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Integrating Technology into the K-2 IB Planners

**Setting/Context:**

Marietta City Schools is a charter school system with a hometown feel. We have seven elementary schools, one STEM magnet school for grades 3-5, one Sixth Grade Academy, one middle school, and one high school. A. L. Burruss Elem is a small Title I school consisting of approx. 482 students in grades K-5. Marietta City Schools offers a choice program for all of our students. This allows students to enroll in the elementary school of their choice, if allotments allow. Each elementary is considered a Choice Academy that focuses on different themes. In my school our focus is communication, but this has changed since we are in our second year of the International Baccalaureate Primary Year Program (IB PYP) candidacy. Over 90% of our certified staff is gifted endorsed. Last year our gifted enrollment was 105 students. There are two full time gifted teachers who provide resource, cluster, collaborative, and advanced content classes. Our student population is made up of 42% African American, 38% White, 13% Hispanic, 3% Asian, and 4% multi-racial.

We are a very technology rich school that utilizes a wide range of technology equipment. Students in grades 3-5 now have 1:1 computing and a third grade classroom is piloting a program with tablets for each student. Grades K-2 share laptop carts as well as having access to two fully functioning computer labs. Each classroom is equipped with Smartboards, which is an integral part of many of their lessons to enhance student learning. Also, every classroom has access to sound amplification units, individual response units, flip cameras and document cameras to increase student involvement and engagement in their learning.

A. L. Burruss was accepted as a candidate school on 09/01/2014, in the International Baccalaureate Primary Year Program (IB PYP). As a candidate school, our teachers are working together to write comprehensive interdisciplinary units of study. These units will incorporate formative assessment, inquiry based learning, and summative assessments that require our students to demonstrate their learning at higher levels of knowledge. The integration of transdisciplinary learning is planned so it blurs the lines of subjects and brings the learning together in a meaningful and authentic way. Cydis (2015) describes authentic learning as, “that which requires our students to construct meaning, reflect and discuss information, and create or perform tasks that have values of meaning” (p.69). Our school has an IB PYP Coordinator to provide support and training for our teachers as we develop these units and move forward towards full acceptance as an IB PYP school.

During my Teacher Keys Effectiveness System (TKES) pre-evaluation conference, I was able to meet with our IB PYP Coordinator, Natalie Foster and our Principal, Julie King. In our pre-evaluation conference I was able to establish both my personal and professional goals for this school year. I shared with them the information concerning my upcoming Capstone project and how I would like to integrate technology more into our curriculum. We agreed to start with the K-2 IB PYP planners and then share these resources with the remaining grade levels. Also, weekly I will be creating and sharing technology resources with our staff. It is my goal to help promote and guide the integration of technology into our school.

**Capstone Problem & Rationale:**

Marietta City Schools is a small school system with approximately 8,800 students being served in eight elementary schools, which includes a STEM Magnet school for grades 3-5, one middle school, one sixth grade school, and one high school. Our system has one technology coach that is available for professional development as well as for individual instruction for teachers upon request. A. L. Burruss’ teachers have access to a wide variety of technology in their classrooms. Our system provides a large amount of system wide subscriptions as well as individual schools providing additional resources too. Authors Keengwe and Onchwari (2009) said it best when they stated, “just having technology in the classroom does not necessarily result to positive educational experiences that can enhance student learning” (p.210). This is our second year into the IB candidacy phase and our teachers are slowly transitioning to meet the necessary requirements for the IB PYP program.

Within the IB PYP, our teachers are learning how to teach our globally minded 21st century students. Students are taught in six interdisciplinary units that incorporate local and global issues in the curriculum. Instead of teaching our students what to think we are teaching them how to think. There is a definite shift from concentrating solely on the three R’s (reading, writing, and arithmetic). The IB PYP teaches our students new skills to prepare them for the future and our ever changing world. Authors Smith and Hu (2013) stated, “Teaching 21st century skills equips students to think critically, communicate effectively, to become self-directed learners and problem solvers” (p.90). To support our students we must enhance the traditional roles of instruction and include technology. Albion, Orey, McClendon, and Branch (as cited in Smith and Hu, 2013) stated that, “students may be familiar with social networking sites, digital music, and video sharing, but they are not as familiar with many of the opportunities technology offers to enhance and provide quality instruction” (p.90).

