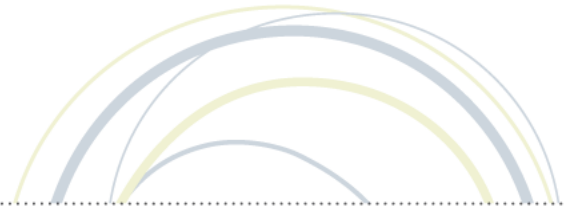# ISTE SEAL OF ALIGNMENT REVIEW FINDINGS REPORT
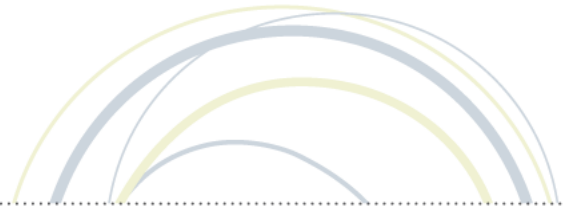
Microsoft MOAC Productivity Courses and MTA Computer Science Courses

NOVEMBER 2018

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ABOUT

ABOUT ISTE

The International Society for Technology in Education (ISTE) is the premier nonprofit membership organization serving educators and education leaders. ISTE is committed to empowering connected learners in a connected world and serves more than 100,000 education stakeholders throughout the world.

As the creator and steward of the definitive education technology standards, our mission is to empower learners to nourish in a connected world by cultivating a passionate professional learning community, linking educators and partners, leveraging knowledge and expertise, advocating for strategic policies, and continually improving learning and teaching

ISTE SEAL OF ALIGNMENT

Resources and products designed with the ISTE Standards in mind are choosing to demonstrate their commitment to support critical digital age learning skills and knowledge. Regardless of a solution's intended grade level, purpose or content area, by addressing the ISTE Standards and earning a Seal of Alignment, a solution is shown to consciously, purposefully and meaningfully support best practices for digital age teaching and learning.

ISTE considers a solution aligned to the ISTE Standards only after an extensive review conducted by trained ISTE Seal of Alignment reviewers, and it has been determined to meet all critical elements of a particular standard indicator in accordance with specific review criteria.

By earning a Seal of Alignment, ISTE verifies that this product:
- Promotes critical technology skills
- Supports the use of technology in appropriate ways
- Contributes to the pedagogically robust use of technology for teaching and learning
- Aligns to the ISTE Standards in specific ways as described in the review finding report

RESOURCE DESCRIPTION

ISTE Seal of Alignment Review Findings Report
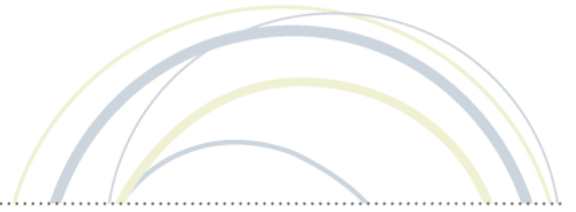
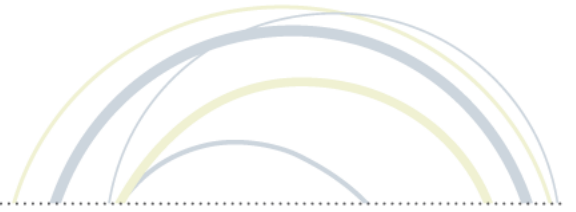## WHAT IS THE MICROSOFT IMAGINE ACADEMY PRODUCTIVITY LEARNING PATH?

The courses within this learning path have been primarily designed to prepare participants for the Microsoft Office Specialist (MOS) exam. Each of the courses in the path take approximately 40 hours to complete. The four courses in the Productivity learning path that were reviewed in consideration for a Seal of Alignment were: WordCore2016, ExcelCore2016, PowerPoint2016, and Access2016.

The core content of these courses consists of a series of electronic textbooks which are available to anyone preparing to take the Microsoft certification exams for these topics. There are additional instructor-oriented resources such as PowerPoint slides for use in class presentations, answers to courses quizzes, and the outline of possible components expected to complete Lab activities and student projects. In the Productivity courses, supplementary data files provide students with a starting point for using the features of the productivity software tools. Together, the student and teacher resources are designed to provide a turn-key solution for implementing the courses in an academic classroom/lab environment.

WHAT IS THE MICROSOFT IMAGINE ACADEMY COMPUTER SCIENCE LEARNING PATH?

