



Participant Experiences at the Interactive Mobile Technologies Inquiry Group Meeting in Auburn, Maine, November 2014

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This report summarizes findings from a survey of participants following the Interactive Mobile Technologies Inquiry Group (ITIG), which met in Auburn, Maine, November 14–15, 2014, as part of the Research + Practice Collaboratory project. The purpose of the meeting was to bring together educators in the Auburn area and researchers with expertise in the use of interactive technologies and early mathematics learning to exchange knowledge and build deeper understandings of work occurring across the research-practice divide. Two envisioned products of the meeting were (1) a list of design elements or implementation guidelines for using interactive mobile technologies to support mathematics learning in early grades and (2) a list of research topics for further investigation within this arena.

Survey responses show that participants' experiences at the meeting were overwhelmingly positive. In the survey, participants were asked to do the following:

- I. Identify their primary professional role
- II. Rate their meeting experiences in target domains
- III. Rate their experiences with different meeting activities
- IV. Describe the aspects of the meeting that were the most successful
- V. Suggest areas in which the meeting could be improved

The following sections summarize responses to these survey items.

I. Respondents' Professional Roles

Thirty-five participants attended the two-day meeting, and 18 completed the post-meeting survey. Table 1 shows how survey respondents identified themselves by professional role. More than half were practitioners such as teachers, administrators, or technology integration specialists (10 out of 18, or 56%). Another 7 out of 18 (39%) identified themselves as researchers, while one participant self-identified as a technology developer.

II. Respondents' Meeting Experiences in Target Domains

One set of survey questions asked participants to rate their level of agreement with eight separate statements related to outcomes that meeting organizers hoped to achieve. Specifically, the organizers hoped for the following:

- » Researchers would gain knowledge and understanding of current efforts and challenges among practitioners who are using interactive mobile technologies in early mathematics learning.
- » Practitioners would gain knowledge and understanding of current research and ongoing research challenges in this field.
- » Both groups would feel their ideas were valued during the meeting.
- » Participants would feel that communication was clear.
- » Participants would gain useful insights for their work.

Figure 1 summarizes the number of respondents who agreed that each target outcome was met. Table 2 summarizes the level of agreement by average rating scores for each target outcome, disaggregated by respondents' professional roles.

Table 1. ITIG survey respondents, by role

	#	%
Total	18	100
Practitioners	10	56
Teachers	3	17
Grade K–3	2	11
Grade 4–8	1	6
Administrators	4	22
School	1	6
District	2	11
Math coach K–6	1	6
Technology integration specialists	3	17
Researchers	7	39
College or university	5	28
Non-university organization	2	11
Technology developer	1	6

Overall, almost all respondents (17 out of 18, see Figure 1) said that they agreed or strongly agreed that they were able to contribute their ideas to group discussions and that their ideas were valued during the meeting. These sentiments were particularly strong among practitioner respondents, whose average ratings for these statements were 6.8 out of 7 (see Table 2). All respondents said they somewhat agreed, agreed, or strongly agreed that they gained knowledge and understanding of research and practice in the use of interactive mobile technologies to support early mathematics learning. Similarly, all respondents said they at least somewhat agreed that they were able to get clarification about language or topics during the meeting. All but one respondent agreed or strongly agreed that they gained insights from the meeting that would be helpful for their work.

Figure 1. Level of agreement with statements about ITIG experiences in target domains. (Number of respondents in each agreement category, total n = 18.)

