LEARNING THROUGH ART

at the Museum of Fine Arts, Houston

Learning Through Art – Middle School

Evaluation Report
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EXECUTIVE SUMMARY

The Museum of Fine Arts, Houston, Education Department embarked on the next generation of *Learning Through Art* with a focus on middle school (LTA-MS). This involved working with middle school teachers (MFAH Fellows) over 18 months in the co-creation of interdisciplinary lessons. Audience Focus collaborated with MFAH education staff to design and implement a range of measures to assess key outcomes, habits of mind that the MFAH can best address with students, and attitudes educators hold about how effective the MFAH can be in assisting teachers in the classroom.

A variety of methodologies were employed to assess the wide range of experiences that this rich and complex program offered to teachers including focus group discussions with fellows at the beginning, middle, and end of the program, a technology online survey to inform decisions about the way the lessons would be digitally distributed, and a series of mini-case studies that focused on the degree to which outcomes had been accomplished.

Technology Study Findings:

The majority of educators surveyed do have strong, accessible wi-fi at their school. Technologies most frequently used by both teachers and students at school are computers, the internet, digital projectors, and wireless access. Interestingly, students are also using these same technologies as learning aids in the classroom, only less frequently than teachers. Tablets, smart phones, and smart boards were used less frequently by both teachers and students. Teachers tend to use the internet for research in preparing lesson plans. Most of the sample were art teachers and they frequently use LCD projectors to show students images. Educators felt the key benefit to using these technologies in teaching and learning was in the ability to show students a variety of images and artists that they would not be able to show, without the search capacity of the internet. This is not just still images of art but also videos of artists working and talking about their process. Teachers mentioned that using technology helped keep the interest of middle school students by engaging them on a variety of levels. Despite the high usage of a variety of technologies, teachers report that the formal training on the integration of technologies in the classroom by the school district is both scarce and, when available, not very helpful.

Habits of Mind:

There were no significant differences in the ways fellows rated the habits of mind from the beginning to the end of the project. In addition, teachers frequently explained one habit of mind by referencing another habit of mind. This findings suggests that these habits of mind are not, by their nature, independent of each other. They are like grapes clustered around a common stem. Therefore, while asking teachers to rate and discuss habits of mind is extremely useful as a teaching strategy, the data from the ratings does not yield very clean or rigorous results.

Museum Attitudes:

Fellows dramatically shifted in their attitudes to the MFAH as a professional and personal resource as a result of participating in Learning Through Art. Appreciation for and value of the museum as a resource increased along all measures, including the degree to which MFAH staff have expertise in learning and teaching, in understanding the middle school culture, the level of teacher comfort with co-creating lessons with MFAH staff, in their belief that the MFAH helps them be a better teacher, and the value of the MFAH in helping them make meaningful connections in the classroom.

Outcomes Study:

In order to get a deeper analysis of the ways in which the LTA-MS program accomplished the learning outcomes for participating teachers, the Audience Focus evaluator conducted a series of telephone interviews with teachers. Responses were divided by level of teaching experience to test the assumption that where educators were along their career path influenced the ways in which the program learning outcomes were manifested. When trends in the interview data are compared across the 3 career levels, a number of interesting themes emerge.

Early career teachers in the LTA-MS program report feeling overwhelmed just learning how to juggle all the competing demands of a classroom teacher contributing to a lack of confidence in their teaching abilities. When a professional development experience as rich and complex as LTA-MS is offered to early-career educators, they can often feel daunted by having to master yet another skill. Consequently, early career teachers might be better served by professional development programs that invite them to sample new techniques in their classrooms rather than launch immediately into a full implementation of lesson plans. As the small efforts get big results, these teachers are more encouraged to keep offering additional experiences in the arts.

Many mid-career teachers experience a sort of professional angst, smarting under what feels like disrespect and devaluing by their supervisors and the educational system in general. They begin to question why they got into teaching in the first place. A program such as LTA-MS provides educators with the personal and professional validation they so need to continue to grow in their teaching abilities. Experiences that seem to work well with mid-career educators are those that create a safe environment in which to collaborate, create, and share experiences with other educators.

Late-career teachers exude more confidence in their teaching ability and have gotten over the hump of uncertainty about whether or not they should stay in the profession of teaching. They respond well to invitations to think in different ways, to deepen their understanding, and to expand outside of their usual boxes. Programs such as the LTA-MS help late career teachers reconnect with the fun in teaching as they enjoy witnessing students' enthusiasm over the kinds of activities and discussions that the lesson plans suggest.

Not only did LTA-MS accomplish the outcomes but the process revealed a useful framework that can influence the ways we structure teacher experiences tailored more closely to the needs and interests of teachers at different stages in their career.

How do we transfer what we've learned in LTA-MS and apply it to other teacher programs in the museum?
The MFAH educators who shepherded this lesson-development process reflected on how the successes and lessons learned through LTA-MS could influence all museum teacher programs.

Take Time:
What was most significant about the LTA-MS process was that it spanned several years, allowing the teachers and museum educators to create trust and establish effective working relationships. During the work sessions on weekends and in the summer, the museum educators carefully organized activities so everyone could relax and not feel rushed. They provide ample time for reflection, communicating that reflection was an important part of the process. Teachers appreciated having time in the galleries to look, reflect, and talk with other educators.

Build Trust:
Although art museums are making progress towards true collaboration and away from taking an authoritative hard line, there is still much "letting go" that museum staff needs to practice. Sufficient time enables museum educators to build an intellectually safe environment so teachers begin to trust themselves and their abilities to interpret the arts in their own unique ways.

Focus on Teachers as Life-Long Learners:
An important lesson learned in this project is that the more we can inspire teachers as life-long learners, the more likely they are to try to bring their personal experiences with art into their classrooms.

Focus on the experience; content will take care of itself:
Both museum educators and teachers focus almost primarily on content. Experience in this program taught educators that they needed to focus more on the experience in the museum or virtually. When we focus more on the type of experience we want to have together, museum educators and teachers, then the appropriate content emerges. As museum educators we know our collections, the art history, the cultural connections. We have to trust that by focusing more on the experience, we will know what out of our large knowledge base, will be most useful to teachers.

For example, the LTA-MS educators recognize that in the regular 6-hour weekend teacher workshops, they might experiment with engaging teachers in thoughtful looking and lively conversation in the galleries at the very beginning of the program. This sends the message to everyone that looking and thinking, sharing and engaging are valued. Then instead of telling teachers how the art fits in their classrooms, they want to make space to allow teachers to discover how art can fit in their classrooms.

INTRODUCTION

The Museum of Fine Arts, Houston, Education Department embarked on the next generation of *Learning Through Art* with a focus on middle school (LTA-MS). This involved working with 14[1] middle school teachers (MFAH Fellows) over 18 months in the co-creation of interdisciplinary lessons. Audience Focus collaborated with MFAH education staff to design and implement a range of measures to assess key outcomes, habits of mind that the MFAH can best address with students, and attitudes educators hold about how effective the MFAH can be in assisting teachers in the classroom.

The key outcomes or benefits that staff designed the Fellows program to address are as follows:

- Outcome 1: Knowledge/Understanding - I learned how to motivate & engage students through connecting dots
- Outcome 2: Action - My teaching is energized/improved through reflective practice
- Outcome 3: Attitudes - Connecting to the larger community of practice validates and stimulates me
- Outcome 4: Attitudes - I was opened to new possibilities and/or ways of thinking

The Habits of Mind the MFAH educators identified as important for middle school students were as follows:

- Overcomes fear of failure or being wrong
- Takes creative and/or intellectual risks
- Is adaptive, flexible, comfortable with ambiguity
- Able to see something from multiple viewpoints
- Open to a range of possible ideas & solutions
- Self-disciplined, self-motivated
- Tenacious, preservers through frustration or the unknown
- Confident about abilities
- Sees benefit in re-working ideas
- Discerns differences & similarities
- Observes details
- Takes time to reflect
- Analyzes relationships among things
- Synthesizes information from difference sources or disciplines
- Asks thoughtful or provocative questions
- Recognizes effect of bias and assumptions
- Clearly communicates ideas
- Demonstrates empathy for others
- Shares feelings appropriately
- Knows how to get help when needed

Museum attitudes that the MFAH educators wanted to impact were as follows:

- The MFAH staff is expert in the practice of teaching and learning.
- The MFAH is knowledgeable about the middle school culture
- I am comfortable co-creating ways to engage students through the arts with MFAH staff.
- The MFAH helps me be a better teacher.
- The MFAH is a worthwhile place to connect classroom learning with real world application.

