Authenticity in Practice:
Examining the Perspectives of Informal Educators

James Kisiel, Professor of Science Education
Kathleen Westervelt, Graduate Student

CALIFORNIA STATE UNIVERSITY
LONG BEACH
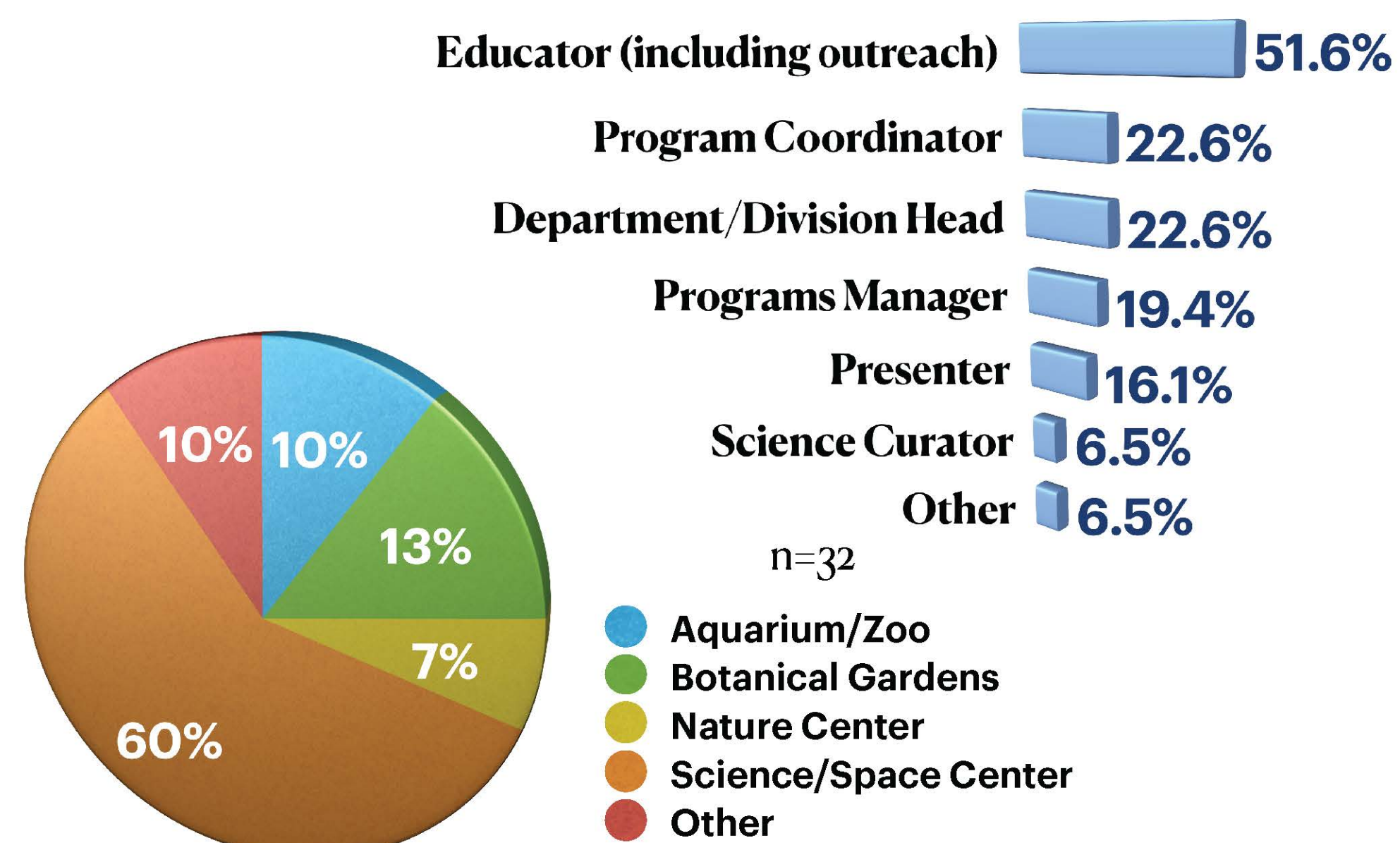DEPARTMENT OF SCIENCE EDUCATION

Museums, science centers, and other informal science education (ISE) institutions often focus on the real or authentic, from T-Rex fossils to the NASA Space Shuttles, as a way to engage, inspire or inform the public. Schwan, Grajal and Lewalter suggest that "authenticity means to provide the visitor or learner with something 'real' or 'original,' be it an authentic object, an authentic context, or an authentic experience." (2014, p. 76.) But how does the authenticity of a museum specimen affect visitor interest, engagement or understanding (i.e. learning?) Equally important is the question of how an informal educator, who regularly makes use of authentic objects and settings, perceives the role of authenticity in their practice.

