WAMC Northeast Public Radio

ACCESS TO ADVANCEMENT:

An Audio Exploration of the National Effort to Increase the Role of Women with Disabilities in Science, Technology, Engineering and Mathematics (STEM)

Formative Evaluation Report:
Focus Group Results

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Kris Juffer, Ph.D.

Action Research & Associates, Inc.
drkjuffer@actionresearchinc.com   PO Box 494   Ellicott City, MD 21041   410-465-1299

ACTION RESEARCH

REPORT
Results of Focus Group Research
Testing Two Prototype Radio Programs for
WAMC Northeast Radio's NSF Project:
ACCESS TO ADVANCEMENT

Introduction and Purpose of Focus Groups

Action Research & Associates, Inc. was contracted by WAMC Northeast Public Radio to serve as the outside evaluator to evaluate WAMC's Information Dissemination project, *Access to Advancement: An Audio Exploration of the National Effort to Increase the Role of Women with Disabilities in Science, Technology, Engineering and Mathematics (STEM)*, funded by the National Science Foundation's Division of Research on Disability Education *(HRD-0833247).*

The *Access to Advancement (A2A)* radio program focus groups form part of Action Research's multi-phased and multi-method program evaluation which includes:
1) Developing an *A2A Program Logic Model*
2) Conducting *a formative evaluation* to audience-test two prototypes of WAMC's *A2A* segments for two radio programs (*To the Best of Our Knowledge* and *51%*) to provide scientifically gathered, empirical research data to program producers to improve and enhance the programs' effectiveness before finalizing, disseminating and broadcasting them; and
3) Conducting a *summative evaluation* to assess the programs' impact on target audiences via surveys and case studies.

Purpose of the Focus Group Findings

Although this Report's **Observations and Recommendations** are based on audience feedback regarding the two prototypes, the Recommendations serve a **larger purpose** in that **they establish scientifically-developed, empirical results and <u>recommendations that are generalizable to future program development for both A2A programs</u>.**

The Recommendations establish **<u>unifying</u> guidelines** and **insights that are <u>thematically</u> appropriate for the development of the entire *A2A* series of shows for *51%* and *TBOOK*.**

It is anticipated that future focus groups on new A2A programs will add increasingly sophisticated layers of understanding as to how best to reach diverse audiences

(WWDs, educators, general public, etc.) **and communicate with them with increasing effectiveness.**

Background on Action Research & Associates, Inc.

Action Research & Associates, Inc. is well-qualified to conduct the WAMC *Access to Advancement* evaluation since Dr. Kris Juffer, the Executive Director, has been a professional researcher and program evaluator for more than 25 years specializing in evaluating both STEM Education programs and media (TV, radio, and new media) programs. She has evaluated STEM Education Programs for such clients as the National Science Foundation, National Institutes of Health, US Department of Education, US Health and Human Services, US Information Agency, Fulbright Educational Exchanges Scholarship Program, the US Department of Defense's Outreach Education Programs, and other federal and state government agencies. Dr. Juffer also has developed extensive media program experience in her positions as 1) Director of Audience Research at the Voice of America radio/TV stations, conducting more than 50 major evaluation studies of hundreds of radio programs in which she developed scientifically-based research results to refine programs to more effectively communicate with specific target audiences; 2) Director of Research at Arbitron Radio Ratings, working with CBS Radio Network, Infinity Broadcasting Corporation, Clear Channel Communications, Inc., Spanish Broadcasting System, Inc., etc. to answer national media program questions;   3)   Co-Director of the national evaluation of the Corporation for Public Broadcasting's Public Broadcasting Service's *PBS Kids Ready to Learn Program (Sesame Street, Between the Lions),* funded by the US Department of Education, to measure the impact and effectiveness of a media education program, and 4) Media Researcher for Frank N. Magid Research, a major media and marketing research corporation with clients such as ABC Network, CBS Network, News Corporation, Disney, Lorimar, local TV and radio stations, etc.

Background on Focus Groups

Focus groups are a fundamental tool of consumer research, designed to gather in-depth information about audience behavior and attitudes toward concepts, programs and services. For more than 50 years, media -- specifically commercial television and radio -- have led the way, relying on the results of focus groups and other audience research to guide the development of new programs, as well as retooling existing programs to increase the programs' attractiveness and impact on target audiences.

Governmental and non-profit organizations, as well as private firms, are increasingly interested in listening to the consumers of their programs and services.   It has only been during the last 20 years that government agencies, such as the National Science Foundation, and public media, such as the National Public Radio affiliate stations and media content providers, such as WAMC, have started to tap into the power of focus groups to test new concepts, assess program functioning, and to improve programs to better serve the public and their audiences, and to compete in their respective markets.   Interestingly, NSF funding for *Access to Advancement* has provided WAMC Northeast Public Radio its first occasion to use focus groups to test and refine its programs using empirical audience feedback; therefore, the focus group and program research process has been an important learning experience.

In media program evaluation, the focus group process is an invaluable means of gaining insight into target audiences' perceptions of programs, themes, delivery,

structure and other programming elements. Via this kind of research, program developers gain empirically-developed, objective guidance as to how best to refine programs to more closely align them with target audiences' interests and information needs. The research process also informs decision-makers of their audiences' changing patterns of motivations and concerns underlying their media behavior. Such insights allow for more informed strategic management decisions about improving programming for more effective communication.

Access to Advancement Focus Groups

The 2009 *A2A* focus groups consisted of 6-9 participants, selected for key demographic characteristics, who were unfamiliar with each other. The focus groups were conducted at "The Linda", a small-venue concert hall owned by WAMC (separate from WAMC's broadcast facilities), in Albany, NY on June 22-23, 2009. The interior of the facility was rearranged to meet focus group requirements--with a large conference table, seating for the participants, microphones and video/audio recording capabilities. A separate WAMC client viewing room was set up, with a TV monitor for viewing and listening to the focus groups. Action Research added the feature of a two-way electronic device that facilitated real time communication between the WAMC program staff via the moderator to the participants to ensure that important questions were addressed.

The focus group environment was designed to encourage the open expression of participants' attitudes and reactions regarding a defined set of topics vis a vis the two prototype programs tested – *51%* and *To the Best of Our Knowledge*. Both focus groups reviewed both programs, but in reverse order, to control for potential bias due to "order effect." Action Research provided a highly experienced moderator, Dr. Juffer, who guided the group in sharing their views on topics of strategic interest to WAMC's *A2A* program staff, using a pre-designed set of questions, with the ability to be responsive to explore new issues and concerns that spontaneously arose.

The information developed from focus groups is qualitative in nature. It is not quantitative research nor is it based on a random sample; therefore, the results are not intended to be statistically significant or projectable to a population. That said, it should be remembered that focus group participants are pusrposively selected from a target audience population pool, and they likely represent others who think similarly to them. The focus group process yields qualitative information that gains significance as it is replicated. Although individual focus groups are small in size, similar findings duplicated independently in more than one group provide a detailed and reasonably reliable understanding of the knowledge, attitudes, perceptions, needs, sensitivities, and behavior of target audiences.