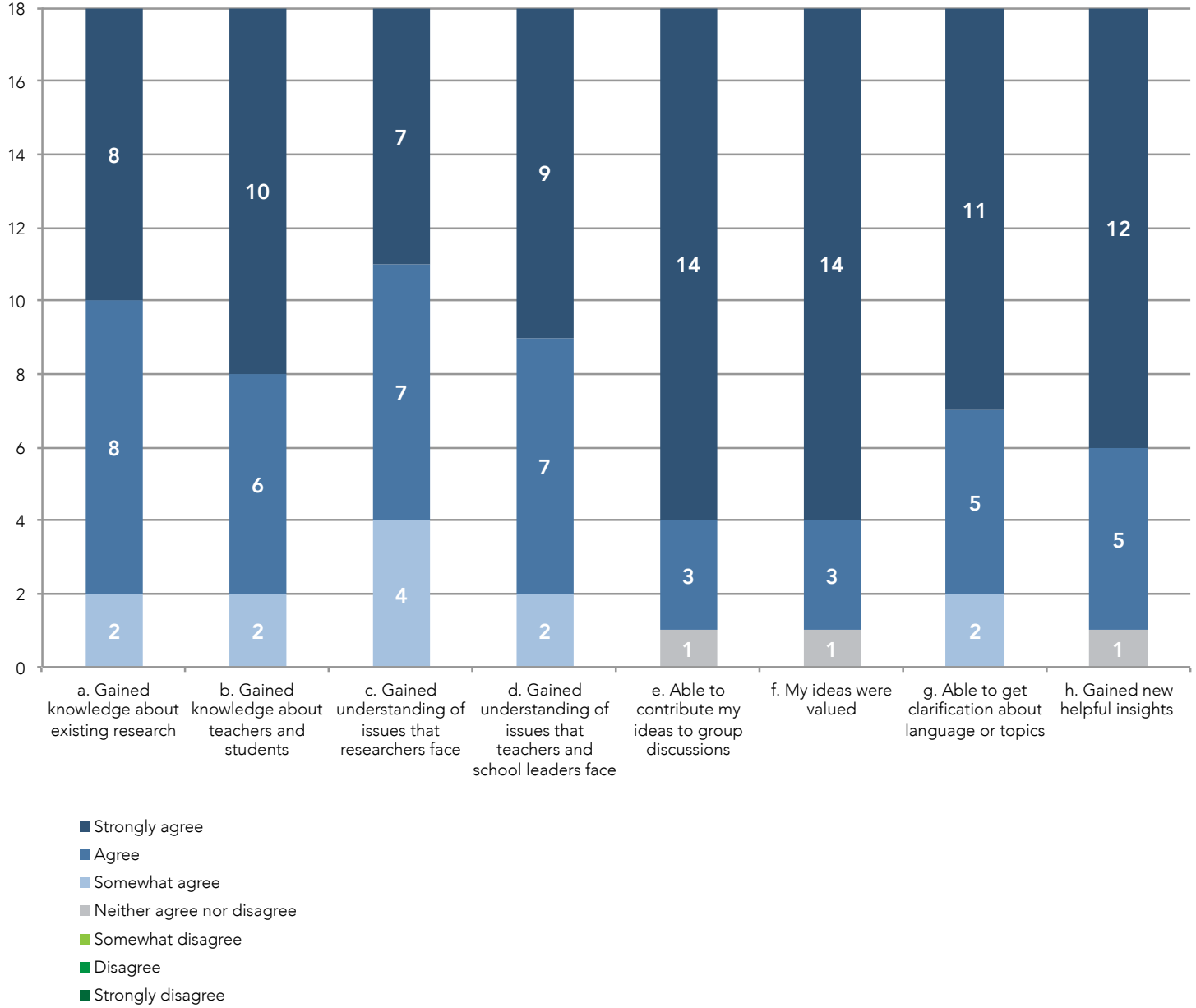


Table 2. Perceptions of what was gained and the value of personal contributions during the ITIG meeting: Response ratings by role (average and minimum)

	Total - All (n = 18)		Total - Practitioners (n = 10)		Teachers (n = 3)		Administrators (n = 4)		Tech integration specialists (n = 3)		Total - Researchers (n = 7)		College or university (n = 5)		Non-university organization (n = 2)	
	ave	min	ave	min	ave	min	ave	min	ave	min	ave	min	ave	min	ave	min
a. I gained knowledge about existing research related to interactive mobile technologies to support early mathematics learning.	6.3	5.0	6.4	5.0	6.3	6.0	6.3	5.0	6.7	6.0	6.3	5.0	6.6	6.0	5.5	5.0
b. I gained knowledge about how teachers and students are currently using interactive mobile technologies in early mathematics learning.	6.4	5.0	6.5	5.0	6.7	6.0	6.3	5.0	6.7	6.0	6.4	5.0	6.4	5.0	6.5	6.0
c. I gained greater understanding of issues that researchers face in studying the use of interactive mobile technologies to support early mathematics learning.	6.2	5.0	6.4	5.0	6.7	6.0	6.3	5.0	6.3	6.0	6.0	5.0	6.2	5.0	5.5	5.0
d. I gained greater understanding of issues that teachers and school leaders face in using interactive mobile technologies to support early mathematics learning.	6.4	5.0	6.4	5.0	6.7	6.0	6.3	5.0	6.3	6.0	6.3	5.0	6.2	5.0	6.5	6.0
e. I was able to contribute my ideas to group discussions.	6.7	4.0	6.8	6.0	6.7	6.0	7.0	7.0	6.7	6.0	6.4	4.0	6.8	6.0	5.5	4.0
f. I feel that my ideas were valued during the meeting.	6.7	4.0	6.8	6.0	7.0	7.0	6.8	6.0	6.7	6.0	6.4	4.0	6.8	6.0	5.5	4.0
g. I was able to get clarification during the meeting about language or topics that I did not know.	6.5	5.0	6.6	6.0	6.7	6.0	6.5	6.0	6.7	6.0	6.4	5.0	6.6	5.0	6.0	5.0
h. From this meeting I gained new insights that will help me with my work.	6.6	4.0	6.6	6.0	6.7	6.0	6.5	6.0	6.7	6.0	6.6	4.0	7.0	7.0	5.5	4.0

Notes:

Possible response ratings were 1-Strongly Agree, 2-Agree, 3-Somewhat Agree, 4-Neither agree nor disagree, 5-Somewhat disagree, 6-/disagree, 7-Strongly disagree.