This study emerges from a larger NSF-funded project that is examining the idea of authenticity through an extensive examination of the literature, considering both theoretical and empirical perspectives from work in the fields of informal education and visitor studies, as well as also adjacent disciplines including psychology, anthropology, marketing, tourism and formal education. (Include NSF funding info here.)

To better understand how the ideas and associated research related to authenticity might be relevant to the practices of informal education, a short survey was distributed to practitioners in southern California to gain insights into current ISE perspectives on the topic. The feedback will be used to inform several upcoming forums with ISE professionals to better understand the value of such research, potential impacts on practice, as well as inform a future research agenda.

Participants & Methods

The survey (multiple choice and open-ended questions) was distributed to informal educators via both a local email list as well as targeted emails to several local informal learning institutions. A sample of 32 educators was obtained, from different institution types and various levels of responsibility within each institutions (see charts below.). Multiple coders helped identify key themes resulting from open-ended questions.

- Educator (including outreach) **51.6%**
- Program Coordinator **22.6%**
- Department/Division Head **22.6%**
- Programs Manager **19.4%**
- Presenter **16.1%**
- Science Curator **6.5%**
- Other **6.5%**

n=32

Pie chart: 60%, 10%, 10%, 13%, 7%
- Aquarium/Zoo
- Botanical Gardens
- Nature Center
- Science/Space Center
- Other

Findings

If someone tells you that an object is *authentic*, what does that mean to you?

It is real, and not a counterfeit.

An authentic object is one that has been tested for authenticity, and you know exactly where the object was found or how it was made.

An authentic object is real and historical (from a particular time and place), and not a replica. (80%)

An authentic object provides accurate information about its characteristics and purpose, regardless of whether it is 'original'. (41%)

An authentic object is one that is (or has been) used for its intended purpose [or created by a one who has authoritative understanding of the intended purpose.] (19%)

An authentic object is a primary source of information such as data, or a real object such as a skull or skin (not a replica). History of the particular object may be known (ex. data) or unknown (ex. skull) depending on the circumstances.

That it is either real or an accurate replica of something.

If I'm showing someone an authentic object, it means it is not a model, it is not a rendition, it is the object of discussion and it was used for its intended purpose at one time.

I assume that it was physically or conceptually present during some specific event.

Although nearly 2/3 of respondents provided fairly specific or distinct definitions (65%), some provided multiple definitions that could be coded into more than one category. (35%)

