NewKnowledge is a non-profit research institute founded to pursue a deep understanding of how people engage with society’s grand challenges. We accomplish this work by exploring how knowledge is acquired and acted upon in order to promote a strong democracy that enables all people to live to their greatest potential in harmony with the biosphere.

Cover photo showing the NewKnowledge offices across the street from the Empire State Building.

Photo credit: Rebecca Norlander
# Table of Contents

A NOTE FROM THE CHAIR .......................... 1  
PRESIDENT & CEO’S STATEMENT ................. 2  
GOAL 1 | PROJECT DEVELOPMENT .................. 3  
GOAL 2 | DISSEMINATION .......................... 8  
GOAL 3 | COLLABORATION .......................... 11  
GOAL 4 | CRITICAL THINKING ....................... 12  
GOAL 5 | PLURALISM ................................ 16  
GOAL 6 | FINANCIAL SUSTAINABILITY ................. 17  

- Cash Flows from Operating Activities ............ 20  
- Cash Flows from Financing Activities ............ 20  
- Statement of Functional Services ................ 21  
- Board of Trustees ................................ 24  
- Staff .............................................. 24  
- Project Partners and Funders for 2012 ........... 25
A Note from the Chair

Looking at large questions affecting our world – from issues surrounding water and our use of it, to the development of critical thinking skills in young people, to the social effects of the Highline in New York or the downtown river walk in Indianapolis – New Knowledge is reporting out useful and interesting content. The board and staff are committed to moving this content into papers and conferences as quickly as possible so that others can use these outcomes to inform their planning and evaluation.

And in addition to this year’s good work, perhaps even more encouraging are the questions New Knowledge partners and clients and colleagues continue to bring to us. When the EPA and the Underwriters Laboratory ask deep questions about the value of their education programs and ways to make even greater impact...that is a very good thing. And when foundations request New Knowledge work with their grantees, and sometimes even their applicants, to ensure that project activity yields the value it seeks...that is also a very good thing.

It is good to live in a time when so many agencies seek to deeply understand the issues with which they work and the problems they endeavor to solve. New Knowledge is uniquely positioned to provide evaluative intelligence, to draw together cross-disciplinary teams to address complexity, and to share out the findings quickly. Our founding focus not so many years ago is turning out to be very timely.

Enjoy this report and its rich variety of efforts and results....and, if you want to join in with support or ideas, let me know. We will take an interest in your ideas....hoymarilyn@gmail.com.
President & CEO’s Statement

Just two years from our founding, we are reaching new levels of work and are already being recognized as a new kind of think-tank. In the past year, we saw significant advances in our work across all four of our focus areas with a growing team of scholars and thinkers who can push forward our mission.

Last year, I thanked our founding board of trustees for their vision and belief that we could build a robust research organization on soft money to identify the mechanisms that can encourage people to tackle the challenging issues of our time. At this writing, it’s clear that creating this organization was not only possible, but clearly needed. This past year has seen incredible advancement with projects as diverse as providing technical review for the Public Works Authority of Qatar on culturally responsive interpretation in their new national zoo in Doha, while at the same time helping the Friends of the High Line to create an internal self-reflective process for evaluating their mission to incubator for democracy, and kicking off a four year project in Indianapolis that will look at how artists and scientists can foster public literacy around environmental remediation and watershed health.

In the past year, we built on our strategic plan by adding to our core team, focusing on diversity in our team rather than replicating skills in order to advance work in our six strategic foci. This focus on diversity has paid off, with many of our new research partners looking to us to help them rethink the way they perceive their own service communities. As you’ll see from the incredibly long list of reports we published this year, including our contributions to Poets House’s Language of Conservation book, we continue to make significant advances in each area of our plan.

2013 also saw maturity in our infrastructure, bringing on a new accounting team to manage our non-profit financial management, close attention to managing cash flow, and relocation to our new office directly across the street from the Empire State Building, an image we proudly display on the front of this annual report. Looking back on our second year, we went from inventing ourselves to stabilizing our work process by focusing on the details.

By year, our overall functional services budget of $684,450 represents our first year of living completely within our means. Our balanced cash flow and strategic growth has helped us to achieve an incredibly high level of productivity without taking on more debt, and successfully negotiating some fairly large projects.

Last year, I noted that the great majority of our work was focused on environmental topic, and our second year found a migration to greater diversity. While we continue to receive the majority of our funding as sub-recipients to federal grantees, this year we found greater balance between our funding from the Environmental Protection Agency, multiple projects funded by the National Science Foundation, and growth in funding from private sector non-profits like UL, the non-profit testing service founded as Underwriters Laboratories.

As we end our second year, we can see a viable and rich future for the organization as we apply our critical eyes to the problems that face society.

John Fraser, PhD AIA
President & CEO
GOAL 1 | Project Development

Seek out and develop projects to address societal problems that impede cultural advancement and are considered so large and persistent as to be insoluble.

The organization’s Vision for the Future and its four prioritized domains for work outlines a goal that at first blush may seem unattainable. Yet, by year-end 2013, the portfolio and pending grant applications seem to suggest that the organization is on course to contribute significantly to each of its societal goals.

In 2013, New Knowledge Organization Ltd. (NewKnowledge) worked on 32 projects across a diverse range of funding sources, each of which challenged the team to explore societal problems that impede cultural advancement at a variety of levels. The projects addressed topics as controversial as climate change science to the perceived relevance of cultural institutions in resolving persistent urban problems and community empowerment in a city affected by toxic chemical waste. For many of these challenges, in our second year, we were able to describe and document barriers to success in order to support our partners as they pursue interventions to overcome those barriers. Furthermore, we developed new tools for learning, such as training guides for professional environmental educators.