The maximum response rating selected for each question and within each role group was 1-Strongly agree.

The responses for one participant, a self-identified technology developer, are included in the calculations for the Total-All category but are not listed separately.

III. Respondents' Views of Different Meeting Activities

Another set of survey questions asked respondents to evaluate the primary activities at the meeting. Specifically, respondents were asked to rate their level of agreement with statements about the nature of exchange between researchers and practitioners during panel presentations and small group discussions as well as in formulating the list of design guidelines and research topics for further investigation. Respondents were also asked to assess the utility of the design guidelines and list of research topics that the group generated.

Overall, respondents to this series of questions (n = 17) unanimously agreed or strongly agreed that small group discussions promoted rich exchanges between researchers and practitioners (Figure 2). All respondents also agreed or strongly agreed that the list of design elements reflects contributions from both researchers and practitioners. A near unanimous 16 out of 17 respondents at least somewhat agreed that the list of design elements or implementation guides would be useful for their work, and the list of research areas for further investigation reflects contributions from both researchers and practitioners. Although the vast majority of respondents at least somewhat agreed that the panel presentations promoted rich exchanges between researchers and practitioners, two respondents (both researchers, see Table 3) at least somewhat disagreed. One researcher also somewhat disagreed that the list of research areas generated by the group would be useful for his or her work.

Figure 2. Level of agreement with statements about ITIG activities. (Number of respondents in each agreement category, total n = 17.)