Also, definitions more frequently referenced what the literature refers to as 'cool authenticity' (81%) compared to 'warm authenticity' (18%).
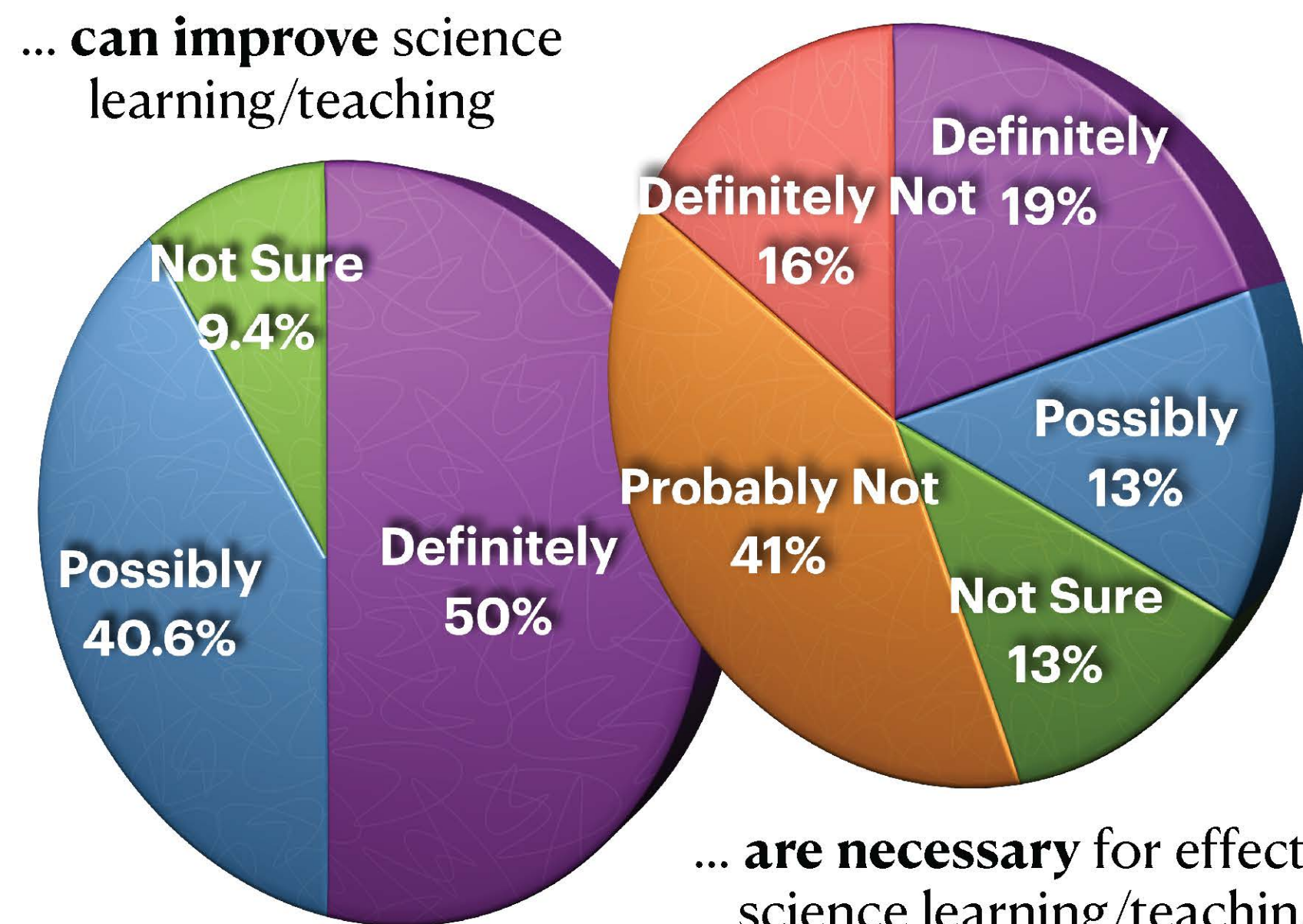
Cool Authenticity
Authenticity refers to the 'genuine-ness' of an object, environment, experience as determined by an external expert and based on scientific/historical knowledge. (more OBJECTIVE)

Warm Authenticity
Authenticity refers to personal or subjective feelings related to an individual's or community's beliefs about the authenticity of a practice, object or experience in which they engage. (more SUBJECTIVE)

Authentic Objects (according to practitioners)

