International Society for Technology in Education

ISTE SEAL OF ALIGNMENT REVIEW FINDINGS REPORT

TechnoKids-PH

MAY 2020

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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

WHAT IS TECHNOKIDS-PH?

TechnoKids-Philippines (hereafter TechnoKids-PH) provides an extensive set of online resources designed to be used by teachers and students for the purpose of increasing student knowledge and skill in using diverse technology applications. The core resource on the TechnoKids-PH website is the TechnoKids Resource Library (TLIB) – an online K-12 curriculum divided into 31 Projects with each one focused on developing a different set of technology skills via different software applications.

Together, the courses cover four key areas of the TechnoKids-PH curriculum:

- **CORE** - 11 courses focused on one or more specific productivity applications (MS Office, Google Suite, etc)
- **CREATIVE** - 10 courses focused on one or more specific creativity applications (Adobe, Inskscape, etc.)
- **CODE** – 7 courses focused on one or more specific coding platforms (HTML5, Scratch, etc)
- **CONSTRUCT** – 3 courses focused on one or more specific engineering application (LEGO Mindstorm, Arduino, etc)

HOW IS TECHNOKIDS IMPLEMENTED?

Each Project in the TechnoKids Resource Library is divided into quarters (usually two or four quarters). Each quarter is comprised of a set of sequentially arranged, scripted lesson plans provided for the teacher to use in class. For example, the *Techno Animate* course is divided into four quarters with 10 lessons in the First Quarter, 9 lessons in the Second Quarter, 13 lessons in the Third Quarter, and 9 lessons in the Fourth Quarter. Each lesson follows the same format with five sections:

- **Overview**: description of project/task, list the target skills, list of objectives the student should be able to meet by the end of the lesson; and estimated amount of time required to complete the lesson (usually 30-40 minutes);
- **Motivate**: introductory activity or examples of what the student is going to be able to create – e.g., video clips showing sample FlipBooks under Lesson 3 of Techno Animate;
- **Teach**: step-by-step notes and illustrations for the teacher's presentation or lecture, modeling each step for the students;
- **Learn**: step-by-step notes and illustrations for guided practice led by the teacher; and
- **Evaluate**: both an Objective Test and a Performance Test covering the knowledge and skills taught in that lesson, along with a rubric for evaluating the results.

For the 31 courses reviewed there was a total of 942 lessons, with lessons designed for students of all grades K-12 (some at each level). For each Project there is a downloadable Teacher Syllabus and downloadable Digital Student Workbook. Overall, the instructional materials are exceptionally detailed, designed to guide both teacher and student through a carefully sequenced set of activities that support knowledge acquisition, skill development, and application in contexts that appear to be both motivating and grounded in the real world.

Product: TechnoKids-Philippines
Organization: TechnoKids-PH
Date of Award: May 2020

REVIEW METHODOLOGY

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.

During the review process for TechnoKids, reviewers:

- collected data on when and how each activity addressed specific skills and knowledge described in the ISTE Standards for Students at either a foundational or applied level.
- 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.

SCOPE OF REVIEW

TechnoKids – PH was reviewed for alignment against the ISTE Standards for Students. ISTE reviewers examined all materials provided in the online TechnoKids Resource Library (TLIB) for the 31 Projects including all five sections for each of the 942 lessons: Overview, Motivate, Teach, Learn, and Evaluate.

ISTE Reviewers completed a four-phase review of the TechnoKids Resource Library:

- **Phase 1**: ISTE reviewers took notes summarizing the focus of each lesson
- **Phase 2**: ISTE reviewers summarized the quarter's instruction (6-12 lessons) with finding statements relating to the lessons' alignment with one or more of the ISTE Standards for Students and whether alignment was at Foundational/Readiness level (F) or Proficiency/Applied level (P)
- **Phase 3**: After reviewing all 31 Projects, ISTE reviewers summarized the findings of alignment for each of the Projects
- **Phase 4**: ISTE reviewers conducted a final review to ensure consistency of findings

REVIEW FINDINGS

TechnoKids-PH addresses the ISTE Standards for Students at the Foundational level. Resources and activities aligned at the foundational level primarily focus on introductory skills and knowledge that facilitate skill acquisition to eventually meet ISTE Standard indicators.

TechnoKids-PH was found to address the following standards and indicators of the ISTE Standards for Students at the Foundational level:

ISTE STANDARDS FOR STUDENTS

	Standard 1 **Empowered Learner**	Standard 2 **Digital Citizen**	Standard 3 **Knowledge Constructor**	Standard 4 **Innovative Designer**	Standard 5 **Computational Thinker**	Standard 6 **Creative Communicator**	Standard 7 **Global Collaborator**
Indicator A							
Indicator B							
Indicator C							
Indicator D							

Foundational resources and activities focus primarily on knowledge that facilitates skills acquisition to eventually meet ISTE Standards indicators.

Applied resources and activities focus primarily on practical, real-world and/or relevant opportunities to practice the skills and knowledge learned in the curriculum.