In making its recommendations to WAMC *A2A* staff, Action Research interpreted focus group findings cautiously, analyzing results from each group in the context of findings from the other group. The Recommendations are informed, as well as, by the data being gathered from other A2A related surveys and case studies. Many of the observations and findings from one group were repeated and replicated by the second group, providing an enhanced sense of reliability for the study findings. For the purposes of this report, the Recommendations are organized by *A2A* pilot program – *51%* or *TBOOK* – where the comments were made, to assist the program producers, with some limited repetition resulting.

Sample Development

To recruit the 15 focus group participants, Action Research contacted 14 community and educational institutions with connects to women with disabilities (WWDs), as well as New York state and county organizations and agencies in the Albany area.   The colleges, organizations and agencies provided excellent response, and enthusiastically agreed to facilitate Action Research's request to communicate with their membership. To protect the organizations' members' identities, Action Research requested that the agencies/organizations forward the research invitation (with an application) to their membership via their email listserve.

It is estimated that more than 600 people with disabilities (estimated 50% women) were contacted by their organizations 1-3 times in May and June 2009, and invited to participate in the research.   The email recipients could volunteer to participate in the focus groups, surveys, and/or case studies. Action Research worked closely with the WAMC *A2A* Project Manager, Nell Brady, who also used her community resources to recruit participants.   The goal was to recruit representatives from the *A2A* Advisory Group, working scientists, women with disabilities (WWDs), parents, K-12 and college educators, counselors, members of the community and public of differing ages and both genders.

WAMC and Action Research staff received training by the Disability Business Technical Assistance Center (DBTAC) at Cornell University regarding issues of interest to women with disabilities, and how to sensitively recruit and accommodate the focus group participants.   Action Research and WAMC *A2A* staff conferred with DBTAC Technical Assistants at various points of the sample development and research process.   A Technical Assistant from DBTAC was present at the June 23, 2009 focus group to facilitate and provide necessary accommodations for women with disabilities.

The June 22-23, 2009 timeframe for the focus groups was identified because the WAMC radio program development process dictated that the two prototype programs would be ready for testing then, and those dates coincided with the WAMC *A2A* Advisory Committee Annual Meeting.

Unexpectedly, the late June timeframe did not prove to be optimal for recruiting large numbers of women with disabilities, parents, educators and counselors to attend focus groups or participate in research. Although a general response from the Albany-area disability community had been recruited for and expected to participate, what was found was that, surprisingly, those most likely to respond to the invitation to participate in the research were primarily those from Albany-area college campuses. The June 22-23 focus group timeframe coincided with schools' summer break, after the colleges, universities, and high schools had dismissed for the summer. According to university EEO, Disabilities, and related offices, informed us that most students and faculty were out of town or otherwise not available to participate until Fall 2009.

As a result of analyzing the situation, improvising and taking many additional steps above and beyond the usual ones to overcome this unexpected difficulty, Action Research, with WAMC's valuable support, successfully recruited 15 participants representing every key demographic group to conduct two focus groups.

Description of the Sample

Six of the ten *A2A* Advisory Board Members -- comprised of practicing scientists and engineers, university educators, and the director of an assisted living facility -- from around the Nation participated in the June 22, 2009 focus group in person or by phone, immediately before the *A2A* Advisory Board's Annual Meeting at WAMC in Albany, NY.

A total of 12 other participants were recruited from the Albany-area community, primarily via college, county/state agencies or organizations circulating an attractive invitation to their memberships to participate in the research via email. After reading the emailed invitation, individuals volunteered to apply to participate by completing an application form and submitting it to Action Research. Based on the applications received, Action Research spoke with each applicant by phone and emailed them to 1) extend a friendly personal invitation; 2) answer questions and address doubts, 3) determine what, if any, accommodations would be necessary to allow them to fully participate; 4) offer taxi fare, if needed; 5) to get research permission forms signed; 6) to inform them of the gratuity for participating, and 7) to build personal rapport and their commitment to attend.

Of the 12 Albany-area people successfully recruited, 9 attended the June 23, 2009, focus group. Of the three applicants who did not attend, all were younger women with disabilities – one reported she had just caught a cold, and didn't want to spread the germs; a second reported she had been assaulted and was in the hospital; and the third applied so late her email was not received until after the focus groups were completed.

The 15 Focus Group participants included:

> 11 women
>> 9 women with disabilities
>> 2 women without disabilities
> 4 men
>> 1 man with disabilities
>> 3 men without disabilities
> 14 Caucasian participants
> 1 minority (Black)
> 6 *Access to Advancement* Advisory Committee Members
> 10 participants from Albany, NY (including 1 Advisory Committee member)
> 5 professional scientists/engineers
> 2 educators – 1 HS, 1 college
> 2 counselors – 1 HS, 1 college
> 1 parent of a child with disabilities
> 1 coordinator of an assisted living facility

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OBSERVATIONS AND RECOMMENDATIONS
WAMC'S *ACCESS TO ADVANCEMENT*
PROTOTYPE RADIO PROGRAMS

The June 22-23, 2009 Focus Group participants listened to and provided feedback on *Access to Advancement's* prototypes of two programs:

1) *To the Best of Our Knowledge (TBOOK*), a syndicated program with *magazine-style stories* covering products, pedagogical approaches, teaching and learning practices, and research for broadening the participation of women with disabilities in STEM;

2) **51%,** a syndicated program that selects and highlights profiles of women with disabilities who have been involved with **TBOOK's** described products, approaches and practices. **51%** relates their individual stories and personal achievements, including how the products, approaches or practices influenced their education or decision to pursue a STEM career.

Prior to the focus groups, the WAMC staff researched, produced and edited the pilot stories for both **51%** and **TBOOK.** After extensive editing, **TBOOK** resulted in a longer than intended pilot story. The WAMC staff decided to send the program "as is" to let the focus group results provide the empirical feedback for further refining the program.

Use of Focus Group Recommendations

1) Although the following **Observations and Recommendations** are based on audience feedback regarding the two prototypes --

   ➢ the Recommendations serve a **larger purpose** in that **they establish scientifically-developed, empirical results and recommendations that are generalizable to future program development for BOTH programs.**

   ➢ the Recommendations establish **unifying guidelines** and **insights that are thematically appropriate for the development of the entire series of segments for 51% and TBOOK.**

   ➢ the Recommendations are NOT intended to be LIMITED to only to the development of the first segments of each show.

2) Although the formats of the two shows are different in focus, length and nature, because the **themes and subject matter are very much linked, virtually all recommendations apply to both programs.**

3) It is anticipated that future focus groups on new A2A programs will add increasingly sophisticated layers of understanding as to how best to reach diverse audiences (WWDs, educators, general public, etc.) and communicate with them with increasing effectiveness.

OBSERVATIONS AND RECOMMENDATIONS

51% Pilot Program

51% PILOT STRONG POINTS

OBSERVATION: Focus Group Participants agreed they found that the *Access to Advancement* stories encouraged many of the WWDs to seriously consider pursuing careers in STEM.

