4. Evidence of Past Impact – Provide evidence of impact from past professional learning your organization has conducted.

We plan to adhere to Guskey's (2002) Five Levels of Professional Development Evaluation, using the table below as a guide. Evaluation will be made immediately after it is collected. In developing content for professional learning opportunities, we work backwards through these steps, beginning with what we want students to know and to be able to do.

Evaluation Level	What Questions Are Addressed?	How Will Information Be Gathered?	What is Measured or Assessed?	How Will Information Be Used?
1. Participants' Reactions	Did they like it? Was their time well spent? Did the material make sense? Will it be useful? Was the leader knowledgeable and helpful? Were the refreshments fresh and tasty? Was the room the right temperature? Were the chairs comfortable?	Questionnaires administered at the end of the session	Initial satisfaction with the experience	To improve program design and delivery
2. Participants' Learning	Did participants acquire the intended knowledge and skills?	Paper-and-pencil instruments Simulations Demonstrations Participant reflections (oral and/or written) Participant portfolios	New knowledge and skills of participants	To improve program content, format, and organization
3. Organization Support & Change	Was implementation advocated, facilitated, and supported? Was the support public and overt? Were problems addressed quickly and efficiently? Were sufficient resources made available? Were successes recognized and shared? What was the impact on the organization? Did it affect the organization's climate and procedures?	District and school records Minutes from follow-up meetings Questionnaires Structured interviews with participants and district or school administrators Participant portfolios	The organization's advocacy, support, accommodation, facilitation, and recognition	To document and improve organization support To inform future change efforts
4. Participants' Use of New Knowledge and Skills	Did participants effectively apply the new knowledge and skills?	Questionnaires Structured interviews with participants and their supervisors Participant reflections (oral and/or written) Participant portfolios Direct observations Video or audio tapes	Degree and quality of implementation	To document and improve the implementation of program content
5. Student Learning Outcomes	What was the impact on students? Did it affect student performance or achievement? Did it influence students' physical or emotional well-being? Are students more confident as learners? Is student attendance improving? Are dropouts decreasing?	Student records School records Questionnaires Structured interviews with students, parents, teachers, and/or administrators Participant portfolios	Student learning outcomes: Cognitive (Performance & Achievement) Affective (Attitudes & Dispositions) Psychomotor (Skills & Behaviors)	To focus and improve all aspects of program design, implementation, and follow-up To demonstrate the overall impact of professional development

Resource

– Table viewed in 2019 online from http://www.ascd.org/publications/educational-leadership/mar02/vol59/num06/Does-It-Make-a-Difference¢-Evaluating-Professional-Development.aspx

References

– Guskey, T.R. (2002a). Does it make a difference? Evaluating professional development. *Educational Leadership, 59*(6), 45-51.

– Guskey, T.R. (2002b). Professional development and teacher change. *Teachers and Teaching: Theory and Practice, 8*(3), 381-391.

1. As evidence of the positive impact of past Leonardo Teaching and Learning Workshops, please read the following text is an excerpt from an article, A districtwide commitment to arts integration, by Eileen Mackin, Robert Mackin, John Obremski, and Katherine McKie, August 24, 2018, published by Kappan, the professional journal for educators. This article is attached to the application and can also be accessed online at this link, https://kappanonline.org/mackin-obremski-mckie-commitment-arts-integration-arts-education/

Darts and design

At the summer institute, one of the other master teaching artists, Amy Leidtke (also a RISD faculty member), had shown Everett's teachers a powerful way to integrate the arts into STEM (Science, Technology, Engineering, & Math) instruction. Specifically, she introduced them to an ancient hunting tool called an atlatl (which was used to hurl darts), showing how it can serve as inspiration for a project that blends engineering and design: Students can study other inventions to send objects sailing through the air (e.g., cannons, slingshots, and tennis rackets; Leidtke demonstrated with a lacrosse stick and a Chuckit, which launches balls for dogs to retrieve) and then design, test, and create a ball-throwing device of their own.