METHODOLOGY

A variety of methodologies were employed to assess the wide range of experiences that this rich and complex program offered to teachers.

Focus Group Discussions with Fellows

A series of focus groups were held with the participating teacher fellows over the 18 months of their direct involvement in creating lessons for LTA. These were held in February 2012, May 2012, January 2013, May 2013, July 2013. During these discussions, teachers were ask to rank the importance of the habits of mind and discuss the ways in which the MFAH could assist in helping teachers reinforce those qualities with students. In addition there was a museum attitudes rating scale and a discussion of reasons for the ratings followed. See Appendix A for the focus group protocol and rating scales. Dr. Adams trained MFAH staff to conduct subsequent focus group discussions following the initial group in February 2012. See Appendix B for the focus group training protocol.

Technology Survey

In April 2012, the MFAH staff distributed a survey of technology availability and use to a large sample of teachers. This information enabled staff to make informed decisions about the most appropriate delivery system for the middle school lessons. See Appendix C for the tech survey protocol.

Outcomes Study: Career-level Profiles

In the fall of 2013, Audience Focus interviewed 8 teachers, two new teachers (1-3 years experience; three mid-career teachers (5-8 years experience); and three late-career teachers (over 15 years experience). The intention was to gauge the degree to which level of experience

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[1] Two teachers had to drop out before the end of the program, resulting in 12 teachers, total, who completed the process.

Results & Discussion

Report of Technology Survey Data

A total of 173 Houston area teachers responded to the technology survey distributed April 2012. As figure 1 illustrates, the sample was roughly divided across three grade level groups. Almost three-fourths (74%) of these educators indicated that they did have wi-fi access at their school. The signal strength or wi-fi coverage at these schools varied with 46% reporting the signal strength was fairly adequate, 40% reported very strong, and 14% saying it was weak.
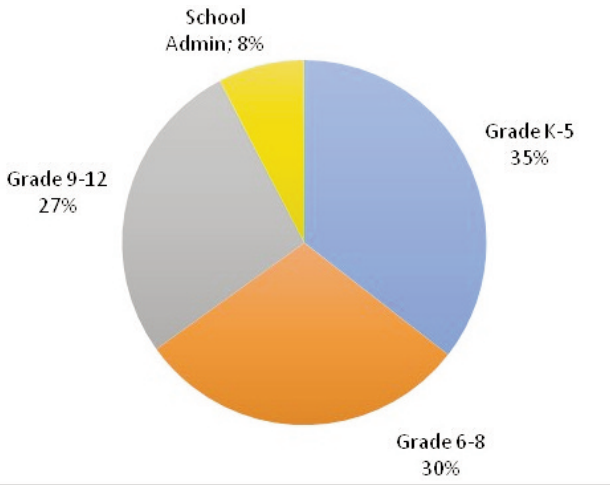

Figure 1: Grade level of sample

Teacher & Student Use of Technologies in the Classroom

Both teachers and students make substantial use of many technologies in the classroom. Teachers were asked to rate the frequency of technology use in the classroom by themselves and their students using an 8 point scale with 1 = not at all/no use to 8 = Very frequent use. Figure 2 illustrates that teachers use computers, the internet, digital projectors, and wireless access the most of all the listed technologies. Interestingly, students are also using these same technologies as learning aids in the classroom, only less frequently than teachers. Tablets, smart phones, and smart boards were used less frequently by both teachers and students.
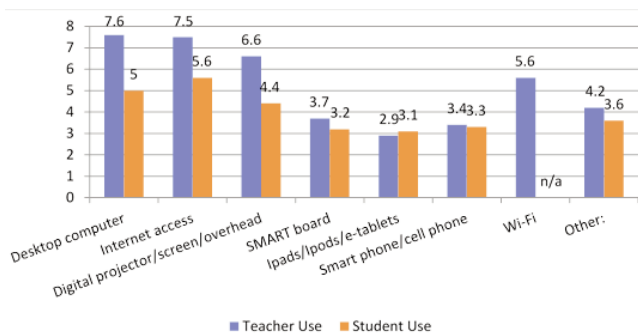

Figure 2: Comparison of teacher and student use of technologies in the classroom

Although the technology survey did not asked respondents to indicate their teaching subject area, it is clear from the open-ended responses that many of them are art teachers. Many of these teachers said they were quite dependent on the computer and internet for research and preparation of class presentations via Power Point on LCD projectors. Many teachers had students use the internet for research of various arts for special assignments.

Teachers reported a number of benefits to using their top technologies in the classroom. Many noted that they were able to show students a variety of images and artists that they would not be able to show, without the search capacity of the internet. This is not just still images of art but also videos of artists working and talking about their process. Teachers mentioned that using technology helped keep the interest of middle school students by engaging them on a variety of levels.

When asked to rate the quality of the training they received on how to incorporate technology into the classroom teachers reported the quality as fairly low. On an 8-point scale with 1= no training and 8 = More than sufficient training, teachers averaged a 4.9.

Habits of Mind

Figure 3 below illustrates the combined weighted mean rating that teacher fellows gave to each Habit of Mind statement in May 2012 (beginning) and July 2013, their last formal meeting. The comparison is difficult to interpret for several reasons. First, the sample size is quite small (14 teachers at the beginning and 12 at the end) so differences are statistically significant. Second, as discussed in more detail below, the habits of mind statements are not independent of each other.
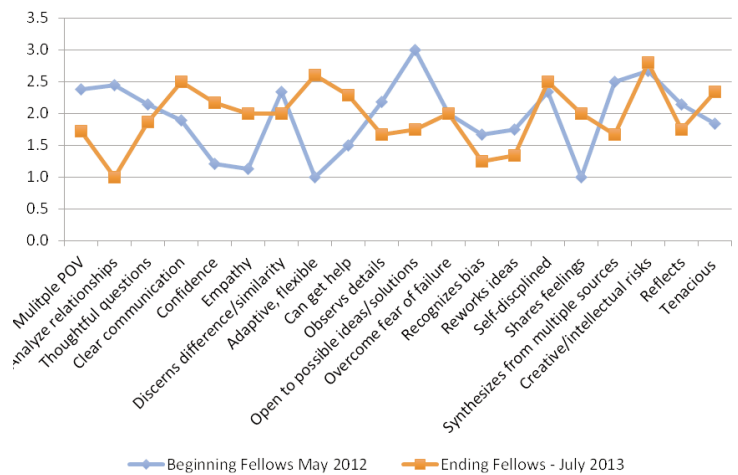

Figure 3: Comparison of beginning and ending fellows' rating of importance of Habits of Mind (weighted mean)

What is perhaps more interesting is an analysis of teacher's responses about why they choose a particular Habit of Mind as one of the skills they planned to spend the most time on that school year. Not only do educators provide deeper insight into how they see these habits or thinking skills, the data suggests we might be able to cluster some of the 15 Habits of Mind statements into larger categories as many teachers saw similarities between statements.

The statement, "Confident about abilities" had an average score of 2.2, placing it in the 7th position (out of 15) in the final (July 2013) rating. Reasons teachers selected this statement as important touched upon many of the other habits of mind. In other words, confidence means that students are:
- Open to ideas and solutions;
- Feel competent to do tasks;
- Self-pride in work and shows a student is more self-motivated;
- They understand themselves.

That these responses are reflected in other habits of mind statements suggests that this statement about confidence might be a larger, more general concept while other statements are specific manifestations of being more confident in one's ability.

In general, when teachers explained their response to other habits of mind they sometimes supported the importance of that habit by stating a different habit. For example, one teacher explained the importance of the highest rated habit, "Takes creative and/or intellectual risks (2.8)," by saying, "Extremely important life skill! It means that the student has managed fear of failure and is willing to grow!" Overcoming fear of failure was its own habit of mind and it received an average rating of 2.0.

Similarly, when explaining why "Overcoming fear of failure and being wrong" was important, a teacher wrote, "At the beginning of the year I try to give a lot of positive feedback to encourage students to try new things and feel comfortable expressing themselves." Two habits of mind related to self-expression, "Clearly communicates ideas (2.5)" and "Asks thoughtful or provocative questions (1.9)."