The courses within this learning path have been primarily designed to prepare students for the Microsoft Technology Associate (MTA) Certification. Each of the courses in this path take approximately 50 hours to complete. The four courses in the Computer Science learning path that were reviewed in consideration for a Seal of Alignment were: Python, Software Application Development, HTML5 Application Development, and Database Fundamentals.

The electronic textbooks (in PDF format) for the Computer Science courses included objectives, step-by-step instructions (directed practice), illustrations, vocabulary definitions, and end of unit questions and problem scenarios. Supplementary working environments such as SQL Server Management Studio and Jupyter Notebooks give students a sandbox in which to both learn and test their learning. In the Python course, Instructor materials also include a series of videos with detailed demonstrations that help guide teachers through the use of the student-oriented resources.

ISTE SEAL OF ALIGNMENT REVIEW

Product: Microsoft Imagine Academy: MOAC Productivity Courses and MTA Computer Science Courses
Company: Microsoft Corp.
Date of Award: November 2018

REVIEW METHODOOGY

ISTE Seal of Alignment reviews are conducted by a panel of education and instructional experts. Reviewers use data collected both separately and collectively to determine how a solution addresses specific elements described in each of the indicators of the ISTE Standards. Special instruments are used by reviewers to collect data on potential alignment across all resource materials. Alignment is determined based on the extent to which all or some of specific elements are addressed within the materials. Reviewers conduct regular calibrations to assure the validity and reliability of the results and final review findings are combined for an overall score for alignment on each individual indicator.

SCOPE OF REVIEW

The Microsoft Official Academic Courses (Productivity) we reviewed were Word (Core) 2016, Excel (Core) 2016, PowerPoint 2016 and Access 2016. The Microsoft Technology Associate (Computer Science) courses reviewed were Software Development Fundamentals, HTML5 Application Development Fundamentals, Database Administration Fundamentals and Introduction to Python.

These courses were reviewed for alignment against the ISTE Standards for Students, at the Readiness and Proficiency categories. Proficiency reviews examine how a resource provides opportunity, encouragement, and resources for participants to show significant and substantive growth in the skills, dispositions, and behaviors identified in the ISTE Standards. Readiness reviews examine how a resource instructs and/or assesses specific skills and knowledge that have been identified as foundational to the elements of the ISTE Standards.

During the review process for the selected courses from the Microsoft courses, reviewers:
- collected data on when and how each activity addressed specific skills and knowledge described in the ISTE Standards for Students.
- compiled findings to determine overall alignment across all ISTE Standards for Students and indicators.
- used aggregate findings to form the basis of the overall alignment results.

ISTE Seal of Alignment Review Findings Report
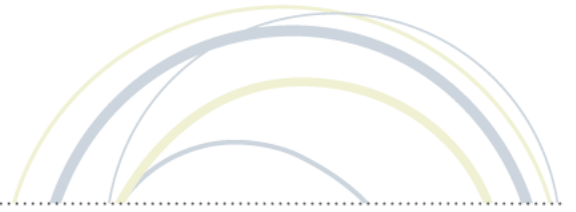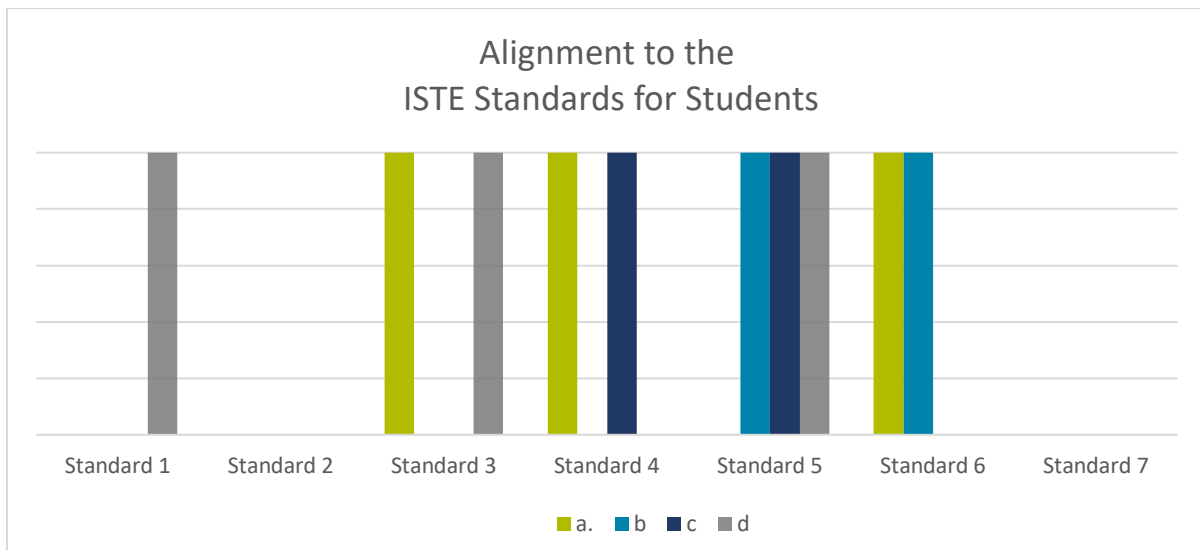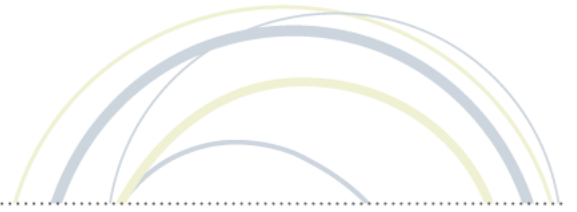
Review Findings