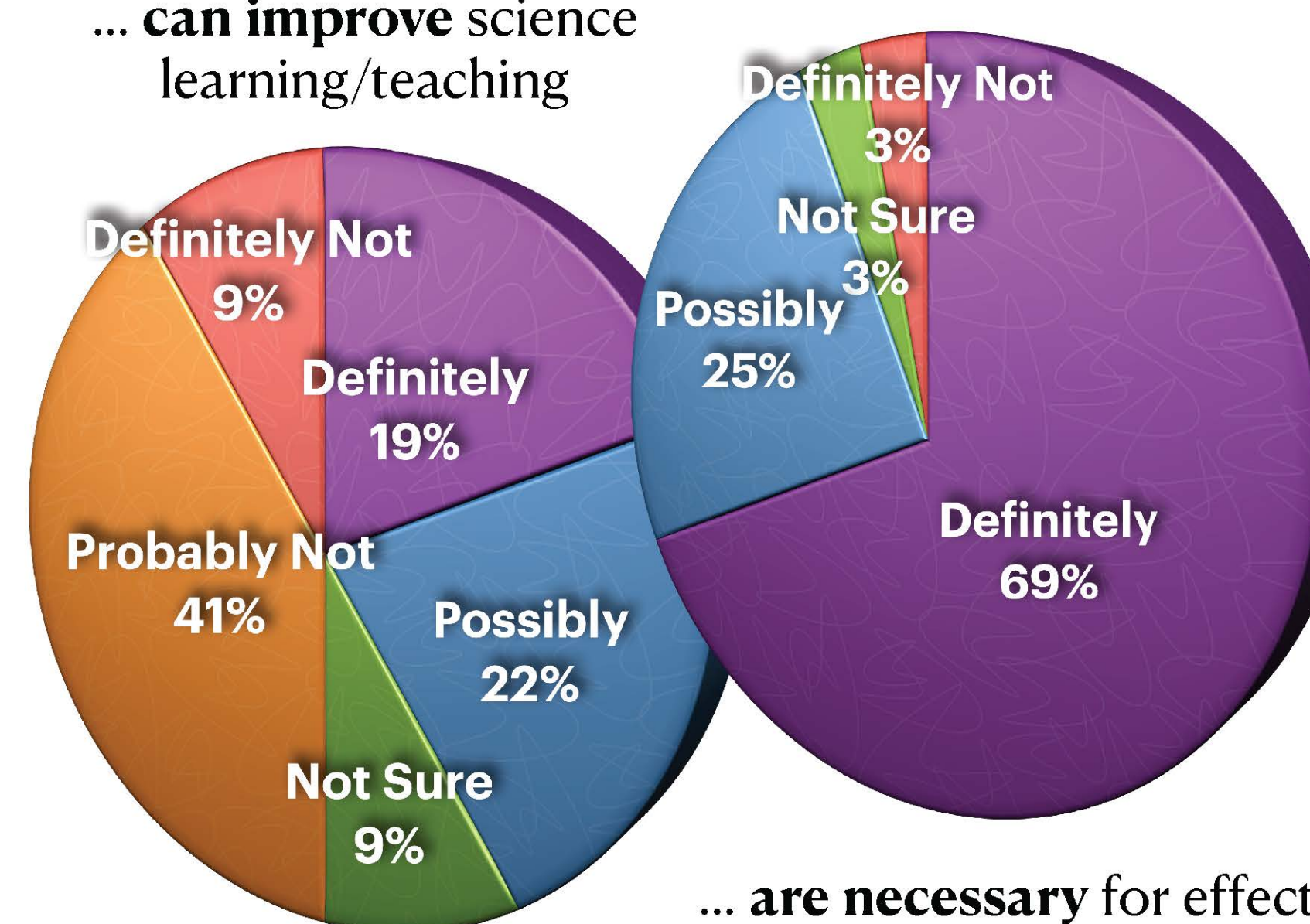… **can improve** science learning/teaching
- Possibly 40.6%
- Definitely 50%
- Not Sure 9.4%

… **are necessary** for effective science learning/teaching
- Definitely Not 19%
- Possibly 13%
- Not Sure 13%
- Probably Not 41%
- Definitely Not 16%