Keengwe and Onchwari (2009) declared, “For technology to be best used to support student learning, the environments must: embed authenticity, emphasize knowledge construction, use open-ended learning, include student cooperation, and integrate mixed ability levels and differentiated instruction where appropriate and possible” (p.211). Early learners can grasp concepts easier, communicate more effectively through the use of technology. By giving our students the tools to become inquirers, thinkers, communicators, reflective, balanced, open-minded, knowledgeable, caring, and principled they will be able to function in our ever changing society. This journey that our school is embarking on is filled with plenty of discovery and self-reflection. This opportunity is transforming our teaching and community while taking us out of our comfort zones. It is pushing many of us into unfamiliar territories, which can spark fear and insecurities. Our planners are in a stage where teachers are solely focusing on the management and incorporating the other subjects and concepts. This is the ideal time to facilitate the use of instructional technology and other educational tools into our K-2 IB PYP planners. Teachers will be able to plan, collaborate, and share knowledge with each other to enhance and extend instruction.

During our collaborative meetings I have witnessed less and less integration of technology into the K-2 planners. In my opinion, many teachers feel uncomfortable with technology because they do not have the time to really test it out for themselves. Many times our teachers are given technology, but they are unsure how they can incorporate it into their classrooms or even manage it. Some teachers are aware of the technology resources available to them, but for them it is finding the time to use it. With our teachers I would like to increase their understanding and use of available technology tools by sharing knowledge and modeling the use of applications. Incorporating technology will provide an opportunity for our students to see the bigger picture as it relates to the world. Gardner, Wissick, Schweder, and Canter (2003) stated, “this does not mean that the entire unit will be technology driven but to critically examine a unit’s instructional events and find those places where technology effectively supports student learning” (p.162).

**Objectives/Deliverables:**

Based on the need to facilitate the use of instructional technology and other educational tools into our K-2 IB PYP planners, I plan to accomplish the following goals:

* Collaborate and plan weekly with the K-2 teachers to effectively integrate technology into the IB PYP planners.
* Develop, model, and facilitate the use of technology to support and extend student learning.
* Design and create technology handouts to accompany the new technology introduced.
* Compile a listing of technology resources that can be used in our school weekly newsletter called *The Beaver Bytes*. These resources can be used to promote best practices in teaching, learning, and assessment.

