Project 2: Creating Meaningful Learning Environments with Technology

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The key components of designing effective instructional frameworks encompass the needs of students, stakeholders, and utilization of advanced technology that optimize student learning experiences to create a flourishing society. Bers' (2012) six design principles: content creation, creativity, choice of conduct, communication, collaboration, and community building, were used as an advisory guide that was equated to Jersey City Public Schools District Technology Plan.

Bers' concept for Positive Youth Development is the focus of her book *Designing Digital Experiences for Positive Youth Development* (2012). Ultimately, she sees students' interactions with technology as the basis for students to not only learn new material but to become better people and make the world a better place. Her approach includes the literacies of 21st-century competencies (collaboration, creativity, problem-solving, and communication) as a means to the development of their values, identity, and purpose (p. 4). Recognizing the six principles within the Jersey City Technology plan helps to purposefully design technology experiences that will build characteristics (competence, confidence, character, connection, caring, contribution) that support Positive Youth Development (p. 63).

Jersey City Public Schools have committed to a plan exploiting the latest technology to benefit staff to efficiently perform duties that are instrumental in nurturing students in becoming viable citizens equipped with 21st century skills. "Technology serves as a vital link between students and the mastery of a common core of knowledge necessary for active participation…" (Jersey City Technology Plan, 2016).

When composing a scheme for instructional design, it is obliging to draw from reputable resources to ensure essential goals are established. What was discerned in this review was Jersey City Public School Technology Plan greatly focused on school officials and staff and how they can contribute to student academic success with technology, while Bers' converged on the perspective of the students and how significant their

roles are in the six design principles. The values of these entities can be enhanced with the balance of both perspectives.

1.0 Learning Goal: Engage and Empower (Karen) - All learners will have engaging and empowering learning experiences both in and out of school that prepare them to be active, creative knowledgeable and ethical participants in our globally networked society.		
6 Focus Areas	**Description of Action Plan (JCBOE)**	**Relation to Bers' Framework for Designing Digital Landscapes for Personal Development**
Content Creation	**1.1** Revise, create, and adopt standards and learning objectives for all content areas that reflect *21st century expertise* and the power of technology to improve learning, including digital instructional resources (1.1.1) Design and creation of units utilizing New Jersey Department of Education templates that are aligned with the Content Standards and that assist in achieving the goal of engaging students, fostering achievement, and cultivating 21st century global skills integrated with the National Educational Technology Standards (NETS) (1.1.2). **1.2.1** Form committee to review technology resources that support district's curriculum independent online literacy instruction, learning resources (Study Island and Standard Solution 1.2.2), as well as replace or supplement interactive digital textbooks ultimately creating and transitioning to interactive course book (1.2.3)	Bers (2012) Positive Youth Development (PYD) is directly aligned with children's ability to "gain the technology literacies of the 21st century" in developing a sense of identity, values, and purpose (p. 4). These processes of engagement foster all of the characteristics of competence Bers identifies as fundamentals for PYD: confidence, character, connection, caring, and contribution. The developmental stages at each of the different age groups should be considered when incorporating digital instructional resources. Designing and creating these resources need to work within the affordances and limitations of technology that is available to students and staff, so it will promote a digital landscape that is more in keeping with Bers' digital playground metaphor (Bers, 2012, p. 137). The ability to connect to different learning resources independently allows for students to build competence, confidence, and connection to others. Potential access to interactive course books would engage students as they use online books to work at their own pace. Connection with other students while online enhances

		communication and collaboration with peers. These experiences foster characteristics such as confidence and give students a chance to contribute with their peers in a different manner. Bers (2012) might suggest that these technologies be extended a bit further citing the fundamental principle of constructionism. Students could use these tools to design and create rather than be consumers of the material. This allows them to solve real, authentic, problems which then engages them more fully (p. 38).
Creativity	**1.2** Develop and adopt learning resources that use technology to embody design principles from the learning sciences	Design principles are important for students to develop, as Bers (2012) explains, as it cultivates students becoming creators not consumers (p. 64). This is a form of creativity that affords collaboration through the use of technology (p. 82). Bers (p. 82-83) cautions the use of technology as "edutainment software." The focus of JCBOE to embody learning sciences indicates they may be receptive to the understanding that students need to use technology in order to engage in creative projects. This allows students to design creative content which ultimately builds PYD characteristics of competence, creativity, and confidence.