We saw significant advancement in tackling protracted questions in each of our four focus areas: wellness; the biosphere; media; and culture. While many of these projects overlapped, the questions we grappled with each show promise. In 2013, we expanded work under several of our existing funding sources and focus areas.
Biosphere

About 20 projects fell under NewKnowledge’s biosphere focus area in 2013. A major initiative by NewKnowledge continued to be the ongoing research and evaluation for Environmental Protection Agency’s EECapacity project, a cooperative agreement with Cornell University and the North American Association for Environmental Education. The project sought to help the Environmental Education (EE) community expand the diversity of practitioners contributing to the field by challenging the traditional discourses about the field. This effort at Expanding Capacity in Environmental Education resulted in seven extensive reports, in addition to learning legacies that challenged what has been perceived as a protracted divisive culture of EE.

Our team also worked toward advancing a highly specialized Community of Practice composed of educators and scientists trained to communicate with the public about climate and ocean change science. Working as the research and evaluation partner for the National Network of Ocean & Climate Change Interpretation (NNOCCI 2), NewKnowledge published six studies on US perspectives on emerging results from climate change science that are now being used to plan communication strategies for informal learning institutions. The peer-reviewed journal, EcoPsychology, published our groundbreaking research on the emotional challenges that face those who work to communicate about climate change science. This paper represents a watershed issue demonstrating that science communicators face an onerous effort and that there is substantial need to provide support for these educators. A second journal, the Journal of Museum Education, also published our paper entitled, “Fostering Hope in Climate Change Educators,” which further expanded on the research NewKnowledge has pursued on the NNOCCI 2 project.

During 2013, NewKnowledge supported several other projects specifically concerned with conservation of the oceans and promoting accessible solutions. We completed a thorough external evaluation of The Ocean Project’s capacity building work supported by the National Oceanic and Atmospheric Administration in their efforts at Applying Social Research to Build Environmental Literacy and Public Engagement in Protecting Ocean Resources.

Continuing a highly productive project from 2012, NewKnowledge worked with The Nature Conservancy to explore the cultural impact of their Leaders in Environmental Action for the Future program. We challenged the pedagogical stance that youth participants in a summer internship were the only beneficiaries of this Toyota-funded program, demonstrating through our research that seasoned professionals benefit both emotionally and professionally from their engagement with youth.

Reaching out in to our local community, NewKnowledge also worked with the Brooklyn Botanic Garden on understanding the impacts of their newly built and designed Visitor Center exhibits and the planned changes for their children’s Discovery Garden. Looking outward to our international community, NewKnowledge was invited to conduct a technical review of the New Doha Zoo in Qatar.

Figure 4. Participants from NNOCCI 2’s first cohort completed their training focused on interpretive skills for climate change science.
Culture

In 2013, NewKnowledge worked on about 20 projects that under the culture sector of our practice. Building on our innovative partnership with Mary Miss Studio at the CUNY Institute for Sustainable Cities at Hunter College in 2012, NewKnowledge began its new NSF-funded initiative in 2013 with Indianapolis: City as Living Laboratory. This expansive project seeks to turn a city into an engaging and democratic learning space that joins science inquiry with performing, written, and visual arts. Through this effort, we continued our collaboration with the Mary Miss Studio, and established new relationships with Butler University and Indiana University-Purdue University in Indianapolis.

With our new partner, Underwriters Laboratories (UL), and ongoing partners the North American Association for Environmental Education, we led an exciting exploration of the culture of innovation in the field of environmental education. With the aim to learn how to support innovative and boundary-pushing programs, we spoke with educators and policy makers from around the field to determine optimal ways to use environmental education as a pathway to science, technology, engineering, and math learning.

In 2013, the Friends of the Highline, the non-profit organization that operates New York City’s Highline Park, invited NewKnowledge to lead a capacity-building initiative that established a culture of evaluation and impacts-tracking among their staff and volunteers. Moreover, we performed initial evaluation of the Highline’s public programs and their effect on democratic access.

We also continued to challenge the traditional perception that cultural institutions are brand distinct competitors within a community. The NSF-funded Wild Minds: What Animals Really Think paired a science center and zoo in the same city to simultaneously mount programs and exhibits about animal cognition. We completed a dissemination effort that included an article in the trade publication of the Association of Science and Technology Centers, Dimensions, which explored the untapped public value that may benefit communities, institutions, educators, and funders alike. We look forward to continued investment in this question in the coming years.

We also offered ongoing support to a social value organization, the New York City-based Center for Architecture Foundation (CFAF), who sought information about their internal capacity to support their work to help members of their communities to live fuller and more sustainable lives.

Figure 5. The Arriba Nights event at the Highline in New York City.
Media

NewKnowledge expanded its media practice in 2013, with 10 ongoing or new projects in this sector. Working with the science and math curriculum development non-profit, TERC’s Education Gaming Environments Group (EdGE@TERC), through National Science Foundation funding for Innovative Technology Experiences for Students and Teachers (ITEST), NewKnowledge conducted two evaluation efforts to help support the development of digital games to support advancement of science learning for teens. To address this contentious question—could digital games provide a valuable vector for science learning?—our team published a process evaluation report for the project team. This evaluation identified risks and opportunities for a team of curriculum developers to collaborate with a more traditional for-profit group of game developers, groups that have been considered somewhat adversarial prior to this collaboration. The organization also published a report based on the second national baseline study of youth gamers preferences that helped establish the relevance of out-of-school digital gaming to this current digitally connected generation of teens.

We also explored how media tools in classrooms support learning experiences through funding from the Stroud Water Research Center’s project *Model My Watershed: Developing a Cyberlearning Application and Curricula to Enhance Interest in STEM Careers*, grant # DRL-ITEST-929763. Our summative report about classroom and educator use of the online tool challenged the pedagogical structure of directed instruction by demonstrating that self-directed digital learning can result in outcomes equal to or greater when the content is local, salient and accessible for students with a variety of academic levels of achievement.