Again, in the explanation of "Tenacious, perseveres through the frustration or the unknown" (2.3) one teacher said, "students must stay open to failure" (reflecting the habit of mind above", while another educator explained by saying "student is internally motivated" reflecting the 3rd highest rated habit of "overcomes fear of failure or being wrong." This tendency to explain one habit of mind with another continued throughout the data. It is possible that because teachers had the full list of habits of mind, the concepts were fresh in their mind when they were asked to explain themselves. Perhaps a better explanation is that these habits of

mind are not, by their nature, independent of each other. They are like grapes clustered around a common stem. Therefore, while asking teachers to rate and discuss habits of mind is extremely useful as a teaching strategy, the data from the ratings does not yield very clean or rigorous results. A full list of teachers' explanations of the habits of mind statements they rated as important is included in Appendix G.

In the process of creating the lessons, the teachers and MFAH staff also found that some of the HOM statements could be comfortably clustered under larger categories. As a result the following framework was created out of the collaboration of teachers and museum educators. In future assessments, reducing the 15 original habits of mind statements to these 5 larger categories could yield data that is more useful in terms of tracking changes in the ways teachers value these habits of mind.

AWARENESS
- Overcome fear of ambiguity / fear of failure or being wrong / fear of the unknown
- Observe details / time to think and reflect
- Understand bias and assumption / various points of view / empathy

ACTION
- Communicate / verbalize ideas, thoughts, feelings / ask provocative questions / ask for support
- Analyze and synthesize relationships and information / compare and contrast / understand the micro and macro implications
- Develop endurance / grit / desire to rework ideas / open to a range of ideas and solutions / possess self-discipline and self-confidence

Museum Attitudes
Figure 4 illustrates the ways that the Fellows program dramatically shifted educators' attitudes about the MFAH. At the beginning of the project in February 2012, teachers rated the MFAH quite low in terms of having expertise in learning and teaching, in understanding the middle school culture, in their comfort with co-creating lessons with MFAH staff, in their belief that the MFAH helped them be a better teacher, and the value of the MFAH in helping them make meaningful connections in the classroom. By the end of the project in July 2013, the final attitude measure of the Fellows was similar to the educators who responded to the technology survey in April 2012. The contact list for the technology survey was drawn from teachers who had previous contact with the MFAH, either through professional development workshops and/or school visits. Most of these teachers appeared to be art teachers as determined by their open-ended responses. It would be expected that the tech survey sample, being more familiar with the MFAH, would have a stronger understanding of the value of the MFAH.
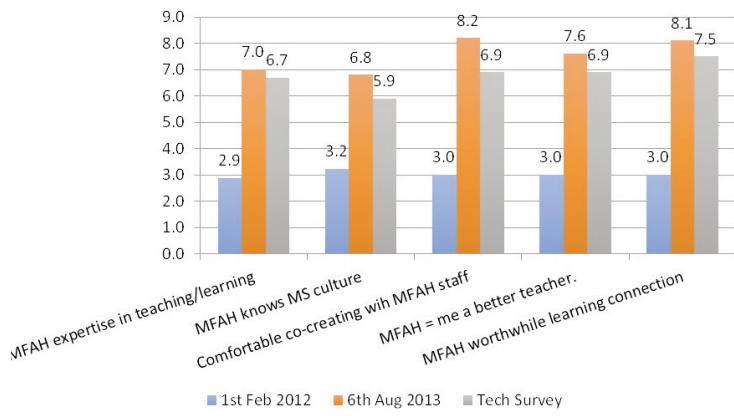
Figure 3: Comparison of first and last museum attitude measure of fellows with Technology survey sample

Outcomes Study: Career Level Profiles

In order to get a deeper analysis of the ways in which the LTA-MS program accomplished the learning outcomes for participating teachers, the Audience Focus evaluator conducted a series of telephone interviews with teachers. Responses were divided by level of teaching experience to test the assumption that where educators were along their career path influenced the ways in which the program learning outcomes were manifested. Three teachers in each career level, new, mid, and late career, were identified. In the new teacher group of three teachers, one teacher dropped from the program so only two new teachers were included in the sample. The other two career levels each had three teachers interviewed. A synthesis of responses in each career level was created to form a profile of a teacher at each career level. Below are three stories of three types of teachers. The names of each teacher are drawn from an artist or portrait subject in the MFAH collection. The real names of the teachers interviewed are not used. A shorter matrix analysis of the three career levels can be found in Appendix F.

New Teacher - Eleanor Lauderdale

Eleanor has been teaching for less than two years and confesses to feeling somewhat overwhelmed by all the competing demands for her time and energy. She likes art well enough but is, by no means, well versed in the subject and her first response to getting involved in an art lesson writing experience was one of resistance. Two things helped to motivate her to become involved in the Learning Through Art middle school (LTA-MS) fellows program. First, she was strongly encouraged by her principal who assured Eleanor that she would be very good at creating interdisciplinary lessons. Second, when she first heard the MFAH staff talking about the program, she was struck by their passion. Since she loved to learn anything, was new to teaching, and new to art she said "why not?"

While she had participated in collaborative experiences in the past, she has never written curriculum that others would use. Her lesson writing was for her personal use only.

The best aspect of the LTA-MS experience for Eleanor was how quickly her attitude towards art changed. Previously she never noticed any meaningful connections between art and math or science. She was surprised by how she could "open up and talk about math in the art museum." Personal and intellectual growth was a key benefit for her. As she explained, "my mind felt saturated and while we strive for that with students we, as teachers, don't get much of it ourselves." In addition, she was gratified and encouraged by the way she was treated by MFAH staff – "like experts in our field and we were given room and support to explore." Words such as "innovative" and "creative" peppered her conversation about how she valued the experience.

Participating in LTA-MS was not without its challenges for this new teacher. As a new teacher, Eleanor felt she needed a lot more examples and opportunities to practice teaching her subject with art during the teaching fellows sessions. As she was the only math teacher, very inexperienced, and not art-savvy, she sometimes felt like a loner.

Initially she felt intimidated, thinking that all the other teachers understood how to weave the arts into any subject. Sometimes she felt frustrated and stuck as she hit a wall of cognitive dissonance. With no art background it was challenging for her to see the relationships between art and her subject area. Plus, she felt the need to figure out a way to present it so her students would enjoy it while covering the learning objectives. Because the process was challenging, Eleanor felt it pushed her to think more deeply making her a better teacher.

One of the most immediate pressures on her as a teacher is having enough time to cover everything that is required of her. While she sees the learning value of incorporating the arts into any subject, she just doesn't feel quite secure enough in her teaching skills to be able to keep so many balls balancing at the same time. During the fall after all the LTA-MS lessons were written, Eleanor reported that she mainly used pieces of lessons as problem-solving warm-ups for word problems in math as ways to motivate and engage students to connect the dots. She said that most students found word problems very difficult so she hoped that initiating these warm-ups would put in place a problem-solving approach she planned to use all year. For example, she put up an abstract painting on the screen and asked "What is it?" Apparently the students "sorta freaked" but then became excited when they found they could figure it out themselves. Right now she is doing most of the talking but hopes to transition to their doing more of the discussion. She is challenging and motivating them to use a problem-solving process on something they weren't sure about and then relate that process to a math word problem.

The LTA-MS program clearly benefitted and energized this new teacher professionally and personally. As she noted:

> "I would leave the museum feeling that I was evolving as a professional. At other professional development district workshops we mainly just sit and grade papers while half listening. But this one I was learning and practicing new ways to teach math. I, myself, have developed habits of mind that I didn't know I even had. The habits of mind that I've developed have furthered my ability to use them in the math classroom, such as encouraging students to use grit and observation skills."

Being in the sessions and having time to study in the galleries enabled her to be reflective as well as to push herself intellectually. This has, in turn, energized her thinking about her teaching as she finds she is constantly thinking about how to make the lessons better and more creative.

Eleanor surprised herself in so many ways. At the beginning she never imagined that should could connect and math in any but the most obvious and mundane ways – like color a worksheet or count something in an artwork. It never occurred to her before LTA-MS that she could use art as the focus of a conversation about the equation of a line. By the end of the lesson-writing process she figured out how to use art as a lens through which she could encourage her students to see things differently. This experience opened her up to new possibilities and ways of thinking.