Choice of Conduct	**1.3** Develop and adopt learning resources that exploit the flexibility and power of technology to reach all learners anytime and anywhere. Including utilizing Holt/McDougal online resources and McDougal/Littell (1.3.2) **1.3.5** Expand 21st Century/Genre writing pieces in K5 from comprehensive core reading/writing curricula, utilizing digital technology such as Google Docs, fostering engagement, student achievement, and cultivating 21st Century global skills	The JCBOE action plan will offer a variety of different online tools. These tools give opportunities to students to use them as intended and perhaps in ways that may not be in accordance with school policy. Those choices offer opportunities for students to have opportunities to "evolve an internal moral compass to guide their actions (Bers, 2012, p. 91). Over time these choices build character as they must continue to have a choice as to how they interact with and use these numerous online tools. It would behoove JCBOE to make a conscious statement to include the development of character through the use of technology. As Bers (2012) suggests, digital landscapes offer multiple occasions to "for young people to explore their moral identities" (p. 93). JCBOE offers multiple opportunities to interact with technology and this is a chance to bring awareness to this particular aspect.
Communication	**1.3.6** Enable District Wi-Fi access to Bring Your Own Devices (BYOD)	Communication is an important 21st century skill and students who use their own devices in school and at home have a chance to develop a connection between the two "worlds." Students using their devices for homework, research, collaboration, and communication with peers for school work but there is also social-emotional connection which may extend beyond the school work (Bers, 2012, p..167).
Collaboration	**1.1** Revise, create, and adopt standards and learning objectives for all content areas that reflect 21st century expertise and the power of technology to improve learning.	Using technology, in all content areas, allows students to improve learning while creatively designing content, as they work collaboratively with peers. This focus on any of the 21st century skills and the power of technology are aligned with

		Ber's (2012) tenet collaboration will build a student's sense of identity, value, and supporting PYD.
Community Building	**1.4.1** Form committee to evaluate, recommend, and implement STEM initiatives such as ***Engineering is Elementary*** and develop Clearinghouse of Web Resources. Develop Teacher/Student STEM profiles and Teacher/Student STEM content reports	The JCBOE does not explicitly address community building in this focus area, however Bers' Framework (2012) offers the connection to the community through STEM profiles and engineering design. Engagement in these initiatives provide new ways for students to "create communities that extend beyond geographic boundaries" (p.. 120). An important step in the Engineering Design Process is collaboration and communication encouraging reaching beyond the school community to connect with experts in the field for feedback. This connection with authentic experiences helps to broaden connections with the community.

2.0 Assessment Goal: Measure What Matters (Dan) - Our education system at all levels will leverage the power of technology to measure what matters and use assessment data for continuous improvement.		
6 Focus Areas	**Description of Action Plan (JCBOE)**	**Relation to Bers' Framework for Designing Digital Landscapes for Personal Development**
Content Creation	**2.2** Build the capacity of educators and educational institutions to use technology to improve assessment materials and processes for both formative and summative uses.	Competence through content creation can be achieved educators improving assessment digital materials for formative and summative assessments (Bers, 2012, p. 67). The 2.2 action plan focuses on creating effective and appropriate assessments will align with course and program learning objectives and, in turn, will be focused on teaching and learning best practices.

Creativity	**2.1.2** Evaluate current and prospective assessments utilized in the district such as Performance Matters Let's Go Learn (DORA, ADAM, DOMA), **2.2.7** Build teachers' capacity to integrate technology to improve assessment materials through professional development activities.	Digital environments can foster engagement and creativity and positive development of learners' skills (Bers, 2012, p. 82). JCPS will integrate new technologies to enhance assessments and learning activities; an approach which will increase confidence and creativity among students.
Choice of Conduct	**2.1.6** Implement policies and procedures to ensure fair tracking of Teacher/Student Data Links (STDL) for accountability (Performance Matters) **2.2.8** Build administrators' capacity to monitor technology integration through professional development activities. **2.4** Revise practices, policies, and regulations to ensure privacy and information protection while enabling a model of assessment that includes ongoing student learning data gathering and sharing for continuous improvement. **2.2.10** Provide In-District Certification access and training to data analysis tools such as NJSMART, JCPS Data Warehouse, Infinite Campus, Alio, Pinnacle, and GOOGLE Apps.	Bers (2012) states educational technologies should be used in order for students to explore their moral identities (p. 91). The Jersey City Public School District has implemented policies and procedures to ensure that sensitive data is tracked fairly and remains private to the public. Professional development is implemented to ensure that the technology used for data management is utilized efficiently and appropriately. The student data is strictly used for continuous improvement of operations and student learning. Although administration has tools available to ensure that the district is acting appropriately, similar situations with digital tools should be available to learners so that they can explore their moral identities.
Communication	**2.1.3** Schedule vendor fair and review rating sheets to select new instructional resources.	Bers (2012) explains that education technologies which promote communication (i.e., text, voice, sound, pictures, and videos) will promote student development (p. 101). This action plan does not have specific information on what types of instructional resources are being researched. This plan has potential to align

