

PROJECT NARRATIVE: UMIGO Project "yoUMakeItGO"

Window to the World Communications (WTTW) is applying to the Department of Education Ready To Learn grant program (CFDA #: 84.295A). The application narrative that follows addresses Invitational Priorities 1 and 2, as well as the Competitive Preference Priority for project evaluation.

(1) NEED FOR PROJECT

It has been more than 25 years since the landmark education study "A Nation at Risk" (1983). Despite our best efforts since then, American school performance remains static. A disturbingly large number of our children, including a majority of low-income students, are behind in one of the most important predictors on future achievement: mathematics. Clearly, current approaches to mathematics teaching and learning have not been sufficient: fully 61% of U.S. fourth graders fail to achieve mathematics proficiency (National Center of Educational Statistics (NCES), 2009). Overall, American students achieve mathematics at a "mediocre" level compared to their peers worldwide (National Assessment of Educational Progress, 2009). Children from China, Japan and Korea outperform their American counterparts in mathematics achievement as early as kindergarten, as well as in primary school and beyond (Stevenson, Lee & Stigler, 1986; Mullis et al, 1997, 2000).

Additionally, mathematics instruction in this age of technological revolution, although intuitively a natural fit, is almost totally removed from the ubiquitous digital media culture that pervades children's lives (Gee, 2009). As Gee (2003) notes, "children often feel locked out of the worlds described in their textbooks because of the depersonalized and abstract prose used to describe them" but actively and eagerly engage in problem-solving and learning in the digital world. Without the development of successful approaches to digital teaching and learning, our

current educational paradigm may make academic achievement gains even more difficult in the future (Gee, 2009).

The rapid growth of worldwide digital commerce and communication also dictates the need to provide our children with the necessary skills in mathematics and spatial thinking as well as the skills required to participate in the new digital culture (Jenkins, 2009). Without the technological experience, cultural competencies, and social skills needed for participation in the digital world, our youth will fall behind in their abilities to compete in the global marketplace.

Taken together, these dynamics do not bode well for our children's and our nation's future. Without a solid foundation in mathematics and digital competencies, many of our youth will be at risk for educational failure, unable to succeed in grades K-12, and at risk as potential high school dropouts. Many of those who do manage to graduate high school will be denied access to or will fail in college, have fewer career opportunities, and face lowered earnings potential (National Mathematics Advisory Panel (NMAP), 2008). Our uneducated young people, in fact, will be twice as likely to be unemployed as their better-educated counterparts (Alliance for Excellent Education, 2003) and less likely to vote or become civic leaders (Pascarella & Terenzini, 1991). Simply, the failure to acquire numeracy and mathematic skills is as serious and tragic as illiteracy — with devastating individual and social consequences.

Without effective and sustained educational intervention, the United States will struggle to sustain a workforce of adequate scale and quality and thus relinquish its global leadership in the 21st century. A weakened American independence and leadership risks the nation's ability to adapt to change, its economic viability, and the foundations of national security (NMAP, 2008).

Windows on the World Communications (WTTW) submits this proposal as a member of the Project UMIGO Partnership, with the primary objective of significantly increasing children's

numeracy acquisition, mathematics achievement outcomes, and digital competency, targeting low-income children and their families. To achieve this goal, the partnership will create and deliver multiple-platform, media-based, effective mathematics interventions in the form of transmedia storytelling and activities, and will provide corresponding support materials and digital resources for parents, caregivers, and teachers. The use of scientific, evidence-based research will allow the UMIGO Partnership to establish strong evidence of the intervention's educational effectiveness and determine new measures of student performance outcomes relevant for new media learning. Scientific research will also provide formative feedback and guidance in the content creation process.

A. Nature and Magnitude of the Need

Need for numeracy acquisition. The most recent Nation's Report Card for Mathematics reveals that 61 percent of all U.S. fourth graders fail to achieve mathematics proficiency (National Center of Educational Statistics, 2009). The failure rate in mathematics is persistently higher among children living in low-income families (78%), and among those whose first language is not English (88%; National Center of Educational Statistics, 2009).

Given that mathematics proficiency has substantial impact on future academic success, numeracy acquisition is as important for our young children as learning to read and write (Cohen, 2005). If we do not develop effective mathematics education strategies, large numbers of children at risk for educational failure will become adults without basic math skills.

The implications for our society are significant: future jobs require mathematics-competent workers. The National Science Board has found that jobs in the mathematics-intensive science and engineering workforce outpace overall job growth by 3:1, and will continue to grow. Existing jobs in science, technology, health care, finance and business will be out of reach for

large portions of our workforce. In consequence, a math-illiterate populous will weaken our workforce, engender national vulnerability and squander our nation's achievements and potential.

Need to leverage media and technology for learning. At present, a debate continues in the public dialogue about the effects of children's media consumption. For example, in a Joint Statement (2000) before the Congressional Public Health Summit, a number of American medical associations, including the American Medical Association, American Academy of Pediatrics, and American Psychological Association cautioned parents about violence in the media and its negative effects on children. Their report stated that exposure to violent media could elevate aggressive thoughts and feelings, and that these effects could be long-term. Likewise, critics of video games cite research suggesting that violent games have a more negative and dramatic influence on children's behavior than television (Bushman & Anderson, 2002; Gentile & Anderson, 2003), and contribute to a decline in academic performance (Rideout, Foehr & Roberts, 2010). Some compare the current computer and video game landscape to the "vast wasteland" of television in the 1960s. A number argue that media "screen time" squeezes out time for real world play with adverse health consequences; others voice concerns about the lack of adult supervision of media that children consume (Kaiser Family Foundation, 2005).

Nonetheless, children's exposure to media and digital technology in the home has increased steadily since 2006 (Cohen, M. et al., 2009). Children ages two to eight now spend 21 hours a week on average engaged with media on multiple platforms, including television, computers, and video games (Cohen, M., et al., 2009). Children's transmedia consumption increases with age; eight to 18 year-olds now devote more than 53 hours a week to a multitude of different media and technology (Kaiser Family Foundation, 2010).

Recent research demonstrates that children learn effectively from entertaining, educational media-based games and tools, and that interactivity of new media products can be powerful means of teaching specific skills and stimulating cognitive development (Buckleitner, W., 2005; Linebarger, D.L., & Walker, D., 2005; Calvert, S.L., 2005). These findings, along with evidence of children's increasing involvement with media, underscores the need to leverage the positive potential of digital media content and related technologies (Gee, 2003; Klopfer, Osterweil & Salen, 2009).

Need to restore creative playtime, child-centered learning-by-doing opportunities.

Advances in education science over the past two decades emphasize the critical nature of constructivist learning — that is, learning-by-doing. Traditionally, early learning environments were places for both instruction and creative and constructive play. In addition to mastering the three "Rs," children told stories, built castles, painted pictures, made friends, and learned to share. At playtime, children imagined what they might do or make, create something based on their ideas using clay, construction paper, scissors, glue, blocks, paint, glitter, etc., play with their creations, share them with others, and reflect on their experiences. Those learning-by-doing activities, in turn, led children to new ideas and bigger projects — and greater learning (Resnick, 2009).

Today, opportunities for creative play and constructivist learning have declined dramatically; many preschool and elementary schools have substantially reduced or eliminated creative, constructive playtime from their schedules (Bodrova & Leong, 2003; Brandon, 2002; Elkind, 2007; Murline, 2000). Instead, classroom instruction emphasizes cognitive development and the content of high-stakes tests (Brandon, 2002) in attempts to improve academic performance and

to eliminate the persistent achievement gap that characterizes children from disadvantaged and lower socioeconomic backgrounds (Zigler & Bishop-Josef, 2004).

In addition, young parents today are experiencing what they perceive to be a struggle for resources in a highly competitive environment; theirs is the first American generation who may not fare as well economically as their parents. In response, they have become increasingly concerned with their young children's ability to compete for placement in the best schools and, in later life, for good jobs, above average salaries, and the better things in life. In an effort to provide offspring with the all advantages necessary to successfully compete, parents are now structuring and managing their children's lives very carefully, scheduling and filling free time with "beneficial" activities to ensure that "no time is wasted." As a result, children are spending less and less time on their own in independent play and exploration. In fact, young children have lost 12 hours of free time a week in the past decade, eight hours of which were once spent in unstructured play and opportunities for constructivist learning (Elkind, 2007).

With the emphasis on rigorous teacher-led classroom instruction and "beneficial" experiences outside of school, children spend most of their time in highly structured activities. Yet decades of empirical research clearly indicates the benefits of play and constructivist learning for cognitive and social development, including language skills, problem solving, representational skills and creativity, as well as collaboration, turn taking, empathy and motivation (Zigler & Bishop-Josef, 2004). These findings emphasize the need to restore creative constructivist playtime and child-initiated learning opportunities so that our young people develop and refine their abilities to think creatively and work collaboratively — exactly those skills important to achieving academic as well as lifelong success in the 21st century.

B. Gaps/Weaknesses in Services, Infrastructure, Opportunities

Gaps in support for mathematics learning. Research indicates that the numeracy knowledge that children first bring to school influences their math learning throughout their academic life. Children have the inherent ability to learn math but many currently have limited exposure to informal opportunities to learn and practice math thinking at home prior to kindergarten or during their early elementary school years. Multiple studies indicate that young children from low-income families receive far less support for mathematics learning in their home environment than do their middle-income peers (Blevins-Knabe & Musum-Miller, 1996; Holway et al., 1995; Saxe et al., 1987; Starkey et al., 1999).

Gaps in learning opportunities. Teachers who build on children's everyday mathematical experiences promote genuine mathematics learning (Civil, 1998; Ladson-Billings, 1995). However, NAEP survey data indicate that mathematics instruction for fourth grade African American and Hispanic students consists mainly of memorizing facts, a practice that is negatively correlated with achievement even after controlling for race/ethnicity and socioeconomic status (Lubienski, 2006, 2007).

Consistent poor performance in school highlights the limited number of high quality learning opportunities for disadvantaged and low-income children. In fact, there now exists an opportunity gap, defined as "the accumulated differences in access to key educational resources – expert teachers, personalized attention, high-quality curriculum opportunities, good educational materials and plentiful information resources – that support learning at home and at school" (Darling-Hammond, 2010). The opportunity gap is particularly evident in preschool programs serving low-income children. These programs provide fewer learning opportunities and supports for mathematical development than programs serving middle-income families (Clements and Sarama, 2008).

Approximately one-half (49.5%) of US children enter kindergarten at a school where a majority of students live at or below the poverty level (Flanagan, K.D. & McPhee, C., 2009). This means that at least of half the children entering kindergarten will experience a constellation of inequalities due to concentrated poverty (Darling-Hammond, 2010). The Organization for Economic Cooperation and Development (OECD) found that schools with concentrated poverty are typically staffed by less qualified and less experienced teachers, more limited curricula is taught at less challenging levels, fewer learning resources are available, and students have lower levels of peer group support and competition (OECD, 2005).

Gaps in media and technology knowledge. Since 2006, children's exposure to and use of media in the home has increased (Cohen, M. et al., 2009). Children's home environment shapes their technology experiences. Unfortunately, what many children do and the ways they engage with media and technology can be identified as a new participation gap, defined as the unequal access to the opportunities, experiences, skills, and knowledge that will prepare youth for full participation in the world of tomorrow (Jenkins, 2007). While media and technologies are increasingly available to actively engage children as early learners, many parents do not know how to use media to educate and prepare their children for participation in culture of digital media. This participation is an essential foundation for success at school and beyond.

C. Addressing Needs and Gaps

In response to these trends in the social environment, WTTW has partnered with Wildbrain Entertainment — producers of "Yo Gabba Gabba!" — and the Michael Cohen Group LLC— experts in scientific evaluation of educational initiatives — to develop Project UMIGO ("yoU Make It GO"). UMIGO will offer child-initiated learning and creative play opportunities for students ages two to eight, providing them with the digital paint, glue, blocks and other tools that

will allow them not only to learn the basic principles of mathematics but also to develop and refine their abilities to think creatively, invent, and work collaboratively — exactly those skills important to achieving academic as well as lifelong success in the 21st century.