At the end of the year, the National Oceanic and Atmospheric Organization announced the funding of *Visualizing Change: Training and Tools to Support Informal Educators*. Partnering again with New England Aquarium, the National Aquarium in Baltimore, and Frameworks, among others, NewKnowledge is exploring how media-based narratives can be adapted for a wide range of audiences and institutional settings. The project specifically targets the Science on a Sphere 3D visualization technology, paired with global datasets from NOAA’s Environmental Visualization Lab.

Figure 6. Educators at the National Aquarium in Baltimore pilot narratives for the Visualizing Change project.
Wellness

Lastly, our wellness practice grew substantially in 2013 to nine projects. Our first project carried over from 2012 with the Children’s National Medical Center’s Children’s Research Institute in Washington DC. With Being Me, the project asks how communities learn wellness strategies through a focus on children just prior to their teenage years. Through this project, we explored how family programs, in-school programs, summer learning experiences at the hospital, and an outpatient waiting room program organized through art activities could promote literacy about five serious health risks that face children in Title 1 schools: Obesity, Youth Violence, Sleep Disorders, Asthma, and Sickle Cell Disease.

At the beginning of 2013, NewKnowledge fully engaged with its partnership with Museum of Science and Industry in Chicago to conduct both monitoring for the protection of human subjects in research and to evaluate for an NIH SEPA project. The project, SimLab: Using Patient Simulation for Student Exploration of Community Health Issues, offers a radical opportunity to consider how patient simulator programming might challenge youth risk-taking that can have a long term threat as these youth move into adulthood.

At the end of 2013, NewKnowledge signed a contract with the University of Pennsylvania’s Mixed Methods Research Lab for Resources for Education and Action for Community Health in Ambler (REACH Ambler). With this project, we will support the development of an innovative science education and outreach program including a museum-based, virtual exhibit about communities of West and South Ambler, PA in order to inform community members and key stakeholders about risks from environmental and occupational exposure to asbestos so that they can fully participate in decisions that affect their health.
GOAL 2 | Dissemination

Aggressively disseminate the implications of our work through communications vectors to professional, academic, lay, and media audiences.

In 2013, NewKnowledge’s staff’s efforts to disseminate our work included peer-reviewed journal articles, the formalization of our online distribution of self-published reports, and a series of presentations that helped situate our work in the field.

Peer-reviewed Articles


Trade Publications


NewKnowledge Publications and Reports
NSF1.64.065 - WildMinds

EPA.60.064 - EECapacity


NSF1.64.065 - Stroud MMW


NOAA.54.055: Ocean Project


NSF2.61.062: WildMinds

EPA.60.064 - EECapacity


NSF1.64.065 - Stroud MMW


Annual Report 2013

**PVT.87.073-TNC LEAF**
Fraser, J. R., Gupta, R., & Rank, S. J. (2013) TNC Student Intern Focus Groups (NewKnowledge Publication #PVT.87.73.05). New York: New Knowledge Organization Ltd.

Fraser, J., Gupta, R., & Rank, S. J. (2013) TNC Students and Informed Observers (NewKnowledge Publication #PVT.87.73.06). New York: New Knowledge Organization Ltd.


**PVT.89.074-Cloud NJ Learns**

**NIH.90.075-Being Me**

**NIH.90.075-Being Me**

**NIH.90.077-MSI SimLab**

**NIH.90.077-MSI SimLab**
Gupta, R., & Fraser, J. and the MSI Evaluation and Research Team. (2013) Front-End Pilot Test Results & 2013 Summer Data Collection (NewKnowledge Publication #NIH.90.77.02). New York: New Knowledge Organization Ltd.

**NIH.90.077-MSI SimLab**

**PVT.93.080-Dreams**

**NSF.68.101-BBG**

**PRCO.106.110-UL (NAEE-UL)**

**PRCO.106.110-UL (NAEE-UL)**

**PRCO.106.110-UL (NAEE-UL)**

**PRCO.106.110-UL (NAEE-UL)**

**NSF1.52.111- NNOCCI 2**

**NSF1.52.111- NNOCCI 2**

**NSF1.52.111- NNOCCI 2**

**NSF1.52.111- NNOCCI 2**

**NSF1.52.111- NNOCCI 2**

**NSF1.52.111- NNOCCI 2**

**NOPR.104.129- FHL 2013**

**NOPR.104.129- FHL 2013**

**NOPR.104.129- FHL 2013**
PVT.87.135- TNC LEAF 2013


PVT.91.144- CFAF 2013

Presentations

Fraser, J. (2013, May). The Title 1 Phenomenon: Experimental education program evaluation and radical disruptive change. Paper presented at the National Institute of Health: Science Education Annual Conference in Omaha, NE.


Fraser, J. (2013, September). Fear Factor 5: Civil Rights, Legality, Funding, Public Research, and What’s an IRB? Symposium conducted at the Association of Zoos & Aquariums Annual Conference in Kansas City, MO.


Fraser, J., Gupta, R., & Griswold, B. (2013, June). Development of staff cultural capacity in a conservation setting with youth interns. Poster presented at the Third World Congress in Positive Psychology in Los Angeles, CA.


Schubel, J.R., & Fraser, J. (2013, February). Town Hall: Informal Ocean Science Education: Trends and Opportunities. Symposium conducted at the meeting of the Association for the Sciences of Limnology and Oceanography in New Orleans, LA.
Our efforts to nurture strategic collaborations have continued to grow. By 2013, we had become a strategic collaborator with a number of colleges and universities. The hallmark new collaboration of 2013 was our work with the Lilly Foundation, Butler University and Indiana University Perdue University Indianapolis (IUPUI), and Mary Miss Studio to undertake a comprehensive study of how art/science collaborations increase literacy. In recognition of our true partnership, Dr. Fraser, our CEO, was appointed as an Adjunct Professor of Earth Science at IUPUI with students participating in work-study conducting research under the direction of NewKnowledge scholars.