> (*Moderator at end of focus group*) So, do these programs matter to you? How do these programs impact your thinking about your own career, about helping your friends, helping your little sister, other people? How do these programs impact that thinking or you at this point? Two hours ago you hadn't heard these shows. What's happened now that you've heard these shows? Any changes? *
>
> I'm more convinced that people with disabilities can be successful in these fields. I mean I was convinced before, but now I'm really convinced -- because I was presented with some real life examples of -- Wow! There's a person that's successful! She's working at a major corporation, Microsoft. It's one thing to get a degree. The ultimate goal is -- Can I get a job and make a successful living at it? *(WWD)*
>
> I think it was very helpful, because it made me think that if she can do it, if they can do it, why can't I? I'm not stupid. I'm smart. I have a degree. I want to go places. If they can do it, it gives me encouragement for me wanting to do it and become almost like them and have a story. You know, I'm going to face people who are going to be like, "Oh, you're working with numbers. I know you have dyslexia. You may read it wrong. Are you sure you should be here?" I'll say. "Yeah I should be here!" It's like Patricia Walsh said, "I should be here. I worked hard to get here. I belong here." *(WWD)*
>
> Okay, it sounds like you got some self-confidence out of this. *(Moderator)*
>
> Yes, I think that's one of big parts of this. You want people to have the confidence to go out and say, "I should do this." *(WWD)*
>
> Well, I just found the whole thing to be very eye-opening, inspiring and interesting.*(WWD)*

OBSERVATION: Participants--WWDs, practicing scientists, educators, counselors, parents and the general public--agree that the *A2A* Pilot Program on WWDs in the STEM field was attention-getting, informational, enjoyable, and inspiring.

> I probably wouldn't have placed it [mentally] in the background while I was driving. It did catch my attention. I found it enjoyable. I thought it was put together well. It was inspiring to hear of the person's experiences and successes. It left me wanting to know more about the available programs and resources, so I probably would have gone home and gone to the NPR website to see what else was available. *(WWD)*
>
> I liked it. It was something that, if I knew it was on, I probably would stop my day to listen to, because I think those stories are so encouraging. It makes me feel like I can do more! And other people can do more! *(WWD)*

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* Verbatim comments have been lightly redacted to enhance readability, eliminating repetitive, extraneous words, such as "like, well, uh," etc.)
  Excerpts from separate parts of the focus groups are indicated by change in font color.

I thought it was inspiring. It was very forthright and realistic -- and it wasn't mushy-mushy or anything. I liked and appreciated her mentioning overcoming challenges. Particularly where she mentioned not allowing other people's perceptions set a precedent or defining what she could do. I mean that's so important, in my own experience…. And I really liked that part of it.   *(WWD)*

Again, I agree with what has been said. I found it very inspiring, and I think it's great that she persevered and went ahead, despite what people were telling her -- that she wasn't going to be able to do it. It was a very impressive interview, and if I were listening to it in the car, I would have kept it on. I wouldn't have changed the station. *(WWD)*

I would agree. I wish it could have been longer and that there would have been more details about her life. *(High school counselor)*

OBSERVATION: Some participants noticed and appreciated the variety of production elements and the effective way they were woven together to create the story.

I like the idea that you have the narrator, and then it goes to the person who is doing the interview, and then it goes to the person who is actually being interviewed. You had these different segments come from different voices, and you get the sense of going out of the studio -- in an audio sense -- so that you're actually at the table with the person who is doing the interview. I think that helps a lot. If it were just the main speaker on the program, doing the whole thing with clips from her, I would be far less likely to listen to it. *(Educator, Parent of disabled child)*

OBSERVATION: Participants found that some of the most critical ingredients for making the program on WWDs in the STEM field interesting and engaging are 1) *the human interest angle* **and 2) the focus on** *how a subject solves problems*.

OBSERVATION: Participants appreciated and preferred the layered approach to gradually building a "picture" of the subject ("Patricia,") and how her STEM and other abilities were stressed before her disability was introduced.

Did you notice the structure of the story? At what point did you find out that she was blind? *(Moderator)*

It was in[to the story] a bit. But was that one of the things--listening to the story I kept on forgetting what her disability was. So it didn't become a story about a woman with a disability making out well in engineering. It became a story about a woman in engineering. Many times I'd almost have to remind myself, "But she can't see," and that's where the "tactical graphics" got really appealing." *(WWD)*

So what was the impact of that?   Is that a typical story that you see on television or radio?   [The group as a whole responds "No".]   So what's the difference between what you typically see on TV versus this? Did you feel cheated? *(Moderator)*

I think it was more for dramatic effect that they waited to tell you that she had this limitation. *(WWD)*

Well, I think it was more to shift the emphasis on the career, rather than the disability and I really liked that. *(WWD)*

How many of you liked that? Okay, 100%. *(Moderator)*

I honestly think most people with disabilities want to be seen for their ability first and their disability second. That's a secondary characteristic, really. *(WWD)*

And how many of you think this story was successful in achieving that? Everybody. *(Moderator)*

I like that it didn't label her. You know, as soon as you put a label in the press, then all these stereotypes come out. And they didn't say she was blind. They didn't say even that she had a visual impairment. I think the only thing I remember was that "tactical graphics," and I remember thinking, "Ah, I know what that's about." *(WWD)*

They did say she couldn't see. They said "Before she lost her vision," there were several references to it. Whether they used the particular word "blind" I don't know, but you can get it from the context that she is. *(WWD)*

I think it occurs like as part of a subordinate clause in the middle of long paragraph. So it was really a subordinate part of the story. But it was still an impressive part of the story. *(Moderator)*

Again, this brilliant woman--even when she started talking about all her volunteer work, I thought she presented it as, "Well a group of us got together and we developed this 'Daydream Believers [organization],'"--and it was so nonchalant that it was sort of like, "Oh, boy! What a dynamic woman!" And again you've got [to remember] that she was visually impaired, and it's like, "Oh!" *(WWD)*

So do you think that the part about the volunteerism adds or distracts? *(Moderator)*

Oh, I think adds to this dynamic woman. *(WWD)*

I found that she doesn't let anything stand in her way. She didn't let her disability stop her from what she wanted to do. *(WWD)*

OBSERVATION: The human interest angle was a critical element to facilitate the audience have "picture of her in their heads" from the very beginning of the program. The "picture" developed gradually throughout the story, and kept the audience engaged.

What contributed to the human interest in this case? *(Moderator)*

She gave examples of failure. But then she had somebody who inspired her to pick herself up and move to the next step. So she had motivation that year sitting it out. It gave her time to reflect on her life and what her potential was. *(Scientist, Educator, Counselor)*

So, she was problem-solving? *(Moderator)*

Yes, she did that.   Sometimes you have to stand back and look at a situation. She had that year that helped her redefine her life and career goals, I think. *(Scientist, Educator, Counselor)*

So, she was dealing a lot of issues everybody deals with....OK.   Anything else figure into the human interest angle? *(Moderator)*

I think she found the right mentor at the right time in her life. *(Scientist, Educator, Counselor)*

It's the human interest angle, and… it was definitely more interesting, compelling to hear. While I do agree that there could have been more focus on women's issues and things like that, the issues [touched on] made it sound like she was a regular…person just like any other person. She runs marathons, she had financial difficulties in school. But it could have been any person. You can't see the person because it's radio, but it could have been anyone you know that was telling the story. The fact that she had a disability, she went blind when she was 14 due to a brain tumor, kind of adds to the fact that - Wow! This is really an amazing tale! Just the fact that she was able to succeed and try things -- even though she thought she was going to fail -- made it more compelling. I really wanted to hear the story. *(Scientist, Educator, Counselor)*

Did you have a picture of her in your mind? *(Moderator)*

Yes, I did. I did. From the very beginning. (Everybody agrees) *(Scientist, Educator, Counselor)*

OBSERVATION: Educators and Counselors found the role models in the story reinforcing and worth emulating.

