

Strategic Plan located:

<http://www.linnmar.k12.ia.us/files/5FB34D998B174A7D86D3E6E0E010A5E9/2010-15strategicplan3pg.pdf>



Inspire Learning. **Unlock Potential. Empower Achievement.**

## **Technology Services Mission Statement:**

*The mission of the Linn-Mar Technology Services Team is to provide the most efficient technology solutions, based on educational and industry standards, to foster the acquisition of 21<sup>st</sup> Century skills for students and staff. We will focus on being excellent service providers to our students, teachers and district by creating a continuous learning environment, utilizing technology best practices, proper life-cycle planning, and delivering seamless integration of technology.*

### **DISTRICT TECHNOLOGY VISION AND GOALS**

The innovative, thoughtful use of technology is critically important to achieving the District's goals for teaching and learning. The invention of the Internet and the subsequent expansion of a global "always on" network of people and information, has fundamentally changed the way people live, work and learn in the Twenty-First Century. The Linn-Mar plan for using technology to prepare students for their future must begin by understanding the scope of these global changes and the skills students will need to thrive

### **THE HYPER-CONNECTED WORLD**

*"The end of the cold war and the rise of the Internet released the pent up aspirations of 2 billion people who look like us."* Thomas Friedman, NY Times columnist and Pulitzer Prize winning author

A comprehensive vision for technology in our schools must start with recognition of how technologies are reshaping the lives of our students to be very different from our own. As billions of people from all parts of the globe begin to communicate, collaborate and connect in fresh and creative ways, their use of technology is challenging the traditional structures of business, journalism, politics and, ultimately, education. These changes are creating new opportunities while simultaneously creating new challenges, as well.

Life and work across a myriad of countries and industries is changing at an astonishing pace. We're learning what happens in journalism when everyone has their own printing press. We're finding out what happens to politics when constituents can have their own voices heard. We're seeing what happens to businesses when consumers can easily converse widely about their products. We are beginning to see the ramifications and repercussions of a community, local and global that is "always on". The results are a world in which students need new skills to compete in the global economy, as well as a world where those skills are enhanced by the judicious and thoughtful application of technology.

### **THE NEW NORMAL FOR WORK AND LIFE IN THE TWENTY-FIRST CENTURY**

*"If you think you're finished, you're finished. In today's job market, everyone needs to be a work in progress."* Reid Hoffman, co-founder of LinkedIn

In this new economic reality, traditional norms of American life are shifting and changing. The days of working for a single company for an entire lifetime are long past, and even a decade in the same job is now a rarity.

The average U.S. worker in 2013 will stay at each of his/her jobs for 4.4 years, according to the most recent available data from the Bureau of Labor Statistics, and that figure is dropping each year. In fact the Millennial generation (born between 1977-1997), expects to stay at their jobs for even less time than that – only three years, according to the Future Workplace “Multiple Generations @ Work” survey. This means the average worker will potentially have 15 to 20 jobs over the course of his/her lifetime.

Increasingly, the reason for this job mobility is because employers are only hiring full-time employees when absolutely necessary. More and more companies are hiring part-time workers, temporary contractors or even full-time, independent workers who are not located at company facilities.

In 2014, more than 53 million people in the U.S. were freelancers or consultants. This statistic is quoted from The Freelancers Broadcasting Network. Gene Zaino, the president and CEO of MBO Partners, which connects independent workers with employers, predicts that independent workers will become a majority by 2020. This would mean 65 to 70 million independent workers in the next decade, comprising more than half of all U.S. employees. All of these employees will compete against each other, head-to-head in a globally connected world. To get the job you wanted 15 years ago, you needed to be better than the other 100 people that applied. To get that same job today, you may need to compete against thousands, for access to that potential for work.

In this hyper-competitive, global workplace, our graduates must not only have a powerful set of skills, but they must also be able to advertise those skills in effective ways and augment them every few years. Graduates will have to define their “brand” – the unique skill set and experiences they bring to the market – and they will need to provide evidence they are improving those talents each year. This is not the requirement for just those who are college-bound, but for many of the blue collar jobs that have formed the backbone of American society. It’s increasingly becoming a world that does not care what our graduates ‘know,’ it cares what they ‘can do’ with what they know.

## **TWENTY-FIRST CENTURY SKILLS**

*“The new education must teach the individual how to classify and reclassify information, how to evaluate its veracity, how to change categories when necessary, how to move from the concrete to the abstract and back, how to look at problems from a new direction — [in short], how to teach himself.”* Psychologist Herbert Gerjuoy

These frequent job changes, as well as the rapid pace of technological change in daily life, require today’s graduates to continuously learn new skills. The list of these skills includes many we’ve emphasized in schools for years – such as reading, writing, science, math and

language – but it also includes those that will build our students’ capacity to learn new skills in the future, such as creative thought, collaboration, problem-solving, entrepreneurship and critical thinking.

These “new skills,” which are sometimes referred to as “Twenty-First Century Skills” in education circles, are actually not new or just a part of the Twenty-First Century. But there is a new emphasis on the necessity for them in the modern economy and increasingly they are required to achieve the kind of financial success previous generations of Americans achieved without having them. Equally important to understand is that this is not a choice between whether you learn one set of skills or the other. Today’s graduates simply have to do both to compete in the global workplace.

Essentially, the most important skill in the Twenty First Century is learning ‘*how to learn*.’ The National Council of Teachers of English (NCTE) underscored this fact when they released their new definitions of literacy in 2009. The Council stated, “the 21st Century demands that a literate person possess a wide range of abilities and competencies... These literacies are multiple, dynamic and malleable. As in the past, they are inextricably linked with particular histories, life possibilities and social trajectories of individuals and groups. Active, successful participants in this 21st Century global society must be able to:

- Develop proficiency and fluency with the tools of technology;
- Build intentional cross-cultural connections and relationships with others so to pose and solve problems collaboratively and strengthen independent thought;
- Design and share information for global communities to meet a variety of purposes;
- Manage, analyze and synthesize multiple streams of simultaneous information;
- Create, critique, analyze and evaluate multimedia texts;
- Attend to the ethical responsibilities required by these complex environments.”