The North American Association for Environmental Education invited us to join them in a collaboration with UL (Underwriters Laboratories) and the California Water Services Company. These groups asked us to investigate where innovation is emerging in Environment as a path to Science Technology Engineering and Math (STEM) literacy. Our reports and presentations included a comprehensive study of how practitioners and researchers in the field define success, and an exploration of 10 unique projects to illustrate how innovation is playing out in America. That report, *Engaging Young People in 21st Century Community Challenges: Linking Environmental Education with Science, Technology, Engineering and Mathematics*, was a co-branded collaborative publication with UL, NAAEE, and NewKnowledge.

In 2013, our work with the New England Aquarium and the aquarium community expanded substantially. We have now moved through the first implementation year for the National Network for Ocean and Climate Change Interpretation and are actively engaged with this community of science communicators that projects growth to more than 140 institutions by 2017. We were also part of a second award to the New England Aquarium as the evaluation partner for Visualizing Change, a group of science interpretation institutions that seek to study how to use spherical displays known as Science on a Sphere and Magic Planet to display real datasets about environmental change in ways that help the public understand changes in their world. We look forward to being an academic partner to this organized community of practice.

Our media partnerships continued to flourish, with the completion of our studies with the Stroud Water Research Center’s Model My Watershed and Wikiwatershed as well as a maturing of our collaborations with the Education Gaming Environments Group (EdGE) at TERC. For both groups, we have built a useful dialog that allows for collegial discussions about how media is influencing the developing mind of our next generation. We continue to be interested in exploring how media tools are shifting what we know about youth minds today and what we can anticipate in the future. These two strong collaborations led to hiring our first dedicated Research Fellow in digital pedagogies, as noted later in this report, and a very new collaboration with Trivium, a consulting firm that has sought out our expertise to help scaffold the intellectual backbone of many of their client’s research projects. We look forward to a fruitful collaboration across a range of media opportunities in the coming year.

As the year closed, we also began collaboration with the American Library Association’s Public Programs Office to develop the National Impact of Library Public Programs Assessment (NILPPA) strategic plan. We look forward to working with leaders in the field of library science and library operations to develop the first of its kind long-term strategy for benchmarking how library experiences shift what people think. As we look forward to 2014, we can see before us the opportunity to expand collaborations in all four of our strategic priority areas, building on synergies and relationships that continue to gain breadth.
As we seek to support critical thinking, we have engaged in a series of public programs and reports that advanced understanding of the critical challenges facing society. We highlight in this section some key questions that we’ve asked and some of our key publications that represent our commitment to fostering new knowledge.

**Scientists Ethical Responsibilities to their Research Participants**

In March, Dr. Fraser was the panel moderator for The Thinking Animals program at Hunter College of City University New York. The program, entitled *Eagles, Pigeons, Swine, & Puppies: What people think about animal thinking*, brought together three noted scholars to engage in a critical debate about how animal thinking is changing the way people relate to non-human animals. Dr. Michael Noonan, an anthropologist at Canisius College, offered his insights into how his personal relationship has changed as a result of long-term studies with marine mammals in an aquarium. Dr. Robert Lurz, a professor of philosophy at Brooklyn College, presented a summary of how the philosophy of animal minds has changed over the past centuries as people have become more distant from farms. Dr. William Lynn, an ethicist at the George Perkins Marsh Institute at Clark University and Senior Fellow for Ethics and Public Policy in the Center for Urban Resilience at Loyola Marymount University, focused his presentation on how the regulatory environment is challenged by cognition research. As moderator, Dr. Fraser challenged the panelists to consider the ethical responsibilities researchers face once their data demonstrates mental processes that may not be protected from harm by current policies. He suggested that it is incumbent on animal researchers to engage in policy and public advocacy if their descriptive research uncovers processes that are threatened by current policy. Dr. Fraser and Dr. Lynn both suggested that current scientific training fails to move beyond minimizing harm, and does little to speak of how descriptive research may produce results that require advocacy in public debate and critical thinking.

**Museum Sector Collaborations**
The second major public initiative was NewKnowledge’s technical sponsorship of the Discursive Spaces conference, in collaboration with Ryerson University (Toronto), the Art Gallery of Toronto, and California Academy of Sciences’ Curator: The Museum Journal.

Dr. Fraser presented the plenary session, entitled Legible Learning Cities, a call to action to consider the museum as a strategy for reading, a community-convening venue that can activate dialogue and challenge prevailing wisdom. He suggested that the unit of measure for museum learning has failed as it considered museums in isolation. Rather, he suggested that museums in a community should be considered as an entity and sector, drawing on NewKnowledge’s research to demonstrate that people sample broadly from their museums and come to understand topical issues by gathering input from many types of museum experiences. He highlighted NewKnowledge’s research for Wild Minds, a project that demonstrated that public audiences consider science centers and zoos as two ways of seeing a similar topic. Dr. Fraser presented the work undertaken in 2012 with the Heart of Brooklyn that demonstrated how people seek similar types of positive life-enhancing experiences from all museum types, but generally want more than they believe these institutions deliver. By drawing attention to sector level thinking, we proposed that museums can cease to compete for entertainment dollars and can collaborate by inciting debate in a community through their collective work.

Innovation in Environment as a Path to STEM Learning

During 2013, we also started a new collaboration with NAAEE and Underwriters Laboratories (UL), to explore how Environment was a pathway to Science Technology Engineering and Math (STEM) learning. The research contributed to critical thinking by seeking to:

- Identify and assess the most innovative and brightest ideas in E→STEM; and
- Investigate a suite of activities that inspire young people to learn, experience, explore, and help solve local community challenges.