What I thought was most interesting was that there was one person who she met just briefly -- whose name she can't even remember – that was the one who convinced her that she could be an engineer. You don't know who you're influencing. Hopefully you're influencing them positively. *(High school counselor, Male)*

Those chance encounters. *(Moderator)*

And that was exactly what I picked up. Just that one conversation, one conversation at the conference or whatever it was, it just turned it all around for her. So again, it goes back to the importance of guidance and encouragement and her story is wonderfully inspiring. Thank you. *(High school counselor, Male)*

RECOMMENDATION: Continue to do an effective job providing enjoyable, encouraging, inspiring, informational stories, leading with the human interest angle with WWD role models and how they problem-solved in the STEM field.

RECOMMENDATION: Continue to use a strong mix of production elements, effectively weaving them together to create a nuanced, layered "picture" of the subject and topic, delaying, as appropriate, the introduction of the WWD's disability into the story.

51% *PILOT - ASPECTS THAT REQUIRE ADJUSTMENT*

OBSERVATION: WWDs, parents, educators and counselors were confused about the role of a "scientist mentor" in Patricia's story, and a mentor's importance in general for a successful STEM career.   (See *TBOOK*)

OBSERVATION: In general, and particularly in these two stories, the word "mentor" is used for many types of support relationships. The types of mentors -- near peer, on-line support groups, life issue mentors, educational mentors, career transition mentors, professional STEM scientist mentors that open professional doors -- are all types of mentors WWDs may encounter. It is clear that the WWDs are confused by the term as used in these two stories.

OBSERVATION: They do not understand the context, and don't fully understand the importance of Patricia's having a "professional science" mentor to her career. "Dr Gardner" represents the most important type of mentor for a successful STEM career, as confirmed by the Advisory Board participants, and the most difficult to cultivate. More background and information about this important type of mentor needs to be included in the story and future stories.

RE: "Dr. Gardner" as a STEM scientist mentor

> One of the other things I thought about -- she mentions a gentleman, Joe Gardner, I think she said? Is he the gentleman that runs this STEM program, or is he just a mentor at the University of Oregon? Or if he runs the program, maybe a small segment with him saying, "These are the services we provided to Ms. Walsh and this is what helped her succeed." I think giving people with disabilities concrete examples of how they can overcome the barriers will certainly go a long way in convincing them that they can do it. *(WWD)*

> So knowing a little bit more about this gentleman and how he connected with her life and his background but also his perspective as a mentor. I see all the heads are going "Yes."   Okay, so more interviews with the mentor might be something you might be looking for. *(Moderator)*

> Maybe you could also have more about how you go about getting a mentor. If somebody was starting totally new, and they were looking for somebody to help them along. *(WWD)*

> Right, so maybe in future stories, how somebody found a mentor might be part of that*. (Moderator)*

> I don't agree. I think that what they should do is have Project STEM come on and have them talk. Because, personally, I think if they just have the mentor come on, a lot of people will think that they would have to have that type of disability. *(WWD)*

> You see, I thought that he was from Project Access STEM, though. Did I misunderstand that? *(WWD)*

> I don't think that's the case at all. I think that he'll help people with all types of disabilities, but I think that it's impressive that they chose somebody with one of the most difficult difficulties to cope with in that field to highlight. *(WWD)*

I think you're showing that there is some confusion about who this gentleman was and what organization he's really affiliated with. Some of that needs to be cleared up in the story, from what I'm hearing. *(Moderator)*

I guess I was definitely confused about that, because I thought he was from Project Access STEM, but now you're saying he wasn't. *(WWD)*

Wasn't he the professor that she worked on some of the research for? *(WWD)*

(A lot of talk about who the mentor was)

He was either affiliated with the program or he was the professor under which she worked at the university, because I think it was his research she was part of. *(WWD)*

His area of research was assisted technologies for blind people. She decided to train under him and took that expertise into Microsoft. Most people were confused about that issue, so that's an important point to bring up. A lot of that basic information was in the lead that Susan read when the story started…. Susan did the intro and she talked about Dr. Gardner. She talked about Project Access STEM very briefly -- in about 6,7 sentences -- and then the story started. Then you heard Allison's voice and you heard Patricia's voice. I'm hearing from you that it's not until the story evolves that you get interested enough as to who this Dr. Gardner is and why is this mentor helping her. Maybe at that point you need that information about who that gentleman is. I'm seeing you all saying "Yes." *(Moderator)*

That would probably work better. I think if it was embedded in the story, it would probably be conveyed better, because I definitely got confused on that point. *(WWD)*

I paid much more attention once Patricia's voice started, for some reason, than I did prior to that point. As soon as she started speaking, my attention honed right in on it. Much of what was said prior to that didn't register. *(WWD)*

RE: Other mentor relationships--

There is the on-line internet support group that she was talking about….The interesting thing about that to me was that they had all met in person first before. This was not an on-line blog. This was a bunch of people who were there in person and they could continue that relationship on-line -- which is very different than having something that is just an on-line bulletin board supported by the internet. *(WWD)*

We do a program, a summer program at the university and the kids come from all over the state. They're high school students with disabilities. We do a pre-college orientation program and it's amazing how many of these kids stay in touch with each other, even years later. So, that does happen, and that's a really good thing. *(WWD)*

I was thinking that I wish I had been involved in [such a program], because it would have made high school so much easier. One of the facts that I was laughing about is that people don't talk about their disabilities in high school. I completely fell under that [stereotype], where I was in the "special room," where they called us the "special people" and we got "special exams;" and all of us were like, "Oh we're the 'special ones.'" I wish I had known that, because that would have made my life so much easier. I would have talked about it more. It wasn't until college where I really started to meet other people who were open about having a disability. I wish I had had this information earlier. *(WWD)*

Did you find that it validated you? *(Moderator)*

Yeah, because it was so much better afterwards. Like I said, I wish I had had this information earlier. It would have made my life so much easier. *(WWD)*

OBSERVATION: On the other hand, the practicing scientists on the Advisory Board were *not confused* about the STEM scientist mentors' important role, and emphasized the career advantage and importance of having a STEM scientist mentor. (See *TBOOK)*

OBSERVATION: The practicing scientists stressed that the WWDs entering the STEM field need to understand the importance developing a strong STEM scientist mentor for their STEM career.

OBSERVATION: The scientists related well to the idea of "Dr. Gardner" as an influential mentor – both because they had had one in their careers – and because "Dr. Gardner" provides a role model they and their colleagues can – and should – play for WWDs.