Seen through a similar lens, Tony Wagner, a Harvard University professor who studies college and career readiness, has listed a similar list of skills that students need in his book, *The Global Achievement Gap: Why Even Our Best Schools Don't Teach the New Survival Skills Our Children Need--And What We Can Do About It*. Wagner’s “Seven Survival Skills” have echoes of the NCTE:

- Critical thinking and problem-solving
- Collaboration across networks and leading by influence
- Agility and adaptability
- Initiative and entrepreneurialism
- Effective oral and written communication
- Accessing and analyzing information
- Curiosity and imagination

Both NCTE and Wagner – as well as other sources such as the National Educational Technology Plan for the United States of America, the Partnership for Twenty-First Century Skills – emphasize the importance of our K-12 schools evolving to deliver these essential skills to students. There is a universal understanding that transcends political debates that this will require changes across many



of the most traditional forms of teaching and learning still in use today, and it will emphasize the effective use of technology to create these new learning environments.

## **IMPLICATIONS FOR OUR SCHOOLS**

*"You need to graduate from high school not 'college-ready,' but 'innovation-ready.'" Tony Wagner, Harvard Professor and Author of The Global Achievement Gap*

Educators are in the midst of redesigning curriculum, instruction and assessment in order to create school experiences that will produce graduates with the skills needed to thrive in the modern economy. At the heart of this transformation is the realization that educators no longer have a monopoly on learning and the coming decade will usher in new roles for teachers and students in our classrooms.

For the first time in history, every student has access to billions of pieces of customized content, millions of potential teachers and hundreds of forms of personalized assessment. Furthermore, classroom walls no longer limit the reach of students' work. Nor is learning restricted to small blocks of time over weeks or months. Students who are connected can learn anytime, anywhere, with anyone, and, as discussed above; their ability and need to drive their learning has increased exponentially.

These changes do not mean that we should abandon proven best practices of schooling that support teacher growth and student achievement, or that meaningful face to face relationships between teachers and students are any less important. We will always need talented, caring teachers who understand students as individuals and who help them scaffold learning to improve their understanding and ensure their success. Likewise, it raises the importance of the educational system as a whole to provide a larger, more diverse set of skills, more effectively and more quickly than it has in the past. But it does mean that many of our long-held beliefs about schooling are being challenged by new technologies that allow learners to create networks of trusted mentors in meaningful communities of practice, to personalize curriculum and instruction, and to share widely the fruits of their efforts.

## Curriculum

We support and embrace the ISTE (International Society for Technology in Education) Standards for Students, Teachers and Administrators. This was formerly referred to as NETS or National Education Technology Standards. You will see how the Iowa Core standards map to the ISTE Standards in the following pages. For more information see [www.iste.org/nets](http://www.iste.org/nets)

## Essential Conditions:

Necessary conditions to effectively leverage technology for learning:

### Shared Vision

Proactive leadership in developing a shared vision for educational technology among all education stakeholders, including teachers and support staff, school and district administrators, teacher educators, students, parents, and the community

### Empowered Leaders

Stakeholders at every level empowered to be leaders in effecting change

### Implementation Planning

A systemic plan aligned with a shared vision for school effectiveness and student learning through the infusion of information and communication technology (ICT) and digital learning resources

### Consistent and Adequate Funding

Ongoing funding to support technology infrastructure, personnel, digital resources, and staff development

### Equitable Access

Robust and reliable access to current and emerging technologies and digital resources, with connectivity for all students, teachers, staff, and school leaders

### Skilled Personnel

Educators, support staff, and other leaders skilled in the selection and effective use of appropriate ICT resources

### Ongoing Professional Learning

Technology-related professional learning plans and opportunities with dedicated time to practice and share ideas

### Technical Support

Consistent and reliable assistance for maintaining, renewing, and using ICT and digital learning resources

### Curriculum Framework

Content standards and related digital curriculum resources that are aligned with and support digital age learning and work

### Student-Centered Learning

Planning, teaching, and assessment centered around the needs and abilities of students

## Assessment and Evaluation

Continuous assessment of teaching, learning, and leadership, and evaluation of the use of ICT and digital resources

## Engaged Communities

Partnerships and collaboration within communities to support and fund the use of ICT and digital learning resources

## Support Policies

Policies, financial plans, accountability measures, and incentive structures to support the use of ICT and other digital resources for learning and in district school operations

## Supportive External Context

Policies and initiatives at the national, regional, and local levels to support schools and teacher preparation programs in the effective implementation of technology for achieving curriculum and learning technology (ICT) standards

## ISTE Standards Students (<http://www.iste.org/standards>):

### 1. Creativity and innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- a. Apply existing knowledge to generate new ideas, products, or processes
- b. Create original works as a means of personal or group expression
- c. Use models and simulations to explore complex systems and issues
- d. Identify trends and forecast possibilities

### 2. Communication and collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

- a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
- b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- c. Develop cultural understanding and global awareness by engaging with learners of other cultures
- d. Contribute to project teams to produce original works or solve problems

### 3. Research and information fluency

Students apply digital tools to gather, evaluate, and use information.

- a. Plan strategies to guide inquiry
- b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
- d. Process data and report results

### 4. Critical thinking, problem solving, and decision making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- a. Identify and define authentic problems and significant questions for investigation
- b. Plan and manage activities to develop a solution or complete a project
- c. Collect and analyze data to identify solutions and/or make informed decisions
- d. Use multiple processes and diverse perspective to explore alternative solutions



## 5. Digital citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- a. Advocate and practice safe, legal, and responsible use of information and technology
- b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
- c. Demonstrate personal responsibility for lifelong learning
- d. Exhibit leadership for digital citizenship

## 6. Technology operations and concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

- a. Understand and use technology systems
- b. Select and use applications effectively and productively
- c. Troubleshoot systems and applications
- d. Transfer current knowledge to learning of new technologies

## ISTE Standards Teachers (<http://www.iste.org/standards>):

Effective teachers model and apply the ISTE Standards for Students (Standards•S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators.

### 1. Facilitate and inspire student learning and creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

- Promote, support, and model creative and innovative thinking and inventiveness
- Engage students in exploring real-world issues and solving authentic problems using digital tools and resources
- Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes
- Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

### 2. Design and develop digital age learning experiences and assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the Standards•S.

- Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
- Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
- Customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources
- Provide students with multiple and varied formative and summative assessments aligned with content and technology standards, and use resulting data to inform learning and teaching

### 3. Model digital age work and learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.

- Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations
- Collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation
- Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital age media and formats
- Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

### 4. Promote and model digital citizenship and responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

- Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources
- Address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources
- Promote and model digital etiquette and responsible social interactions related to the use of technology and information
- Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital age communication and collaboration tools

## 5. Engage in professional growth and leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

- a. Participate in local and global learning communities to explore creative applications of technology to improve student learning
- b. Exhibit 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
- c. Evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning
- d. Contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

## ISTE Standards Administrators (<http://www.iste.org/standards>):

### 1. Visionary leadership

Educational Administrators inspire and lead development and implementation of a shared vision for comprehensive integration of technology to promote excellence and support transformation throughout the organization.

- a. Inspire and facilitate among all stakeholders a shared vision of purposeful change that maximizes use of digital-age resources to meet and exceed learning goals, support effective instructional practice, and maximize performance of district and school leaders
- b. Engage in an ongoing process to develop, implement, and communicate technology-infused strategic plans aligned with a shared vision
- c. Advocate on local, state and national levels for policies, programs, and funding to support implementation of a technology-infused vision and strategic plan

### 2. Digital age learning culture

Educational Administrators create, promote, and sustain a dynamic, digital-age learning culture that provides a rigorous, relevant, and engaging education for all students.

- a. Ensure instructional innovation focused on continuous improvement of digital-age learning
- b. Model and promote the frequent and effective use of technology for learning
- c. Provide learner-centered environments equipped with technology and learning resources to meet the individual, diverse needs of all learners
- d. Ensure effective practice in the study of technology and its infusion across the curriculum
- e. Promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital age collaboration

### 3. Excellence in professional practice

Educational Administrators promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.

- a. Allocate time, resources, and access to ensure ongoing professional growth in technology fluency and integration
- b. Facilitate and participate in learning communities that stimulate, nurture and support administrators, faculty, and staff in the study and use of technology
- c. Promote and model effective communication and collaboration among stakeholders using digital age tools
- d. Stay abreast of educational research and emerging trends regarding effective use of technology and encourage evaluation of new technologies for their potential to improve student learning

### 4. Systemic improvement

Educational Administrators provide digital age leadership and management to continuously improve the organization through the effective use of information and technology resources.

- a. Lead purposeful change to maximize the achievement of learning goals through the appropriate use of technology and media-rich resources
- b. Collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning
- c. Recruit and retain highly competent personnel who use technology creatively and proficiently to advance academic and operational goals
- d. Establish and leverage strategic partnerships to support systemic improvement
- e. Establish and maintain a robust infrastructure for technology including integrated, interoperable technology systems to support management, operations, teaching, and learning

## 5. Digital citizenship

Educational Administrators model and facilitate understanding of social, ethical and legal issues and responsibilities related to an evolving digital culture.

- a. Ensure equitable access to appropriate digital tools and resources to meet the needs of all learners
- b. Promote, model and establish policies for safe, legal, and ethical use of digital information and technology
- c. Promote and model responsible social interactions related to the use of technology and information
- d. Model and facilitate the development of a shared cultural understanding and involvement in global issues through the use of contemporary communication and collaboration tools

The following graphs depict how our Linn-Mar Standards line up with the Iowa Core and ISTE Standards for Students:

### Kindergarten

Iowa Core Standards	ISTE Standards	Kindergarten Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students state reasons why not to use first and last names when online
21.9-12.TL.5	5	Students ask for help at home and at school
21.9-12.TL.5	5	Students use technology to explore personal interests
<b><u>Digital Literacy</u></b>		
21.9-12.TL.6	6	Students identify the URL
21.9-12.TL.6	6	Students log into computer and/or website with assistance
21.9-12.TL.6	6	Students use mouse/trackpad
21.9-12.TL.6	6	Students control the cursor on screen by moving the mouse
21.9-12.TL.6	6	Students click and drag and move objects on a screen
21.9-12.TL.6	6	Students single click and double click options
21.9-12.TL.6	6	Students right and left click
21.9-12.TL.6	6	Students use a keyboard
21.9-12.TL.6	6	Students use the keyboard to copy and/or input text (simple text)
21.9-12.TL.6	6	Students identify location of keyboard letters
21.9-12.TL.6	6	Students identify the backspace, number, space, arrows, and enter keys
21.9-12.TL.6	6	Students will access hyperlinks
21.9-12.TL.6	6	Students recognize that different icons represent different programs/applications using teacher selected games and activities
21.9-12.TL.6	6	Students launch and quit programs/applications
21.9-12.TL.6	6	Students work independently with technology
21.9-12.TL.6	6	Students discuss appropriate ways to handle hardware and equipment

## First Grade

Iowa Core Standards	ISTE Standards	1st Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students understand why there are logins and passwords on some pieces of hardware
21.9-12.TL.5	5	Students discuss the difference between personal and private information
21.9-12.TL.5	5	Students demonstrate safe use of technology
21.9-12.TL.5	5	Students will ask peers for help
21.9-12.TL.5	5	Students identify examples of concerns that should go to an adult right away.
21.9-12.TL.5	5	Students use technology to explore personal learning
21.9-12.TL.5	5	Students begin to demonstrate to others how to use technology tools in ways that assist others in learning
<b><u>Digital Literacy</u></b>		
21.9-12.TL.6	6	Students use basic output devices (headphones, speakers, etc.)
21.9-12.TL.6	6	Students recognize differences between devices in simple functions (closing windows, scroll bar, touch)
21.9-12.TL.6	6	Students utilize word processing application for simple text
21.9-12.TL.6	6	Students save work with assistance to specified location before closing applications
21.9-12.TL.6	6	Students explore a program/application they have not used before
21.9-12.TL.6	6	Students will access hyperlinks
		Students discuss appropriate ways to handle hardware and equipment