Project UMIGO will address the critical needs and gaps described above in four ways: with a unique and innovative transmedia storytelling (and creating!) concept; research-based curriculum; outreach; and evaluation.

Unique, innovative transmedia concept. Enter the World of UMIGO. UMIGO is not one place, but many places where kids can learn, build and share. There are multiple entry points to the UMIGO virtual world — via cell phones, computers, and handheld video game systems or by way of traditional kids' media like television, books, and trading cards. Just as the world of Club Penguin began with online media, UMIGO starts with the World Wide Web. Children log on, join for free, create their own personalized avatar, and use it to navigate the UMIGO world. Once there, they receive a universal toolkit to use to create, explore, and learn. Michael Polis, CEO of Wildbrain Entertainment and Project UMIGO's creator, explains the ideas behind Project UMIGO this way: "When we were kids, we were inventors. We thought of crazy ideas for all sorts of amazing things we wanted to make! With scraps of wood, extra screws, string and tools from dad's toolbox, we made things — things that were practical, that solved everyday problems. When using our imaginations, we built fantastical things — things that we thought just might change the world! Kids today are just the same. They want to make things – fantastic things – that spring from their imagination, sometimes with practical and sometimes implausible applications. With the proper tools and a bit of guidance, kids today can (virtually and literally) create things we could have never even imagined. At the same time, they can learn math principles by doing and making."

Curriculum. Based on empirical research, the UMIGO world utilizes developmentally-scaffolded curricula in which mathematical concepts are introduced and utilized across multiple platforms with increasing complexity so that mathematical proficiency is attained and becomes habitual. UMIGO's adherence to the Common Core State Standards for Mathematics, released in June 2010, will promote mathematics achievement across the multiple platforms: websites, mobile phones, handheld games, television/DVDs, books, and audio formats, allowing each platform to do what it does best – present stories, change attitudes, and influence behavioral outcomes through increasingly complex interactions.

Transmedia storytelling. Using children's natural inclinations to embrace digital media in its multiple forms—including games, mobile devices, and virtual worlds—and providing engaging educational content, Project UMIGO will utilize transmedia storytelling to "help transform children from bored, reluctant learners...to excited, engaged, and creative" learners of today and the workforce of tomorrow (Gee & Levine, 2009).

Outreach. Family, teachers and community are important in young children's learning. Through its outreach partnerships, Project UMIGO will develop and provide training materials and digital resources for families, educators, and caregivers to help ensure that researched-based mathematics instruction is infused into all aspects of children's UMIGO media activities.

Evaluation. Ensuring effective interventions means utilizing rigorous measurement tools. Much of the existing literature related to early learning and media is focused on formative stages of media product development. Formative research has been useful in assessing specific learning from children's media among small populations of children (see Truglio et al., 2001, for examples), identifying the most effective ways to convey educational messages in children's television shows (cf. Cohen and Rosen, 1992; Tobin and Cohen 1997), or in the assessments of

overall comprehension (cf. Truglio, Scheiner, Segui and Chen, 1999). However, there has been less research using large-scale measures to identify outcome generalizability to large populations, or summative research conducted using a scientifically based research design.

Even when outcomes are measured, there is little attention to the mechanisms (Valkenberg, 2001). Most media research has studied the impact of messages mediated through television, with far less attention to how children receive, evaluate, and learn from newer media platforms. Moreover, transmedia storytelling has only recently emerged as an area of social scientific study (Jenkins, H., 2006). Project UMIGO will contribute significantly to this body of research while forging new ground by assessing different media platforms both individually and collectively as a transmedia experience.

(2) SIGNIFICANCE

The UMIGO transmedia experience is explicitly designed to have high utility value. Conceived as a different, unique type of experience for young learners, it offers a novel approach to mathematics education through media-based intervention. There are eight major dimensions to the utilitarian strength of the property: 1) The UMIGO world of tools and creation is accessible by children, students, teachers and parents at all levels of technical expertise and comfort. It requires no professional development for educators to use in classrooms or for parents to facilitate use at home. Accessible by students from preschool through early grade school, it requires little instruction and offers a barrier free entry experience. 2) UMIGO offers a template for future tool-based transmedia properties. UMIGO provides early learners with a digital, technology-based toolkit that allows them complete a wide variety of media based projects. The number of tools that children can use in the digital world is limitless as a result of the increasing speed of technological innovation. The introduction of new platforms and new possibilities is

multiplying at a breathtaking pace, such that new platforms and new content forms generate constantly changing and evolving tools (iPhone apps are perhaps the best example of this phenomenon). Moreover, the UMIGO concept of tools for learning can be modeled and used by educators in a wide variety of topic areas. 3) UMIGO seamlessly bridges in-school and out-of-school child learning experiences. Children can research, create, collaborate, and communicate with a teacher in school and then take the knowledge into UMIGO for application and simulation outside of school hours. 4) The National Education Technology Plan (NETP; US Department of Education, 2010) recommends use of technology in order to allow children to take control of their own learning, permitting them to focus on areas of interest. Increased interest motivates an expenditure of time and effort, which in turn leads to increased knowledge, skills, and experience and advancement to more complex concepts (Czikszeentmilhaly, 1996; Schweinle, Turner & Meyer, 2006). 5) NETP further recommends that technology be utilized for educational purposes so learning can take place anywhere, at any time. In response, UMIGO is accessible on multiple platforms, employing the Internet to provide engaging curriculum-based activities for children. Further access to the UMIGO world can be gained through additional media platforms including cell phones, handheld gaming devices, touch screen devices (like the iPod or iPhone), television, DVDS, and traditional books. 6) UMIGO offers child-initiated, goal-directed constructivist learning activities that allow children to learn based on their own interests and imagination. It encourages children to learn through creation and simulation as first person inventors and contributors. In addition, UMIGO's use of social networking allows children to connect with others who share their interests. 7) UMIGO accommodates a variety of learning styles. Importantly, pacing and learning style is customized to individual learners. Knowledge is provided utilizing 'just-in-time' pedagogy, with learning focused on completing a specific task.

Mathematics learning is embedded in tool use and construction activities. 8) UMIGO is easily integrated into a variety of curriculum.

In sum, the utility value UMIGO is based on its broad availability and its design to provide personalized, constructivist-learning opportunities. By placing the child at the center of the learning narrative, creative activity and mastery development are the plot, which is moved forward by the child's learning-by-doing actions. As identified in the NETP, Project UMIGO utilizes simulations of real-world environments as the context for task completion. Children have the opportunity to explore new situations and challenges, try different courses of action, and practice a variety of problem solving behaviors.

In addition, UMIGO content is based on a comprehensive scaffolded-learning curriculum, wherein children can advance to more sophisticated activities in a progressive and sequential mode. Students are provided with support to learn increasingly advanced concepts, completing structured tasks increasing in difficulty, at an appropriate pace. Further, the interactive digital context allows for tracking of input so as to provide feedback to children as they learn. As a result, children are better able to attempt different courses of action and evaluate their effectiveness. This feedback mechanism allows students to learn from their experiences as they solve future problems and engage in similar, yet increasingly difficult, activities (Gee, 2003).

(3) QUALITY OF PROJECT DESIGN

A. Project Reflects Up-to-date Knowledge of Research and Effective Practices

Knowledge of Research and Effective Practices in Mathematics Instruction. The National Council of Teachers of Mathematics (NCTM; 2006) identified three critical focal points for pre-school and kindergarten: number and operations, geometry, and measurement. An effective

transmedia curriculum must provide meaningful learning experiences in these content areas. Those experiences provide young children with the foundation for future mathematics success.

Early number competencies serve as a base for learning formal mathematics (Griffin et al., 1994; Miller, 1992). Engaging young children in number activities is important for strengthening foundations and building conventional number knowledge (Gersten et al., 2005; Klibanoff et al., 2006); efforts to teach number-related skills to high-risk kindergartners show promise for improving mathematics achievement (Griffin et al., 1994).

All young students must learn to think mathematically, and they must think mathematically to learn. Mathematics is a broad discipline and children need to learn about its many aspects (National Research Council, 2001). Research indicates that students can learn significantly more math content than is usually offered in the early grades. The National Research Council encourages the development of research-based curriculum that is interactive, with improved learning materials, yielding improved student learning that, in turn, yields more ambitious learning materials. Research supports the view that learning math is the product of interactions among the teacher, the students and the mathematics.

In order for a child to make steady progress toward math proficiency, research indicates that learning opportunities must be based on an expectation of success attainable with reasonable effort so that motivation is sustained. Effective strategies for developing math proficiency take advantage of students' existing intrinsic motivation by highlighting topics they find interesting and providing activities they find enjoyable (Good, T. & Brophy, J., 2000). UMIGO assets, workshops, and creations provide abundant opportunities to develop conceptual understandings together with fluency and problem-solving skills in a manner that makes these attributes mutually supportive. In UMIGO transmedia storytelling, students can select activities that build

on their prior knowledge, make use of built-in scaffolding, and allow for individualized time allocation.

Accordingly, any creation in the UMIGO World will be rooted in one or more of three content areas:

- Mathematics and Physics – how things actually work and how they can work together.
- Language Skills – for communication of ideas and problem solving strategies.
- Research and Experimentation—building on existing ideas to create inventions and innovations with a new twist or approach.

Knowledge of Research and Effective Practices in Early Learning. Research confirms that child-initiated play creates a highly motivating learning context (Wiltz & Llein, 2001).

Playing games to help children master basic number, counting, and arithmetic concepts and skills have long been advocated by mathematics educators (e.g., Baroody, 1987; Ernest, 1986).

Adults stimulate and support children’s cognitive development by providing them opportunities to express existing skills and to scaffold to more complex ones (Davis, E.A. & Miyake, N., 2004; Skibbe, Behnke, & Justice, 2004). Concept development activities stimulate higher order thinking skills and take advantage of opportunities that happen in the moment so that individuals can access and apply knowledge in new situations (Pianta et al., 2007).

UMIGO students will benefit from instructional opportunities that link meaningful feedback to the achievement of their goals. The five major types of feedback that have been found to motivate concentration and persistence are: scaffolding, feedback loops, prompting thought processes, providing information, and encouragement and affirmation (National Research Council, 2009). This research is a basis for UMIGO’s lesson and activity design.

Knowledge of Research and Effective Practices in Educational Media. Children as young as age three can benefit from focused computer activities (Clements, 2003). Connected

representations in tutorial computer environments help them form conceptual understandings that are interrelated and thus mutually reinforcing. Several research-based characteristics of effective computer software have been identified; those characteristics will guide UMIGO's content creation (Clements & Sarama, 2005, 2008b; Sarama & Clements 2002a, 2006), as follows:

- Actions and graphics will provide a meaningful context for children.
- Reading level, assumed attention span, and response format will be age-level appropriate.
- Instructions will be clear, such as simple choices in the form of a picture menu.
- After initial adult support, children will be able to use the software independently, with multiple opportunities for success.
- Feedback will be informative.
- Children will be in control. UMIGO software will provide as much manipulative power and choice as possible.
- Software will allow children to create, program, or invent new activities. It will have the potential for independent use, but will also be challenging enough to keep learners engaged.
- Programming will be flexible and will allow for multiple correct responses.

Major trends and areas of study today include convergence culture, collective intelligence, and participation (Jenkins, 2007). The UMIGO concept reflects up-to-date research in these areas, addressing knowledge as interactive constructs embedded in multiple settings and mastered through authentic, realistic tasks. UMIGO learners will use a variety of tools, like self-propelled storybooks and idea launchers, to build working knowledge in various topic areas as well as create novel and situation-specific understanding. These constructive learning

experiences provide "rich, loosely structured experiences that encourage meaning making without imposing a fixed set of knowledge and skills" (Dede, 2008).