Having a community of peers to explore and learn together was so meaningful to Eleanor. She is appreciative that she had a rare opportunity to talk and think with a variety of teachers from all over the city. She is still connected to many of them as she made good friends of the participants. She was eager to share this rich experience with other teachers at her school. She gave the flash drive with the math lessons to all the math teachers at her school and many were responsive. It's too early to tell if they are using any of the lessons yet. She doesn't have a formal way to check in with the teachers to discuss further possibilities. She wished she had the lessons from all of the other disciplines as she thinks many teachers in her school would find them useful.

Mid-Career: Charlie Peale

Charlie has been teacher about seven years, long enough to have worked out the new-teacher kinks and gain some confidence in his ability to teach. Even though he has a love of art and probably a better than average level of experience with it, he recognized gaps in his knowledge of art history. He had used the LTA elementary materials before and liked them, so when he heard about the LTA-MS opportunity he jumped at it. While he had done some small professional development programs with the museum he looked forward to a longer-term, more sustained experience. Most importantly, he was drawn by the opportunity to work with teachers of different subject areas. He recognized so many possible applications to interdisciplinary teaching of history with the arts. Engaging English language learners is always challenging so he anticipated that this program would help him find useful strategies for this group of students. In addition, the lack of arts in the schools was, in his mind, a detriment to students and through this program he hoped he could ameliorate the problem if even in a small way.

Charlie has had opportunities to write curriculum for the district but that experience was vastly different from LTA-MS. Writing for the district is not a particularly collaborative experience and it did not challenge him to stretch his thinking towards an interdisciplinary approach or to be creative, as was the case with the MFAH program. He has written lessons with other history teachers at his school and for a special grant program but the lessons had to follow a very narrow rubric and the process was micro-managed and "canned". By contrast, his experience at MFAH relied on teachers using their own judgment and bringing their own unique approach to the lessons.

Charlie most appreciated that the teachers were treated as professionals, respected for their experience and individuality. He recognized that the sessions were carefully planned by MFAH staff to help teachers step from their everyday environment that tended to inhibit people into an open, safe environment where their voices mattered and there was mutual respect. He enjoyed the teacher-to-teacher and teacher-to-MFAH staff interactions. Another thing he appreciated was time in the art galleries where intellectually stimulating adult conversations flowed easily. That experience helped him see how their ideas might work in other subject areas.

While Charlie did not like working within a tight rubric-based lesson writing process as had happened in the past, he found it challenging when faced with what he perceived as no borders or, at least, flexible borders. As a history teacher he noted that when first exposed to liberating environment one is cautious, skeptical. The LTA-MS experience was both liberating and uncomfortable. It took him some time to trust that what the MFAH asked of him was really what they wanted. Half of him expected the tables to get turned and he would be forced to write lessons in the old, boring way. For that reason, he suggested that MFAH staff realize how difficult it can be for some teachers to "be creative" after working in a non-creative atmosphere and provide more modeling, more opportunities for teachers to work through this issue. Now he says that it feels like school is the artificial world and the MFAH is the real world, but it wasn't a quick transition.

While it was challenging at first to figure out how the lessons fit around the habits of mind. He noticed that the MFAH staff did not tell them how to solve that problem and kept encouraging the educators to work together to puzzle it out. Ultimately, he felt gratified that they were given the space to find a range of creative solutions.

Charlie noticed that a few of the other mid-career teachers thought the production format of the lessons was hard to read and that the questions in some lessons don't always get at a habit of mind sufficiently.

The LTA-MS program provided this mid-career educator with new ways to motivate and encourage students to "connect the dots" in various subject areas. He found that his initial discomfort with and adjustment to a relatively "borderless environment" mirrored his students' experience. For example, when he asked his students, "In what ways is a work of art like a map?" they were first quite hesitant to answer, suspecting that there was a "right" answer to the question. He found that when he shared his MFAH experience that it encouraged them to explore and not worry about the right answer so much with this type of conversation.

Many middle school students find it difficult to be able to interpret a written historical narrative. When Charlie starts them with a work of art they see that they are capable of interpreting and can usually transfer that confidence to interpreting text. As he says, "It energizes the students and me."

In general, he noticed that implementing the LTA-MS approach helped to engage students in deeper thinking. At first, they weren't even aware that they were pushing student thinking to a new level. Because they were practicing meaning-making and meaning building at the MFAH they just naturally started modeling it in their classrooms. As one mid-career educator expressed it: "It's nice to have professional development that is actually improving you, as opposed to some of the stuff we get through the district. Here we learned a whole new way we could teach, not just a lesson or strategy but we learned ways to deepen student thinking."

Before beginning the LTA-MS project Charlie admits to feeling fairly demoralized. It is a common feeling in mid-career as well as late-career educators. They have taught long enough now to feel some mastery and comfort yet often struggle with disenchantment and lack a sense of vitality towards their careers. (Canale et. al. 2014; Evans, 1989). LTA-MS provided a needed "shot-in-the-arm" for mid-career educators like Charlie. Using this teaching approach enthuses these educators in their classrooms. The following comments were heard from Charlie and other mid-career teachers in the program: "Sometimes I have to hold back

because I get really excited. It's energized my teaching." "It's helped me help students communicate in a richer manner." One mid-career educator felt that MFAH did something very different from the typical district professional development:

"In most professional development in the district we are bored stiff and there is no time to talk about it and yet we are expected to teach it in the classroom. We don't get time to think about how I'm actually teaching and what does and doesn't work and why. The district professional development has almost no effect on my teaching. I think so their trainers are uncomfortable with silence. The MFAH was comfortable just letting us think or letting us talk together without their feeling the need to 'lead' the discussion. There were some days they spoke very little and we did the rest of the reflecting and that's powerful."

Charlie and his fellow mid-career educators in the program felt they were always open to new ideas and approaches. In fact, they were hungry for them. Still these educators felt they had shifted how they think about having students discovery and explore. The experience opened their range of possibilities even further in many cases. As one educator noted, "It didn't open my eyes so much as it fed my love of opening my eyes." Charlie reported that when his principal watched him teach one of the lessons she was impressed so the experience helped to open her to new possibilities of teaching and learning.

Because many mid-career teachers feel the isolation of teaching acutely, having access to the community of educators stimulated and validated them. As Charlie explained, "It reaffirmed the reason why I became an educator. A better way to put it is that I was starting to have amnesia as to why I wanted to teach in the first place. This program allowed me to rediscover why I wanted to do this. The MFAH reaffirmed what I believed but get little reinforcement at school – that I matter, my voice matters. It reaffirmed that we all believe our students can succeed academically." As another mid-career educator put it, "At school you are an island. You type your lesson into the computer and maybe someone might look at it. You are never told 'good job,' or 'this is going in the right place,' like we all said to each other at MFAH. We got and gave feedback. It was much more collaborative and that feels so much better than just putting something on paper."

Late-Career: Sara Sears

Sara is a very experienced teacher with a steady confidence in her teaching abilities. She is an avid museum visitor, very much enjoys art, and has always wanted to know more about it so the LTA-MS program was a perfect opportunity for her to "put things together." Like many of the other experienced teachers, Sara had a prior relationship with MFAH, bringing students to the museum and attending their teacher workshops from time to time.

As is the case for most teachers who have been in the system for a while, Sara had previously been involved in writing curriculum for the district but "it was not inspiring like the MFAH – the district never asked us to come up with ideas for another discipline."

It is difficult for Sara to identify just one aspect of LTA-MS that was the best experience for there were many experiences that were meaningful and important. She reported not particularly liking to work in a group, as previous district-led experiences were not fruitful or very pleasant. When she saw how focused, on-task, inspired, and excited the other teachers were it made the group process more meaningful and fun. "It felt like we were doing something important. It was gratifying to see the effect of what you do. The program gave me the courage to say to myself, 'You know what? I'm going back to having fun and away from the drill.'" She and her colleagues had never been in a group where conversation organically evolved in a relaxed, professional atmosphere. "We were really partners. This was truly collaboration."

Just because Sara was an experienced educator doesn't mean that the LTA-MS experience lacked challenges for her. She had never looked at art in the way the MFAH were inviting her to make connections to larger ideas. She said it was hard to switch her thinking at first but it got easier as she went along. Another challenge was in the implementation at school. Although she felt all of the LTA-MS teachers were on board with the habits of mind it was still challenging to translate them into something an administrator would understand as important and on-subject. This problem, too, got easier as they progressed through the process. It particularly helped when the group created a workable organizer for lessons. Testing lessons written by someone else proved a bit more challenging that she at first imagined. She sometimes struggles to find match up what was relevant to the lesson author(s) with her needs in the classroom.