## Second Grade

Iowa Core Standards	ISTE Standards	2nd Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students discuss the difference between personal and private information
21.9-12.TL.5	5	Students identify examples of concerns that should go to an adult right away
21.9-12.TL.5	5	Students demonstrate safe use of technology
21.9-12.TL.5	5	Students begin to discuss why stealing information and things others have created is the same as stealing tangible items
21.9-12.TL.5	5	Students use technology to explore personal learning
21.9-12.TL.5	5	Students begin to demonstrate to others how to use technology tools in ways that assist others in learning
<b><u>Digital Literacy</u></b>		
21.9-12.TL.6	6	Students recognize when an application or device is not working properly and relaunch to troubleshoot
21.9-12.TL.6	6	Students save work to specified location before closing applications
21.9-12.TL.6	6	Students begin to differentiate between hardware, software, and web-based applications
21.9-12.TL.6	6	Students utilize presentation applications and web tools to share information
21.9-12.TL.6	6	Utilizes word processing application to share original writing
21.9-12.TL.3	3	Students will download from teacher selected online sites
21.9-12.TL.6	6	Students recognize applications on school devices
21.9-12.TL.6	6	Students use proper finger placement of homerow keys
21.9-12.TL.6	6	Students use special keys on keyboard
21.9-12.TL.6	6	Students use the shift key for capitalization
21.9-12.TL.6	6	Students will access hyperlinks
21.9-12.TL.7	6	Students discuss appropriate ways to handle hardware and equipment



## Third Grade

Iowa Core Standards	ISTE Standards	3th Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students can begin to understand copyright
21.9-12.TL.5	5	Students discuss and understand the types of information that can be shared online
21.9-12.TL.5	5	Students understand the importance of protecting personal information online
21.9-12.TL.5	5	Students use appropriate posture while working at a computer to avoid injury
21.9-12.TL.5	5	Students use technology to explore personal learning
21.9-12.TL.5	5	Students demonstrate to others how to use technology tools in ways that assist others in learning
<b><u>Digital Literacy</u></b>		
21.9-12.TL.3	3	Students use online resources to gather information
21.9-12.TL.6	6	Students use proper finger placement of home-row keys
21.9-12.TL.6	6	Students use special keys on keyboard
21.9-12.TL.6	6	Students recognize menu bars for basic applications (word processing, browser windows)
21.9-12.TL.6	6	Students use word processing skills to manipulate and change text
21.9-12.TL.6	6	Students use technology tools to capture images (video and photos)
21.9-12.TL.4; 21.9-12.TL.6	4, 6	Students create a multimedia presentation
21.9-12.TL.6	6	Students will begin to save and transfer files to and from a variety of places
21.9-12.TL.6	6	Students will access hyperlinks
21.9-12.TL.6	6	Students discuss appropriate ways to handle hardware and equipment

## Fourth Grade

Iowa Core Standards	ISTE Standards	4th Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students understand copyright and give credit to owner's visual media
21.9-12.TL.5	5	Students protect others peoples' personal information when publishing online (images, video, audio, text, etc.)
21.9-12.TL.5	5	Students understand the importance of protecting personal information online
21.9-12.TL.5	5	Students demonstrate to others how to use technology tools in ways that assist others in learning
		Students use technology to explore personal learning
<b><u>Digital Literacy</u></b>		
21.9-12.TL.1	1	Students identify positive value of technology
21.9-12.TL.3	3	Students use online resources to gather information
21.9-12.TL.6	6	Students use visual space on desktop to display two programs at once
21.9-12.TL.4; 21.9-12.TL.6	4, 6	Students create a multimedia presentation by choosing from applications and programs
21.9-12.TL.6	6	Students use a keyboard accurately and confidently using proper keyboarding techniques
21.9-12.TL.6	6	Students saves work to specified location before closing applications
21.9-12.TL.6	6	Students use word processing skills to manipulate and change text
21.9-12.TL.6	6	Students use technology tools to capture images (video and photos)
21.9-12.TL.4; 21.9-12.TL.6	4, 6	Students create a multimedia presentation
21.9-12.TL.6	6	Students will begin to save and transfer files to and from a variety of places
21.9-12.TL.6	6	Students will access hyperlinks
21.9-12.TL.6	6	Students identify different types of domain names (.com, .org, .gov, etc.)

## Fifth Grade

Iowa Core Standards	ISTE Standards	5th Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students understand benefits and safety concerns of contributing information online
21.9-12.TL.5	5	Students understand copyright/fair use laws and recognize digital resources that are copyright free
21.9-12.TL.5	5	Students understand why and how to credit author and publication for direct quotations
21.9-12.TL.5	5	Students use technology to explore and pursue personal learning
21.9-12.TL.5	5	Students demonstrate to others how to use technology tools in ways that assist others in learning
21.9-12.TL.5	5	Students practice appropriate use of email and other forms of online communication
21.9-12.TL.5	5	Students can describe how communication changes online versus face-to-face
21.9-12.TL.5	5	Students use proper digital etiquette
<b><u>Digital Literacy</u></b>		
21.9-12.TL.1	1	Students use technology to create a digital story
21.9-12.TL.2	2	Students can access and compose emails
21.9-12.TL.3	3	Student use online resources to gather information in a manner consistent with copyright laws
21.9-12.TL.4	4	Students can choose an appropriate technology tool to use to accomplish a particular task
21.9-12.TL.4	4	Students explore and use different tools to help with personal learning styles
21.9-12.TL.4; 21.9-12.TL.6	4,6	Students create a multimedia presentation
21.9-12.TL.6	6	Students successfully access hyperlinks
21.9-12.TL.6	6	Students apply advanced formatting techniques in Office documents
21.9-12.TL.6	6	Students can key letter and numbers at a productive speed
21.9-12.TL.6	6	Students save work to specified location before closing applications
21.9-12.TL.6	6	Students use technology tools to capture images (video and photos)