Teachers were enthralled by the activity, recognizing that it would spark students' creativity, give them a hands-on challenge, and teach them important design principles, all while addressing a number of core science standards. While the project would require materials and tools they hadn't used previously, many of those materials were recyclables and could be obtained easily. Moreover, the timing was fortuitous since shortly after the start of the school year, ancient tools and weapons would be introduced as part of the social studies curriculum. When Lisa Norberg, a 7th-grade social studies teacher, mentioned to Joe Lento — the science teacher with whom she co-taught — that she'd like to try the activity, he was supportive, recognizing that it would provide a great opportunity for students to see how science, engineering, and design can work together in the real world.

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To help Norberg get the unit started, Leidtke visited the 7th-grade classroom and taught a version of the atlatl lesson, as well as leading students in a discussion about the iterative nature of the design process. It was clear from the outset that the students were hooked. Students were intrigued that such a simple device could bring down an animal as large as the giant mastodon, and they were eager to design and create their own ball-throwing tools.

The next day, Norberg gave them each a few basic tools — a tongue depressor, masking tape, and a can of Play-Doh — and asked them to sketch out some ideas, build initial prototypes, and test them, using their creations to throw jumbo-sized cotton balls across the classroom. Then Norberg upped the ante, asking them to create two or three additional models in limited time, using a wider variety of materials, such as paper cups, chopsticks, wooden dowels, popsicle sticks, clipboards made out of recycled cereal boxes, card stock, foam sheets, tape, and string. Plus, she told them that they would be launching three kinds of balls, made of different materials and having different weights, and she asked them to come up with hypotheses as to how this would affect the distance they would be thrown.

After just 20 minutes, the students were ready to test their models outside. Some of their contraptions didn't work, and others exceeded expectations, but Norberg reminded them that nobody had failed; this was all part of the iterative process, in which every test helps inform the next design. Once again, the students went back to the drawing board, using what they had learned so far to create two or three more iterations based on their original designs. They embraced the challenge, building and testing new versions before returning to the classroom for a discussion about what worked, what didn't, and what it would take to improve the designs even further. Finally, Norberg brought the activity full circle by connecting it back to the social studies unit the class was studying, focusing on early civilizations and what the contemporary world can learn from them.

Much as in Keith Spencer's class, Norberg's students learned content and skills from more than one field, touching on specific 7th-grade standards in both science and social studies, as well as learning a number of the lessons described in the National Core Arts Standards, having to do with trial and error and the complex, iterative nature of the design process. Further, and unlike most instructional strategies, this one treated failure as a normal, even desirable experience, helping students understand that productive persistence, reflection, and revision are critically important to the work of successful scientists, engineers, artists, and others.

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2. For future professional learning opportunities offered through the Educator Course Network, *Leonardo's Teaching and Learning Workshop* will engage with a qualified independent evaluator, such as a pre-service teacher or retired teacher in order to collect Guskey's (2002) Five Levels of Professional Development Evaluation:

a. Evidence of participant reactions or self-perceptions of skill (e.g. satisfaction surveys), and
b. Evidence of participants' learning (e.g. demonstration of new skill)

3. For future professional learning opportunities offered through the Educator Course Network, *Leonardo's Teaching and Learning Workshop* will engage with a qualified independent evaluator, in order to collect Guskey's (2002) Five Levels of Professional Development Evaluation:

c. Evidence of organizational support and change (e.g. resource allocation shift)
d. Evidence of change in educator practice (e.g. walkthrough data)
e. Evidence of impact on student learning (e.g. student assessment data)

One independent evaluator who would be contracted is:

Laura M. O'Dwyer, Ph.D.
Professor, Department of Measurement, Evaluation, Statistics, and Assessment
Campion Hall 336e
Lynch School of Education Boston College
617 552 8089
http://www.bc.edu/schools/lsoe/facultystaff/faculty/odwyer.html