84% of respondents use an authentic/real objects at least a 'moderate amount' of the time (N=32)
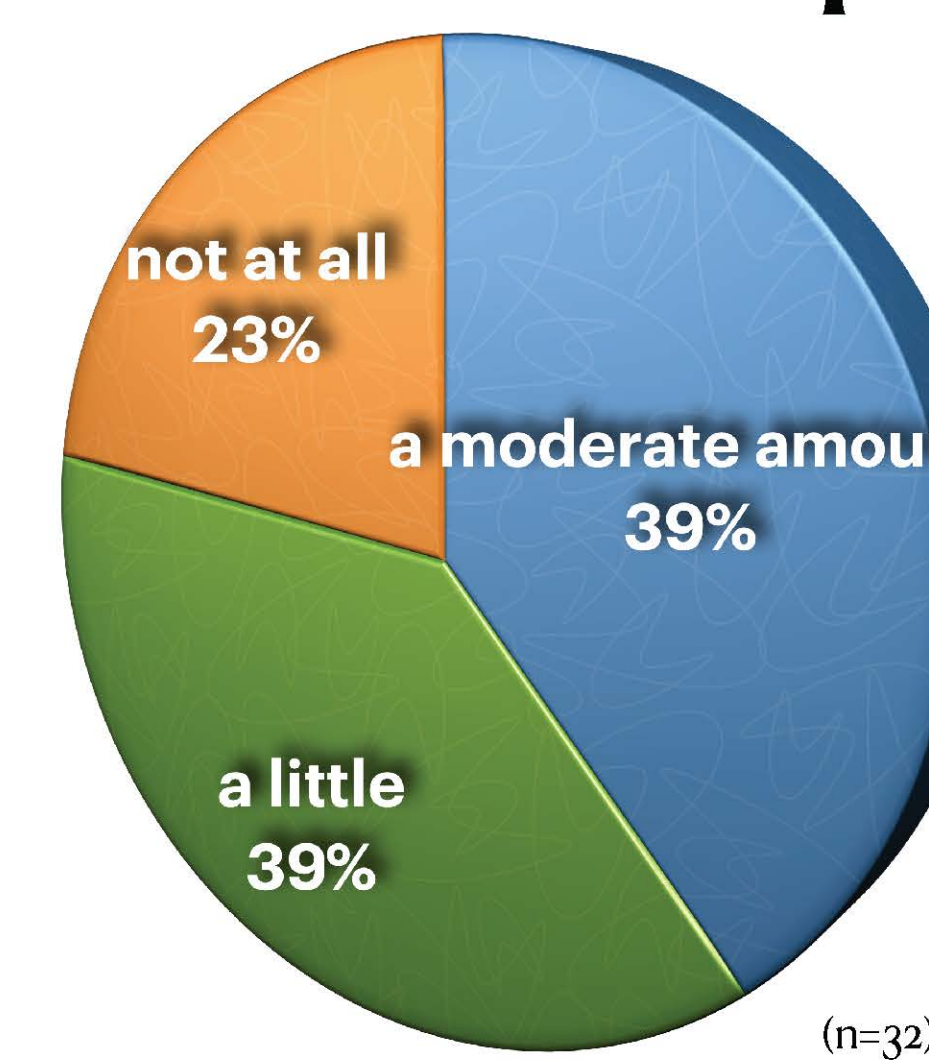
Authentic Settings (according to practitioners)

… **can improve** science learning/teaching
- Definitely 19%
- Probably Not 41%
- Not Sure 9%
- Possibly 22%
- Definitely 69%

… **are necessary** for effective science learning/teaching
- Definitely Not 3%
- Not Sure 3%
- Possibly 25%
- Definitely 69%

72% of participants use a real or authentic setting at least a moderate amount (n=32)

Is authenticity necessary for successful science teaching/learning?

Authentic Necessary — Rationales — **Authentic *Not* Necessary**

OBJECT
- authentic object provides unique connections between learner and new ideas
- relevance of authentic object depends on context (topic, object)
- authentic object may increase interest, motivation, curiosity
- authentic objects may not be practical
- effective pedagogy surpasses authentic object

SETTING
- authentic setting provides unique connections between learner and new ideas
- relevance of authentic setting depends on context (topic, location)
- authentic setting may increase interest, motivation, curiosity
- learning is not limited to a particular setting
- effective pedagogy surpasses authentic setting

authentic setting supports deeper understanding (supports transfer across contexts)

These ideas were unique to each question

Have ideas regarding authenticity changed as a result of the COVID-19 pandemic?

Pie chart:
- not at all 23%
- a moderate amount 39%
- a little 39%

(n=32)

PLUS
- 55% of respondents indicated that they were unable to use authentic objects/spaces during the pandemic, but were able to use videos, replicas or models as a substitute
- 10% of respondents indicated that learners were provided with authentic materials (hands-on) to use at home.