## Sixth Grade

Iowa Core Standards	ISTE Standards	6th Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students recognize copyright law and plagiarism with assistance
21.9-12.TL.5	5	Students understand benefits and safety concerns of contributing information online
21.9-12.TL.5	5	Students understand appropriate use of emails and online communication
21.9-12.TL.5	5	Students understand benefits and risks associated with an email account
21.9-12.TL.5	5	Students can recognize cyberbullying and respond appropriately.
21.9-12.TL.5	5	Students understand and practice appropriate digital etiquette
<b><u>Digital Literacy</u></b>		
21.9-12.TL.2	2	Students can begin to create and manage a website with guidance
21.9-12.TL.3	3	Students can differentiate between reliable and unreliable sources
21.9-12.TL.1; 21.9-12.TL.6	1,6	Students can collect and manipulate images according to copyright and fair use laws
21.9-12.TL.2; 21.9-12.TL.6	2,6	Students can access and compose emails
21.9-12.TL.2; 21.9-12.TL.6	2,6	Students can understand access capabilities of shared documents (can view, can edit, owner, ect.)
21.9-12.TL.6	6	Students correctly use citation tools to cite sources in a legally appropriate manner with assistance
21.9-12.TL.6	6	Students continue to increase proficiency in keyboarding
21.9-12.TL.8	6	Students can choose a printer when it is appropriate to print

## Seventh Grade

Iowa Core Standards	ISTE Standards	7th Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students recognize copyright law and plagiarism
21.9-12.TL.5	5	Students understand benefits and safety concerns of contributing information online
21.9-12.TL.5	5	Students understand appropriate use of emails and online communication
21.9-12.TL.5	5	Students understand benefits and risks associated with an email account
21.9-12.TL.5	5	Students understand and practice appropriate digital etiquette
21.9-12.TL.5	5	Students can recognize cyberbullying and respond appropriately
<b><u>Digital Literacy</u></b>		
21.9-12.TL.2	2	Students can create and manage a website
21.9-12.TL.2; 21.9-12.TL.3; 21.9-12.TL.6	2,3,6	Students can appropriately select and use more advanced features in presentation software to communicate the educationally desired outcome.
21.9-12.TL.4; 21.9-12.TL.6	4,6	Students can select and use the most appropriate spreadsheet functions, formulas, formatting and creation of charts for basic tasks
21.9-12.TL.1; 21.9-12.TL.2; 21.9-12.TL.3; 21.9-12.TL.6	1,2,3,6	Students can capture, create, edit and share video to present information or ideas
21.9-12.TL.3; 21.9-12.TL.4; 21.9-12.TL.6	3,4,6	Students can employ the most appropriate internet search strategies to gather information and images for a wide variety of aims
21.9-12.TL.5	6	Students correctly use citation tools to cite sources in a legally appropriate manner
21.9-12.TL.6	6	Students continue to increase proficiency in keyboarding
21.9-12.TL.7	7	Students create bookmarks, links, and favorites to create easy access to often visited locations on the internet

## Eighth Grade

Iowa Core Standards	ISTE Standards	8th Grade Linn-Mar Standards
<b><u>Digital Citizenship</u></b>		
21.9-12.TL.5	5	Students recognize copyright law and plagiarism
21.9-12.TL.5	5	Students understand benefits and safety concerns of contributing information online
21.9-12.TL.5	5	Students understand appropriate use of emails and online communication
21.9-12.TL.5	5	Students understand benefits and risks associated with an email account
21.9-12.TL.5	5	Students understand and practice appropriate digital etiquette
<b><u>Digital Literacy</u></b>		
21.9-12.TL.2	2	Students can create and manage a website
21.9-12.TL.2; 21.9-12.TL.3; 21.9-12.TL.6	2,3,6	Students can appropriately select and use more advanced features in presentation software to communicate information or ideas
21.9-12.TL.4; 21.9-12.TL.6	4,6	Students can select and use the most appropriate spreadsheet functions, formulas, formatting and creation of charts for basic tasks
21.9-12.TL.1; 21.9-12.TL.6	1,6	Students can capture, create, edit and share video to present information or ideas
21.9-12.TL.1; 21.9-12.TL.2; 21.9-12.TL.3; 21.9-12.TL.4; 21.9-12.TL.6	1,2,3,4,6	Students can use multiple applications including integrated media to produce a product for an intended audience
21.9-12.TL.6	6	Students correctly use citation tools to cite sources in a legally appropriate manner
21.9-12.TL.6	6	Students continue to increase proficiency in keyboarding

## Ninth – Twelfth (9-12) Grades

Iowa Core Standards	ISTE Standards	High School Linn-Mar Standards
<b>Digital Citizenship</b>		
21.9-12.TL.5	5	Students understand and practice safe use of technology in regards to personal information
21.9-12.TL.5	5	Students learn safe digital commerce practices
21.9-12.TL.5	5	Students recognize copyright law and plagiarism
21.9-12.TL.5	5	Students understand benefits and safety concerns of contributing information online
21.9-12.TL.5	5	Students understand appropriate use of emails and online communication
21.9-12.TL.5	5	Students understand benefits and risks associated with an email account
21.9-12.TL.5	5	Students understand and practice appropriate digital etiquette
21.9-12.TL.5	5	Students understand safe use of technology in terms of ergonomics and addiction
21.9-12.TL.5	5	Students respect the safety features of school technology and can clearly identify the needs for such safety features

## Ninth – Twelfth (9-12) Grades (cont)

Iowa Core Standards	ISTE Standards	High School Linn-Mar Standards
<b>Digital Literacy</b>		
21.9-12.TL.6	6	Students continue to increase proficiency in keyboarding
21.9-12.TL.6	6	Students can demonstrate basic technology troubleshooting solutions
21.9-12.TL.2	2	Students understand the different collaboration functions of current technology and use them with mastery
21.9-12.TL.2	2	Students use online communication tools to communicate with a variety of individuals. These individuals could be located locally, regionally, nationally and internationally
21.9-12.TL.2	2	Students can create and manage a website or a blog with mastery
21.9-12.TL.3	3	Students will access information through efficient search strategies using electronic media
21.9-12.TL.3	3	Students understand what is considered reliable sources and use them appropriately
21.9-12.TL.6	6	Students correctly use citation tools
21.9-12.TL.1	1	Students can use special purpose outlining tools and spreadsheets to organize information
21.9-12.TL.4; 21.9-12.TL.6	4,6	Students can use graphing tools to visualize mathematical concepts with assistance
21.9-12.TL.4	4	Students analyze data and formulate new knowledge using spreadsheets
21.9-12.TL.1; 21.9-12.TL.6	1,6	Students can capture, create, edit and share video to present information or ideas
21.9-12.TL.2; 21.9-12.TL.3; 21.9-12.TL.6	2,3,6	Students can appropriately select and use advanced features in presentation software to communicate information or ideas
21.9-12.TL.1; 21.9-12.TL.2; 21.9-12.TL.3; 21.9-12.TL.4; 21.9-12.TL.6	1,2,3,4,6	Students use multiple applications including integrated media to produce a product for an intended audience
21.9-12.TL.4	4	Students online help and other support to learn about features of hardware and software, as well as to assess and resolve problems.
21.9-12.TL.6	6	Student will demonstrate good practice in file management and password security