Sara didn't have any major suggestions for how the experience could have been made more valuable. She always wanted more and it never felt like work to her. In hindsight she sometimes thinks that it would have been good if Jennifer and Natalie knew what they wanted going in but "the beauty was in our figuring it out together."

LTA-MS definitely provided Sara with concrete ways to motivate and engage her students. What helped the most was "feeling again what it was like to be a student in class when the MFAH staff walked us through the process the first time." She thought how she asked students to face new and often uncomfortable experiences all the time. "It gave me courage to do more of that out-of-the-box thinking and teaching in this test-driven culture I live in." For example, after a museum field trip she gave them a lesson where they had to write a letter about how seeing art is

like reading a book or a story. This then inspired them to make their own art. When she started reading their work she realized how challenging the assignment was and yet, this was some of the best work they did all year. Because she was more willing to let go of the need for the right answer, it gave her students the confidence to go into unknown areas and try to make sense of them.

In the process, Sara's teaching was energized through the LTA-MS approach to reflective practice. Sara is, by nature, a highly reflective practitioner. Still the experience gave her the courage of her own convictions because the MFAH staff established an environment where everyone was valued. As she put it, "Last year was a really hard year and through my connection with the museum I decided to take a new attitude, to forget a lot of the kill-and-drill stuff and the minutiae that no one really pays attention to. I was going to take back my life, have fun with the kids, and get them to think. It's been a phenomenal year so far. I don't think I would have done it with the MFAH program, even though we reflect constantly in the classroom. It made me buck the system and I think my kids will do really well on the tests."

This professional development experience definitely opened up new possibilities in teaching and thinking for Sara. Not only did she learn so much more about art than she expected but learned it in a rich and exciting way. What she did in the program had direct application in her classroom. For example, the approach of looking at and talking about a work of art without knowing anything about it was powerful for both herself and her students. It was gratifying to see students understand that they could see so much more when they took time to just look.

Working with other teachers from other disciplines was exciting and stimulating. The validation as a group of intelligent, creative professionals is always important but it was not the most significant benefit to Sara. As she explained, "this may sound vain but I'm a very self-confident teacher. I'm not just fresh out of college, I'm an older adult. I have some experience in life. Because of that I think administrators tend to stay out of my way and let me teach. I see that as a gift I'm given, something I'm blessed with. In my school I don't feel isolated. We are all strong team players and we work well together. I have cross-curriculum and vertical teammates. My priority was seeing students understanding and learning, becoming confident and curious, validating their own opinions. That's what matters to me."

Synthesis of Outcomes Study Career Profiles
When trends in the interview data are compared across the 3 career levels (See Appendix G) a number of interesting themes emerge. These themes can be useful as museum educators develop teacher programs in the future, by more accurately tailoring programs to the needs and interests of teachers at different stages in their career.

For example, early career teachers in the LTA-MS program report feeling overwhelmed just learning how to juggle all the competing demands of a classroom teacher. They are less confident in their teaching abilities, in general, than mid- or late-career educators. When a professional development experience as rich and complex as LTA-MS is offered to early-career educators, they can often feel daunted by having to master yet another strategy or skill. Consequently, early career teachers might be better served by professional development programs that invite them to sample new techniques in their classrooms. Some early career teachers found that instead of trying to implement the lessons that were written for LTA-MA, they had more success with "bits of lessons" to test the waters with their students. When those went well, they were encouraged to try more activities.

On the other hand, many mid-career teachers experience a sort of professional angst, smarting under what feels like disrespect and devaluing by their supervisors and the educational system in general. They begin to question why they got into teaching in the first place. A program such as LTA-MS provides educators with the personal and professional validation they so need in order to mature professionally. Experiences that seem to work well with mid-career educators are those that create a safe environment in which to collaborate, create, and share experiences with other educators.

Late-career teachers exude more confidence in their teaching ability and have gotten over the hump of uncertainty about whether or not they should stay in the profession of teaching. They respond well to invitations to think in different ways, to deepen their understanding, and to expand outside of their usual boxes. Programs such as the LTA-MS help late career teachers reconnect with the fun in teaching as they enjoy witnessing students' enthusiasm over the kinds of activities and discussions that the lesson plans suggest. Not only did LTA-MS accomplish the outcomes but the process revealed a useful framework that can influence the ways we structure teacher experiences.

Conclusions & Recommendations
Technology Study Findings:
The majority of educators surveyed do have strong, accessible wi-fi at their school. Technologies most frequently used by both teachers and students at school are computers, the internet, digital projectors, and wireless access. Interestingly, students are also using these same technologies as learning aids in the classroom, only less frequently than teachers. Tablets, smart phones, and smart boards were used less frequently by both teachers and students. Teachers tend to use the internet for research in preparing lesson plans. Most of the sample were art teachers and they frequently use LCD projectors to show students images. Educators felt the key benefit to using these

technologies in teaching and learning was in the ability to show students a variety of images and artists that they would not be able to show, without the search capacity of the internet. This is not just still images of art but also videos of artists working and talking about their process. Teachers mentioned that using technology helped keep the interest of middle school students by engaging them on a variety of levels. Despite the high usage of a variety of technologies, teachers report that the formal training on the integration of technologies in the classroom by the school district is both scarce and, when available, not very helpful.

Habits of Mind:
There were no significant differences in the ways fellows rated the habits of mind from the beginning to the end of the project. In addition, teachers frequently explained one habit of mind by referencing another habit of mind. This findings suggests that these habits of mind are not, by their nature, independent of each other. They are like grapes clustered around a common stem. Therefore, while asking teachers to rate and discuss habits of mind is extremely useful as a teaching strategy, the data from the ratings does not yield very clean or rigorous results.

Museum Attitudes:
Fellows dramatically shifted in their attitudes to the MFAH as a professional and personal resource as a result of participating in Learning Through Art. Appreciation for and value of the museum as a resource increased along all measures, including the degree to which MFAH staff have expertise in learning and teaching, in understanding the middle school culture, the

level of teacher comfort with co-creating lessons with MFAH staff, in their belief that the MFAH helps them be a better teacher, and the value of the MFAH in helping them make meaningful connections in the classroom.

Outcomes Study:
In order to get a deeper analysis of the ways in which the LTA-MS program accomplished the learning outcomes for participating teachers, the Audience Focus evaluator conducted a series of telephone interviews with teachers. Responses were divided by level of teaching experience to test the assumption that where educators were along their career path influenced the ways in which the program learning outcomes were manifested. When trends in the interview data are compared across the 3 career levels, a number of interesting themes emerge.

Early career teachers in the LTA-MS program report feeling over-whelmed just learning how to juggle all the competing demands of a classroom teacher contributing to a lack of confidence in their teaching abilities. When a professional development experi-ence as rich and complex as LTA-MS is offered to early-career educators, they can often feel daunted by having to master yet another skill. Consequently, early career teachers might be better served by professional development programs that invite them to sample new techniques in their classrooms rather than launch immediately into a full implementation of lesson plans. As the small efforts get big results, these teachers are more encouraged to keep offering additional experiences in the arts.

Many mid-career teachers experience a sort of professional angst, smarting under what feels like disrespect and devaluing by their supervisors and the educational system in general. They begin to question why they got into teaching in the first place. A program such as LTA-MS provides educators with the personal and professional validation they so need to continue to grow in their teaching abilities. Experiences that seem to work well with mid-career educators are those that create a safe environment in which to collaborate, create, and share experiences with other educators.

Late-career teachers exude more confidence in their teaching ability and have gotten over the hump of uncertainty about whether or not they should stay in the profession of teaching. They respond well to invitations to think in different ways, to deepen their understanding, and to expand outside of their usual boxes. Programs such as the LTA-MS help late career teachers reconnect with the fun in teaching as they enjoy witnessing stu-dents' enthusiasm over the kinds of activities and discussions that the lesson plans suggest.

Not only did LTA-MS accomplish the outcomes but the process revealed a useful framework that can influence the ways we structure teacher experiences tailored more closely to the needs and interests of teachers at different stages in their career.

How do we transfer what we've learned in LTA-MS and apply it to other teacher programs in the museum?

The MFAH educators who shepherded this lesson-development process reflected on how the successes and lessons learned through LTA-MS could influence all museum teacher programs.