The Microsoft MOAC Productivity were found to address the following indicators of the ISTE Standards for Students:

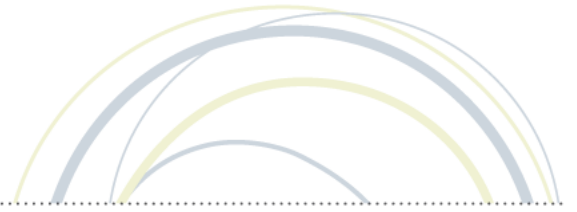**Alignment to the ISTE Standards for Students**
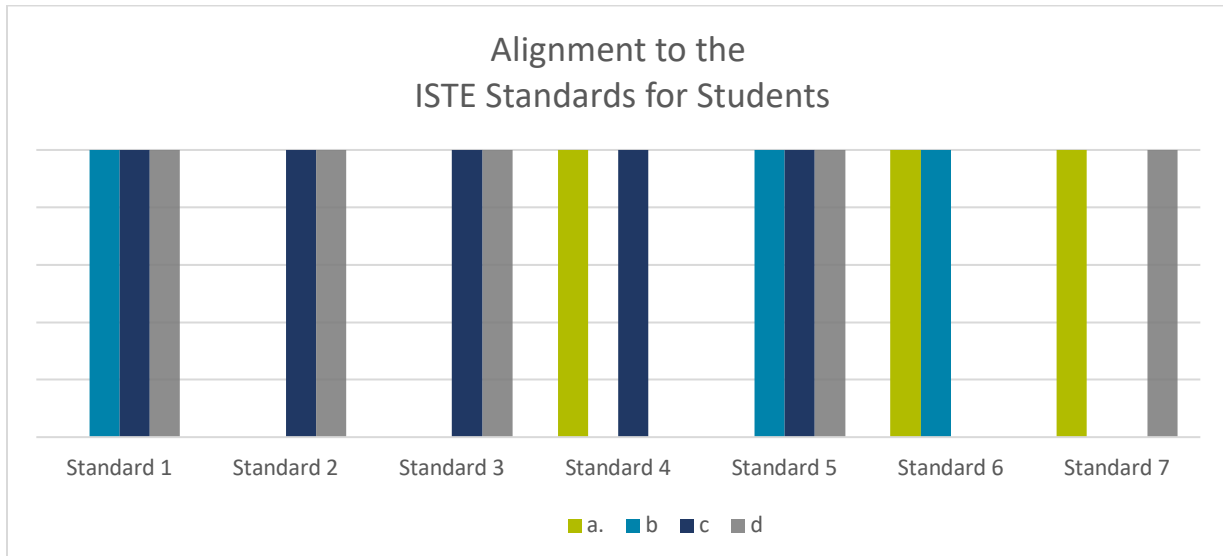
The Microsoft MTA Computer Science courses were found to address the following indicators of the ISTE Standards for Students:
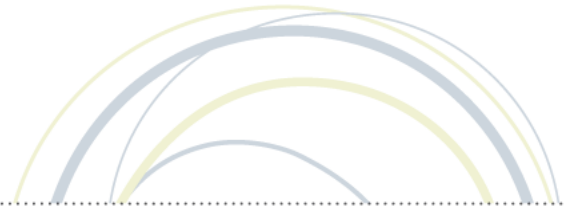
Alignment to the ISTE Standards for Students

The Microsoft MOAC Productivity courses address the ISTE Standards for Students at the Readiness category in the following ways:

ISTE Standard	Readiness Finding Statement
1. Empowered Learner	
1.a. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.	
1.b. Build networks and customize their learning environments in ways that support the learning process.	Students learn to customize their environment within individual applications and check for accessibility issues in their work.
1.c. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.	Students learn to use editing and sharing features across all parts of the Productivity Suite that can be used to seek feedback.
1.d. Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.	By successfully participating in all these online courses students must navigate complex hardware, network and software environments that require them to demonstrate their ability to use wide variety of technologies and in some cases learn to troubleshoot potential problems. Within the Productivity Suite, students have the opportunity to learn to transfer skills between applications.
2. Digital Citizen	
2.a. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.	
2.b. Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.	
2.c. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.	In these courses, students learn how to cite online sources and to recognize copyright of both images and text.