Transmedia activities can motivate students' efforts to achieve math standards such as the ability to construct factual knowledge, procedural skills, and conceptual frameworks that help them organize knowledge as experts do and improve their thinking processes (Quinn, 2007; National Research Council, 2005). With UMIGO, learners will construct new knowledge and understandings based on what they already know and believe (Walters & Dede, 2009). As a result, students will develop fluency and problem-solving skills in a manner that makes these attributes mutually supportive (National Mathematics Advisory Panel, 2008). UMIGO transmedia software will support students with open-ended tools for exploring the principles and concepts of mathematics. Led by interactive prompts and feedback during their exploration, experimentation, and discussion, children will construct a deeper understanding of these concepts and learn to extend them to new situations.

B. Project is a Comprehensive Effort to Improve Teaching and Learning

Project UMIGO is a comprehensive effort designed to improve teaching and learning in mathematics.

1. **Based on rigorous standards.** UMIGO curriculum is based on rigorous mathematics standards for children ages three to eight, including: number sense, patterns, sorting and classifying, algebra, measurement and geometry, statistics, data analysis, probability, and mathematical reasoning (for the full outline of UMIGO curriculum, please refer to Appendix D). These mathematical concepts are taught through problem solving and use of strategically appropriate tools, two of the eight best practices for mathematics listed in the Common Core

State Standards for Mathematics (2010). This curriculum will be delivered in engaging digital content across multiple media platforms.

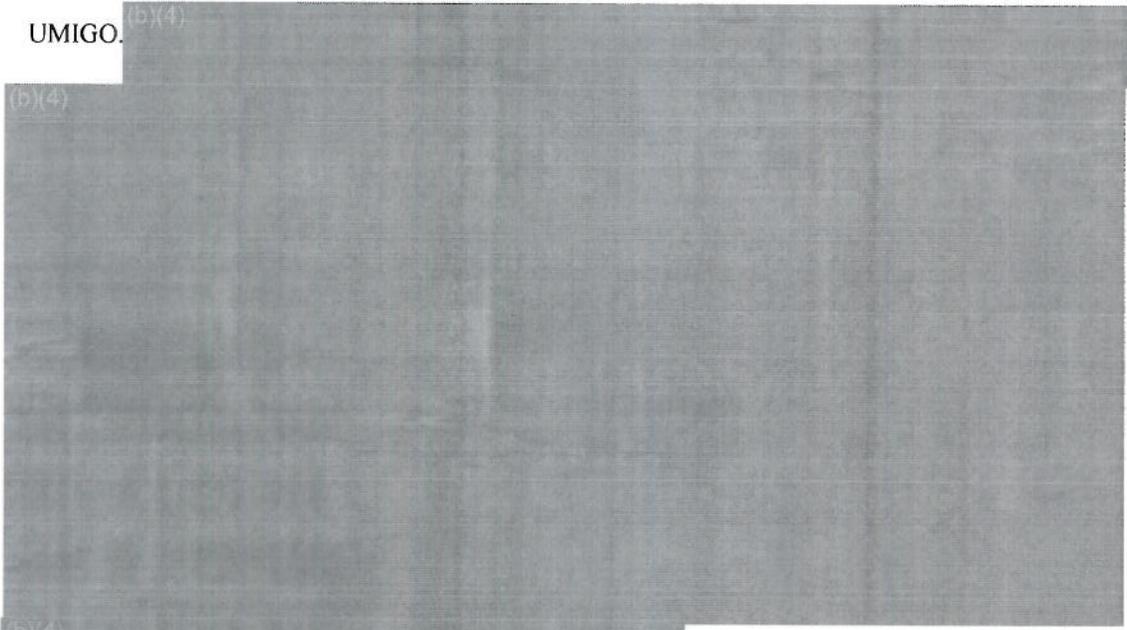
2. Comprehensive digital content. In order to demonstrate the comprehensive development efforts inherent in the project, the digital world of UMIGO must be described and explained.

Welcome to the UMIGO web world, where children have the opportunity to work together and see their most outlandish ideas come to life (with getting hurt or endangering the family pet).

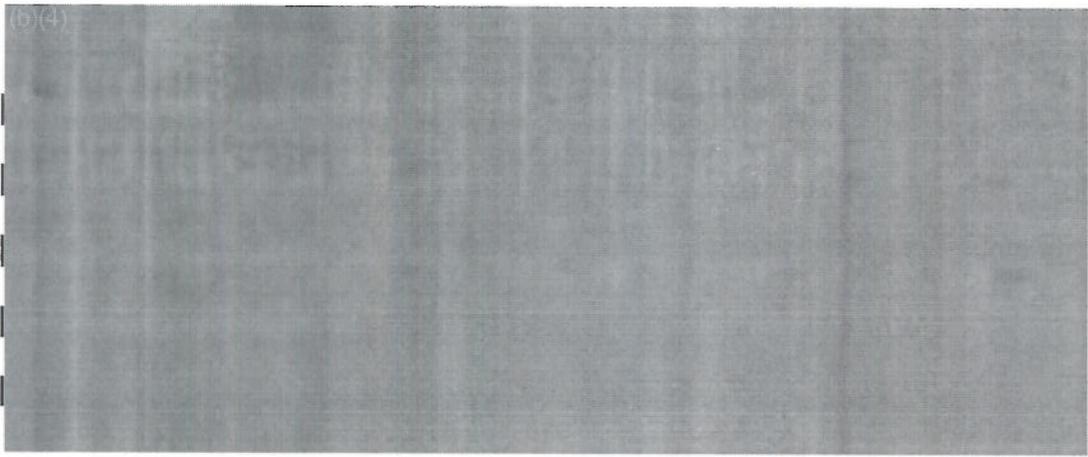
The whimsical world of UMIGO is not just one place, but many places where kids can learn, build and share. There are multiple entry points to the UMIGO world. One may enter via cell phone, computer, and handheld video game system or by way of traditional children's media like books, trading cards and television. The UMIGO experience begins on the World Wide Web. Children log on, join for free and create their own personalized avatar to navigate the UMIGO world. Once there, they are given a universal toolkit to use in creating, exploring and learning. The virtual toolkits have lots of different items in them for young students to use, like tape measures, cutting tools, rubber ducks, cogs, wheels, giant rubber bands, gems, templates, paintbrushes, photo tools, springs and strings...and more. The toolkit enables children to invent things by manipulating photos, images and objects, drawing, creating text and sharing it, asking questions and solving problems. Tools also help them navigate the UMIGO world.

With an avatar and a toolkit, the world of UMIGO is the child's to create. Sometimes, when an idea is really, really fantastical, a child may need a little advice and guidance. For that purpose, quirky creatures and monsters live in SPEC CITY in the heart of UMIGO to help them out. Of all of the inhabitants, there are [REDACTED] very important characters that all children will interact with: [REDACTED]

(b)(4) are the ambassadors of UMIGO and appear on every platform, in every land of the UMIGO experience. They are the link between the different transmedia components that children will experience, the friendly faces that provide continuity for young learners, represented in consumer products, television, the web, hand held games and any other aspect of UMIGO.



(b)(4) They always have a problem that needs solving that can be overcome with the tools from the toolkit and a bit of knowledge of math or language.



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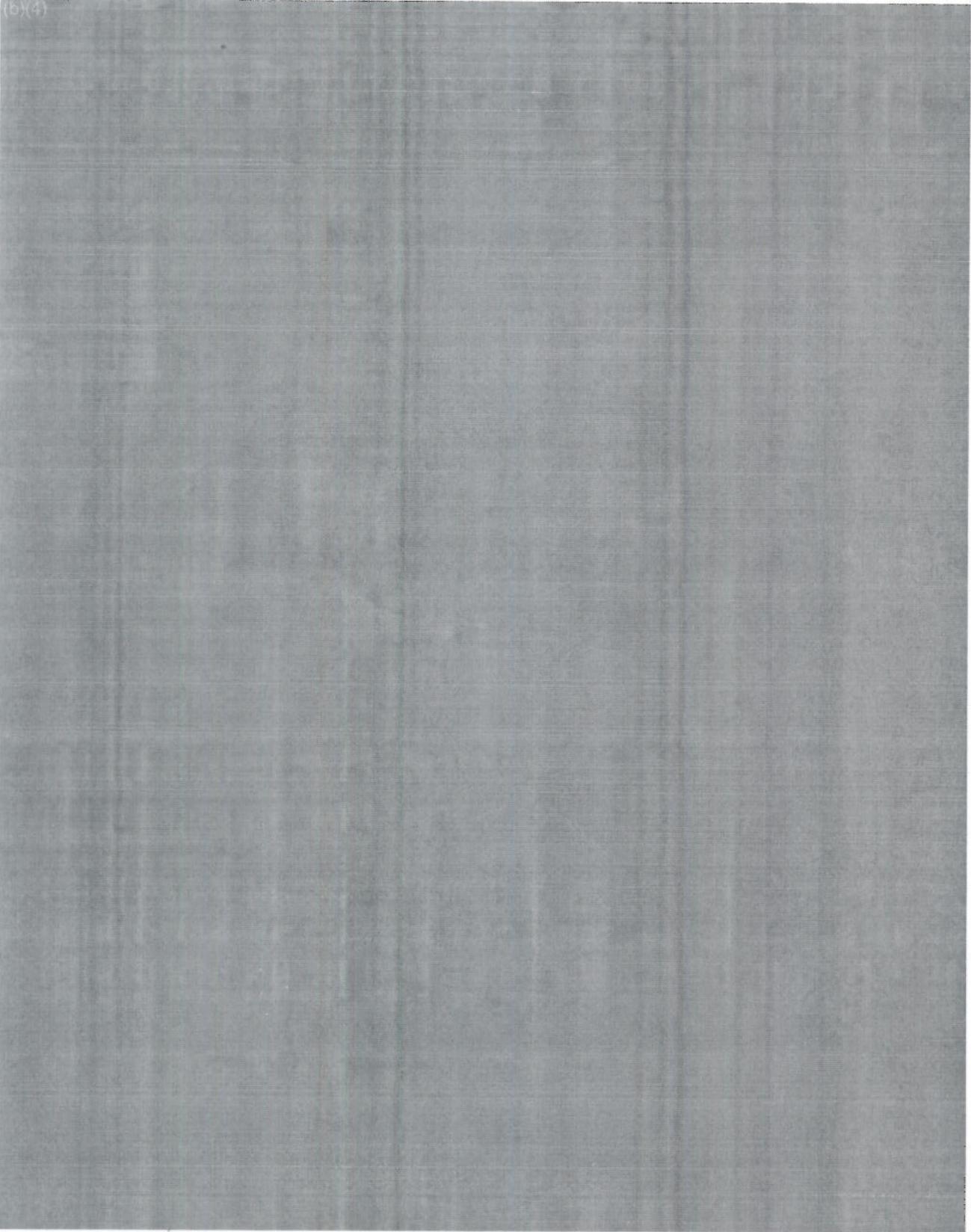
up throughout the website and other platforms, providing guidance, direction, information, encouragement, lessons, challenges, and just plain fun.

Different areas of the UMIGO world have different functions with corresponding toolkits and learning “libraries” where children can search for and gather information about the various tools or get help with their creations. Libraries contain all sorts of virtual assets that can be used with various projects. They also contain finished and unfinished work of other participants that decide to share their work with the community. UMIGO libraries grow constantly. Like Wikipedia, users can add new content to the library that can be shared by anyone else in UMIGO.