Take Time:
What was most significant about the LTA-MS process was that it spanned several years, allowing the teachers and museum edu-cators to create trust and establish effective working relationships. During the work sessions on weekends and in the summer, the museum educators carefully organized activities so everyone

could relax and not feel rushed. They provide ample time for reflection, communicating that reflection was an important part of the process. Teachers appreciated having time in the galleries to look, reflect, and talk with other educators.

Build Trust:
Although art museums are making progress towards true collabo-ration and away from taking an authoritative hard line, there is still much "letting go" that museum staff needs to practice. Sufficient time enables museum educators to build an intellectually safe environment so teachers begin to trust themselves and their abilities to interpret the arts in their own unique ways.

Focus on Teachers as Life-Long Learners:
An important lesson learned in this project is that the more we can inspire teachers as life-long learners, the more likely they are to try to bring their personal experiences with art into their classrooms.

Focus on the experience; content will take care of itself:
Both museum educators and teachers focus almost primarily on content. Experience in this program taught educators that they needed to focus more on the experience in the museum or virtu-ally. When we focus more on the type of experience we want to have together, museum educators and teachers, then the appro-priate content emerges. As museum educators we know our col-lections, the art history, the cultural connections. We have to trust that by focusing more on the experience, we will know what out of our large knowledge base, will be most useful to teachers.

For example, the LTA-MS educators recognize that in the regular 6-hour weekend teacher workshops, they might experiment with engaging teachers in thoughtful looking and lively conversation in the galleries at the very beginning of the program. This sends the message to everyone that looking and thinking, sharing and engaging are valued. Then instead of telling teachers how the art fits in their classrooms, they want to make space to allow teach-ers to discover how art can fit in their classrooms.

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audience focus

Audience Focus Inc.
August 2014

Welcome and introductions

Invite participants to take a few moments and reflect on their earliest memory of an art museum visit. You can describe that memory in one of two ways: 1) write a poem – haiku-like or diamante; 2) write a 150-character tweet
After a few moments, ask them to introduce themselves, name, subject, school, and present their memory.

On Sticky notes smaller – grade level group/subject matter

A. QUALITY EMPHASIS – Habits of Mind
Read through these cards with statements of qualities we want young people to acquire.
1. When you start the beginning of (grade level) pick the 3 qualities that you will stress/work on the most that year – that you spend a lot time teaching and reinforcing, practicing. (GREEN star)

Next: with the rest of the cards sort into 2 categories
2. These are the qualities I do spend time, you didn't give me room to put them in the top category or I don't spend as much time on them as the top 3 – High light in YELLOW)

3. While these are nice but not necessary or I just don't spend a lot of time on them (RED X)

Let's discuss how you all sorted your cards.
Talk first about top 3 – why, give examples
Talk about bottoms
If time – talk about middle – are most in the top if they could put them there or really in the middle

B. MUSEUM POSSIBILITIES
Now think about which of these qualities the art museum can most effectively help students develop and practice.

I'd like to limit you to selecting up to 3 qualities. Write your thoughts about **how and why** the MFAH could best assist students with these qualities on the BACK OF THE CARDS. If you have time and want to write about how the museum could help with more qualities, do so but put the **admission sticker on your first 3**.

Let's talk about how you perceive the museum can help
WHY and EXAMPLES

Hand out the statement rating sheet to each participant. (Museum Attitudes)
These are potentially sensitive issues I want to discuss and I know you are all kind, generous people who love the museum and we need you to be candid. In front of you are statements and I'd like you to rate your level of agreement with each statement. Your answers are anonymous. Don't worry about hurting anyone's feelings. Your responses can help the museum be even more awesome.

If you have any questions about the statements please ask.

Talk about what these statements raised for you.

What are the barriers to using the museum as a resource for you?
Museum-based barriers (bus transportation off the table)

That's all I have to discuss. Is there anything else you think the MFAH should know?

At the beginning of the year, these are the **3** qualities I will stress or work on the **MOST** that year; the ones I spend the most time teaching and reinforcing, and practicing

GREEN ●

These are the qualities I do spend time, you didn't give me room to put them in the top category or I **don't spend as much** time on them as the top 3.

YELLOW ●

While these are nice but not necessary or I just **don't spend a lot of time** on them.

RED ●

Overcomes fear of failure or being wrong	Takes creative and/or intellectual risks
Is adaptive, flexible, comfortable with ambiguity	Able to see something from multiple viewpoints
Open to a range of possible ideas & solutions	Self-disciplined, self-motivated
Tenacious, preservers through frustration or the unknown	Confident about abilities
Sees benefit in re-working ideas	Discerns differences & similarities

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Observes details	Takes time to reflect
Analyzes relationships among things	Synthesizes information from difference sources or disciplines
Asks thoughtful or provocative questions	Recognizes effect of bias and assumptions
Clearly communicates ideas	Demonstrates empathy for others
Shares feelings appropriately	Knows how to get help when needed

Put an X in the box to indicate your level of agreement with the following statements

The MFAH staff is expert in the practice of teaching and learning.

Strongly
Disagree

Don't
Know/
Neutral

Strongly
Agree

The MFAH is knowledgeable about the middle school culture.

Strongly
Disagree

Don't
Know/
Neutral

Strongly
Agree

I am comfortable co-creating ways to engage students through the arts with MFAH staff.

Strongly
Disagree

Don't
Know/
Neutral

Strongly
Agree

The MFAH helps me be a better teacher.

Strongly
Disagree

Don't
Know/
Neutral

Strongly
Agree

The best role for the MFAH in my teaching is as….

An occasional
enrichment
experience for
students

A frequent &
regular, embedded
experience for my
students

How To …. Focus Group Conversations

What is a focus group?

A focus group is a group of people recruited to gather in the same space to discuss a specific topic, to focus in on specific issues. I like to think of it more as a conversation than a Q & A session although this is a personal preference and not necessarily a major trend in the evaluation field.

In focus group data you are looking for general trends and patterns but are particularly interested in differences of opinion and perspective. In survey data where you are looking for the big areas of agreement. If one or two people have a different opinion it doesn't register much if at all in the analysis. However, when one person has an opinion different from the rest you do pay attention to it.

When are focus groups an appropriate methodology to use?

Focus group conversations are useful when what you are interested in can benefit from hearing the topic discussed in a social situation. You should be more interested in hearing how participants interact socially across the topic as they build on each other's perspectives than in how the individual feels about the issues.

Focus group conversations are a relatively efficient way to collect rich and nuanced information around a topic. However, the sample sizes are small and your unit of analysis is the group. Although you can collect some data on the individuals in the group (e.g., demographics, psychographics, preferences for topics) your primary interest should be in the group dynamics and social interaction around the topic.

Focus groups can be used for any stage of evaluation, front-end, formative, and summative. They are good for collecting data from children as young as grades 4-5 to senior citizens.

How are participants selected?

Each focus group needs to be homogeneous in some way and that depends on what you want to know and what matters to you. You want participants to be on rather equal footing. For example if the a group was held to explore ideas for an exhibition on Chinese art and eight of your participants were white/anglo and one was Chinese-American, this could be awkward and uncomfortable for everyone. Another example is that if you want to understand how people understand art and your group was not homogeneous according to knowledge or comfort level with art; e.g. some participants are very experienced and knowledge-able and others are self-confessed no-nothings then the no-nothings are less likely to speak up.

Because this project is focused on middle school teachers then that can be thought of as your population from which to draw. But not all middle school teachers are alike. One way you could group your teachers is by the subject matter they teach. For example, you could have one focus group of art teachers, another of language arts, another of math/science teachers, and another of foreign languages or just Spanish teachers since that is the dominant second language in Houston. Or the homogeneity factor could be grade level although this might be more salient in doing focus groups with elementary teachers. Another way to slice the groups is to select participants by level of experience, such as how many years they have been teaching. In this case, the teachers would teach different subjects but all have the same experience level, such as a group of first year teachers, another group of 2-4 years experience, then 5-7, and so on.
There is no right way to select a homogeneity factor but think carefully about what you want to know and how that factor will enhance the richness and quality of your data.

How many people should be in a focus group?

The ideal number of people in a focus group is 8-10 although there are ways to conduct it with a larger number. This size group allows time for all people to be able to contribute to the conversation. If the group is much larger then there will be many people who don't talk at all.