> I think, also, the thing you need to think about here is -- if you believe in luck -- this young woman is incredibly lucky in terms of meeting Dr. Gardner who was the right person at the right time for her to meet and get her in the right area of research -- tactile research. The problem here, not everyone is so lucky. Is this luck or serendipity? So the question is -- how do we institutionalize what happened to this young woman, so we can assist larger groups of people -- because this is not going to "just happen." She found the right mentor at the right time who moved her career ahead, and that's what typically happens. *(Scientist, Educator, Minority Female)*

> And she said that just one encounter with one person inspired her and motivated her to pick herself up. But it's very difficult to do that. It can't be institutionalized. *(Scientist, Male)*

> The problem is that most of us got to where we are because we had good mentors. It's not everybody who finds that. Some people find it late in their careers. Some find it early in their career. I think the earlier you find it the better off you're going to be, certainly in science, in STEM. *(Scientist, Educator, Minority Female)*

> So, the critical point is that mentor, and the fact that he opened up a these whole array of opportunities that she would never have known about otherwise. *(Scientist, Male)*

> It has to be at the right time, also. I think in many respects, I was like her. There were maybe 2 or 3 people who I talked to for a total of maybe about 5 minutes, and who opened the doors. That let me do something when all the doors were closed. I think the same thing happened to her. But when we are looking at a bunch of closed doors, who's going to be the one who opens the doors? *(Scientist, Educator, Minority Female)*

> I evaluated some engineering programs in some universities under IGERT. For the national evaluation, and just a few of those engineering programs had a mentor program for their women or minorities. So, this is an important issue. *(Moderator)*

> And for me, the "hook" at the beginning of the story was the fact that this "stranger" had been a role model – and then came the rest of the program. So

I was immediately drawn in, partially because I wanted to hear the story about the mentor and how this effected the story. *(Scientist, Male with a Disability)*

Again the emphasis was on the young woman, and not on the mentor. You had just the right amount of information, so you just know that this person was very influential in this young woman's life. *(Scientist, Educator, Minority Female)*

What about a follow-up interview with the mentor, if he's still around? *(Moderator)*

Oh, that would be good. That would be interesting. You would be then pitching it to a whole different audience [potential mentors]. *(Scientist, Educator, Minority Female)*

RECOMMENDATION: Make "mentoring" a continuing and unifying theme through the A2A segments.

RECOMMENDATION: Provide clearer information about Dr. Gardner's mentoring role *after* Patricia has talked about his importance to her in her sound bite. (See *TBOOK*)

RECOMMENDATION: Highlight counselors and educators as role models who encourage and support WWDs entering into the STEM field and into a career track.

RECOMMENDATION: Provide stories that exemplify the importance of having a variety of mentors to support WWDs – including "near peer," mentors for helping WWDs to develop life skills, for managing school/college responsibilities and stresses.

RECOMMENDATION: Provide stories that highlight and clarify the importance of WWDs developing relationships with senior scientists as career mentors who can open professional doors to STEM careers, etc.

OBSERVATION: Focus group participants felt that the program could be strengthened by providing more information about the assistive technologies, education and career support services the subject ("Patricia") accessed to support her efforts to succeed in the STEM field.

However, I do feel that she felt that when her vision got worse, the [program] should have [interviewed] the person to find out what type of services were out there for her to help her a bit more to make it easier for her to accomplish what she wanted to. *(WWD)*

Well, she did provide a positive role model. There were things in the interview where I thought to myself, "Gee, I would really like to know more about 'tactile graphics.'" I mean -- What is that and what does it involve? It sounded really interesting. *(WWD)*

So, it has to somehow make the listener believe that they're capable of doing this by possibly giving them tools or steps or connections or directions -- so that they feel they can accomplish the same thing.   Because heroes are one thing...... *(WWD)*

Did you find those connections, tools...? *(Moderator)*

No, I'm sorry, I didn't. I found it an inspiring story to listen to so that I could say, "Wow! This person accomplished something. I'm happy for them." But not enough [information about] how I could apply that to me. Or how I could apply that to inspire someone else to say, "Oh look! This person did it." Or so a young child would say, "Well, what makes you think I can do it? Show me how."   *(WWD)*

The only thing I really wished was that I had heard more about how she overcame certain obstacles. Because that is something I love hearing about -- because it's something I always talk to my friends about. How did you overcome it? What did you do? What sort of stuff have you had to face?   In school, in work, and in your own family life? That's something I wish I heard more of. *(WWD)*

RECOMMENDATION: Make STEM support technologies and programs a continuing and unifying theme for A2A programs.

RECOMMENDATION: After introducing STEM support technologies and programs via the students' voices and personal stories, clearly state the names of technologies, support programs, etc. together with brief clear descriptions and <u>*repeat* them</u>.

RECOMMENDATION: Although repetition of key elements is not usually part of a tightly edited radio program, repetition is very important for *Access to Advancement* because it is an accommodation for some target WWD listeners, and to facilitate the audience taking follow-up action.

RECOMMENDATION: Provide up-to-date information to facilitate WWDs', parents', educators' and counselors' abilities to maintain an awareness of what types of support, including education programs and assistive technologies, are available to WWDs going into STEM.

RECOMMENDATION: Provide employers, scientists and research managers' with ideas and concrete strategies/techniques about how to accommodate people with disabilities.

RECOMMENDATION: Provide program information in the *WomeninScience.org* web site with the story transcript, and provide direct links to the organizations, experts, and technical aspects highlighted.

RECOMMENDATION: Develop and provide web links so the audience can easily access more information about key components of the story, as well as STEM science education and WWD resources. (See *TBOOK*)

RECOMMENDATION: Promote the web site at various times and at the end of the broadcast story, and in promotional material announcing upcoming stories. Also, provide direct links to WomenInScience.org and organizations, and other key resources on the podcast and FaceBook.

RECOMMENDATION: Ensure that the A2A broadcast, Podcast, FaceBook and other formats provide an EASY opportunity for listeners to 1) pursue other information of interest; and 2) to convert information and knowledge into action toward pursuing STEM careers via links on the website.

OBSERVATION: Participants requested information to inform them when the next *Access to Advancement* show would be broadcast or available for download.