## Teacher Technology Competencies

ISTE Std	LM Std	Description	Examples
1	1	Teachers model use of technology to exhibit content in a creative way	Advanced features of presentation tools, Video and Images
1	2	Teachers will effectively communicate their classroom expectations for student use of technology and devices. Teachers must also hold themselves to that standard	Personal learning Device and district technology use policies with clear expectations and consequences
1	3	Teachers can model basic technology troubleshooting solutions	Restarting browser, restarting computer, ALT+CTRL+DEL
1	4	Teachers require student use of technology to produce evidence of learning and facilitate student creativity	Digital portfolios, Projects, Formative and summative assessments
2	5	Teachers are proficient in current technology tools and use them to deliver content knowledge to students	Google Docs, Office Products, YouTube or other web based presentation tools
2	6	Teachers use current technology and design appropriate lessons to help students discover content knowledge	Web-quests, websites, apps, interactive whiteboards, document cameras, videos or other digital resources
2	7	Teachers use current technology to create and/or facilitate formative assessments in a way that efficiently communicates current student mastery of content	Digital exit slips, established LMS (learning management systems), Online quiz games
2	8	Teachers use current technology to differentiate lessons in an individualized and meaningful way	Readability scores, Alternative assignments and Sites
3	9	Teachers will communicate with the district, students and parents using district technology	District Assessment tools, websites, blogs, Learning Management System, e-Portfolios, PowerSchool, email
3	10	Teachers provide feedback to students and parents using communication technology	Digital comments on docs, Learning Management Systems, Sites, Email
3	11	Teachers understand and model research strategies using technology widely available to them and students while following legal parameters	Boolean strategies, Citation websites, Source evaluation
3	12	Teachers understand and use district technology to communicate to colleagues	Google Docs, Office Products, Email
4	13	Teachers understand and model for students legal and ethical behavior in regards to copyright, fair use and digital etiquette	Citation, Cell phone usage in the classroom, Social media, copyright/fair use
5	14	Teachers take opportunities to advance their technological skill through continuing education or other training opportunities	Formal educational opportunities, TQSA, Collaboration with colleagues, Collaboration with TICs
5	15	Teachers create their own Personal Learning Networks to learn and collaborate with other educators	Websites, Blogs, Twitter feeds, Facebook pages

## Current State of Technology

### TECHNOLOGY DELIVERY

The delivery of specialized courses, rigorous coursework and curriculum are offered in a variety of venues in Linn-Mar Community School District. Our commitment to enhance instruction and increase student achievement for every child is evidenced in the variety of technologies utilized by key stakeholders within the district. When a new technology purchase is being considered, the items or pieces of equipment are evaluated for their impact on teachers and students.

### ACCESS TO TECHNOLOGY

2013 the Board of Education at Linn-Mar Community School District approved a \$500,000 increase to the Technology Department budget to provide resources for technology and infrastructure improvements that directly support student achievement. Since that time, these funds have allowed the district to:

- Replace student computers (notebooks and desktops) at both Middle Schools and 3 of our Elementary Schools.
- Replace 120 XP Laptops at the High School
- Replace technology infrastructure to provide high speed and high density enterprise wireless network access at 9 of our 10 schools
- Upgrade our District Bandwidth to 500M (increased from 100M in 2012)
- Upgrade District Core Network Equipment, switches and firewalls to build redundancy
- Install UPS to provide coverage to the Data Center when the generator is initiated

## MANAGEMENT / PROFESSIONAL LEARNING

Multiple technology resources are available to administrators and teachers to promote efficiency in the system. The effective use of these resources allows students, teachers, and parents, to stay connected, focus on and improve student achievement. These resources include:

- PowerSchool
- Microsoft Office 365
- Moodle
- Northwest Evaluation Association (NWEA)
- Google Apps for Education
- Acceptable Use of Technology policy

## LEARNING TOOLS

- Interactive whiteboards (Mimio and Smartboards)
- I-Pads and other tablet computers
- Laptops
- Desktops
- Project Lead the Way labs in Middle and High Schools
- Document cameras (Ladybugs and Elmo)
- Media carts

## PARENTAL AND COMMUNITY COMMUNICATION

The Linn-Mar Community School District Technology Plan will be disseminated to the community through the following measures:

- Public Board of Education meeting
- Posted on Linn-Mar Community School District website [www.Linn-Mar.k12.ia.us](http://www.Linn-Mar.k12.ia.us)
- Facebook, Twitter, and Linn-Mar Community School District
- District newsletter "the Lion's Pride"

## TECHNOLOGY WILL BE EFFECTIVELY USED TO COMMUNICATE WITH PARENTS BY:

- Continued use of Power School to notify parents by phone and email regarding educationally relevant information
- Electronic school newsletters and district newsletters
- Broadcasting student activities and learning through social media and local media outlets, i.e. local cable networks, newspaper, radio stations
- Encouraging daily communication between parents and teachers via email or Web sites
- Continued use of PowerSchool for monitoring of grades and attendance

## SUPPORTING RESOURCES

Professional development, support and resources will continue to be made available to all staff as new technologies and curriculum standards are introduced, as well as content-specific training. Supporting resources will include, but not be limited to:

### **Services:**

- Linn-Mar Community School District programs PowerSchool and Power Teacher
- Linn-Mar Intranet and teacher-created and supported Web pages
- District Website
- Linn-Mar Technology Services Help Desk

### **Software:**

- Updates to existing software as needed
- Evaluating and acquiring new software applications as requested
- Researching future technology applications

### **Print or electronic resources:**

- State and national curriculum guides
- District curriculum expectations per subject per grade level maps
- New technologies digital and/or printed manuals
- Media center-maintained professional resource library
- Technology plan
- Acceptable use policy
- All Board of Education policies, rules, and regulations

### **Classroom/teacher supports:**

- All classrooms equipped with a teacher laptop, student desktop, VOIP telephone, whiteboards/screens, and projectors
- Access to voicemail and email from home and/or school
- Help Desk support
- Participation with Grant Wood AEA Media Center

## INFRASTRUCTURE, HARDWARE, TECHNICAL SUPPORT AND SOFTWARE

Linn-Mar Community School District technology infrastructure supports and facilitates our instructional programs and enhances communication between school staff, parents, students and other education stakeholders.