![Experts Rated What’s Working Today](image)

<table>
<thead>
<tr>
<th>Experts Rated What’s Working Today</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making presentations with the most in smart</td>
<td>4.89</td>
</tr>
<tr>
<td>Using graphic methods and case for today critical thinking</td>
<td>4.75</td>
</tr>
<tr>
<td>Professional development and collaboration</td>
<td>4.50</td>
</tr>
<tr>
<td>Optimizing use of technology to solve real problems</td>
<td>4.20</td>
</tr>
<tr>
<td>Activities use media to engage a community of learners</td>
<td>4.15</td>
</tr>
<tr>
<td>Socio-cultural economic perspective on STEM</td>
<td>4.10</td>
</tr>
<tr>
<td>Focusing on empowerment and social justice</td>
<td>4.01</td>
</tr>
<tr>
<td>Fostering community and cross-generation of development</td>
<td>3.92</td>
</tr>
<tr>
<td>Encouraging digital tools and recording</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Our team conducted a suite of qualitative and quantitative research efforts, including a literature review, crowd sourcing, surveys, a workshop, concept mapping activities, and interviews. Hundreds of educators, professionals, and advocates from across the US—joined by a handful of international participants—took part in this major effort. The results found that the next generation of E→STEM learning will prioritize four indicators: Professional Development; Real Connections; Creativity in Critical Thinking; and Practical Synthesis.

The research revealed a set of five supporting attributes for success in E→STEM as well. These were:

- Technology & Real Problems – Using of technology to solve real-world issues in the natural environment;
- Media & Community – Working on real problems with free, technically advanced monitoring systems to support community learning. There is a special emphasis on sharing knowledge with social networks, including those in web-based communities;
- Community & Cross-Generational Learning – Educators called for a renewed effort in programs that promote activities for

---

Annual Report 2013 13
learners of different ages. This is especially promising for building connections within communities;

- Empowerment – Urban movements are increasingly utilizing an empowerment, health, and social justice approach to engage youth in E → STEM; and

- Digital Tools & Modeling – Using digital tools and mobile technologies to interpret natural environments—with an emphasis on engaging with local settings—which can be paired with outdoor activities.

The full report is available for download on the NewKnowledge publications section of the website.

Cover image from the report that can be downloaded on the NewKnowledge publications section of the website.

And the fourth critical thinking question emerged as a result of our research into teen gaming preferences. We conducted a national study of teen gaming and science learning. The survey set out to answer: What games engage youth? What is the nature of the relationship between games and science learning? To what extent does young people’s engagement in gaming predict their understanding of the concept of the nature of science and their “science identity”? Does young people’s choice of games relate to a particular perception of themselves as science thinkers and as gamers?

Results revealed critical issues that we will seek to forefront as we advance our media research strategy. It is common knowledge that most teens play with some form of digital media, and mostly on computers rather than some other device; and most prefer
engagement in a wide range of games including those that involve sports, arts, and battles, as well as educational games.

For most teens, their contributions as members of gaming groups are more important than being known as a gamer, but enjoyment of games with problem-solving features and identifying as a gamer were the strongest predictors for teens’ nature of science understanding, whereas those teens who prefer social games or do not like to play puzzle games are also least likely to understand the nature of science. These results introduce a challenging question of social equity in game design. We suggest that games that promote science learning outside of school appeal more to students already showing success in that domain. We express concern that this supplemental learning may further disadvantage students who are not succeeding in science and may create an elite group that does not advance general science literacy as has been claimed in the gaming community.

Moving into 2014, our organization will seek to increase its advocacy for integrating science-concepts in a video gaming contexts related to word puzzles, races, battles, and first-person shooter where those with a limited understanding of the nature of science in science concepts gravitate. We are also advocating for more efforts to reach the subgroup who is proud of their gaming groups and communities, battle games might be the most useful format to engage them in understanding the nature of science.

These data suggest that learning about science within a video-gaming context is related to a complex set of preferences, enjoyment, and perceived competence. While it is difficult to draw causal connections from these findings, the results highlight the collaborative, social nature of video game play can be targeted to support science learning and help expand self-understanding of the perceptions of the self as a science thinker.
NewKnowledge has worked to expand the transdisciplinary depth of our academic think tank. We have also worked to advance a culturally responsive approach to all of our work.

This work toward a pluralistic organization was most evident in Dr. Rupanwita Gupta and Ken Lo’s efforts managing the details of our external evaluation and cultural research for the EPA funded EECapacity. For that project, Dr. Gupta worked to mentor evaluators in six states. That transformative work helped small cultural communities ensure their own goals for cultural change were accepted on an equal footing.

Our staff grew in 2013 to also reflect six of the world’s major religions, and we’re working to hear each of those perspectives in all of our work. We grew by adding four key members of our team. We appointed Licensed Clinical Social Worker, Shelley Stern, as a Fellow with a core focus on qualitative interviewing and assessment of emotionally complex issues faced by our partners. In February, we welcomed a new Manager of Evaluation and Communication Programs, Kate Flinner. Conservation biologist Nezam Ardalan also started an internship with us in spring 2013 and was brought on to our core team in August, and at the closing of 2013, Digital Media Fellow, Christina Shane-Simpson, an Education Social Worker currently pursuing doctoral studies at City University New York’s Graduate Center joined us to advance her exploration of how gaming technologies support student learning.

We were also pleased to announce that early in 2013, our founding manager, Karen Plemons, accepted a position leading evaluation for the Metropolitan Museum of Art. Jennifer Scarlott also moved on to continue her work as a freelance journalist. We consider these former staff alumni and are confident they will carry forward the work of our mission in their future pursuits.

As we look forward to growth in 2014, we will seek out new opportunities to add diversity to our team by adding new scholarly traditions and cultural perspectives.
GOAL 6 | Financial Sustainability

Work to develop a funding scheme and work process to ensure the longevity and fiscal health of the organization.