> Well, if there's going to be a follow-up program, it might be smart for PBS (sic) to announce at the end of this segment that "There's going to be a follow-up to this on Thursday," so then people might look for it. (*WWD*)

> Technically it's not a "follow-up." This is "*51%*," and the more expanded version occurs on "*To the Best of Our Knowledge*," so it's not technically a "follow-up," but it's using some of the same material. *(Moderator)*

> Yes, but one of the problems with PBS (sic) is that you don't know what's coming up next. *(High school counselor, Male)*

> Each program needs to stand on its own. Each one must provide all the information pertinent to motivate you to look into STEM careers. *(Moderator)*

> When I turn on the radio and listen to PBS (sic), I don't know what's going to be on the show. So it's like a magazine -- where you just turn the page and see what's on the next page. You just listen and find out. I just think PBS (sic) could structure it better so there is more information about what's going to be on each of the hours, so that if people want…if they could just look at a website and see if there's something on that they might want to listen to, and tune into it. *(High school counselor, Male)*

> So more promo in terms of what's coming up in the next week or two -- and what the program themes are going to be. *(Moderator)*

> Just some place where people can find out what's going to be on the show, and when they're going to be on. *(High school counselor, Male)*

> Okay, so you'd like to have a daily schedule posted with the themes of the shows that week. Whether it is a show about women with disabilities or whatever is on that particular week. Okay, how many of you agree with that, and would use that resource? Most of you would. *(Moderator)*

> I understand that currently the website has 13 episodes from past shows of Women in Science that you can access and check to see what has been broadcast. Would this be of interest to you? *(Moderator)*

> Many times, the programs just sit there.   The podcasts just hang out there [without a description of the theme to interest us in listening]. I haven't checked the website lately, but there's not a synopsis of what's in each show. You just click on it and it plays. (*WWD*)

RECOMMENDATION: Develop written copy, web content and audio for "promos" and "teasers" to drop into broadcast programming to inform the audience of upcoming *Access to Advancement* shows and topics that can be used by WAMC, other stations, podcasts, Face Book and other formats.

To the Best of Our Knowledge

TBOOK Pilot Strong Points

OBSERVATION: All participants agreed the *TBOOK* Pilot Program provided an important example of a woman with a disability (WWD) practicing self-advocacy and serving as a positive role model.

> One of the things I heard, and I think is an excellent point, is that girls with disabilities should become self-advocates. I think that's true for everyone…. I just feel like the point about self-advocacy, which I thought was the biggest point of the whole thing, should go towards the beginning to make sure that people don't tune out before that gets presented. To me that was the single most important thing, and I'm so glad that they brought that up. I would move that [point] towards the front [of the show].   (*Scientist, Disabled Male)* *

> Be self-advocates. More self-assertive. *(Scientist, Educator, Minority Female)*

> I guess I'd say I'd like to know how [Patricia] talked to those people who were saying that she probably can't do this. She said that she didn't want to let them limit her and I was impressed by that…. I would like to know what she said to them without them saying that she's an "uppity crip" or something. You've got to know how to say, "Don't do that to me!" without them getting mad at you. *(WWD)*

> I just think that there are a couple of things, a couple of quotes throughout the segment that I found very poignant and important for the general public -- able bodied people -- to hear. I don't remember who said them, but one was 'focus on what you can do, not on what you can't do'; and the other was 'I'm the only person who can put limitations on me.' So, for someone that's not disabled to hear a disabled person say that, it's pretty empowering, pretty moving. *(WWD)*

> One thing I liked was when Pat talks, she talks about encouraging herself. She talked about stuff she would say. People do that all time, and not just people with disabilities. *(WWD)*

> Exactly. Self-talk is a big part of your internal dialogue. It's important to have positive, not negative, self-talk. So that was an important part then? *(Moderator)*

> Yeah, I liked that part. I also picked up that she said when she ran into some kind of a snag and she felt as though she wasn't holding up her end of the deal. That's when she said, "I had to sit back, regroup, and say, 'Wait a minute. I deserve to be here.'"…I definitely thought that was the most powerful segment of the whole thing. For me, definitely. *(WWD)*

> I think it's important for kids to know that it's fine to get your degree, but you have to constantly stand up for yourself. It's a never ending battle. *(WWD)*

> And you have to be diplomatic about it, too. Everywhere you work there's going to be certain politics, and you have to know how to "schmooze," I guess for lack of a better word. I think it's important to illustrate that to people that not only important in college, but in working life. *(WWD)*

RECOMMENDATION: Make *self-advocacy, self-assertiveness, positive self-talk, the need for good interpersonal skills* continuing and unifying themes throughout the *A2A* segments.

RECOMMENDATION: Identify and highlight multiple examples of how WWDs effectively use positive self-talk to encourage themselves to achieve their goals and to neutralize barriers.

RECOMMENDATION: Provide role models to encourage WWDs to become self-advocates and show how they use techniques to empower themselves to overcome their own and others' discouragement and other barriers that could prevent them from pursuing interests in the STEM field.

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OBSERVATION: Participants felt that, in addition to STEM career-related information, the stories' additional details   (provided layer upon layer) about Patricia's life -- her charity work, sports, her difficulties and problems to solve, etc. -- were important additions to give her a three-dimensional, real-life quality. These details helped the audience find important aspects so they could relate to her as another human being, not as a disabled person.

> I think [the charity work] lets you know that she's a well-rounded individual and has a varied life and lots of things going on, and that her life isn't her career. Because that tends to happen. *(WWD)*

> Her life isn't just about her disability. *(WWD)*

> And the meaning to her life that giving to somebody else must give her. *(WWD)*

> It draws attention to the fact she has very good interpersonal skills. She's also got to deal with a lot of people*. (Counselor)*

> i would probably put context about the advocacy piece that even though she is a project manager and has done well, there are still some challenges she needs to overcome.   But without a context, I was thinking Microsoft to be like "Number 1" in terms of providing assistance and accommodations and this piece made it sound like, "Hey, I'm still struggling, and I have to tell I people that I can't get my work done." It didn't really fit in with what I expected the story to go. *(Scientist, Male with disability)*

> She admitted that she had to work harder because of her disability. *(Scientist, Female Minority)*

> Maybe there needs to be more said about that. I think her situation is that she had to create her own job and that there weren't any "supports" for her. She's had to self-advocate all the way through and push -- which is realistic in most employment situations

> Which is fine, but I probably would have really liked more explanation, context for it. *(Scientist, Male)*

> It might have been good to put more context like that in. But to me, that was one of the strong points that she brought up. It was also mentioned by others that it is not so easy to just even do the day to day stuff. I'm fully aware of that in just getting here to this meeting. And like you, these things are not

necessary easy to do.   Students and other people interested in being in STEM need to understand that these do have to be addressed and dealt with at the very beginning of a career, before you can do any push-back of the scientific field.   (Scientist, Male with disability)

But you can't keep hiding that. I felt the story about the woman at Microsoft -- I looked at it in a very different way.   I think that she said that this is challenging, but I'm doing it in spite of having problems. It might have not sounded positive to you, but that's pretty important -- that she's there in spite of it all, and the fact that she has to work harder.   (Scientist, Male)

RECOMMENDATION: The stories should continue to provide details about the subjects' lives that provide the "human interest" angle as "hooks" for helping the audience to relate to them as full human beings.
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OBSERVATION: All participants-particularly WWDs, Educators, Counselors and Scientists - emphasized the importance of the story's focusing on WWDs' developing peer and near-peer relationships for personal, educational and career adjustment and for effectively learning skills to cope with many factors.

OBSERVATION: The scientists -- particularly the disabled ones -- commented on how Project Access STEM helps WWDs address their "liberation" process.

OBSERVATION: They emphasized that the successful navigation of the "liberation" process for WWDs is an important aspect that needs more understanding and attention - by WWDs, the public, and in the story.

OBSERVATION: They talked about the WWDs additional difficulties for successfully overcoming hurdles that occur when a WWD who is often "over-protected" becomes "liberated."   This occurs first for most WWDs when they enter college and the impact that has on their short and long term adjustment and career aspirations.   It can also occur when they enter the workplace.