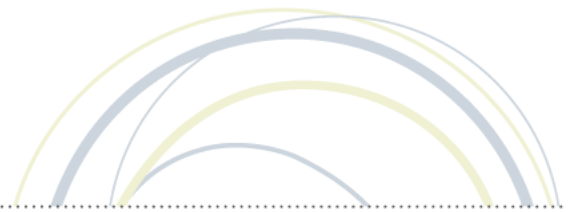ISTE Seal of Alignment Review Findings Report

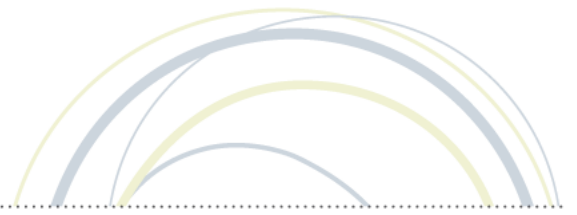|	
2.d. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.	In all parts of the Productivity Suite, students learn the basics of protecting personal data by using the Document Inspector to locate any hidden personal information in their work. In Excel, they learn the basics of passwords, securing and sharing workbooks even as they collaborate with others on shared files.
3. Knowledge Constructor	
3.a. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.	
3.b. Evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.	
3.c. Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.	Throughout these courses, students learn multiple ways to organize and present information including tables, lists, charts and images. They also learn how to create their own graphic organizers and concept maps using Shapes and Drawing Tools in both Word and PowerPoint.
3.d. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.	Student learn a variety of ways to organize and present information and apply these skills in the context of real world situations.
4. Innovative Designer	
4.a. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	Students learn a variety of tools they can use to portray their design process. They also learn to manipulate text and images to better share their information.
4.b. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.	
4.c. Develop, test and refine prototypes as part of a cyclical design process.	Students learn to revise and share their creations using a variety of available tools.
4.d. Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.	
5. Computational Thinker	

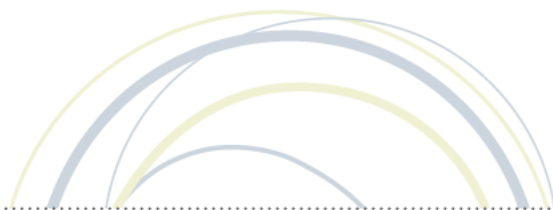|	
5.a. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.	
5.b. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.	In Excel, students learn to use mathematical formulas to analyze data.
5.c. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.	Through the use of outlining, lists, tables and charts, students learn multiple ways to break up and organize information.
5.d. Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.	Students are able to automate tasks through the use of Autocorrect and Macros.
6. Creative Communicator	
6.a. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.	Through learning all the Applications in the Productivity Suite, students are prepared to choose the best tool for meeting the desired objective.
6.b. Create original works or responsibly repurpose or remix digital resources into new creations.	Upon completion of these courses, students are equipped to create original works or remix digital creations through selecting the best application.
6.c. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.	
6.d. Publish or present content that customizes the message and medium for their intended audiences.	
7. Global Collaborator	
7.a. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.	
7.b. Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.	

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7.c. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.	Students learn to collaborate on Excel Workbooks using the available sharing and editing tools.
7.d. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.	Students learn to integrate available web resources into their creations through the use of embedded hyperlinks.

The Microsoft MTA Computer Science courses address the ISTE Standards for Students at the Readiness and Proficiency categories in the following ways:
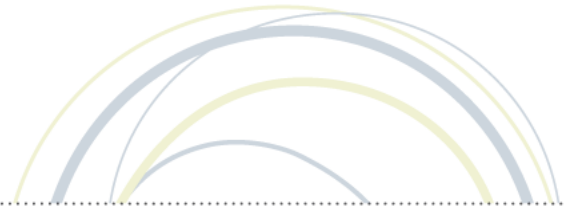
| ISTE Standard	Readiness Findings Statement	Proficiency Findings Statement
1. Empowered Learner		
1.a. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.		
1.b. Build networks and customize their learning environments in ways that support the learning process.		
1.c. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.		
1.d. Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to	Students are introduced to hardware, network and software environments that enable them to demonstrate foundational knowledge about a wide variety of technologies.	Students must navigate complex hardware, network and software environments that require them to demonstrate their ability to use wide variety of technologies and in some cases learn to troubleshoot potential problems.