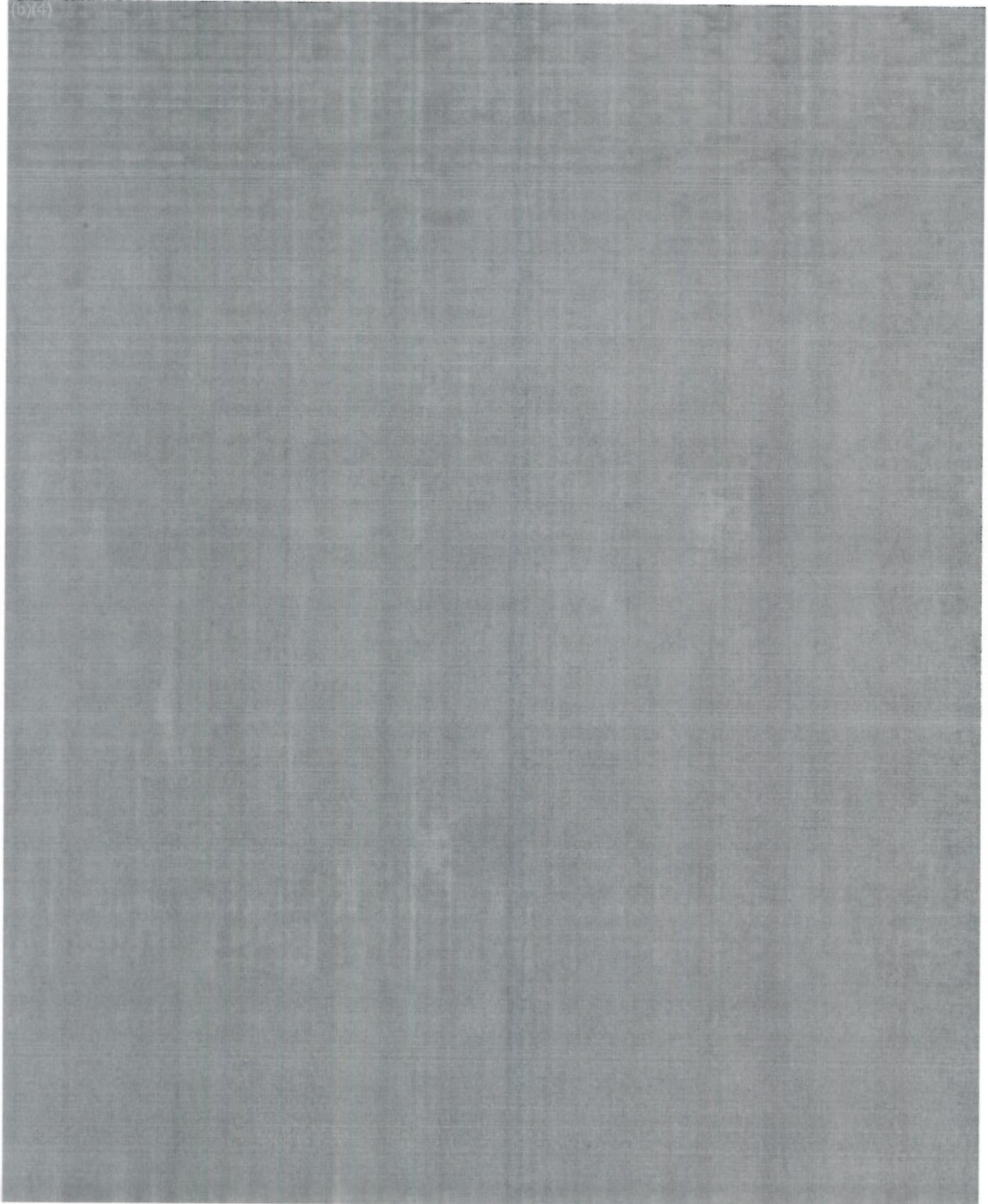
The following are examples of different areas of creation in the UMIGO world, along with the tools required to navigate them, and the learning outcomes connected with them.

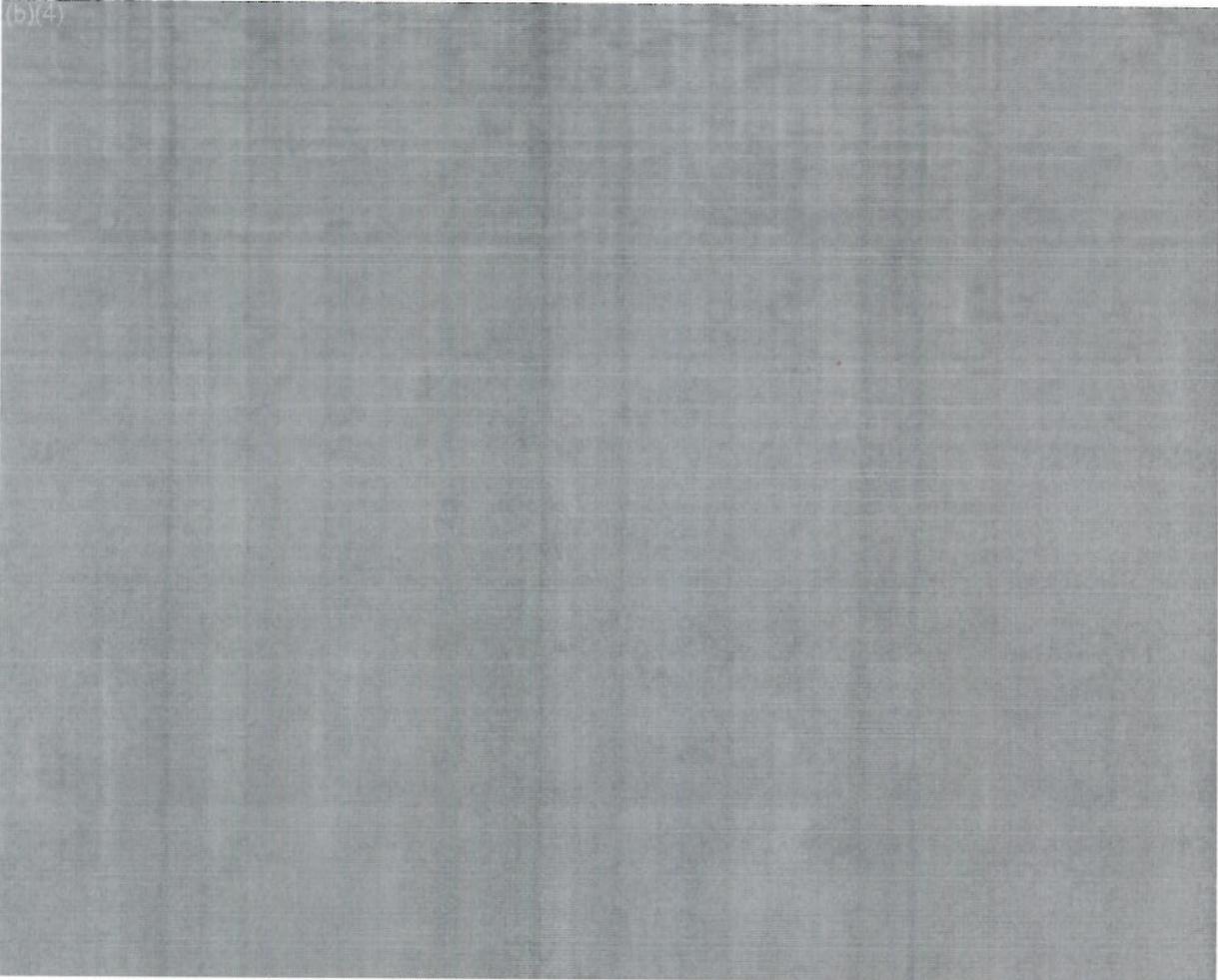
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3. Comprehensive Transmedia Storytelling Experiences. Project UMIGO intersects with children where they are. The world of UMIGO will be ubiquitous; children will be able interact with the world of UMIGO across multiple media platforms in transmedia storytelling experiences. Children will play games, watch TV, explore on the web, or trade cards with their friends. They'll share stories about what they've accomplished, the things they've made and the things that they aspire to do. There is no shortage of kids who will want to connect with one another and learn something along the way.

For example, José, age seven, could learn about UMIGO from his friend through a UMIGO comic book adventure about the pyramids. This story would lead the boys to log into UMIGO's website. Once there, they can use the codes found in the comic book to access new virtual tools

to create their own pyramids. The boys will need to learn about triangles, and angles, of course, in order to successfully create their pyramids, but to them that knowledge has a useful purpose so they don't even worry about learning while they are playing. The pyramid project can be found on the UMIGO Project Board, but José can also use those same virtual tools to create his own invention using the angle tools and knowledge to make his own invention, like a skate board ramp.

Or Nya, age six, might learn about UMIGO at the afterschool program with her friend Kenya, who makes clothes for her avatar at the UMIGO Clothing Company. She measures shirts and pants sizes and adds up her GoCOINS to determine if she has enough virtual money to buy new fabric. Kenya created the clothes by virtually measuring and cutting photos, patterns, or artwork into shapes like squares and triangles. Once Nya gets her own account, Kenya is able to share her "how-to" video that she made and uploaded to the site. The patterns and measuring make learning math and numbers, which she found boring in school, more fun.

After José and Nya have become members of UMIGO online, they can share their creations, games, and stories with their friends across multiple media platforms including cell phones, handheld games, stickers and trading cards. Nya can print stickers with codes to give to her friends to see what she makes online and José can print trading cards to give to his friends to test his rocket or to playing video games he created and stars in on their handhelds.

Children are encouraged to post and share their UMIGO work so that others can learn from it and expand on the ideas presented. Creations can be shared on multiple platforms – via phones for games and levels, via books for stories and graphic novels, and with music via iTunes.

Media platforms planned for Project UMIGO include television, mobile apps, handheld device games, traditional publishing (books), and DVDs, and trading cards. In addition, children

will be able to print barcode UMIGO City Stickers and distribute them around the house, neighborhood, or town. When other children spot a sticker, they can scan one (with a cell phone, for example) to "pick up" a virtual goody on their device, in interactions that connect the real physical world — where goodies or prizes can be discovered using technology — with the virtual world.

Licensed products will include items such as a book or actual kit of "everyday" products in UMIGO styling to learn about using potatoes, pennies, and water to conduct electricity, for example, or to create a "system" like a radio (please reference "Sneaky Uses For Everyday Things" www.sneakyuses.com); a "Mouse Trap" kit that can be used offline to help solve puzzles that UMIGO characters encounter, including toolkit pieces that are like those in the UMIGO virtual tool kits; and many others.

4. Comprehensive plan to disseminate and distribute learning and teaching materials and resources. The UMIGO Project will work with distribution partners and leverage their expertise and resources to expand and reach high need communities through a variety of channels. Partners will include non-profit and commercial organizations with national and local reaches; partners will provide communication to their members as well as material incentives and product delivery to low-income communities. Partner organizations include, among others, the New York City Department of Education, Head Start, Eastside Housing Settlement, and Microsoft Education.

The UMIGO web site will provide a variety of Open Educational Resources (OER) for low-income parents, children, and the educators who serve them. This web site will allow nationwide distribution of resources to elementary, Head Start, and preschool teachers, as well as daycare providers. The OER will offer high-quality content, research-based teaching strategies, and

outreach activities. Needs related to those resources will be identified by the project team and tested by low performing children, teachers and parents of at-risk youth, community organizations, and higher education partners in media production and teacher preparation.

In addition, tracking systems will be embedded in all digital platforms for purposes of the evaluation. Using this information, a "learning path" will be created on the UMIGO website so that teachers, parents and children can follow individual learning progress.

5. Comprehensive development input from outreach efforts. The development of Project UMIGO will benefit from the involvement of a post-secondary media production program, a college teacher preparation program, and students (and their families) from low performing schools. Collaboration with outreach partners will inform product content development, teacher lesson plans and teaching strategies, and further outreach activities and digital resources targeting not only children, but also teachers and parents of at-risk youth.

Project UMIGO will partner with Flashpoint Media Arts Academy (situated Chicago) and the University of Southern California's School of Cinematic Arts. At both institutions, students pursue learning in game and interactive media, film and broadcast, recording arts, and animation and visual effects. Students are provided opportunities for hand-on experience using real-world tools and techniques, the latest technical development and trends, and on-the-job training opportunities. For UMIGO, students will submit content ideas, help develop content for the multiple platforms, and provide insight into UMIGO's transmedia workings. Because these students are natives to the transmedia culture, their insights into the use and distribution of transmedia content will influence UMIGO throughout its development.

The Children's Museum of Manhattan (CMOM)—a leading provider of educational programs for children and families since 1973—proposes to leverage existing partnerships with

the New York City Department of Education (NYCDOE), Head Start, City University of New York (CUNY) and East Side House Settlement, to create a comprehensive outreach strategy to ensure that the early learning needs of low-income children, their families, and their educators are met through the UMIGO Project.