All district buildings are connected through a dedicated fiber optic wide area network. The network is designed to be redundant between the district head-end and the provider central office. Each school houses a local area network with a larger building like the High School having a main distribution facility (MDF) and one or more intermediate distribution facility (IDF) linked through fiber optic connections.

Depending on student enrollment and facility capacity, school buildings may have one or more structured wired computer labs for scheduled use. Each classroom contains a dedicated computer for teacher use, multiple wired data ports, projector or TV, telephone with local and long distance calling and wireless connectivity. Some district classrooms contain one or more student computers while others utilize mobile computing resources. Wireless connectivity is provided throughout all Linn-Mar Community School District buildings to support mobile and 'anywhere' learning. Each building currently has an analog video distribution system.

The district head-end houses most of the district's central network, data, file and print and storage systems. District systems have traditionally been based on standalone computing technologies but are being transitioned toward a hybrid of virtualized and cloud-based technologies. Voice services are provided through a centralized system using a combination of voice over internet protocol (VOIP) and analog connections. Connections to the public services telephone network (PSTN) are provided through Session Initiation Protocol (SIP) trunk circuits.

The District applies for e-Rate funding discounts to provide Internet access and telecommunications services to the schools. The Internet access delivered to the district via fiber wide area network will provide appropriate bandwidth, latency, and reliability to meet each buildings educational needs. The telecommunications services are being phased by the FCC in E-Rate 2.0 over a period of 5 years.

Internet connections are processed through a centralized content-filtering system.

The district utilizes cellular telephones, smartphones and with data service plans to provide access to district communications and systems. The devices increase organizational efficiency, improve customer service and enhance student safety and school security.

Currently the school has individual security camera systems at each location. We are migrating to a security camera system with centralized storage for safety and security purposes.

Continued investment in the District's infrastructure and hardware is required to improve instruction and student learning. The investments required include:

- Networking equipment upgrades
- Provide additional device capacity
- Additional computing devices such as computers, notebooks, tablets, etc.
- Wireless upgrades
- Provide additional bandwidth
- Head-end upgrades (server, storage, etc.)
- Upgrade district Voice Over IP (VOIP) phone system
- Replace components nearing the end of useful life or that are becoming unsupported
- Video distribution systems/network
- Administrative systems
- Support evolving instructional needs
- Interactive and adaptive, digital content technologies
- Classroom display technologies
- Additional instructional technology equipment



## STRATEGIES TO INCREASE ACCESS

Every child should have access to the tools appropriate to the assigned task of teaching and learning. The district continues to fulfill this goal and plans to address the needs for future technologies. Linn-Mar Community School District will:

- Continue deployment of stationary and mobile technologies such as: personal computers, laptop computers, tablets, interactive boards and document cameras
- Continue to provide adaptive devices and specialized software to meet the diverse needs of special education students: Linn-Mar Community School District supports an assistive technology program for speech and hearing impaired students. Laptops and tablets with specialized software/apps are examples of such assistance
- Wireless connectivity that will support BYOD, if appropriate

## Technology Inventory

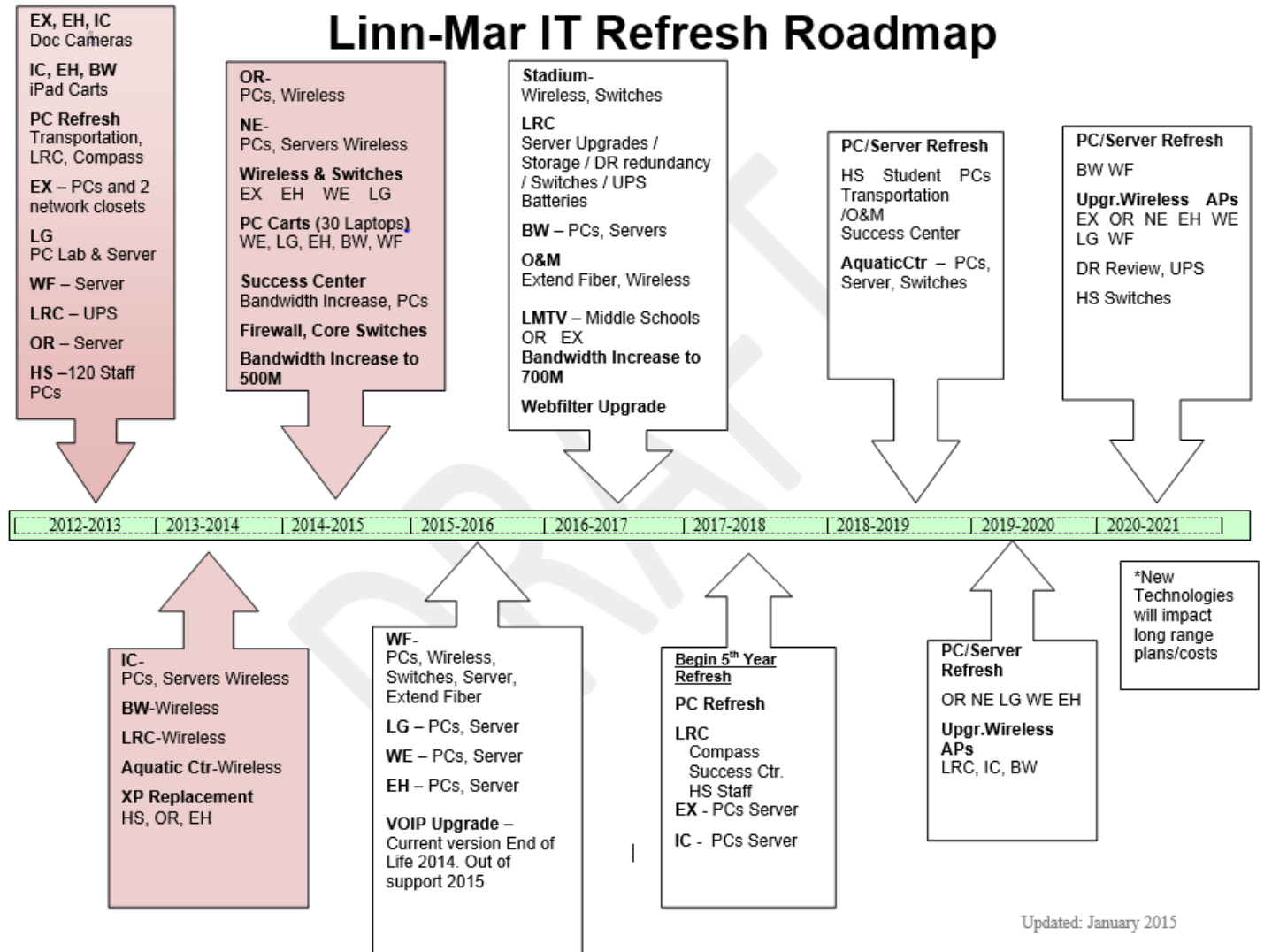
Our computer inventory is automatically monitored through SCCM (System Center Configuration Manager). SCCM is also being used to provide remote control desktop support from the District office. Prior to this tool being configured all helpdesk calls required a technician to leave the office and travel to the site – no matter what the problem was. Now the staff is able to remote into the machine having an issue and in real time assist the staff member. Currently, this works well with our PCs. However, we are unable to connect to MAC devices and still support them remotely. We have 3 Elementary schools with a MAC majority of devices (Linn-Grove, Echo Hill, and Westfield).