		with Bers' view of providing communication tools for promoting connections among students, but more details are required.
Collaboration	**2.1.1** Form committee to review technology assessments that provide feedback about student learning. **2.2.4** Provide opportunities for collaboration among teachers of Curriculum grades K-5 to share instructional resources and effective practices. **2.6** Establish a school-based planning team to develop a detailed plan for professional development of teachers. **2.3.1** Form committee to research integrating technology-based instructional strategies for Simulations, Digital Games, and Social Networking; the cognitive implications of these technologies; specific challenges with using these tools in the classroom; strategies for overcoming these challenges in order to achieve successful learning experiences; and, the future of these technologies and their impact and learning and teaching. Identify web resources, lesson plans, and activities for posting to Clearinghouse.	Bers (2012) states that children in learning environments should be infused in digital landscapes which involve "technical supports and social supports to encourage collaboration. This is essential to promote social and pro-social development" (p.113). JCPS's action plan includes a plan to integrate simulations, digital games and social networks and focus on proper implementation in order to address cognitive development and successful learning experiences. The technology plan includes opportunities for teachers to collaborate on the choosing and plan of integrating technologies. Students are excluded from the process; involving students' perceptions and input of educational technologies would align with Ber's notion of collaboration in digital landscapes.
Community Building	**2.2.1** Establish a district-based planning team to continue development of district content-based wiki. **2.2.3** Build teachers' and administrators' capacity to engage in online learning communities through professional development.	This JCPS action plan does not align with Bers' "Contribution through Community Building and Collaboration." Integrating technology to improve collaborative activities among teachers via a Wiki is helpful for administrative purposes. If this initiative utilized Wikis and training to foster collaboration among the student population in learning environments, a

	2.2.9 Provide opportunities for collaboration among teachers of Curriculum grades 6-12 to share effective practices using technology.	potential to improve student outcomes would exist.

3.0 Teaching Goal: Prepare and Connect (Iris) - Professional educators will be supported individually and in teams by technology that connects them to data, content, resources, expertise, and learning experiences that enable and inspire more effective teaching for all learners.		
6 Focus Areas	**Description of Action Plan (JCBOE)**	**Relation to Bers' Framework for Designing Digital Landscapes for Personal Development**
Content Creation	**3.5.4** Implement a CTE based STUDENT TECH SQUAD in pilot schools **3.4.5** Create a Blog on Flipped Learning to collaborate on Best Practices and obstacles to implementation **3.5.1** Continue to facilitate HOUR of CODE technology workshops for teachers in our district.	According to Bers (2012), content creation provides users with opportunities to utilize their critical thinking as they work on computer programming, videos and audio. Bers added that "in the process of creating content, children develop technological fluency." The JCBOE appears to be providing students and teachers with several opportunities to build capacity in areas such as coding, flipped learning and blogging. The STUDENT TECH SQUAD will also assist with building capacity of all learner involved. "Leaders who understand the landscape of our digital world know that they must involve a school's most important stakeholders" which are the end users - students. (Scheffer, 2015).
Creativity	**3.3** Transform the preparation and professional learning of educators and education leaders by leveraging technology to create career-long personal learning networks within and across schools	Action plan 3.3 discusses transforming the learning of educators and leaders. In the Bers text (2012), creativity is referred to as "a scientific field of study that focuses on solving difficult problems" and "appropriate ways to transform the boundaries of an entire discipline or domain."

	3.5.6 Digitalize teaching with APPLE TV, CHROMECAST, Interactive Whiteboards. **3.1.5** Establish and expand GOOGLE Certified Educator Program	Creativity is interconnected with confidence. When one is well prepared in the use of educational technology, it enables them to take their creativity to another level. Action plan 3.1.5 relates to establishing a GOOGLE Certified Educator Program. Establishing and expanding the program will assist with preparing teachers and in turn, students will benefit from this as they will be able to create projects and become self-sufficient while utilizing GOOGLE suites. Digitizing teaching will promote student engagement and assist with enhancing lesson plans regularly.
Choice of Conduct	**3.1.8** Integrate Technology to teach curriculum while increasing engagement and fostering collaboration...use of state-of-the-art, 21st Century technologies to promote quality instruction specifically designed to prepare our students to become digital citizens **3.4.4** Implement the SAMR model Framework to effectively integrate technology into teaching	The JCBOE should describe how they plan on preparing students to become digital citizens. They mention the use of state-of-the-art technology and integrating technology to teach curriculum, but do not indicate what technology they plan on utilizing. The JCBOE should consider implementing Common Sense Education, which is a free K-12 curriculum on digital citizenship. The curriculum prepares and empowers students to demonstrate safe and responsible behavior in the 21st Century digital world (commonsense.org). The implementation of the Common Sense Curriculum is in alignment with Bers' notion of Positive Youth Development and the PTD framework assets: character and caring. Bers (2012) defines the term *character* as "A moral compass that guides the use of technology..." (p. 11). JCBOE action plan 3.4.4 - Implementation of the SAMR Model will assist with assessing and guiding the effective use of technology in their schools.
Communication	**3.3.3** Provide professional development preservice and in-service education leaders to access and	Communication is interconnected with most of the six individual assets or six C's. While communicating with others via social media