Reported Changes in Ideas re: Authenticity

(n=32)

authentic still important (24%)
- reinforced importance of in-person access to authentic objects or settings

virtual can be effective (24%)
- recognized the value of virtual objects, settings and experiences

greater access afforded by virtual (21%)
- recognized the value of expanding virtual access to objects, settings, experiences

authentic via interpersonal interactions (10%)
- recognized the importance of interpersonal interactions as part of their science experience

authentic via educators and content (10%)
- recognized the importance of providing (virtual) access to knowledgeable educators or vetted content

Implications & Relevance to Visitor Studies

Clarifying what research says about the role of authenticity in (science) learning may provide some insights regarding the development of exhibits, programs and other learning experiences. Given initial findings suggesting that authenticity (and its relevance) is context-dependent, potentially subjective, and even contested, considering the perspectives of practitioners—those who potentially use authentic objects and settings—becomes critical.

This initial formative study suggests that practitioners:

- Use different criteria to determine whether something is authentic;
- Support the use of the 'real thing', but also recognize the practicality, and potentially limiting effects of relying on authentic objects/settings to support learning;
- Have 'warmed' to the idea of virtual experiences as being potentially effective and perhaps more inclusive;
- Point to good pedagogy (e.g. program/exhibit design and implementation) as more important than the authentic object.

As we re-examine the role of museums in light of the COVID-19 pandemic, it seems that the idea that the museum (or zoo or aquarium or other designed space) is the place to go to see the 'real thing' may be losing traction. In the absence of evidence (from the literature) that the authentic object, setting, or experience is an essential element in supporting science learning, it would seem that those who work in these institutions must find (or perhaps already see) alternatives and opportunities for meeting their mission.

As we continue our work unraveling the role of authenticity in science learning, the ideas provided here will help guide future discussions with practitioners and hopefully help us use existing research and theoretical perspectives to guide learning experiences that are relevant and impactful for learners beyond school and throughout our communities.

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- Presenter, 16.1%
- Science Curator, 6.5%

- Other, 6.5%

- Aquarium/Zoo, 10%
- Botanical Gardens, 13%
- Nature Center, 7%
- Science/Space Center, 60%
- Other, 10%

n=32

Findings

If someone tells you that an object is ***authentic***, what does that mean to you?

- An authentic object is real and historical (from a particular time and place), and not a replica. (80%)
- An authentic object provides accurate information about its characteristics and purpose, regardless of whether it is 'original'. (41%)
- An authentic object is one that is (or has been) used for its intended purpose [or created by a one who has authoritative understanding of the intended purpose. (19%)

- "It is real, and not a counterfeit."
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Authentic Objects (according to practitioners)

… can improve science learning/teaching:

- definitely, 50%
- not sure, 9.4%
- possible, 40.6%

… are necessary for effective science learning/teaching:

- definitely, 16%
- possibly, 13%
- not sure, 13%
- probably not, 41%
- definitely not, 19%

84% of respondents use an authentic/real objects at least a 'moderate amount' of the time (n=32)

Authentic Settings (according to practitioners)

… can improve science learning/teaching:

- definitely, 19%
- possibly, 22%
- not sure, 9%
- probably not, 41%
- definitely not, 9%

… are necessary for effective science learning/teaching:

- definitely, 69%
- possibly, 25%
- not sure, 3%
- definitely not, 3%

72% of participants use a real or authentic setting at least a moderate amount (n=32)

Have ideas regarding authenticity changed as a result of the COVID-19 pandemic?

- a moderate amount, 39%
- a little, 39%
- not at all, 23%

PLUS:

- 55% of respondents indicated that they were unable to use authentic objects/spaces during the pandemic, but were able to use videos, replicas or models as a substitute
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Is authenticity necessary for successful science teaching/learning?

Rationales, from Authentic Necessary to Authentic Not Necessary

For Object:

1. authentic object provides unique connections between learner and new ideas
2. relevance of authentic object depends on context (topic, object)
3. authentic object may increase interest, motivation, curiosity
4. authentic objects may not be practical (ideas were unique to each question)
5. effective pedagogy surpasses authentic object

For Setting:

1. authentic setting provides unique connections between learner and new ideas
   +
   authentic setting supports deeper understanding (supports transfer across contexts)
2. relevance of authentic setting depends on context (topic, location)
3. authentic setting may increase interest, motivation, curiosity
4. learning is not limited to a particular setting (ideas were unique to each question)
5. effective pedagogy surpasses authentic setting

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