Because the Museum has deep relationships with a diverse range of service providers in low-income communities, it is ideally situated to lead the outreach strategy for the UMIGO Project. CMOM places a high value on serving a diverse audience, achieved in part through our active partnerships with more than 50 community-based organizations. Working with community-based partners, CMOM will disseminate curriculum materials and introduce UMIGO digital media products to test the efficacy of UMIGO as an effective, interactive tool that promotes parent and child interaction online, and supports young children in developing the necessary skills for academic readiness, including numeracy, literacy, and cognitive development. A secondary goal of the outreach strategy will be to work with this consortium of community-based partners to develop a dissemination plan that will promote the effective and sustainable use of materials and interactive resources by parents, teachers, childcare providers, and CBO staff throughout the city.

In partnership with the New York City Department of Education and Head Start, preschool through second grade students and preschool children will participate in CMOM-hosted theme-based programming and activities based on the math activities included in Project UMIGO. The space offered in PlayWorks™, the museum's 4,000 sq. ft. immersive early childhood learning environment and exhibition space, and in a 500 sq. ft. classroom and a state-of-the-art research lab will permit parents and caregivers to participate in their children's UMIGO activities. PlayWorks is supported by intensive outreach and community-based educational programming designed to reach low-income children and their families.

CMOM will also host programs designed to introduce and involve a diverse range of audiences to Project UMIGO during Target Free First Fridays and through the museum's Cool Culture program that reaches primarily low-income families. On a monthly basis, approximately 1,500 visitors participate in CMOM programs free of charge through Target-sponsored Free First Friday Nights; another 1,000 visitors come through NYC's Cool Culture program for Head Start families. During these programs, the UMIGO partners will lead interactive demonstrations and hands-on activities to engage audiences in the early learning content so as to inform next phase development for the UMIGO media content and products. These programs will provide additional opportunities to solicit input and gather feedback from parents and children on the usability and appeal of the materials.

The City University of New York and the East Side House Settlement will collaborate with CMOM to conduct community outreach workshops with teachers and childcare providers to help them incorporate the UMIGO media platforms and lesson plans into their everyday routines, by providing accessible and engaging math and literacy activities that work to foster emerging school readiness skills. At the end of each workshop, participants will receive UMIGO educational resources, which include a CD and accompanying curricular materials, and resources for math and literacy activities to be used in the classroom and at home. These workshops will also solicit input from teachers and community based partners to help inform the development of open educational resources (OERs) to make UMIGO products and resources available through web- and CD-based platforms, so that UMIGO educational content, lessons and teaching strategies widely available to other New York City schools, teachers, and other community based partners.

C. Project Designed to Build Capacity and Results Beyond Grant Period

WTTW has constructed the project business plan without relying on third party investment to deliver on the stated objectives. Additionally, the budget does not take in to account potential sources of income including: third party equity investment, additional grant money and television license fees. The addition of these potential sources of income will allow the project to develop additional programming well beyond the scope of the grant and reach a greater number of children in need.

The total budgeted expense, inclusive of a fully functional, robust web-based environment, short form video content and various consumer products is approximately \$32.5 million. All budget costs are applied at median market rates.

The approach to the budget is conservative in that it is assumed that the bulk of the infrastructure, content and programming designed to reach children including outreach, and ancillary materials will be built in years one and two through the grant award. Additional content and programming in years three through five will be driven by direct and ancillary revenue streams that will not only make the business plan profitable, but sustainable well beyond the five-year grant period. The additional funding beyond that provided by the Department of Education will come from private sponsorship, advertising, subscription fees as well as revenue from mobile applications, licensing, electronic, and traditional publishing. A detailed five-year budget can be found in Appendix G.

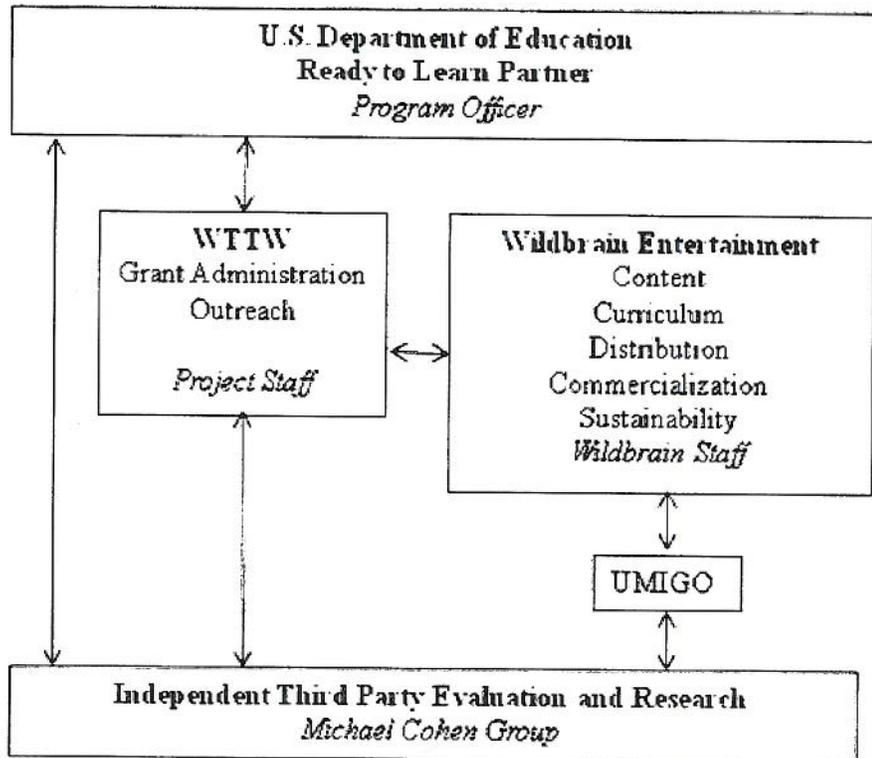
Along with financial viability, Wildbrain is highly experienced in successfully creating and distributing properties across multiple media platforms and elsewhere. For example, its incredibly successful program, Yo Gabba Gabba!, currently has over 40 A-list licensing partners and is represented in every major product category. Wildbrain plans to grow and expand

UMIGO in a manner much like the Yo Gabba Gabba! model, developing similar distribution, licensing, television, and product franchises.

In addition, the world of UMIGO will reach children, parents and teachers using traditional and non-traditional marketing and promotional programs. The primary methodology for reaching the target audience base will be online advertising and banner ads. Project UMIGO's primary partner in this space is miniclip.com, the world's largest children's destination for online casual games, with over 290 million unique visitors per year (split evenly between boys and girls). Miniclip.com was the primary driver behind the success of clubpenguin.com and drove significant traffic in the U.S., building their business until Club Penguin ultimately sold to Disney. At a minimum, UMIGO will be able to purchase access to millions of views per month at preferred advertising rates. However, given Wildbrain's preexisting relationship with miniclip.com through other projects, the UMIGO Partnership will likely be able to negotiate far better terms and a potential investment in UMIGO, which will further incent miniclip.com to drive more traffic. In addition, partner relationships in publishing, on-line advertising and direct to consumer media purchases, will allow the UMIGO Partnership to reach the target audiences in areas they're familiar with: print publications such as magazines & books for kids; promotional programs via on pack product incentives, in-school programs and other traditional methods.

(4) QUALITY OF PROJECT PERSONNEL

Chart of UMIGO Partner Relationships



A. Qualifications of Key Project Personnel

Responsibilities	Qualifications
WTTW	
Project Director: Reese Marcusson 15% Effort	
Day to day partnership management; Operational, administrative and financial grants and A-133 audits, as well as public media broadcast oversight.	Executive Vice President and Chief Financial Officer of WTTW; Experience with managing RTL grant since 2005, NEA and NTIA production, distribution, management and business experience
Finance Director: Juliette Buford, 15% Effort	
Financial processes and project budgeting and control of local and national television operating divisions. She	Director of Finance, Licensing and Business Development for WTTW; 18 years of experience in Finance and Accounting management including the planning,

compliance also currently manages the day to day financial processes and project compliance for a \$47.5 million grant issued by the Dept. of Ed. Ms Buford has also managed the financial and compliance processes for various other state and federal grants, including NEA.

B. Qualifications of Key Personnel: Contractors

W!LDBRAIN Entertainment

Co-Project Director: Michael Polis, 50% Effort

<p>Property creation and development over various platforms; commercialization and sustainability of property.</p>	<p>CEO of Wildbrain; oversees global operations for Wildbrain Entertainment (producer of television, feature film, short-form programming and product and brand licensing initiatives) across all current and emerging media platforms. Led and supervised unprecedented global marketing and licensing efforts. Executive Producer in feature film and television including the groundbreaking series Yo Gabba Gabba! Emmy Award nominee for Outstanding Children’s Program. Holds and MBA from Northeastern University.</p>
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Project Manager: Julia Fischer, 100% Effort

<p>Day to day operational command of the project</p>	<p>Managed the development of multiple toy lines, including electronics, dolls, educational activities and pet products, from brainstorming through production; Managed and coordinated development of television commercials and websites for multiple multinational toy lines including Style Six™ and Juku.</p>
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Curriculum Director: Glen Schuster, 50% Effort

Supervise the creation of the curricula Expertise in design, development, implementation and

for programming content and the study of classroom-based, integrated STEM materials distributed to parents and curriculum, and onsite and online teacher professional teachers. Monitor new research to development. Improved student achievement using ensure the project uses the latest authentic scientific data while integrating and using scientifically based research technology tools as a core component to enhance learning.

Michael Cohen Group, LLC

Co-Principal Investigator, Evaluation: Minda Frank, M.A., 25% effort

Third party evaluation. Oversight and Executive Vice President of Michael Cohen Group advisement, participation in the LLC, Principal Investigator, evaluation of large scale development, planning and educational initiative funded by Connecticut State implementation of the scientific Department of Education. 20 years+ in applied evaluation methodology and analysis. research, recognized expert in conducting scientific Oversight, advisement, participation in evaluation of educational initiatives. Holds an M.A. formative research to inform in psychology, doctoral candidate (ABD), Graduate development of transmedia property. Faculty of New School for Social Research.

Co-Principal Investigator, Evaluation: Michael Cohen, Ph.D. 20% effort

Third party evaluation. Oversight and Developmental psychologist. President of Michael advisement, participation in the Cohen Group, LLC. Principal investigator, development, planning and implementation evaluation for Ready to Learn media grant. of the scientific evaluation methodology Distinguished history as a provider of superior and analysis. Oversight, advisement, qualitative and quantitative research studies. He

participation in formative research to holds a Ph.D. in psychology from The Graduate
inform development of transmedia property Center of the City University of New York.

A full list of Wildbrain staff and their considerable credits to date are listed in Appendix C.

A full list of evaluation consortium partners and their credentials may be found in Appendix C.

C. Partnerships

The UMIGO Project has brought together partners to support the various content-related activities where programming and outreach are blended to reach high-need communities; for example:

- Program/Property Development: Wildbrain Entertainment, Fuel Industries, GenMouse
- Post-Secondary Media Production Institution: Flashpoint Media Arts Academy, USC School of Cinematic Arts
- Post-secondary Teacher Training Institution: Graduate Center, City University of New York; University of Southern California, Department of Education
- Educational Games Development: Institute of Games for Learning (New York University); Starl (funded by Hewlett, MacArthur, and Gates Foundations)
- Curriculum: US Satellite Laboratory, The Tinkering School
- Open Educational Resources: PUNY Entertainment (site construction), miniclip.com (marketing), Rice University Department of Electrical and Computer Engineering.
- Outreach Planning and Implementation: Children's Museum of Manhattan
- Lowest Achieving Schools: Head Start, Eastside Housing Settlement, New York City Department of Education, UCLA Department of Psychological Studies in Education (children at risk)

Profiles of all the UMIGO partners can be found in Appendix C.