**PSC Standards:**

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| **1. VISIONARY LEADERSHIP** - Technology coaches demonstrate the knowledge, skills, and dispositions to inspire and lead the development and implementation of a shared vision for the effective use of technology to promote excellence and support transformational change throughout the organization.  1.1 **Shared Vision***–* Candidates facilitate the development and implementation of a shared vision for the use of technology in teaching, learning, and leadership. (PSC 1.1/ISTE 1a)  1.4 **Diffusion of Innovations and Change***–* Candidates research, recommend, and implement strategies for initiating and sustaining technology innovations and for managing the change process in schools. (PSC 1.4/ISTE 1d)  **2. Teaching, Learning, & Assessment** - Technology coaches demonstrate the knowledge, skills, and dispositions to create, support, and manage effective digital learning environments.  2.1 **Content Standards & Student Technology Standards***-* Candidates model and facilitate the design and implementation of technology-enhanced learning experiences aligned with student content standards and student technology standards. (PSC 2.1/ISTE 2a)  2.3 **Authentic Learning *-*** Candidates model and facilitate the use of digital tools and resources to engage students in authentic learning experiences. (PSC 2.3/ISTE 2c)  2.4 **Higher-Order Thinking Skills *-*** Candidates model and facilitate the effective use of digital tools and resources to support and enhance higher order thinking skills (e.g., analyze, evaluate, and create); processes (e.g., problem-solving, decision-making); and mental habits of mind (e.g., critical thinking, creative thinking, metacognition, self-regulation, and reflection). (PSC 2.4/ISTE 2d)  2.5 **Differentiation***-* Candidates model and facilitate the design and implementation of technology-enhanced learning experiences making appropriate use of differentiation, including adjusting content, process, product, and learning environment based upon an analysis of learner characteristics, including readiness levels, interests, and personal goals. (PSC 2.5/ISTE 2e)  2.7 **Assessment -**Candidates model and facilitate the effective use of diagnostic, formative, and summative assessments to measure student learning and technology literacy, including the use of digital assessment tools and resources. (PSC 2.7/ISTE 2g)  2.8 **Data Analysis -**Candidates model and facilitate the effective use of digital tools and resources to systematically collect and analyze student achievement data, interpret results, communicate findings, and implement appropriate interventions to improve instructional practice and maximize student learning. (PSC 2.8/ISTE 2h)  **3. Digital-Age Learning Environments** - Technology coaches demonstrate the knowledge, skills, and dispositions to create, support, and manage effective digital learning environments.  3.1 **Classroom Management & Collaborative Learning -** Candidates model and facilitate effective classroom management and collaborative learning strategies to maximize teacher and student use of digital tools and resources. (PSC 3.1/ISTE 3a)  3.2 **Managing Digital Tools and Resources** - Candidates effectively manage digital tools and resources within the context of student learning experiences. (PSC 3.2/ISTE 3b)  3.6 **Selecting & Evaluating Digital Tools & Resources -** Candidates collaborate with teachers and administrators to select and evaluate digital tools and resources for accuracy, suitability, and compatibility with the school technology infrastructure. (PSC 3.6/ISTE 3f)  3.7 **Communication and Collaboration** - Candidates utilize digital communication and collaboration tools to communicate locally and globally with students, parents, peers, and the larger community. (PSC 3.7/ISTE 3g)  **4. Digital Citizenship & Responsibility** – Technology coaches demonstrate the knowledge, skills, and dispositions to model and promote digital citizenship and responsibility.  4.1 **Digital Equity** - Candidates model and promote strategies for achieving equitable access to digital tools and resources and technology-related best practices for all students and teachers. (PSC 4.1/ISTE 5a)  4.2 **Safe, Healthy, Legal & Ethical** - Candidates model and facilitate the safe, healthy, legal, and ethical uses of digital information and technologies. (PSC 4.2/ISTE 5b)  4.3 **Diversity, Cultural Understanding & Global Awareness** - Candidates model and facilitate the use of digital tools and resources to support diverse student needs, enhance cultural understanding, and increase global awareness. (PSC 4.3/ISTE 5c)  **5. Professional Learning & Program Evaluation** - Technology coaches demonstrate the knowledge, skills, and dispositions to conduct needs assessments, develop technology-based professional learning programs, and design and implement regular and rigorous program evaluations to assess effectiveness and impact on student learning.  5.1 **Needs Assessment** - conduct needs assessments to determine school-wide, faculty, grade-level, and subject area strengths and weaknesses to inform the content and delivery of technology-based professional learning programs. (PSC 5.1/ISTE 4a)  5.2 **Professional Learning** - develop and implement technology-based professional learning that aligns to state and national professional learning standards, integrates technology to support face-to-face and online components, models principles of adult learning, and promotes best practices in teaching, learning, and assessment. (PSC 5.2/ISTE 4b)  5.3 **Program Evaluation** - design and implement program evaluations to determine the overall effectiveness of professional learning on deepening teacher content knowledge, improving teacher pedagogical skills and/or increasing student learning. (PSC 5.3/ISTE 4c)  **6. Candidate Professional Growth & Development** - Technology coaches demonstrate the knowledge, skills, and dispositions to engage in continuous learning, reflect on professional practice, and engage in appropriate field experiences.  **6.1 Continuous Learning** - Candidates demonstrate continual growth in knowledge and skills of current and emerging technologies and apply them to improve personal productivity and professional practice. (PSC 6.1/ISTE 6a, 6b)  **6.2 Reflection** - Candidates regularly evaluate and reflect on their professional practice and dispositions to improve and strengthen their ability to effectively model and facilitate technology-enhanced learning experiences. (PSC 6.2/ISTE 6c)  **6.3 Field Experiences** - Candidates engage in appropriate field experiences to synthesize and apply the content and professional knowledge, skills, and dispositions identified in these standards. (PSC 6.3) |