	effectively utilize the selected networking sites, as well as collaborate and communicate with colleagues throughout the district	and other networking sites, teachers and students become more competent and confident with the use of technology. One usually meets caring individuals and make connections with people that have the same end goal in mind. (Bers, 2012).
Collaboration	**3.1.1** Form committee to research and review websites that provide students, such as njn.net or pbs.org. **3.5.2** Collaborate with building administrators to evaluate available technology resources and to schedule school-based professional development sessions for teachers. **3.5.3** Sustain an ongoing support system for teachers in the use of technology to enhance instruction.	"A digital landscape that offers the possibility of communicating to form social connection with peers and adult has the potential to promote positive development" (Bers, 2012). It should be noted that some technological devices may provide a better communicational platform than others, so it is essential to select a device that allows for appropriate collaborative engagement.
Community Building	**3.1.6** Build teachers' capacity to engage in online learning community through professional development. **3.1.7** Enhance professional learning communities (PLC) using mobile social media products **3.4.1** Form committee to annually research, review, and recommend websites that provide teaching and learning resources for educators and students.	The JCBOE intends on building teachers' capacity by integrating professional learning communities or PLC's via mobile social media products. Bers discusses a similar pedagogical approach referred to as CSCL, a computer supported community (Brown, 2012) where learners are work collaboratively and depend on one another for support on similar tasks.

5.0 Productivity Goal: Redesign and Transform (Denise) - Our education system at all levels will redesign processes and structures to take advantage of the power of technology to improve learning outcomes while making more efficient use of time, money, and staff.		
6 Focus Areas	**Description of Action Plan (JCBOE)**	**Relation to Bers' Framework for Designing Digital Landscapes for Personal Development**
Content Creation	**5.1** Design, implement, and evaluate technology powered programs and interventions to ensure that students progress through our K-12 education system and emerge prepared for the workplace and citizenship.	JCBOE's plan for content creation focuses on input from supervisors, specialists, coaches, and teachers; whereas Bers' focus is on the students building their own content. Extension: Although not mentioned, students can take part in the process of creating content. This would be an opportunity to explore areas that would build upon preparing students for the workplace, citizenship, and entrepreneurship.
Creativity	**5.1** (see the description in Content Creation.)	According to Bers (2012), when given the right tools and advanced technology, students can create on higher levels in productive learning environments (p. 67).
Choice of Conduct	**5.1** (see the description in Content Creation.)	With developmentally appropriate software, students' confidence will increase, and their technological skills will strengthen. In the process, "we must provide opportunities for children to evolve an internal moral compass to guide their actions in the world" (Bers, 2012, p. 91).
Communication	**5.1.1** Form committee to develop enhanced technology assessments that provide feedback about student learning. **5.1.2** Share current and prospective assessments utilized in the district	In Bers (2012) PTD, "Programs…must welcome the enormous possibilities for sharing ideas, thoughts, and feeling…" (p. 101). This communication can be established amongst peers, students, and parents. Extension

	5.1.3 Build capacity to develop common grade level online assessment.	As an extension of communication for students, it is vital that social interaction is afforded to students to acquire necessary skills to function in personal spaces and educational environments. Bers believes, "Technologies that effectively provide ways for children to communicate not only facilitate social interaction but also promote language and literacy development" (p. 103).
Collaboration	**5.1** (see the description in Content Creation.) **5.1.1** Form committee to develop enhanced technology assessments that provide feedback about student learning. **5.1.2** Share current and prospective assessments utilized in the district **5.1.3** Build capacity to develop common grade level online assessment.	Grudin (1994) mentions, "The field of computer-supported cooperative work (CSCW) focuses on how technology can support and coordinate people in their work" (as cited in Bers – p. 112). It is also mentioned how computer-supported collaborative learning (CSCL) helps users to establish a means of communication for support.
Community Building	**5.1** (see the description in Content Creation.) **5.1.1** Form committee to develop enhanced technology assessments that provide feedback about student learning.	Technology should be utilized to benefit school communities and beyond. Both Bers and the JCBOE Plan reinforce the importance of working in units to establish productive environments for stakeholders. Bers states, "New technologies can facilitate behaviors such as community building that lead to contribution in the form of community service, activism, and advocacy" (p. 119).

References

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