D. Plan to Encourage Underrepresented Applicants

WTTW will monitor the selection process for all positions, seeing that it meets the requirements of its equal opportunity policy. Project UMIGO will advertise for positions through its extensive network of partners in business and service, specifically recruiting individuals who have experience or who work directly with the target population. WTTW has a highly qualified diverse staff with 48% women and 24% from underrepresented groups. In addition, WTTW will monitor the activities of its contractors to ensure equitable access to, and participation in, the grant program for students, teachers, and other program beneficiaries with special needs, and to prevent any forms of discrimination, including those based on gender, race, national origin, color, disability, or age.

(5) QUALITY OF THE MANAGEMENT PLAN

A. Adequacy of the Management Plan: Timeline, Milestones, Responsibilities

UMIGO Project Overview						
Activity	Responsible	Year 1	Year 2	Year 3	Year 4	Year 5
Production						
Website	Wildbrain	Develop/Deliver Beta Site	Beta Site Test	Site Goes Live	Build Add'l Modules	Site Refresh
Interstitials	Wildbrain	Development	Deliver 26 Shorts	Deliver 26 Shorts	Deliver 38 Shorts	Deliver 52 Shorts
Publish (E)	Wildbrain	Develop/Deliver Beta	Beta Test	Deliver Live	12 Books/year	24 Books/year
Publish (T)	Wildbrain	Development	8 Books	12 Books	12 Books	12 Books
Mobile Apps	Wildbrain	Develop/ Beta Test	Day & Date w/ Site Launch	4 Apps/year	4 Apps/year	4 Apps/year
Licensing	Wildbrain	Develop Style Guide	Pitch Based on Traffic & Shorts	Develop Product Lines	Deliver CP Line of product	Deliver CP Line of product

Television	Wildbrain	Hold	Development Based on Shorts		Lock Broadcast partner	Produce & Deliver Episodes
DVD	Wildbrain	Hold	Digital Download Download DVD		Download DVD & Digital - Shorts	Download DVD & Digital-Short
Video Game Platf & HH	Wildbrain	Hold	of Shorts & Digital - Shorts Pitch based on Close Deal &		Development	Deliver with TV Launch Release Kid
Music	Wildbrain	Hold	interstitial Shorts Develop Release Kid Created Music Created Music		Release Kid Created Music digitally (itunes)	Created Music digitally (itunes)
Evaluation	MC Group		digitally (itunes) digitally (itunes)			
Outreach Adv. Comm.	Partners Wildbrain		Formative and Summative throughout the project All Year Long All Year Long All Year Long Yearly in the Fall Yearly in the Fall Yearly in the Fall		All Year Long Yearly in the Fall	All Year Long Yearly in the Fall

B. Adequate Time Commitments

To provide adequate support for the project, one member of WTTW and one member of Wildbrain will share the responsibilities of implementing and supervising the project. From WTTW, Reese Marcusson will serve as project director and dedicate 15% effort toward Project UMIGO. Michael Polis, the CEO of Wildbrain, function as co-project director, dedicating 50% effort toward the project. The Project Manager, Julia Fischer, will work exclusively on this project for the next five years. Co-Principal Investigators for the evaluation, Minda Frank and Michael Cohen, will dedicate a combined 45% effort over the five-year grant period.

C. Procedure for Feedback and Continuous Improvement

Advisory Committee: While the UMIGO Project team bring a wealth of experience and credentials to the project, the challenges of this Ready-to-Learn RFP call for a continual process of discovery with respect to how children, parents and teachers experience and influence the learning process in multifaceted technology enabled environments at home, in school and on the go.

Additionally the challenges of building a true transmedia programming structure for early learners (pre-K and K thru grade 3) require on-going experimentation with respect to content, delivery technology and evaluation. Therefore Project UMIGO will expand the program knowledge and experience base via a highly select team of advisors who help ensure an on-going fresh perspective informed by forward-looking professionals and experts in the following areas of expertise: Curriculum, Evaluation, Multi-platform content creation, Transmedia Storytelling, Social Media Trends, Gaming systems, Low Income (Title I) Education and Engagement Issues, and Sustainability. A full listing of Advisory Committee members can be found in Appendix B.

The Advisory Committee will meet at the beginning of the project and then once a year during the project to ensure the best use of the Advisory Committee's considerable insight. The members of this group will be active participants in the process. Some advisors will play an on-going consultative role within the project while others will participate in the annual summit meetings and be available on an as needed basis.

Blended Outreach: The Outreach Plan will blend the programming and outreach activities to receive feedback from partner organizations on how to most effectively reach the target population and gain feedback from the population about their usage of the products and services. This requires bringing partners into the process through a variety of activities that can facilitate involvement from every entity that touches the lives of preschool and elementary school children. The Outreach intends for the partner entities to benefit from these activity experiences by gaining a working insight into their interactions with low-income children particularly as they pertain to the transmedia platforms. It is expected that the Outreach Plan will inform the content development and transmedia process while engaging the partners as key stakeholders.

(6) QUALITY OF THE PROJECT EVALUATION

A. Third Party Independent Evaluator

The Michael Cohen Group LLC (MCG) joins the WTTW-Wildbrain UMIGO ("yoUMakeItGO") Partnership as third-party independent evaluator. The research firm is known for its ability to meet the challenge of designing, conducting and analyzing large scale, scientific evaluative protocols, often in challenging and complex social environments (among others: M. Cohen, C.W. Hoven et. al, 2005; Cohen, M, Hadley, M & Rosen, C., in press). MCG is listed in the Registry of Evaluation Researchers of the "What Works Clearinghouse," maintained by the U.S. Department of Education Institute of Education Sciences (IES). The principal investigators are third party and have no authority in regard to the creation or implementation of the proposed project.

Michael Cohen, Ph.D. and Minda Frank, M.A., are co-principal investigators (PIs), responsible for all evaluation activities. Dr. Cohen is developmental psychologist. Ms. Frank is a social psychologist. Together, their involvement with research, education and media spans 20 plus years. Currently, Dr. Cohen serves as evaluation PI for the RTLP, awarded a 2005 RTL cooperative agreement. Ms. Frank currently serves as evaluation PI for a large-scale Title I public elementary school initiative in Bridgeport, CT, funded by the Connecticut State Department of Education. Craig Rosen, Ph.D., professor of Psychiatry and Behavioral Sciences at Stanford University of Medicine, will provide the co-PIs with added expertise in technical and statistical components of study design, including sampling and analysis.

A.1. Collaboration with participant-advisors. In order to successfully meet evaluation goals, MCG has assembled a dynamic consortium of collaborative partners, including non-profit institutions, private sector companies, and university-based researchers and scholars. As participant-advisors, these professionals and experts bring specialized knowledge of children,

families, disadvantaged populations, media, technology, and education to the scientific evaluation of the UMIGO transmedia property. Their roles call for direct substantive contribution to evaluation activities as well as offering objective observations, guidance and feedback to the co-PIs.

University/scholar partners. MCG's university/scholar partners further assure third party, independent objectivity. The specific contribution of the university/scholar partners is their participation in conducting scientific randomized control trials with children to assess the educational effectiveness of the UMIGO. Protection from the risk of bias is strengthened by an added degree of separation between the university scholars and the content creators as well as the intellectual freedom and transparency regarding the data that are core benefits of this model. The members of the university/scholars partnership include: Craig Rosen, Ph.D., Stanford University, CA; Becky Easton, Ph.D., and Jerry Bailey, Ph.D., University of Kansas, Institute of Educational Research; Yuuko Uchikoshi, Ph.D., UC Davis, Department of Education. (Complete biographies on the evaluation consortium can be found in Appendix C).

Innovation in new measures for assessment: Educational Testing Service (ETS). MCG anticipates that a new assessment measures will be required to evaluate the educational efficacy of the UMIGO transmedia property. Educational Testing Service (ETS) has agreed to partner with MCG in creating and integrating new measurements for assessment. The ETS research and development division, comprised of hundreds of professionals working in psychometrics, brings a high level of expertise and knowledge to the challenge of assuring assessment accuracy. (For a profile of ETS, see Appendix C).

Innovation for data collection: Wireless Generation. Wireless handheld technology provides innovative methods of data collection and analysis. Wireless Generation, a leader in

this field, has agreed to partner with MCG in applying wireless handheld technology in the service of the proposed experimental evaluations. Wireless Generation's technology and software will save time and increase accuracy of data collection and analysis, and will allow reporting and dissemination of findings to occur weeks (possibly months) earlier than traditional methods.

(For a profile of Wireless Generation, please refer to Appendix C)

A.2. Scope of evaluation activities. The choice to select MCG as the independent evaluator arose from the consortium's needs: (1) to design and execute summative, scientific randomized controlled trials to assess the educational impact of UMIGO transmedia property; (2) to obtain ongoing informed feedback for the creative and content development of the educational property; (3) to describe and assess how children interact with various traditional and emergent media platforms, independently and in concert; (4) to conduct in-depth research and evaluations with diverse populations of children, parents/caregivers, and educators; (5) to disseminate research findings; and (6) to ensure independent, objective monitoring of project progress against key milestones.

B. Evaluation Plan

This section presents an overview of the proposed evaluation. Additionally, the novel challenges and opportunities that transmedia presents to evaluation are discussed.

B.1. An integrated approach to evaluation: formative and summative research

The Principal Investigators are strongly committed to an integrated research model that utilizes both formative and summative research. These tools have different strengths, but work particularly effectively when combined. Formative research provides findings that have robust explanatory power. Summative evaluation findings have a high degree of descriptive and provide

evidence of causality. Together, formative and summative research methodologies work in concert to create valuable synergies.

B.2. Educational Transmedia and Evaluation

The core characteristics of the transmedia delivery model pose methodological challenges for evaluation. The first of those challenges concerns the ‘invisibility’ or elusiveness that characterize the data, heightened by a increasing need for a descriptive account of children’s behavior as they interact with digital content. The second challenge lies in the need to capture children's complex interactions with multiple media in the transmedia "ecosystem" and to identify synergies between platforms along with the effects of exposure to individual or groups of platforms. The third challenge concerns the design of appropriate interventions for treatment conditions that are consistent with standardized requirements of an experimental randomized control trial, given that the transmedia experience, by nature, is an intervention characterized by the absence of a standardized exposure and experience across students, as children actively choose and develop their own experiences; by design, no two students will have the same transmedia experience, even though learning goals are standardized.

B.3. Summative Research Plan

This section lays out the plan for research infrastructure and sampling, as well as the specific methodologies to be used for summative research on the UMIGO transmedia property and their media components. This evaluation plan should be taken as both a concrete manifestation of the intellectual approach MCG will take in conducting research, and as a flexible template than can be adapted in ensuing years as the specific nature of the property and its transmedia components come to fruition. An overview of the criteria for “strong evidence” begins the section, then

research objectives are outlined, followed by detailed research designs, statistical power analyses, and data analyses are described.

Criteria for Showing “Strong” Evidence. The summative research design for the UMIGO transmedia property evaluation utilizes a cluster-randomized control trial and satisfies all criteria for showing “strong” evidence of effectiveness: a) participants will be centrally randomly assigned to different treatment and control conditions; b) intervention procedures will be standardized and documented to enable replication; c) baseline data will be used to confirm equivalence across conditions prior to the intervention and to statistically control for any differences not removed by randomization; d) well-validated measures will be used whenever possible. Software for tracking and analyzing digital records of children’s activity on multiple platforms will be developed and piloted, as well as customized survey instruments for reports of parents’ and children’s involvement with and preferences for media platforms; e) sufficiently large sample sizes will provide adequate power to detect treatment effects; f) research will be conducted in multiple, geographically diverse sites in order to maximize external validity; g) assertive follow-up procedures will be used to limit attrition to less than 25%; h) analyses will be conducted on an intent-to-treat basis, using multiple imputation methods to estimate outcomes for subjects lost to follow-up; i) effect sizes and statistical significance will be reported; j) Both positive and negative findings will be reported; and k) external validity will be further addressed by examining process, setting and child factors that mediate and moderate treatment effects.