NewKnowledge is a tax-exempt 501(c)3 non-profit charitable research organization that provides primary research, evaluation, monitoring, and planning support for organizations that seek to advance the public good. We seek to promote a strong democracy that enables all people to live to their greatest potential, while contributing at their fullest capacity to the advancement of a just and equitable society that sustains itself in harmony with the biosphere. Our Monitoring & Evaluation (M&E) promotes deeper understanding of ways to solve new or existing problems and test the validity of programs and goals.

Our second year funding was derived almost exclusively from grants and contracts. At the conclusion of 2013, our total support and revenue totaled $677,409 representing a positive cash flow status nearing break-even status and affording us the opportunity to pay back critical loans incurred in the first year. This earned revenue represented a significant achievement with our income and receivables demonstrating break-even status with significant potential for future growth. We also received $3,250 in contributions from five members of the Board of Trustees.

In our second year, Cornell University and the North American Association for Environmental Education (NAAEE)’s EECapacity project funded by the EPA remained a central pillar for our financial health and 25% of our income. While a substantial portion of our income was derived from this one source in the two years since start-up, the new sources of funding that were secured during the fiscal year show promise to continue to add diversity to our portfolio. This ongoing project is subject to annual renewal from the federal government, but that funding has been confirmed as secure through our fiscal 2015 and did not pose a financial risk to the organization at the conclusion of 2013.

On the following pages, notes from our auditor, Gary S. Eisenkraft, CPA, demonstrate that the organization is financially stable and is following best practices for non-profit financial management.
Independent Auditor's Report

To the Board of Trustees
of New Knowledge Organization Ltd.

I have audited the accompanying financial statements of New Knowledge Organization Ltd., which comprise the Statement of Financial Position as of December 31, 2013, the related Statements of Activities, Cash Flows, and Functional Expenses for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, I express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of New Knowledge Organization Ltd., as of December 31, 2013, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.
Report on Summarized Comparative Information

I have previously audited the New Knowledge Organization Ltd.'s, 2012 financial statements and in my report dated September 13, 2013 expressed an unmodified opinion on those financial statements. In my opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2012, is consistent, in all material respects, with the audited financial statements from which it has been derived.

July 18, 2014
### Assets

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$33,558</td>
<td>$229,918</td>
</tr>
<tr>
<td>Contract service fees receivable</td>
<td>130,183</td>
<td>222,918</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>$163,741</td>
<td>$222,918</td>
</tr>
<tr>
<td><strong>Other Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security Deposit</td>
<td>$4,500</td>
<td></td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$168,241</td>
<td>$222,918</td>
</tr>
</tbody>
</table>

**Liabilities and Net Assets**

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash overdraft</td>
<td>$ – $12,354</td>
<td>$ – 12,354</td>
</tr>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>73,370</td>
<td>94,085</td>
</tr>
<tr>
<td>Loans payable</td>
<td>36,000</td>
<td>56,000</td>
</tr>
<tr>
<td>Unearned revenue</td>
<td>$5,433</td>
<td>–</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>$114,003</td>
<td>$162,439</td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td>$53,438</td>
<td>60,479</td>
</tr>
<tr>
<td>Unrestricted</td>
<td>$53,438</td>
<td>60,479</td>
</tr>
<tr>
<td><strong>Total Liabilities and Net Assets</strong></td>
<td>$168,241</td>
<td>$222,918</td>
</tr>
</tbody>
</table>

**Support and Revenue**

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract service fees</td>
<td>$674,159</td>
<td>$662,950</td>
</tr>
<tr>
<td>Contributions – cash</td>
<td>3,250</td>
<td>737</td>
</tr>
<tr>
<td>Contributions – services</td>
<td>–</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total support and revenue</strong></td>
<td>$677,409</td>
<td>$713,687</td>
</tr>
</tbody>
</table>

**Expenses**

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program services</td>
<td>540,869</td>
<td>399,347</td>
</tr>
<tr>
<td>Supporting services:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General administrative</td>
<td>100,429</td>
<td>229,303</td>
</tr>
<tr>
<td>Fund-raising</td>
<td>43,152</td>
<td>24,558</td>
</tr>
<tr>
<td><strong>Total expenses</strong></td>
<td>$684,450</td>
<td>$653,208</td>
</tr>
</tbody>
</table>

**Cash Flows from Operating Activities**

Increase in net assets | $ (7,041) | $ 60,479 |
Adjustment to reconcile changes in net assets to net cash used by operating activities:
Increase (decrease) in operating activities:
Contract service fees & other receivables | 92,735 | (222,918) |
Security deposit | (4,000) | – |
Increase (decrease) in operating liabilities:
Accounts payable & accrued expenses | (20,715) | 94,085 |
Unearned revenue | 5,433 | – |
**Net cash used by operating activities** | $ 65,912 | (68,354) |

**Cash Flows from Investing Activities**

Repayment of loans payable | (20,000) | – |
Net cash provided by financing activities | $ (20,000) | – |

**Cash Flows from Financing Activities**

Cash overdraft | (12,354) | 12,354 |
Proceeds of loans payable | – | 56,000 |
**Net cash provided by financing activities** | $ (12,354) | 68,354 |

Increase in Cash | 33,558 | – |
Beginning Cash | – | – |
**Ending Cash** | $33,558 | – |

**Supplemental Disclosure of Cash Flow Information**

Cash paid during the year for interest: | $1,188 | $1,087 |
### Statement of Functional Services