How many focus group conversations do I need to hold around the same topic?

The rough answer is 3-4 different groups but that can vary. You are looking for the point when you can almost predict how people are going to respond to your topics. And this often, but not necessarily, happens around the fourth group you run on the same topic. You might have to run 5-6 groups before you get to that point.

The number of groups also depends on what you want to know. For example, if there are more than 3-4 audience segments you want to hear from then you run as many as the number of segments you create. Let's imagine you want to hear how the different predominant cultural groups talk about a topic. Since English and Spanish are the dominant languages you might want to run two English groups and two Spanish groups. Or the Spanish groups might need to be sorted into new Spanish-speaking only immigrants and 2nd or 3rd generation Hispanic. Then you might have one group with the next largest immigrant group making a total of 5 groups.

If you wanted a cross-section of visitors, your groups might be members, non-member but frequent visitors, lapsed members, non-member occasional visitors, never-visited – a total of 5 groups.

You might also want to do a comparative study. For example, let's say you wanted to understand more about the effect of a multiple year teen program you have. You might run 3 different focus groups with kids you participate in the program but each of the 3 groups is different in how much experience they have in the project – such as one group of kids in it for the first year or 10th graders, another group of 2-year veterans or 11th graders, and another group of 3 year veterans or 12th graders. Then you need 3 groups of kids the same age matched as closely as you can on factors like socio-economic level (measured by % free & reduced lunch at their school), race/ethnicity, and school achievement (like reading level or some other school measure). That makes 6 groups total.

Where should focus groups be held?

They can be held anywhere, in or out of the museum. It depends on what you want to know. For example, if you want to have participants reflect on something in the galleries then it needs to be in the museum and sometimes I've conducted the focus group itself in an art gallery where people could look at the art under discussion. It may also be useful to hold a focus group off site, at a library, school, or community center.

The classic focus group room has an ante-room behind smoked glass when the clients sit to watch and listen to the participants. They can send in notes to the facilitator to ask her/him to ask a particular question. This feels rather artificial and weird to me as the participants know that the clients are listening. I prefer a spacious room with comfortable chairs. Having food in the room is an excellent idea but if you are holding them in a non-food space then you could have refreshments in a separate area.

Who should lead a focus group? Who else can be there?

The leader of the focus group should be a good listener. The intent is to elicit cogent comments from people, not tell them about the topic. The facilitator should exude a quiet confidence so participants relax and feel psychologically safe. The facilitator can be part of the program if s/he can separate ego from the program. If you suspect that participants might not be candid with someone involved in the program then someone else could do it. Perhaps another educator in a different program area or someone from the another department – marketing, membership, curatorial, development, etc.

You can record a focus group and then have it transcribed or, if someone is a fast typist s/he can be there taking notes on a laptop. The notes should be as close to a literal transcription (direct quotes) as can be captured.

I typically invite museum staff to sit in the room with us. I introduce them to the participants at the beginning of the conversation. I request that the staff/observers do not talk during the focus group unless I specifically ask them to speak to an issue. Staff/observers should take notes of things they might like to ask participants at the end of the facilitators' agenda. Often the group gets around to addressing the staff/observer's issues. But at the end of the group I ask the staff/observers if they have anything they want to ask the participants. The value, to me, of having staff in the room is that they have a first-hand sense of how people talk about the topics. There might be times when I ask staff to leave or don't invite them in the room at all.

What kind of information can be collected in a focus group?

The type of information from a focus group is rich, qualitative, and narrative. To determine how you craft the questions or prompts for a group you need to be clear about your intentions and goals. What is it you really want to know and why? What is the most natural way that your participants might be able to talk about your topic?

Think about the most logical, comfortable order of questions. Typically I start with something relatively easy and general to talk about. Like for the middle school group I might open with asking them to introduce themselves and tell the group a story of their earliest memory of an art museum. This helps to relax people and there are often funny memories and everyone can relate. It also gives you some good information on the level of experience with art museums that your participants have, their attitudes and perceptions.

What about transparency, reliability, validity, objectivity?

Transparency is about whether you tell participants what you really want to know, why you are really running the group or create a sort of "blind." There is not a right or wrong answer here, it depends on the situation. Typically I'm very transparent with study participants as I embrace the theory of participatory evaluation that evaluation is about empowerment. But it's not wrong to create a blind – tell them you are interested in one thing when you are interested in another. That said, I don't always explain my rationale for every question or activity.

Reliability is about assuring consistency in the way you assess something. A focus group is easy to do reliability checks because if I ask a question and people don't understand it the same way then I can immediately tell by the type of responses. Then I can revise the question to a point where everyone understands it the same way even if they have different opinions about the answers.

Validity is about assessing something that is worth assessing. I can get data on things but they might not be worth knowing about. If I have a student program that focuses on storytelling and aural communication and I assess it by asking students to write then that is not a valid measurement. The way of measuring is not authentic to the experience being measured.

Objectivity is just not possible. No one is ever totally objective. Everything comes from a held values. A standardized test, thought to be objective, is based on values about what is worth knowing. We can be disinterested, meaning we can hold our values but set them aside for the time being and focus on being neutral. We also have a duty to be clear with people about our biases. Like I have a bias against teaching purely from an elements of art perspective. I think art is much more than the sum of those parts. They play a role in learning about art but are not interesting enough to captivate imagination and stimulate awe and wonder. Yet, I have evaluated programs that are largely elements of art-based programs. I just make sure the client know of my bias beforehand and is OK with that.

Tips for creating a safe, welcoming environment

- Have refreshments.
- Provide parking.
- Give a small token of appreciation (postcards, catalogs, most anything)
- Have people stationed along the way to welcome and direct. Don't let people get lost from the front door to the focus group space.
- Be genuinely interested in the participants.
- Listen, listen, listen. (Talk way less than you normally do. And when you talk it's about them. Follow up on what they say.)
- Enjoy yourself.

How regularly do YOU, the teacher, use the following technologies in preparing for and/or teaching in the classroom?

Desktop computer	1 2 3 4 5 6 7 8 N/A
Internet access	1 2 3 4 5 6 7 8 N/A
Digital projector/screen/overhead	1 2 3 4 5 6 7 8 N/A
SMART board	1 2 3 4 5 6 7 8 N/A
Ipads/Ipods/e-tablets	1 2 3 4 5 6 7 8 N/A
Smart phone/cell phone	1 2 3 4 5 6 7 8 N/A
Wi-Fi	1 2 3 4 5 6 7 8 N/A
Other:	1 2 3 4 5 6 7 8 N/A

Of the technologies you rated 5 or higher for YOUR USE, how do they help you enhance the learning environment at your school?

How regularly do YOUR STUDENTS use the following technologies in the classroom?

Desktop computer	1 2 3 4 5 6 7 8 N/A
Internet access	1 2 3 4 5 6 7 8 N/A
Digital projector/screen/overhead	1 2 3 4 5 6 7 8 N/A
SMART board	1 2 3 4 5 6 7 8 N/A
Ipads/Ipods/e-tablets	1 2 3 4 5 6 7 8 N/A
Smart phone/cell phone	1 2 3 4 5 6 7 8 N/A
Wi-Fi	1 2 3 4 5 6 7 8 N/A
Other:	1 2 3 4 5 6 7 8 N/A

Of the technologies you rated 5 or higher for STUDENT USE, how do they help enhance student learning at your school?

Do you have Wi-Fi access at your school?   Yes   No

How strong is the signal and coverage of the Wi-Fi at your school?
Very weak signal/ coverage
Fairly adequate signal/coverage
Very strong signal/coverage

I received training on how to incorporate technology into my classroom:
None at all   A lot
         1   2   3   4   5   6   7   8

Do you have any additional comments on your access to and interest in technology in the classroom?

Please indicate your level of agreement with the following statements.

	Strongly Disagree				Neutral				Strongly Agree
The MFAH staff is expert in the practice of teaching and learning.	1	2	3	4	5	6	7	8	9
The MFAH is knowledgeable about the middle school culture.	1	2	3	4	5	6	7	8	9
I am comfortable co-creating ways to engage students through the arts with MFAH staff.	1	2	3	4	5	6	7	8	9
The MFAH helps me be a better teacher.	1	2	3	4	5	6	7	8	9
The MFAH is a worthwhile place to connect classroom learning with real world application.	1	2	3	4	5	6	7	8	9

The best role for the MFAH in my teaching is as….
An occasional enrichment   A frequent & regular, embedded
experience for students   experience for my students

1	2	3	4	5	6	7	8	9

Which grade level do you teach?
K-5   6-8   9-12   School Administrator

Process of (Collaborating) creating the lessons

What made you want to be a part of the MFAH Learning Through Art project?