Hypotheses. There are six hypotheses to be tested in the summative evaluation of the UMIGO transmedia storytelling experience. The first hypothesis is that exposure to and involvement with the UMIGO transmedia property will result in significant gains in six to eight year olds' acquisition of early literacy, numeracy, mathematics and spatial reasoning skills.

Hypotheses Two, Three, Four, and Five concern the power of interaction dosage (including frequency) to predict variation in outcomes of children by exposure; those hypotheses are: (2) a dosage effect hypothesis (i.e., greater frequency and duration of interaction with UMIGO components will predict greater learning gains); (3) a synergy hypothesis (at a prescribed dosage level, use of multiple UMIGO media components will result in greater learning gains than use of a single media component); (4) a transfer of component knowledge hypothesis (children who demonstrate higher levels of progression through one media component of UMIGO will show greater skill with and gains in learning on other media components); and (5) a transfer of learning hypothesis (children who demonstrate higher levels of progression through UMIGO media components will show greater gains in learning on objective performance outcome measures). A sixth hypothesis to be tested concerns children's self-efficacy perceptions and attitudes toward reading and math; that is, that exposure to the UMIGO transmedia experience will engender significant gains in students' self-confidence with and positive attitudes toward reading and numeracy learning.

Research design. A cluster-randomized control trial utilizing a pre-test/post-test research design to assess the educational efficacy of exposure to UMIGO and to describe students' usage patterns with UMIGO media components and related those patterns to learning outcomes. The summative study will be conducted in Year 3 with children age six to eight in afterschool programs/classes and in Year 5 with children ages four and five. Both studies will be conducted across multiple sites.

In the interests of economy, a cluster-randomized control trial with the UMIGO property leveled for ages six to eight is outlined below; a second randomized control trial with UMIGO leveled for pre-school and kindergarten will be conducted in a similar manner.

Sampling frame. The UMIGO evaluation will target 81 after school classes of children age six to eight in Grades One, Two and Three. Classes will be recruited through YMCAs and other afterschool programs in four geographic areas (including two rural/suburban and two urban regions). Eight to ten children per class will be randomly selected for assessment, for a total of 648 to 810 children in the sample. To ensure the inclusion of relevant adult data, each child's primary caregiver will also be included in the sample. After-school programs will be selected to ensure that at least half of the children live in families at or below the poverty line, as determined by through eligibility for free lunch or other subsidies. MCG will oversample each of the following (not mutually exclusive) groups will ensure representation: Hispanics (minimum 20%), African-Americans (minimum 20%), Caucasians (minimum 20%), and children of non-English speakers (minimum 20%). Asian Americans and Native Americans will be included but not oversampled. All efforts will be made from a range of types of programs in order to assure a broad representation of programs and resources.

Randomization. Prior to randomization, participating classes at participating afterschool programs and centers will be stratified by region, proportion of Title I children (based on eligibility for subsidies), age group served, and setting (type of school or program). Classes within each stratum will then be randomly assigned to one of the three treatment conditions: UMIGO, alternate media, or control conditions. After random assignment of classes to condition, eight to ten children in each of the 81 classes will be randomly selected for testing.

Outcome performance measures. Outcome performance measures for this summative study are selected to correspond to the specific curriculum and educational goals of the UMIGO property.

Standardized educational performance outcomes measures. To assess gains in numeracy and

mathematics learning, MCG will use Wireless Generation's mClass®:Math assessment, research-based measures of mathematics achievement (developed in collaboration with Herbert Ginsburg at Columbia University and the University of Missouri-Columbia with grants from the U.S. Department of Education's IES and the National Science Foundation). mClass®: Math is leveled for children K – 3, and assesses counting, number line concepts, exact numerical computation, and mastery of math facts. It taps both formal math skills related to school instruction (e.g., addition algorithms) and informal skills not addressed in school curriculum, such as cardinality. mCLASS®: Math assessment will be administered with handheld digital devices prior to and at the conclusion of the intervention period.

Content-specific outcome measures will include customized assessment of content-related knowledge (including STEM vocabulary) to be designed and piloted in the six-month period leading up to the intervention for use in the pre- to post-test assessment battery. A customized, developmentally leveled assessment of new media literacy skills (NMLS) as outlined by Jenkins and others (2009) will be constructed and piloted in the six-month period prior to the intervention to reflect the skills afforded by different aspects of the UMIGO transmedia experience, also for use in the pre- to post-test assessment battery.

Attitudinal and self-efficacy outcome measures. MCG, in partnership with ETS, will develop and pilot a customized measure of motivation and self-efficacy related to mathematics. Previous research and instruments addressing self-efficacy and motivation will serve as reference points (Dutton Attitude Scale, revised 1964; Mathematics Self-Efficacy Scale, revised 1983; Gambrel, Palmer, Codling & Mazzin , 1996; and Nevills, 2008).

Covariate and potential moderator data will be collected using: (1) the Peabody Picture Vocabulary Test (at baseline only), (2) a parent questionnaire (for information about ownership

and use of media/technology at home, languages spoken, race/ethnicity, family composition, parental/caregiver education level, and annual household income), and (3) teachers' logs of their students' daily media activities and duration of play/engagement. Attitudinal and self-efficacy reading and math outcome measures will be administered; ETS will collaborate with MCG to develop and pilot assessment measures of self-efficacy and attitudes toward mathematics.

Existing measures and research on reading self-efficacy and attitudes (McKenna and Kear, 1990; Kush & Watkins, 1996; Nevills, 2008) will provide a basis for developing an updated instrument that integrates the logic and perspective of the UMIGO curriculum. Information about process variables in the form of digital tracking data will be collected from children's play on different platforms/components, tracked longitudinally, then aggregated to examine the relationship between different patterns of play and different educational outcomes.

Procedures: Several pre-intervention activities will take place: IRB approval; student recruitment, collection of parental consent slips (in English, Spanish, and other languages as needed); randomization of classes to condition; distribution of parent and teacher pre-intervention questionnaires; and distribution of teacher logs to track attendance, activities and play. Consent at the school, parent and child levels will be a mandatory requirement for participation.

Fidelity of implementation will be addressed by periodically checking digital tracking data to ensure participation on multiple platforms is implemented, by observation in the experimental and control conditions and in MCG weekly phone calls to participating teachers

Pre-testing of all participating children in both experimental and control conditions will begin at the testing sites once IRB approval is obtained and parent permission slips are completed.

Children in classes randomly assigned to the control condition will experience "after-school-as-

usual" for 12 weeks. Children in classes randomly assigned to the alternate educational media condition will be introduced to an online educational property/website to play in class daily for twelve weeks. Children in classes randomly assigned to the UMIGO condition will be introduced in stages to mobile apps, e-books, website, gaming, digital "shorts" or interstitials, and traditional print components of the UMIGO transmedia experience. Teachers will be instructed to have children to use the media components 30 to 45 minutes a day across the twelve-week intervention period.

Staged exposure to test media components is outlined in the table below. Staged exposure will be additive, i.e., children in the UMIGO condition will continue to have access to the elements with which they have become familiar with as new components are introduced. A mid-point assessment (end of Week 4) will be administered using subscales of the standardized math performance outcome measures. All UMIGO media components will be made available by Week 8, so that children in the experimental condition will be able to choose what and how they engage with/use these components throughout the last four weeks of the intervention. All children will be given a print book at Stage 4.

		UMIGO Condition	Alternate Educational Media Condition	Control condition
Pretest	Week 0	Baseline assessment	Baseline assessment	Baseline assessment
Stage 1	Weeks 1- 2	Mobile apps	Alternate website	Afterschool as usual
Stage 2	Weeks 3 - 4	Website w/gaming, interstitials	Alternate website	Afterschool as usual
Midtest	Week 4	Midpoint assessment	Midpoint assessment	Midpoint assessment
Stage 3	Weeks 5 - 6	E-books	Alternate website	Afterschool as usual
Stage 4	Weeks 7 - 8	Print books	Print book	Print book

Stage 5	Weeks 9-12	All of the above	All of the above	All of the above
Posttest	Weeks 13-14	Post-test assessment, group interviews	Post-test assessment	Post-test assessment

At the end of the intervention period, children in both conditions will participate in post-testing on all measures except for the PPVT (baseline only). After post-testing, small group interviews will be conducted with a sub-sample of children in the experimental condition in order to explore their experiences with and responses to the overall transmedia experience and the individual UMIGO media components with the perceived synergies across those components.

Sample size and statistical power. Assuming intra-class correlations of $\rho = .15$ (Hedges and Hedberg, 2007), 75% retention rate, 27 classes per condition, and a retention of 8 children per class at follow up, this sample size will provide 82% to 90% power to test small to moderate size differences ($d = 0.35$ to 0.40) between the UMIGO and alternate educational media condition, and between either the UMIGO condition or the alternate media condition and the control condition (hypotheses 1 and 6). This sample size will provide 94% power to detect small-to-medium ($r = .2$) associations between process indicators and objective performance outcomes within the intervention condition (hypotheses 2 through 5). Threats to internal validity including maturation and selection effects are addressed by the experimental design, including randomization of classes to condition. Potential bias due to attrition will be addressed using Hierarchical Linear Modeling (HLM) and multiple imputations to estimate results for non-completers. Recruiting classes from multiple sites and including children who represent a range of income levels and varied racial/ethnic groups will enhance generalizability. External validity will be further addressed by examining setting, child, and teacher factors that moderate treatment effects.

Analysis plan. Analyses for the UMIGO summative study will be conducted in an intent-to-treat basis using HLM, with observations nested within child, child nested within class, and class nested within condition. Primary analyses of main effects (hypotheses 1 and 6) will test whether children in the intervention condition demonstrate greater gains in learning (i.e., a steeper slope of improvement) than do children in the alternate media and control conditions. Secondary process-outcome analyses using HLM will test the power of (1) frequency and duration of use (dosage) and (2) level of use of multiple platforms (synergies) to predict variation in outcomes within the intervention condition. HLM will also be used to test whether children's depth of progression through gaming levels predicts outcomes on other media elements, and on standardized performance outcome measures (transfer of learning). Secondary analyses of moderators: HLM will be used to examine potential interactions between treatment condition and child characteristics to determine whether particular children are more or less likely to benefit from the intervention (Preacher, Curran, and Bauer, 2006). Locale will be included as a site-level moderator. Potential student-level moderators include grade level, gender, verbal English vocabulary (PPVT scores), family income, race/ethnicity, language spoken at home, and level of media literacy. Moderator analyses are secondary because an extremely large sample is required to detect subtle interaction effects.

Reporting. Analyses and report development will begin immediately following fielding. Initial findings will be presented to the Department within eight weeks of the conclusion of fieldwork.

B.4. Formative Evaluation Plan

Formative research on UMIGO will be conducted at regular and strategic intervals in order to provide feedback and inform the development of each media component and the overall UMIGO

ecosystem. There are five interrelated areas of inquiry for the formative research: (1) Formative research on traditional issues of appeal, use, and comprehension, conducted in qualitative focus groups and interviews with children. (2) Formative inquiry to provide insight about device usability, ease of use: extent of guidance children need (if any) to navigate a new platform; features accessed more or less readily; and progression patterns through initial stages of progressive learning tasks (i.e., levels). (3) Formative inquiry using beta testing to explore children's spontaneous patterns of device use; the ways in which children utilize different platforms in combination; and the extent to which children perceive the components as discrete or unified experiences. (4) Formative inquiry, again employing beta testing, to quantitatively assess the extent to which children learn the content/curriculum intended to be conveyed through UMIGO media components and to determine how usages patterns relate to learning outcomes. (5) Formative inquiry to explore the issues and questions unique to the transmedia storytelling experience, in qualitative studies addressing questions such as (a) how do children engage the story/narrative across media? (b) what differences exist in terms of children's perceptions or understanding of the narrative on particular media? (c) how and where do children situate themselves in relation to the narrative across the transmedia ecosystem, or when engaged with particular media? (d) do children experience themselves viewer, player or participant in the storytelling, or both? (e) does that experience of self differ at different points across the ecosystem? And (f) is learning tacit, embedded and seamlessly scaffolded, or is it recognized as an explicit educational agenda that is differentiated from play and game mastery?