There is also a centralized spreadsheet for all Technology Staff to record changes to inventory for all assets. Our current inventory is approximately 4500 computers on the network. There are 400+ iPads, Nooks and other Mobile devices. Additionally we are providing wireless network for up to 3500 BYOD devices.

	Enrollment	National Ratio 1:4	Current PC	MACs	Total
Students	7100	1775	2750	850	3600
Staff	1025		700	225	925
Linn-Mar Ratio		1:2			4525

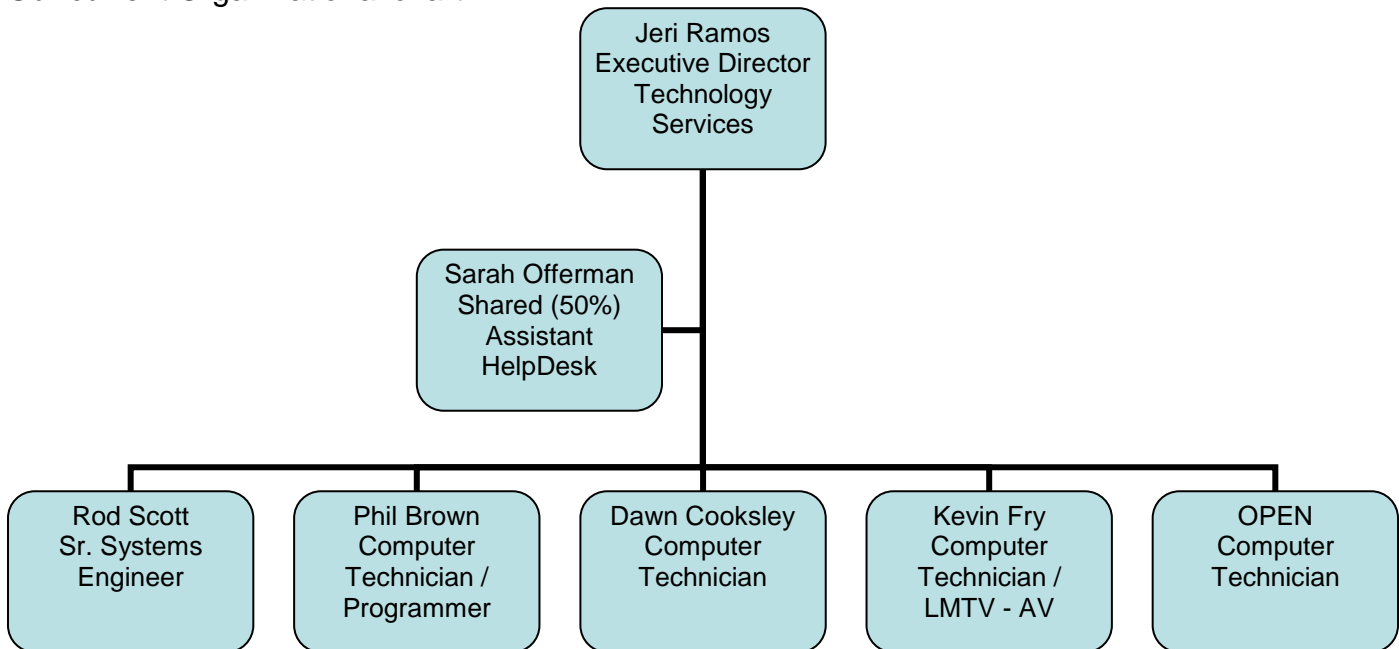


## Refresh Timeline



## Technology Department Staffing

Our current Organizational chart:





## Building Security

All buildings have processes in place for student and staff safety. These processes are reviewed yearly with all staff members. Our Crisis Management Guidelines manual includes information from administration, staff, safety officers and community providers. Detailed information is not publically divulged for the safety of our students and staff.

In 2013 we investigated several different security camera and building access systems. We decided on Milestone and AMAG systems and we are in the process of installing these systems throughout our District.



## Data Disaster Recovery

We are currently contracting with Involta to provide secure offsite backup of Linn-Mar critical data. In 2015 we have a contract for 1.5Tb of offsite storage. This runs on a nightly basis from servers with business critical data.

Systems, such as PowerSchool are hosted through Grant Wood and they are responsible for the database backup and recovery in the event of a disaster. Our email is hosted by Microsoft Office365 and that is available 24x7 with redundancies built in the Microsoft Data Centers.