<table>
<thead>
<tr>
<th>Services</th>
<th>Program Services</th>
<th>Supporting Services</th>
<th>Total 2013</th>
<th>Total 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and wages</td>
<td>270,803</td>
<td>67,811</td>
<td>367,675</td>
<td>337,671</td>
</tr>
<tr>
<td>Payroll taxes and employee benefits</td>
<td>32,246</td>
<td>8,073</td>
<td>40,319</td>
<td>35,780</td>
</tr>
<tr>
<td>Payroll processing fees and other</td>
<td>10,623</td>
<td>2,660</td>
<td>13,283</td>
<td>3,777</td>
</tr>
<tr>
<td>Professional fees</td>
<td>143,677</td>
<td>11,124</td>
<td>154,801</td>
<td>148,777</td>
</tr>
<tr>
<td>Travel, meals and lodging</td>
<td>34,070</td>
<td>1,009</td>
<td>35,079</td>
<td>35,792</td>
</tr>
<tr>
<td>Survey tools</td>
<td>1,235</td>
<td>-</td>
<td>1,235</td>
<td>21,885</td>
</tr>
<tr>
<td>Electronic supplies</td>
<td>4,283</td>
<td>720</td>
<td>5,003</td>
<td>20,186</td>
</tr>
<tr>
<td>Occupancy</td>
<td>22,964</td>
<td>5,750</td>
<td>28,714</td>
<td>14,977</td>
</tr>
<tr>
<td>Conference registration</td>
<td>5,023</td>
<td>424</td>
<td>5,447</td>
<td>7,750</td>
</tr>
<tr>
<td>Insurance</td>
<td>1,297</td>
<td>325</td>
<td>1,622</td>
<td>4,253</td>
</tr>
<tr>
<td>Office supplies</td>
<td>3,910</td>
<td>617</td>
<td>4,527</td>
<td>4,178</td>
</tr>
<tr>
<td>Miscellaneous and other</td>
<td>1,553</td>
<td>229</td>
<td>1,782</td>
<td>4,026</td>
</tr>
<tr>
<td>Stipends</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3,326</td>
</tr>
<tr>
<td>Participant support</td>
<td>445</td>
<td>-</td>
<td>445</td>
<td>-</td>
</tr>
<tr>
<td>Membership dues and subscriptions</td>
<td>2,495</td>
<td>461</td>
<td>3,056</td>
<td>2,318</td>
</tr>
<tr>
<td>Telephone</td>
<td>1,615</td>
<td>402</td>
<td>1,917</td>
<td>2,002</td>
</tr>
<tr>
<td>Interest expense</td>
<td>875</td>
<td>219</td>
<td>1,094</td>
<td>1,087</td>
</tr>
<tr>
<td>Website &amp; email</td>
<td>449</td>
<td>112</td>
<td>561</td>
<td>896</td>
</tr>
<tr>
<td>Postage &amp; shipping</td>
<td>1,239</td>
<td>113</td>
<td>1,352</td>
<td>705</td>
</tr>
<tr>
<td>Promotions</td>
<td>2,067</td>
<td>380</td>
<td>2,447</td>
<td>625</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>540,869</td>
<td>100,429</td>
<td>641,288</td>
<td>653,208</td>
</tr>
</tbody>
</table>
Note 1:  
Nature of Activities & Summary of Significant Accounting Policies

New Knowledge Organization Ltd. helps cultural, educational, research, health, environmental, and free-choice learning organizations to expand their programs in ways that increase social knowledge, positive lived experiences, and ecological harmony.

NewKnowledge provides primary research, monitoring and evaluation (M&E), and planning support for institutions’ programs, offering a variety of essential resources to advance our partners’ activities and goals.

New Knowledge Organization Ltd. was incorporated in the State of New York in 2012.

Basis of Accounting

The financial statements have been prepared on an accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.

Financial Statement Presentation

The Organization reports information regarding its financial position and activities according to three classes of net assets, unrestricted net assets temporarily restricted net assets, and permanently restricted net assets.

Unrestricted net assets represent revenues and expenses related to the operations and management of the Organization’s primary programs and supporting services. If funds are raised and set aside by the Board for future use, these are considered unrestricted. Temporarily restricted contributions that are expended for their restricted purpose in the same reporting period as received may be recorded as unrestricted.

Temporarily restricted net assets represent resources available for use, but expendable only for the purpose specifically stated by the donor. As of December 31, 2013, there were no temporarily restricted net assets.

Permanently restricted net assets are assets subject to donor-imposed stipulations that they be maintained permanently by the Organization. Generally, the donors of these assets permit the Organization to use all or part of the income earned on only related investments for general or specific purposes. As of December 31, 2013, there were no permanently restricted net assets.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Cash

Cash consists of demand deposit accounts held at major financial institutions and may at times exceed the insurable amount. Management believes it mitigates its risk by investing in a major financial institution and in funds that are currently U.S. federal government insured. Recoverability of investments is dependent upon the performance of the issuer.

Cash Equivalents

For purposes of the statement of cash flows, the Organization considers all highly liquid investments purchased with original maturities of three months or less when purchased to be cash equivalents.

Contributions

Contributions are recognized when the donor makes a promise to give to the Organization that is in substance, unconditional. Contributions that are restricted by the donor are reported as increases in unrestricted net assets if the restriction expires in the fiscal year in which the contributions are recognized. All other donor-restricted contributions are reported as increases in temporarily or permanently restricted net assets depending in the nature of the restrictions. When a restriction expires, temporarily restricted net assets are reclassified to unrestricted net assets.

Revenue Recognition

Contributions received are recorded as unrestricted, temporarily restricted, or permanently restricted depending on the existence and/or nature of any donor restrictions. New Knowledge Organization Ltd. has not received any contributions with donor-imposed restrictions that would result in permanently restricted net assets.

Revenue for services performed is recognized on an accrual basis when earned.

Contracts and Fees Receivable

Contracts and Fees receivable are stated at the amount management expects to collect from outstanding balances. Management provides for probable uncollectible amounts through adjustments to valuation allowances based on its assessment of the current status of individual receivables. Balances still outstanding after management has used reasonable collection efforts are written off through a charge to the valuation allowance. For the year ended December 31, 2013, the allowance for doubtful accounts was $0.