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|		
explore emerging technologies.		
2. Digital Citizen		
2.a. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.		
2.b. Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.		
2.c. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.		
2.d. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.		
3. Knowledge Constructor		
3.a. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.		
3.b. Evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.		

3.c. Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.	Students use a number of different application development tools, data sets and programming methods to create components of programs that could help meet the requirements of specific problem situations.	In the Computer Science courses, students use a number of different application development tools, data sets and programming methods to create working programs that meet the requirements of specific problem situations.
3.d. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.	In the Computer Science courses, students learn to explore issues and pursue answers in the context of real-world problems.	
4. Innovative Designer		
4.a. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	In the Computer Science courses focused on programming, students are introduced to tools and concepts foundational to computational design processes.	In the Computer Science courses focused on programming, students learn and employ computational design processes needed to develop, test and write programs that address specific problems, usually in a business context.
4.b. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.		
4.c. Develop, test and refine prototypes as part of a cyclical design process.	In several of the Computer Science courses, students engage in developing programs or parts of programs that must be tested and refined as part of program development.	In several of the Computer Science courses, students engage in developing programs or parts of programs that are built up gradually and involve prototyping, testing and further developing code to successfully address specific goals and satisfy specific outcomes.
4.d. Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.		

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5. Computational Thinker		
5.a. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.		
5.b. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.	Students use a number of digital applications, computer science strategies and programming languages to develop representations and models that could be used to solve business problems.	
5.c. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.	Students use a number of digital applications, computer science strategies and programming languages to deconstruct problems and create models that could be used to solve business problems.	
5.d. Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.	In all the Computer Science courses students are introduced to programming applications and step-by-step sequencing of instructions to automate an outcome.	In all the Computer Science courses students are introduced to programming applications and undertake coding of various kinds and difficulty levels that employ automation techniques and help develop algorithmic thinking strategies.
6. Creative Communicator		
6.a. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.	In the Computer Science courses students use software tools and select programming methods to create working programs that could help meet the requirements of specific problem situations.	
6.b. Create original works or responsibly repurpose or remix digital resources into new creations.	The CS courses include projects that engage students in creating or remixing resources to produce working code segments designed	The CS courses include projects that engage students in creating or remixing resources to produce complex programs
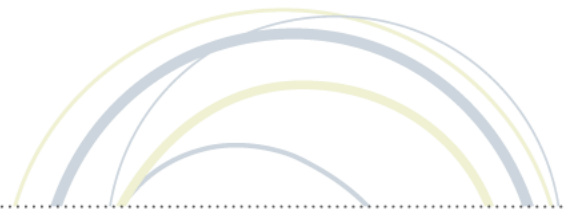
	to address a specific problem situation.	that communicate results for a specific problem situation.
6.c. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.		
6.d. Publish or present content that customizes the message and medium for their intended audiences.		
7. Global Collaborator		
7.a. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.		
7.b. Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.		
7.c. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.		
7.d. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.		
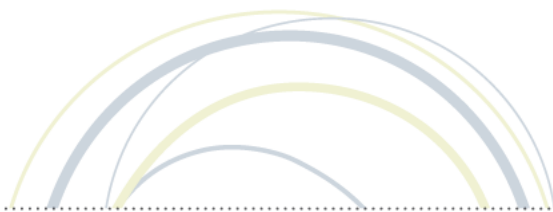
CONCLUSION

The electronic textbooks used in these courses are consistently organized, easy to follow, and use sequencing, text formatting and illustrations effectively. The appearance is likewise polished, professional, and designed for both self-directed and facilitated uses. Supplementary facilitator guides provide a rich set of materials that constitute a turn-key solution for instructors including introductory overviews of each unit of the courses, PowerPoint slides for class presentations and answers to quizzes and other assessments.

The materials align at different categories (Readiness and Proficiency) based on the way the courses address the various indicators of the ISTE Standards and the types of learning activities presented. The materials are well adapted for use by students ranging from middle school through high school and beyond. In addition to preparing participants for the Microsoft Certification tests, the courses offer students the opportunity to acquire valuable technical knowledge and skills that will aid them in living, learning and working in an ever-changing technological world.