OBSERVATION: Younger WWDs in college also indicated they were very much interested in hearing stories about these issues.

OBSERVATION: Some WWDs who heard both the *51%* and *TBOOK* pilots did not understand the difference between this type of mentoring -- role modeling, peer relationships -- versus the importance of having a professional scientist mentor who provides career mobility.   The story did not address or clarify this issue. (see 51% Observations and Recommendations)

I was really intrigued by the high school student's experience --the fact that she was "liberated" by participating [in Project Access STEM]. I'm thinking of any high school student who would be "liberated" by being away from her parents for the first time.   But this was "liberation" to another extreme in terms of self-sufficiency and also in self-advocacy. I also liked the fact that the Access STEM Program provided some awareness of STEM career options that were available to her, as well as exposure to students with other disabilities --

because that provided a context. And she mentioned some additional motivation when she was talking about the individual who had to use a device in his mouth to communicate. So perhaps if she had been feeling sorry for herself, or that there was no one else who had experienced what she had experienced, here was a context, saying, "Gee, you know what, maybe I can do it. Because this person is doing it and they seem to be even more disabled than I am." So the whole pilot show experience would be a very positive experience, especially for her and that's something that really can be a benefit for our listeners hearing that. *(Scientist, WWD)*

And so you're saying that particular segment was very impactful for you? *(Moderator)*

Because I was the most aware at that point, as well. But that human interest story seemed more captivating. Probably it was a visceral experience and one of her first experiences in dealing with her disabilities for the first time on her own. And that ability to be open and talk about the individual disabilities that each of the participants had I think was liberating. *(Scientist, WWD)*

Admitting the fact, I guess, that you have a disability, because some people just don't. It's never discussed. You have this disability and it's a topic that's not discussed. It's under the table all the time. And so here you are in an environment which allows you now to be open and talk about your experience -- talk about how you feel about it. It's a very liberating experience. (*Scientist, Male*)

I was going to add that, for me, I thought **the peer relationships, the role modeling and mentoring that was available through this program** were very important. So many young people -- well, people with disabilities -- whether they are young or old, feel isolated a d don't really have an opportunity always to share those experiences and learn from other people. I agree with you. The story on the young women seeing the guy using a sip-and-puff type method of using a computer was empowering for her, I think. It was really eye-opening and empowering. Listening to that, I think it would make other people think, "Oh, that's right! You know, there are other people who are using adaptive equipment with significant disabilities who are still able to manage." So, it's exposure to that type of stuff that I think helps to support people advance in a career like this or in a field like this. *(WWD, Assistive Living Administrator)*

Can I answer you? ... The **peer role modeling** I think is essential. What seems to me as the most important thing -- what came to my mind was that you can have all these programs, all this technology, all this peer role modeling -- but if the person can't deal with their independent living -- there's basic stuff about how to deal with their disability outside the infrastructure that's supporting them up through that [time], including their parents -- then all the training in the world is going to go for naught. So, somehow the technological approach really needs to have a personal approach. What's it like to have a hired person get you up in the morning, instead of your parents? So, what's it like to be under your own responsibility to get from point A to B? Those kinds of just basic daily activity things have to be dealt with [first]. And then you can go on to the higher order stuff like writing a guide in calculus and aerospace engineering, and all of that. If you can't deal with getting yourself up in the morning, it's all for naught. The second point is that even if the people, even if the students get this magnificent training and learn how to cope with their disability needs and be ready to engage in a career, somehow we got to deal with a system that's full of disincentives [and discouragement].

(Scientist, Male with Disabilities)

> Again, I related to the fact that they discouraged her and that really stands out in my mind; that she just stuck it out and did it and proved to them that she could do it. *(WWD)*

> Well, ... I can relate to her challenges. I can't relate to her success, because I can't relate to something that I haven't experienced. You know, I can see her as a role model -- I can see her as an inspiration. I'm not lacking in drive or belief that I can get there, but I can't relate to something that I have not experienced yet. So, when you asked me if I can relate to the entire story, that's why I meant I can only relate to part of it. (WWD)

RECOMMENDATION: Provide stories that exemplify the importance of having a variety of mentors to support WWDs' – "near peers," mentors for helping WWDs in developing life skills, for managing school/college responsibilities and stresses, and the importance of having senior scientists as career mentors who can open professional doors to STEM careers, etc. (see *51%*)

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TBOOK - Aspects That Require Adjustment

OBSERVATION: Focus group participants agreed with the WAMC *A2A* program developers that the pilot of the *TBOOK* A2A segment was too long (16+ minutes) and needed to be shortened and reorganized.

OBSERVATION: Most participants agreed that the structure of the pilot program was confusing, lacked a simple cohesive structure, which caused them to not be able to follow the program and lose interest.

> It was a bit long… so I found myself kind of fading towards some of the latter [parts.] Also, it was hard for me to follow the logic of the order of the segments. Maybe if I saw them all on a list I would understand why we were going from one to the other. And the intros seemed a little long as well."
> *(Scientist, Male, A2A Advisory Committee)*

> [W]here I thought the weakest part of the talk was in the beginning. It seemed to take too long to get started. And if a particularly interesting problem was being overcome by a student in STEM -- if that started off as one of the beginning points, I think it might help the pilot go better. I guess the audience -- it seemed like it was for service providers or an academic audience. It wasn't so much for the general public. But even service providers would be more excited by a student that started off talking with a good story."
> *(Scientist, Disabled Male, Advisory Committee)*

> I found that it was a great segment with a lot of positive interviews with people. But I found that they interviewed way too many people and I got lost. I couldn't keep track of who was who and what disability and what they achieved. (WWD)

Okay, anybody else experience that?. Six out of nine, Okay. Too many interviews*. (Moderator)*

There's a lot of information from the same voice about a bunch of different topics. (WWD)

There doesn't seem to be a structure to this story. The other one [*51%]* had a beginning, a middle and an end. This one was all over the place. There doesn't seem to be any continuity between the one topic and the next topic. They don't flow into each other. It's like they are separate parcels of information that are just being tossed; and then when you get a piece that possibly links to one before it, a couple ones before it, you're distracted and your mind goes back 3 or 4 topics and then you got to jump forward. So, it's like I'm mentally trying to get it to string it together in some type of cognitive flow and I get distracted when I try to piece it together*. (Educator, Parent of a child with a disability)*

One of the things I liked about it was that there were a lot of interviews and that there was a lot of information. That if I missed something, that they kept repeating stuff over and over again. A lot of the stuff was repeated and I felt like it was something that I could zone out a little bit but if I went back into it, I could follow. … *(WWD)*

Also, it was a little hard for me to follow the logic of the order of the segments. Maybe if I saw them all on a list I would understand why we were going from one to the other. *(Scientist, Ph.D. Advisory Committee Member)*

I think the story could be rearranged, and shortened. Five minutes at the most. The other thing is about the director had made a lot of contributions, but too much time is spent with that. They really are not interested in that. The impact was lost because of the entry talked about the project director. I'm not trying to diminish her contributions, because, it's admirable. But maybe some of that can be put on a trailer at the end, rather than at the beginning. (*Scientist, Female Minority, Advisory Committee)*

RECOMMENDATION: Shorten the *TBOOK* story, eliminating repetitive elements.