ISTE Standard	Foundational Finding Statement
1. **Empowered Learner**: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.	
1.c. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.	Several of the *TechnoKids* courses provide students with opportunities to work collaboratively on projects and seek feedback and/or editing suggestions from their peers and apply the feedback to improve their products.
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.	Many *TechnoKids* courses are aligned with 1d as they teach new technology concepts and skills, provide situations to practice new skills, and encourage students to evaluate their conceptual knowledge and skill.
2. Digital Citizen: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.	
2.b. Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.	The Techno Citizen courses demonstrate significant alignment with 2b. Lessons in netiquette and appropriate sourcing, sharing, and attribution of online content teach students learn to engage in a positive, safe, legal and ethical manner when working online.
2.c. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.	Many lessons throughout the *TechnoKids* courses focus on acceptable use of digital content, respecting intellectual property rights, and appropriate ways to cite sources indicating ownership. Students learn to conduct research online and how to cite sources for the text and images they use in creating websites or other projects.
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.	This standard is met through lessons wherein students learn to manage personal data and maintain digital privacy. Skills taught include activating privacy settings on social media, and controlling privacy settings for cells and spreadsheet files.
3. Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.	
3.a. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.	Several *TechnoKids* courses guide students in researching information online and using the information found for a personally relevant project. Students gain experiences with Google Suite and HTML among other apps.
3.b. Evaluate the accuracy, perspective, credibility and	*TechnoKids* courses include lessons designed to teach students how to evaluate media & information sources online. Students learn to analyze photos, videos, ads,

relevance of information, media, data or other resources.	and commercials to recognize the target audience, stereotyping and the selling techniques being used.
3.d. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.	*TechnoKids* provides students with an opportunity to explore a real-world problem and share ideas about solutions. Students collect and synthesize information about internet piracy, cybercrime, and online libel.
4. **Innovative Designer**: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.	
4.a. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	A number of the *TechnoKids* courses walk students through a well scripted process as they learn to use and apply the tools and features of specific creative applications.
4.b. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.	*TechnoKids* courses explicitly teach students a design process and provide students with opportunities to select and use digital tools within that process. Students learn to use Photoshop, Flash, and Blender to create an original animation as well as a variety of multimedia design tools and video creation tools to create unique videos in a practical application of design process.
4.c. Develop, test and refine prototypes as part of a cyclical design process.	*TechnoKids* includes instruction in cyclical design process. Students follow scripted lessons to create a variety of different robots followed by testing and refining their creation.
5. Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test 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 are provided opportunities to collect, analyze, and represent data using features in MS Excel.
5.d. Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.	*TechnoKids* guides students in the use of algorithmic thinking as they work through a sequence of steps to create and test automated solutions. Students apply this learning by concepting and building a variety of robots using LEGO Mindstorms NXT 2.0.
6. Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.	

6.a. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.	Students are guided in the use of several platforms in the context of learning to choose appropriate apps when creating original projects. Instructions is included in the the features of Windows Moviemaker, Photoshop, MS Paint, Flash, Blender, and KidPix 3D to create an array of creative projects such as video commercials, comic strips, cartoons, and 3D slideshows.
6.b. Create original works or responsibly repurpose or remix digital resources into new creations.	Students gain skills and/or experience in creating original works or developing works that repurposed or remixed resources (provided to them or found online) into something new. Students learn about using Windows Live Photo Library to manage, edit, and remix digital images into new creations; Google Slides that include a variety of images, videos, and animations.
6.c. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.	*TechnoKids* courses provide instruction in the creation of digital objects that help communicate complex information clearly. Students use productivity tools to such as Excel and Google Sheets to create project budgets, activity logs, forms for progress monitoring, and Gantt charts for project development timelines.
6.d. Publish or present content that customizes the message and medium for their intended audiences.	Students gain the technical skills and experience to publish or present information customized for specific audiences. Students learn to use Google Suite to collaboratively write and publish a story as well as programming tools like HTML, CSS, Jquery to publish a website.
7. Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.	
7.b. Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.	*TechnoKids* courses provide opportunity to practice collaboration with classroom peers as students use Google Suite to work together to with peers to write and publish a story and a slide deck. Other projects include a blog, feedback form, Facebook page, and Padlet.
7.c. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.	A simulated company event allows students to work collaboratively on project teams to learn project management and productivity tools and collaboratively produce a presentation and manage event details.
7.d. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.	Students use Google Forms to gain perspective into user perceptions of various digital tools. They also learn about and are given instruction on how to advocate for a social issue collectively and work together to create a petition on Facebook.

CONCLUSION

TechnoKids offers an extensive library of courses and lessons with well-crafted projects and clear instructions to guide students in the building of technology skills. All but one of the 31 *TechnoKids* align with at least one of the ISTE Standards for Students at the Foundational level, with most of the courses aligning with more than one indicator and some in alignment with multiple indicators across multiple standards.

For the 31 courses reviewed there was a total of 942 lessons designed for students of all grades K-12. Each project includes both a downloadable Teacher Syllabus and downloadable Digital Student Workbook. Students learn and apply knowledge and skills within a controlled instructional environment.

Overall, the instructional materials are exceptionally detailed and carefully scripted, designed to guide both teacher and student through a carefully sequenced set of activities that support knowledge acquisition, skill development, and application in contexts that are both motivating and grounded in real world use case.