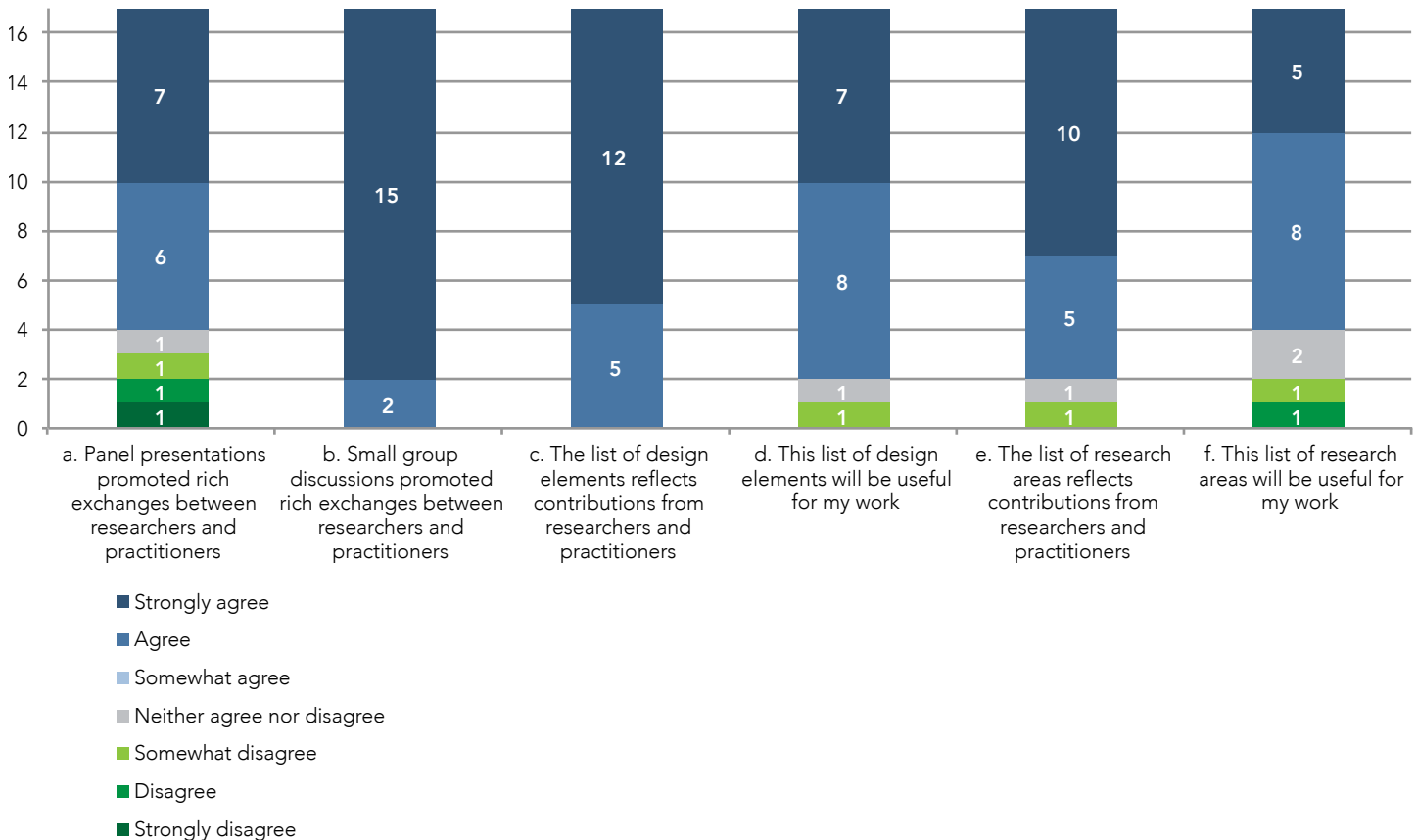


Table 3. Perceptions of ITIG meeting activities: Response ratings by role (average and minimum).

	Total - All (n = 17)		Total - Practitioners (n = 10)		Teachers (n = 3)		Aministrators (n = 4)		Tech integration specialists (n = 3)		Total - Researchers (n = 7)		College or university (n = 5)		Non-university organization (n = 2)	
	avg	min	avg	min	avg	min	avg	min	avg	min	avg	min	avg	min	avg	min
a. Panel presentations promoted rich exchanges between researchers and practitioners (i.e., teachers and school or district leaders).	5.8	2.0	6.4	6.0	6.3	6.0	6.5	6.0	6.5	6.0	5.1	2.0	5.2	2.0	5.0	3.0
b. Small group discussions promoted rich exchanges between researchers and practitioners.	6.9	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.0	6.8	6.0	7.0	7.0
c. The list of design elements for implementing interactive mobile technologies in early mathematics classrooms, generated during this meeting, reflects contributions from both researchers and practitioners.	6.7	6.0	6.8	6.0	6.7	6.0	7.0	7.0	6.5	6.0	6.7	6.0	6.8	6.0	6.5	6.0
d. This list of design elements will be useful for my work.	6.2	4.0	6.4	6.0	6.3	6.0	6.5	6.0	6.5	6.0	6.0	4.0	6.2	5.0	5.5	4.0
e. The list of research areas for further investigation, generated during this meeting, reflects contributions from both researchers and practitioners.	6.4	4.0	6.3	4.0	6.7	6.0	6.3	4.0	6.0	6.0	6.7	6.0	6.6	6.0	7.0	7.0
f. This list of research areas for further investigation will be useful for my work.	5.9	3.0	6.2	6.0	6.3	6.0	6.3	6.0	6.0	6.0	5.6	3.0	5.6	3.0	5.5	4.0

Notes:

Possible response ratings were 1-Strongly Agree, 2-Agree, 3-Somewhat Agree, 4-Neither agree nor disagree, 5-Somewhat disagree, 6-/disagree, 7-Strongly disagree.

The maximum response rating selected for each question and within each role group was 1-Strongly agree.

The responses for one participant, a self-identified technology developer, are included in the calculations for the Total-All category but are not listed separately.

IV. Meeting Successes

Respondents were asked to provide written comments describing aspects of the meeting that they thought were most successful. Fifteen participants provided responses (9 practitioners, 6 researchers). Success themes that emerged from the responses were identified, and Table 4 reports the number of times each theme was mentioned among all respondents as well as separately by practitioners and researchers. The success theme that was mentioned most frequently (by 13 individuals) was small group discussions. The next most frequent success theme was the convening of diverse perspectives (mentioned by 5 people) followed by the panel presentations (mentioned by 4 people—primarily practitioners). Two researchers wrote that it was successful to have discussions with clear goals, and one researcher noted that the meeting was a success due to the networking opportunities it provided. One practitioner spoke positively about the high level of mutual respect among researchers and practitioners.

The following comment describes what one teacher thought was successful about the meeting, illustrating the themes of small group discussions, the convening of diverse perspectives, the positive impacts of the panel presentations, and the high level of mutual respect within the meeting:

Bringing together diverse perspectives. It was a very rich and varied group. Wow! Everyone was professional and caring and respectful of one another and clearly valued the contributions from our different points of view. The panel presentations helped frame the conversations in the breakout groups.