Again, in the interests of economy, formative studies planned for UMIGO, an accompanying timeline, and details of sampling, procedures, and interview protocols are fully detailed in Appendix F.

B.5. Dissemination of evaluation findings

MCG has a strong commitment to sharing research findings for two purposes: (1) to contribute to the body of knowledge about young children's literacy and numeracy acquisition; and (2) to keep the educational and policy communities apprised of consortium efforts toward developing innovative and effective transmedia approaches to address the needs of low-income and disadvantaged children. Dissemination methods under consideration include symposia with participating partners, academics, policy, and Department personal, etc.; publications in academic journals; publication of a detailed summary of the program and evaluation results; and construction of a dedicated website for parents, teachers and the education community at large.

B.6. Monitoring progress: performance measures and project milestones

The proposed evaluation plan, by design, will yield a wide variety of data, including objective performance measures of student input and outcomes. The nature of this data will yield findings at different levels/units of analysis (e.g., at individual level and in aggregate). Use of performance measures is a critical element in all activities aimed at meeting project goals. Specifically, findings will be used to: (1) determine whether the project is producing meaningful effects on student learning; (2) provide ongoing feedback and timely assessment to learners, teachers and property developers; and (3) continuously improve the pedagogical system. Findings will be monitored by the evaluation team and reported in monthly meetings to the project director, content and curriculum directors, and the program officer. Written progress reports will be issued quarterly to the project director. The applicant will also use findings to monitor overall project progress by against pre-established performance milestones (outlined in the Management Plan). To that end, evaluators will monitor implementation processes and provide feedback for project system self-correction in the form of monthly reporting.

B.7. Knowledge: Dede (2009) has pointed to motivational benefits exclusively available in immersive gaming. For example, research on one immersive videogame found that low-performing students became more confident in their own academic abilities when they temporarily took on academically successful personas within the game. Other studies have found that the (literal) perspective-switching common to immersive game play fosters not only engagement, but also reflection. These perceptions matter. Research has consistently demonstrated reciprocal associations between students' perceptions of their ability and their academic achievement, content area by content area. (Anmarkrud & Bråten, 2009; Malloy & Gambrell, 2008; Guthrie, et al, 2004; Chapman & Tunmer, 2003; Anderson et al, 2001; Zimmerman, 2000.) But while accurate assessment of one's own abilities has been related to improved learning outcomes, but students chronically over-estimate their academic abilities (Hacker & Bol, 2004; Hackett & Betz, 1989; Klassen, 2002; Pajares & Miller, 1994). Weaker students commonly under- or, more often, overestimate their self-efficacy, a problem identified in the motivation literature as "calibration" (Hacker & Bol, 2004; Klassen, 2002; Hackett & Betz, 1989; Pajares & Miller, 1994). To the extent that the intrinsically motivating experiences of success in UMIGO reflect genuine achievement, the proposed project will examine whether students are able to more accurately calibrate their mathematics self-efficacy beliefs with their actual performance than has been possible with more traditional approaches.

Budget Narrative

Budget Justification

Attachment 1:

Title: UMIGO BUDGET PACKAGE Pages: 6 Uploaded File: UMIGO BUDGET PACKAGE II.pdf

ED 524- Section C - UMIGO

UMIGO Budget Narrative

Personnel

The WTTW project personnel for project years one through five include the following key personnel: co-project director (EVP/CFO) and finance director. Other distribution and support staff will be required to manage and administer the UMIGO project. Time commitments of the key personnel will average 15% per year and the total personnel charges for the five-year grant will be \$1,023,637. Annual WTTW project personnel costs will average approximately \$204,727 per year. The experience, skills and depth of relationships of WTTW personnel are critical to the completion of the UMIGO transmedia project. Fringe benefits approximate 13% of total personnel and fringe costs and include reasonable WTTW approved medical, dental, and retirement costs.

Travel

Travel to meet with contractors, partners, the Department of Education program officer, project manager meetings, outreach, station relations and conferences is estimated at \$150,000 over the 5 year period; costs average approximately \$30,000 per year. Travel for media production and research personnel is included in the contractual amounts.

The majority of contractual expenses include planning, development, and production of all transmedia. Wildbrain and Michael Cohen Group project expenses over the five-year grant will be approximately \$30,875,000 or 95% of total Federal project expenses. Other expenses are

UMIGO Budget Narrative 1

primarily for legal and the A-133 audit. See Attachment A for a total direct costs five year budget detail.

Contractual Expenses.

Evaluation

Evaluation will be provided by The Michael Cohen Group. The Michael Cohen Group is budgeted to receive \$8,775,000 (27% of annual Federal project expenses) over the five-year period averaging approximately \$1,755,000 per year to perform critical, ongoing research activities based on the participant-advisor model. See Attachment B for a detailed five year evaluation budget. As principal investigator, Michael Cohen, PhD will oversee all evaluation activities allocating 20% of his salary to the budget along with Minda Frank as co-principal investigator allocating 25% of her salary to the budget. The Michael Cohen Group's personnel and fringe expenses account for 52% of the evaluation budget. And 25% of the evaluation budget is allocated to The Michael Cohen Group's collaborative partners, including non-profit institutions, private sector companies, and university based researchers and scholars, and is included in the evaluation contractual total in Attachment B. The remaining 23% of the evaluation budget includes organizational meeting travel and conferences, workshops, IRB costs, university IDC's, computer equipment, instrumental development, general supplies and other participant support costs.

Production

The creative leader is Wildbrain Entertainment and is budgeted to receive approximately \$22,100,000 over the five-year period (68% of annual Federal expenses) averaging approximately \$4,420,000 per year. See Attachment C for a detailed five year contractual

UMIGO Budget Narrative 2

Production budget. The production activities that will be undertaken by Wildbrain will include character development, storyline development, artwork and design. The creative personnel and fringe makes up 22% of the contractual production budget with a total five year cost of \$4,757,007. Fifty-seven percent of the contractual production budget is for web design, game design, site launch, character development and scripting with a total five year cost of \$12,588,522. And the remaining 21% of the contractual production budget is primarily for outreach, travel and other production support costs.

UMIGO Budget Narrative 3

Attachment A
 DETAILED UMIGO TOTAL FEDERAL BUDGET

TYPE	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
PERSONNEL						
WTTW Project Director	48,460	48,460	48,460	48,460	48,460	242,298
Partnership Management & Support	65,595	65,595	65,595	65,595	65,595	327,973
Director of Finance	19,425	19,425	19,425	19,425	19,425	97,125
Station Relations Management	14,915	14,915	14,915	14,915	14,915	74,576
Distribution and Other Support	56,333	56,333	56,333	56,333	56,333	281,665
TOTAL PERSONNEL	204,727	204,727	204,727	204,727	204,727	1,023,637
TOTAL FRINGE						
	30,273	30,273	30,273	30,273	30,273	151,363
TRAVEL						
Grant Admin Travel	15,000	15,000	15,000	15,000	15,000	75,000
Partnership Management Travel	15,000	15,000	15,000	15,000	15,000	75,000
TOTAL TRAVEL	30,000	30,000	30,000	30,000	30,000	150,000
SUPPLIES						
Office supplies	10,000	10,000	10,000	10,000	10,000	50,000
TOTAL SUPPLIES	10,000	10,000	10,000	10,000	10,000	50,000
CONTRACTUAL						
Transmedia - see detail	4,420,000	4,420,000	4,420,000	4,420,000	4,420,000	22,100,000
Evaluation - see detail	1,755,000	1,755,000	1,755,000	1,755,000	1,755,000	8,775,000
TOTAL CONTRACTUAL	6,175,000	6,175,000	6,175,000	6,175,000	6,175,000	30,875,000
OTHER						
Grant Admin Legal	10,000	10,000	10,000	10,000	10,000	50,000
A-133 Audit	10,000	10,000	10,000	10,000	10,000	50,000
Publications and Printing	5,000	5,000	5,000	5,000	5,000	25,000
Communications - phone, messenger, postage, IT	10,000	10,000	10,000	10,000	10,000	50,000
Meetings and Conferences	10,000	10,000	10,000	10,000	10,000	50,000
Insurance	5,000	5,000	5,000	5,000	5,000	25,000
TOTAL OTHER	50,000	50,000	50,000	50,000	50,000	250,000
TOTAL FEDERAL DIRECT COSTS						
	6,500,000	6,500,000	6,500,000	6,500,000	6,500,000	32,500,000

Attachment B
UMIGO DETAILED EVALUATION BUDGET

TYPE	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
PERSONNEL	(b)(4)					
TOTAL PERSONNEL	649,166	779,220	808,003	820,804	861,340	3,918,533
TOTAL FRINGE	107,034	128,580	133,317	135,396	142,120	646,447
TRAVEL						
NYC - DC	9,000	6,000	6,000	6,000	6,000	33,000
NYC - LA	8,000	8,000	8,000	8,000	8,000	40,000
NYC - Kansas City	5,200	5,200	5,200	5,200	5,200	26,000
NYC - Mass	4,800	4,800	4,800	4,800	4,800	24,000
Conferences	4,800	4,800	4,800	4,800	4,800	24,000
Advisory Board meeting	4,000	8,000	8,000	8,000	8,000	36,000
TOTAL TRAVEL	35,800	36,800	36,800	36,800	36,800	183,000
EQUIPMENT						
Laptop Computers w/software	22,200	-	-	-	-	22,200
Configured server (web data collection)	-	49,000	-	-	-	49,000
Handheld Assessment Devices	9,000	-	4,800	-	-	13,800
Desktop computers (test sites)	7,800	-	-	-	-	7,800
Flip cams	2,400	-	2,400	-	-	4,800
Smartphones	2,700	-	-	-	-	2,700
Nintendo DS handheld gaming devices (Beta testing)	-	-	-	16,000	-	16,000
TOTAL EQUIPMENT	44,100	49,000	7,200	16,000	-	116,300
TOTAL CONTRACTUAL	440,000	440,000	440,000	440,000	440,000	2,200,000
OTHER						
Field Team per diem	18,500	13,000	12,980	13,000	12,000	69,480
School/teacher parent incentives	35,000	35,000	35,000	35,000	35,000	175,000
Graduate student incentives	15,000	15,000	15,000	15,000	15,000	75,000
ADPE/Computer Services	24,000	24,000	24,000	24,000	24,000	120,000
Materials and Supplies	20,000	20,000	20,000	19,600	16,340	95,940
TRC Costs	15,000	15,000	15,000	15,000	15,000	75,000
Equipment or Facility Rental/User Fees	50,000	50,000	50,000	35,000	40,000	225,000
Consultant Services	100,000	50,000	50,000	50,000	18,000	268,000
Mobile Phone Service	14,400	14,400	14,400	14,400	14,400	72,000
Recruitment Services	-	35,000	35,000	35,000	35,000	140,000
TOTAL OTHER	478,900	321,400	325,000	306,000	274,740	1,710,720
TOTAL DIRECT EVALUATION CONTRACTUAL	1,755,000	1,755,000	1,755,000	1,755,000	1,755,000	8,775,000

Attachment C
UMIGO Federal Production Budget Detail

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Personnel	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)
PI	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)
Total Personnel	620,181	620,181	766,848	816,848	835,181	3,659,239
Total Fringe	186,054	186,054	230,053	245,053	250,554	1,097,768
Travel	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)
Total Travel	45,300	45,300	45,300	44,470	46,471	226,841
Supplies	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)
Total Supplies	15,532	17,186	15,102	13,000	15,165	75,985
Production Contractors	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)
Total Production Contractors	2,658,404	2,668,750	2,472,168	2,418,100	2,371,100	12,588,522
Total Outreach	715,000	715,000	715,000	715,000	715,000	3,575,000
Total Other	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)	(b)(4)
Total Other	179,529	167,529	175,529	167,529	186,529	876,645
TOTAL FEDERAL DIRECT COSTS	4,420,000	4,420,000	4,420,000	4,420,000	4,420,000	22,100,000