Have you ever been involved in a process similar to your experience with the MFAH Learning Through Art lesson writing? If yes, please explain.

What was the best part of (collaboration) lesson writing project?

What was the hardest or most challenging part of the (collaboration) lesson writing project?

What suggestions do you have for the MFAH staff that would have made this an even more significant experience for you?

Effect on your teaching

The following is a list of the outcomes that were developed for the Learning Through Art-Middle School project. To what degree did these outcomes happen for you? Please give concrete examples.

Outcome 1: Knowledge/Understanding
I learned how to motivate & engage students through teaching with art to connect the dots.

Outcome 2: Action
My teaching is energized/improved through reflective practice.

Outcome 3 Attitudes
Connecting to the larger community of practice validates and stimulates me.

Outcome 4: Attitudes
I was opened to new possibilities and/or ways of thinking.

Please indicated the degree to which you agree with the following statements.

The MFAH staff is expert in the practice of teaching and learning.

Strongly Disagree				Don't Know/ Neutral				Strongly Agree

The MFAH is knowledgeable about the middle school culture.

Strongly Disagree				Don't Know/ Neutral				Strongly Agree

I am comfortable co-creating ways to engage students through the arts with MFAH staff.

Strongly Disagree				Don't Know/ Neutral				Strongly Agree

The MFAH helps me be a better teacher.

Strongly Disagree				Don't Know/ Neutral				Strongly Agree

The MFAH is a worthwhile place to connect classroom learning with real world application.

Not as good as other places				About the same as other places				Better than most other places

Which grade level do you teach?

K-5   6-8   9-12   School Administrator

	New teacher	Mid-Career	Late-Career
Description	Generally overwhelmed Little/no art background, some interest	Confident in teacher abilities but feel undervalued, demoralized	Confident in abilities; vagaries of the school system not so troubling
	No prior experience with MFAH	Loves art, has moderate to fairly high art knowledge/experience, visits museums, recognizes gaps in knowledge	
Motivation	Hesitant but principal encouraged	Prior MFAH experience was good, jumped at this chance	
	Love to learn		
Experience with collaboration	Have had varying degrees of experience with collaborative work in curriculum writing but nothing like MFAH District PD boring, tedious and not useful - no value on creativity or personal voice, not true collaboration like MFAH		
Best aspect	Quick attitude change Surprised self in many ways Being a student helped empathize with own students	Teachers were treated and valued as professionals Sessions carefully planned to create an open, safe environment for innovation Teacher-to-teacher interaction Time in galleries with intellectually stimulating adult conversations	Changed opinion about collaborative work – it can be energizing, productive, and fun. Felt the work was meaningful, valuable Gave courage to get back to what was important in teaching – away from kill & drill
Most Challenging aspect	Everything was so new, needed more examples and opportunities to practice Sometimes felt intimidated, like everyone else gets it Feel pressure of time crunch in classroom to get everything in See value in integrating the arts but not confident in ability to do it.	Getting used to an open working environment with lots of flexibility was initially challenging as life in the school system is the opposite. Loves it just had to adjust and trust Format of lesson plans hard to read, not particularly reader-friendly.	Never looked at art this way, making connections in ways never imagined Challenging to translate HOMs into something administrators would understand and value.
	Most challenges were initial and got easier as the program progressed and they got more experience		
1. Motivate & engage students to connect the dots	Exploring teaching bits of lessons, e.g., as warm-ups. Seeing good response from students so encouraged to try more.	Students also found a creative environment unsettling. Sharing teacher's similar experience motivated students to explore thinking. Lessons & teaching approaches validate students and give confidence to think more deeply.	Feeling like a student again helped with empathy and understanding of own students Gained courage to do more out-of-box thinking, giving students challenging assignments and seeing them rise to the occasion

2. Teaching energized through reflective practice	Evolved as a professional, loved the intellectual stimulation Was hard work (thinking differently) but it pushed me to be a better teacher	LTA-MS is a needed shot-in-the –arm, energizing teachers and helping them be more effective at helping students think and express themselves	Always reflective yet teaching energized from the support from group and learning environment. Decided to have more fun with teaching and suspect students will perform well on tests anyway
3. Opened to new possibilities & ways of thinking	Never imagined finding connections between math and art beyond the basic, limited approach	Hungry for new approaches and LTA-MS shifted their thinking and expectations. Watching lessons opened principal's mind to new possibilities	Learned so much more about art and in a rich, exciting way Learning how to look at and talk about art without knowing anything about was major shift
4. Valued larger community, validation of practice	Sharing and working with peers is meaningful	Reaffirmed the reason for teaching in the first place. Helped alleviate the isolation Getting & giving feedback was powerful	Working with colleagues and being valued/validate was important but not most important. Does not feel isolation of some younger teachers. Priority was seeing students become confident & curious

Confident about abilities
- "Confidence starts small in my classroom. I teach them to drawn [first] and then they are proud and can work on harder. . ."
- "Show students are[:]
    - Open to ideas and solutions
    - Feel competent to do tasks
    - Self-pride in work and shows a student is more self-motivated
    - They understand themselves"

Takes creative and/or intellectual risks
- "Creative challenges bring excitement into the classroom. Though challenging, it gives an element of experimentation, room for creativity, and gives a sense of a higher level of thinking and expectation."
- "Creative thinking is goal of my art program. Think. Think."
- "I think it's important for my students to be able to express themselves and participate in the classroom. When my students are engaged they learn."
- "Moves students forward."
- "Extremely important life skill! Means that the student has managed fear of failure and is willing to grow!"
- "Take risks to learn and grow."
- "Believing in your abilities to TRY new things. Without taking chances and risks you cannot change and improve, also you need to be innovative to keep up [with] society. Also showing you are okay with failure, adapting and problem solving to make your work better."
- "Creating and innovating is a huge part of engineering, ergo this card is critical."

Overcomes fear of failure or being wrong
- "At the beginning of the year I try to give a lot of positive feedback to encourage students to try new things and feel comfortable expressing themselves."
- "This is one of the hardest things to overcome, especially with GT students. My SPED students have been so ridiculed for so long that they create with [reckless] abandon."

Is adaptive, flexible, and comfortable with ambiguity
- "Broad vision."
- "Flexibility is key to learning and being successful. This is something that I [. . .] teaching students."

Tenacious, preservers through the frustration or the unknown
- "Don't give up just because it's hard. Take a deep breath and forge on – you can do it."
- "Students should not give up. Must stay open to failure and be able to continue through with process."
- "Student is internally motivated."
- "This is extremely important, especially for middle-school students who often expect/crave instant gratification. This quality will serve students well throughout their lives."
- "Keep going—don't get derailed or allow frustration to prevent you from learning."

Self-disciplined, self-motivated
- I like to structure my classroom as a working art studio that belongs to the kids. The cabinets are available to students to get resources they need to communicate and be successful."
- "I expect students to know what is respectful and acceptable. I want them to achieve because they want to – not for the teacher or parent."
- "Self motivation puts the responsibility of learning on students."
- "Student stays focused."

Knows how to get help when needed
- "While I train my students to work independently in their own creative voice I want them to feel comfortable to approach myself or fellow students for opinions or guidance."
- "This is very important at the beginning of the school year as this will help them develop their own understanding of content."
- "Don't be afraid to try something . . . new."
- "Workings in a shop environment and a very busy classroom with several things going on, students need to know when to ask for help."

Confident about abilities
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    - Feel competent to do tasks
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Clearly communicates ideas
- "This quality is extremely important as a life skill. Communication will include verbal, written and creative communication."
- "This allows me as a teacher to understand where my students are coming from."

Synthesizes information from different sources or disciplines
• "Synthesis of ideas are important part of leaning from different sources (e.g. ELA, ART)."

Demonstrates empathy for others
• "This covers [multiple] things:
   • Understand it's okay to be [different].
    We are not all the same and learn from each other.
   • Respect and humility -> builds character.
   • [Different viewpoints], and that's okay -> can see things in [different] ways -> [because] someone doesn't agree [with] you [doesn't] mean they're wrong – it's a learning opportunity too."