**Project Description:**

The purpose of my capstone project is to provide leadership, for my teachers, by promoting collaboration, organization, and mentoring to improve the integration of technology into the K-2 IB PYP planners. Many of our teachers are aware of the need for technology integration, but they are faced with so many challenges, in their classrooms, that they do not actively use all of their resources. This capstone project is the perfect opportunity to support not only my teachers, but provide an authentic learning experience for our students. Teachers will be introduced to digital resources to promote higher achievement and tools to support their curriculum. During their weekly collaborative meetings I will be introducing them to a variety of productivity tools, such as Discovery Education Boards, WordPress, Little Bird Tales, Blabberize, EDpuzzle, blogs and wikis. Teachers will be provided with hand-outs to help them navigate these resources. I will help them choose resources to fit into their planners to help encourage authentic learning amongst their students. Once resources have been chosen I will provide assistance with their technology needs.

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| **Resources** | **How will you secure these resources?** |
| Collaborative planning time | -View school master schedule |
| Handouts | -T. Edmondson-Goodman will create them |
| Access to Managebac for grades K-2 | -IB Coordinator at ALB: Natalie Foster |
| Technology Resources & Questions | -Use current classes at KSU  -Researching on my own  -System wide Technology Coach: Stacey Buckalew |
| Laptops | -Two fully functioning computer labs  -Borrow other laptop carts from different grade levels |
| Space | -Sign up for computer lab times |
| Human resources | -We will use high school interns as needed |

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| **August 2015** | Planning conversations with administration and the IB coordinator. Become familiar with the current K-2 IB planners |
| **January 2016** | Consult with teachers during collaborative planning meetings to discuss technology needs within current planners. Introduce Discovery Education Board Builders. Also, offer and aid teachers in one-on-one and/or planner specific technology use. |
| **February** | Collaborative planning reflections;  Offer and aid teachers in one-on-one and/or planner specific technology use. Introduce WordPress and Blabberize. |
| **March** | Collaborative planning reflections; Introduce Little Bird Tales to teachers.Offer and aid teachers in one-on-one and/or planner specific technology use. |
| **April** | Meet with administration and the IB coordinator to determine progress. Collaborative planning reflections. Introduce Edpuzzle to teachers. |
| **August** | Collaborative planning reflections; Introduce blogs and wikis to teachers.Offer and aid teachers in one-on-one and/or planner specific technology use. |
| **September** | Collaborative planning reflections; Introduce Claymation to teachers.Offer and aid teachers in one-on-one and/or planner specific technology use. |
| **October** | Meet with administration and the IB coordinator to determine progress. Collaborative planning reflections. Continue to offer and aid teachers in one-on-one and/or planner specific technology use. |

*\*All handouts will be made available on our school T-drive.*

**Evaluation Plan:**

To evaluate the success of integrating technology into the K-2 IB PYP planners, data and teacher reflections will be collected from teachers during our weekly collaborative planning meetings and at the end of each unit planner. During our weekly collaborative meetings, teachers will be able to express how they are using the web resources with their students. I will be able to determine what changes need to be made to these planners to support my teachers and students. This reflection not only gives the teachers the opportunity to improve the assessments, but also to modify and strengthen the central idea. Student work samples will be collected to show the results of adding technology to our IB planners. Our IB coordinator should see an improvement in the integration of technology into the IB PYP planners by viewing Managebac.

Managebac is an electronic platform for IB schools to efficiently plan, assess, and reflect on the unit planners. The reflection questions that are posed to our teachers on a weekly basis are:

1. To what extent did we achieve our purpose?
2. How could you improve on the assessment task(s) so that you would have a more accurate picture of each student’s understanding of the central idea?
3. What was the evidence that connections were made between the central idea and the transdisciplinary theme?
4. Assess the outcome of the inquiry by providing evidence of students’ understanding of the central idea.
5. Teachers should include clear and detailed examples of classroom discussions, comments or student work that demonstrates connections made between the central idea and the transdisciplinary theme.

**References**

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