Another comment illustrates what a non-university researcher said was most successful about the meeting, illustrating the themes of clear discussion goals and the sharing of research and knowledge:

Sharing research and coming to a common framework for how to think about these issues.

Table 4. Aspects of the ITIG meeting that were most successful: Number of comments by theme.

Role	Total comments	Small group discussions	Convening of diverse perspectives	Panel presentations	Discussion goals	Sharing of research & knowledge	Mutual respect	Networking
#								
All	15	13	5	4	2	2	1	1
Practitioners	9	8	3	3	0	0	1	0
Researchers	6	5	2	1	2	2	0	1
%								
All	100	87	33	27	13	13	7	7
Practitioners	100	89	33	33	0	0	11	0
Researchers	100	83	33	17	33	33	0	17

V. Inquiry Group Areas for Improvement

Respondents were also asked to provide written comments describing aspects of the ITIG meeting that could be improved. Twelve participants provided responses (6 practitioners, 6 researchers). Improvement themes that emerged from the responses were identified, and Table 5 reports the number of times each theme was mentioned among all respondents as well as separately by practitioners and researchers. The improvement theme that emerged most frequently (by 5 individuals) was the need for more time for the activities and reflection. For example, an administrator wrote: “Feeling rushed from one activity to another. Need more time to reflect.” Two participants specifically noted that nothing needed improvement, while one participant noted each of the following themes: greater language clarification (“Clarification of vocabulary . . . create common language); switching groups around (“during discussions, collaborating with new individuals spurs new thinking and questioning”); smaller panels (“smaller panels with more opportunities for questions and answers”); and less small group time (“sometimes there was too much discussion in small groups that felt repetitive”). One researcher suggested that stronger facilitation of small group discussions would have improved the meeting:

More facilitation at tables to get us to a desired end. The conversations I was in wandered a lot and didn’t generate a great number of ideas. Encouraging round-Robin sharing could help get more ideas on the table. That’s only a minor suggestion—the presence and co-facilitation of the meeting by Auburn practitioners really showed a strong commitment to practice.

Table 5. Aspects of the ITIG meeting that could be improved: Number of comments by theme.

Role	Total comments	More time	Nothing	Language clarification	Switch groups around	Smaller panels	Stronger facilitation	Less small group time
#								
All	12	5	2	1	1	1	1	1
Practitioners	6	3	1	1	1	0	0	0
Researchers	6	2	1	0	0	1	1	1
%								
All	100	42	17	8	8	8	8	8
Practitioners	100	50	17	17	17	0	0	0
Researchers	100	33	17	0	0	17	17	17

The following tables summarize additional comments provided by respondents and are based on prompts to elaborate on prior survey responses.

Table A-1. Perceptions of what was gained and the value of personal contributions during the ITIG meeting: Written comments.

Role	Comments
Practitioner (administrator)	<ul style="list-style-type: none"> I wish there were a prompt about feeling more comfortable collaborating with, understanding, feeling listened to by folks in roles different than mine (researchers vs practitioners, etc). I think that was one of the strongest outcomes of this meeting, the crossing of cultural bridges.
Researcher (college or university)	<ul style="list-style-type: none"> There were times I wanted access to research I could read myself to learn more. I also hoped to learn more about issues specific to early learning of math. Insights gained will support my research.

Table A-2. Perceptions of ITIG meeting activities: Written comments.

Role	Comments
Practitioner (administrator)	<ul style="list-style-type: none"> The usefulness of the lists developed will increase as they are refined and made a little more practical.
Researcher (college or university)	<ul style="list-style-type: none"> As a collaborator member I study science, not math, but still feel I learned really valuable things from true leaders in their fields. I think the design elements will be useful for my work, and the work of others in the future, but I think they still need to be worked on and detailed more in order to be more practically applicable to classroom, school, and district environments. The panels had a lot of great information, but the time crunch eliminated opportunities for meaningful exchanges.

Table A-3. Other thoughts about the ITIG meeting.

Role	Comments
Practitioners	<ul style="list-style-type: none"> • I feel very fortunate to be a part of this work! • It is very nice to see so many practitioners involved and valued in this work. • This was an excellent learning and networking opportunity. Thank you!
Researchers	<ul style="list-style-type: none"> • Thanks so much for hosting. I really couldn't have imagined how much I would learn about the state of the field. • Wonderful experience. • Thank you so much for all of the hard work and organization that went into these few days. It was personally and professionally rewarding. • Please invite me again! I learned so much. • It was a really fabulous meeting, thank you!