Reclassifications

Certain reclassifications have been made to prior year amounts to conform to the current year presentation.

Promises to Give

Unconditional promises to give are recognized in the period received both as revenues or gains and as assets, decreases of liabilities, or expenses, depending on the form of benefits received. Conditional promises to give are recognized only when the conditions on which they depend are substantially met and the promises become unconditional.

Income Taxes

New Knowledge Organization Ltd. is exempt from income taxes under section 501(c)(3) of the Internal Revenue Code. Therefore, no provision for income taxes has been made in the accompanying financial statements.
Tax Uncertainties

The Organization’s policy is to record interest expense and penalties in operating expenses. For the year ended December 31, 2013, there was no interest and penalties expense recorded and no accrued interest and penalties.

The Organization’s Federal Forms 990 are open for examination for the years ended December 31, 2012 on.

Functional Allocation of Expenses

The costs of providing various program and other activities have been summarized on a functional basis in the statement of activities. Accordingly, certain costs have been allocated among the programs and supporting services benefited.

Concentrations

Approximately 75% of NewKnowledge’s income was contract services for organizations with related projects funded by the Federal government.

Donated Services

Donated services are recognized as contributions if the services (1) create or enhance nonfinancial assets or (2) require specialized skills, are performed by people with those skills and would otherwise be purchased by the Organization. Volunteers provide various services that are not recognized as contributions in the financial statements since the recognition criteria were not met.

Subsequent Events

In preparing the financial statements, New Knowledge Organization Ltd. has evaluated subsequent events and transactions for potential recognition or disclosure through July 18th, 2014, the date the financial statements were available to be issued.

Note 2:
Contract Service Fees Receivable

Contract service fees receivable at December 31st, 2013 totaled $130,183. All receivables were expected to be collected, therefore no allowance for uncollectable accounts is considered necessary.

Note 3:
Unearned Revenue

Unearned revenue represents income for the year ending December 31, 2014 that were received during the year ended December 31, 2013.

Note 4:
Loans Payable

On February 9, 2012, New Knowledge Organization Ltd. was granted an unsecured loan by its executive director in an amount not to exceed $40,000 bearing interest at an annual percentage rate of 3.25%. The maturity date was December 30, 2012. As of December 31, 2013 the outstanding balance was $36,000. NewKnowledge is currently making monthly payments on this loan.

Note 5:
Employee Benefits

New Knowledge Organization Ltd. maintains a 401(k) retirement plan. NewKnowledge contributes 1% and matches eligible contributions up to a maximum of 1%.

NewKnowledge contributed $7,023 to the plan during the year ended December 31, 2013 and has been included in payroll taxes and employer benefits on the accompanying statements of functional expenses.

Note 6:
Related Party Transaction

New Knowledge Organization Ltd. leased office space from the executive director until June 30, 2013. Rent paid was $8,169 during the year ended December 31, 2013.

Note 7:
Rent

New Knowledge Organization Ltd. has leased office space on a month-to-month basis beginning May 2013. Rent expense for the office space during the year ended December 31, 2013 was $23,011.
Board of Trustees

Marilyn Hoyt, Acting Chair, Secretary and Member of the Finance Committee
Nora de la Serna, Treasurer and Chair of the Finance Committee
Paul Boyle, PhD, Trustee
Judy Koke, Trustee and Member of the Finance Committee
Julia Mair, Trustee

Staff

John Fraser, PhD AIA. President & CEO
Karen Plemons, Manager
Beverly Sheppard, Director, City Learning Initiatives
Kate Flinner, MA, Manager of Evaluation and Communications Programs
Nezam Ardalan, M.A. Researcher
Rupanwita Gupta, PhD, Analyst
Kenneth Lo, M.U.P. Researcher
Shelley J. Rank, M.A. Researcher
Jennifer Scarlott, Writer/Editor
Christina Shane-Simpson, M.A. Digital Learning Research Fellow
Laura Tietjen, Researcher
Marie Keem, PhD Research Fellow
Kin Kong, PhD Research Fellow
Shelley Stern, M.Ed., LCSW Research Fellow
Project Partners and Funders for 2013

- American Library Association
- Association of Zoos and Aquariums
- Brooklyn Botanic Garden
- Butler University
- California State University, Sacramento
- Center for Architecture Foundation
- Center for the Study of Brooklyn
- Cherry Hill School District
- Children's National Medical Center, Children's Research Institute
- Cloud Institute for Sustainability Education
- Cornell University
- Cranford School District
- Doha Zoo, Qatar
- DREAMS of Wilmington, Inc.
- Educational Game Environments group (EdGE) at TERC
- Exploratorium
- Friends of the High Line
- GameGurus
- Heart of Brooklyn
- Humboldt State University
- Hunter College of the City University of New York
- Jordan College of the Arts Department of Dance at Butler University
- KEO International Consultants
- Mary Miss Studio
- Monterey Bay Aquarium
- Museum of Science and Industry, Chicago
- Mystic Seaport
- National Aquarium
- National Children’s Museum
- New England Aquarium
- New York Hall of Science
- NOAA Environmental Visualization Laboratory
- NOAA Pacific Marine Environmental Laboratory
- North American Association for Environmental Education (NAAEE)
- North Carolina Aquarium at Fort Fisher
- Ocean Explorium
- Pennsylvania State University
- Philadelphia Zoo
- Poets House
- Public Works Authority, State of Qatar
- Seattle Aquarium
- Stroud Water Research Center
- The American Mercury
- The Aquarium of the Pacific, Long Beach
- The Cloud Institute for Sustainability Education
- The FrameWorks Institute
- The Kinetic Project
- The Nature Conservancy
- The Ocean Project
- Underwriters Laboratories
- University of Pennsylvania
- Woods Hole Oceanographic Institution