RECOMMENDATION: Reorganize it thematically, instead of chronologically.

RECOMMENDATION: Shorten the lengthy Introduction and information from the Director of the Access STEM Program, and embed key information into the body of the story after sound bites of students' voices have introduced the concepts.

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OBSERVATION: In the *TBOOK* pilot, most participants picked up the name of the DOIT Program, since it was repeated sufficiently. But, although they were highly motivated and listening with their full attention, they still did not understand what DOIT did or offered.

OBSERVATION: Focus group participants heard both pilot shows close together, on the same day and were able to figure out some information in one show based on what they learned in the other show.

OBSERVATION: However, the actual *A2A* audience will most likely NOT be hearing both programs AT ALL. And, if they do hear both, it most likely will not be on the same day. Therefore, information retention is likely to be relatively low.

OBSERVATION: Looking at both *51%* and *TBOOK*, there were several critical gaps in effectively communicating KEY INFORMATION - information about programs, technologies, etc.-- that left the audience guessing about basic information. They were puzzled about what program/technology names were (not sufficient repetition), what they did, where they were operating and where to find out more about KEY INFORMATION

> Number one -- the best thing [about *TBOOK*] was, even though I can't tell you what it means, they mentioned DoIT a gazillion times. I don't remember what it means, but I got it!   And I will get on the computer and figure out what that is.   Whereas remember the first one (51%), we were like "ACCESS??? What did they call it?" So, just the idea of repeating the [name made a difference}. *(WWD)*
>
> So, DOIT was mentioned several times, but I understand that some people were confused as to what the program was. *(Moderator)*

RECOMMENDATION: Continue to repeat key information -- the names of the programs, assistive technologies, etc.-- inside BOTH *51%* and *TBOOK*, in order to impact the audience and facilitate their decision to further explore them on their own. (See *51%*)

RECOMMENDATION: After the young women's stories capture the audience's interest and attention, provide more information as to what the program or technology does, and where to find more information about it on the Women in Science web site.

RECOMMENDATION: When writing scripts, treat *51%* and *TBOOK* as completely separate stand-alone shows.   Do not assume that the audience has previously heard either show on the related topic, or knows any information on it. Repeat the names of key information about programs, technologies, etc., and provide a brief description of what the program does and where to find more information on the Women in Science web site.

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OBSERVATION: FG Participants thought the *TBOOK* pilot program came across as too technical and sterile at times.

> It was a little sterile. It was almost like clinical video, just kind of sitting there watching because you have to. *(Scientist, Male)*
>
> Were there points where it got more vivid? *(Moderator)*

I think when the high school student's voice came up, for me that was when it took some life. I liked that story. Plus to me, also the Microsoft person with the "tactile graphics." To me, those two should have been up there at the top, along with the self-advocacy point. *(Scientist, Disabled Male, Adv Committee)*

*"*So I would definitely cut out a little of the technical stuff and add more personal stories, because that's all we'll remember. *(Scientist, Female, Disabled, Advisory Committee)*

"Maybe you can start out with Yemara's voice, and some "Aha" moment or some "eureka" moment to get people interested, and you can talk about the program in Seattle as a point of entry for these students. Because, the second, I think Emily was her name, also came in through the program. She was a second year student. So, it just kind of progresses or feeds one into the next to the Microsoft girl. Then you have the three examples of women who have succeeded based on the program." *(Scientist, Minority Fem, Advisory Com)*

RECOMMENDATION: To reach a general audience, cut out some technical information, or embed the information inside personal stories, using an interesting angle that illustrate the same points.
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OBSERVATION: Most participants were not able to recall critical program names or other important support information. They requested that resources be made available through well-publicized web links and other sources promoted at the end of the program. (See *51%*)

Only 1 out of 9 of you remembered what "DOIT" stood for *(Moderator)*.

The program she connected with at the university, it didn't stick with me, but I'm not familiar with the term or whatever the program was that she used. *(WWD)*

How many times in the story did they use the phrase "Access STEM?" They said it at the beginning. *(Moderator)*

I think twice, maybe? Oh, yes, I think [it's an important point to get across]… Because I hadn't heard of it. I mean, maybe you have to live on the West Coast, I don't know. But, I think if that was more nationally known, maybe you would, just by knowing of its existence alone, convince more women to enter one of those fields. *(WWD)*

So would it be important to highlight that a little bit more? *(Moderator)*

I think so. Maybe as a little side piece say "For more information about this program visit www. …" Maybe after the piece is over. Because that would be a question I would have. *(WWD)*

Yeah, I was sitting there myself wondering, "Gee, that sounds like a really neat program." And I know my son has a disability and I know he's considering engineering. I'm thinking that would be a good place to find some resources. But is it just for women? Is it just on the West Coast? You know, there's no sense of where it is or what it is or what it covers. *(Parent, Educator)*

You know it might be a nice thing at the end of these segments to have a little thing exactly doing that. You know, "For more information contact…*Counselor)*

Right, and at least you know it's like, "For more information, see the Women in Science website," or something. A WAMC-based link-through.   *(WWD)*

Anything else that you learned about that was new to you? Did you hear anything about learning or teaching methods that were appropriate to this situation? [The group responds "No"].   Okay. How about specific programs or organizations that are support organizations? *(Moderator)*

Well, the one we just talked about -- although they didn't seem to give too much information on it. It seemed to have helped her, though. But what did they actually do? You're not really told how they supported her. *(WWD)*

I'm seeing some "Yeses", some "No's."   People are shaking their heads. Besides Access StTEM, did you hear anything about user-assisted technologies? *(Moderator)*

If the intent of the story is to stimulate interest, it has to give you a connection to somewhere else after it has stimulated your interest.   So, it doesn't necessarily have to be something long -- but some type of statement saying that "There are many resources available and "For more information see -- blah blah blah." *(WWD)*

Okay, so assuming they give more information about Access STEM, they tell you what the program is and then a couple more sentences, and then gave you a web link--how many of you would try and follow that web link? (Eight out of nine.) *(Moderator)*

I'm not so sure if just "Access STEM" would actually stimulate me to go to that web site, because I might believe that that was specific to the story and the challenges that this woman experienced. Whereas, if there was a **general link to resources for people with disabilities**, that might be a little bit better than just that. *(WWD)*

RECOMMENDATION: **Build on the interest the programs have generated and in every story** provide an opportunity for listeners to 1) pursue other information of interest; and 2)   to convert information and knowledge into   action toward pursuing STEM careers, by providing *web links to* key components of the story, STEM science education and WWD resources.   (See *51%)*

RECOMMENDATION: **Provide program information in the *WomeninScience.org* website** with the story transcript, and provide direct links to the organizations, experts, and technical aspects **highlighted.**

RECOMMENDATION: Promote the website at various times during and at the end of the relatively lengthy (15-17 minute) broadcast story. Also, provide direct links to WomenInScience.org and organizations on the podcast and FaceBook.

OBSERVATION: Participants provided other story and theme suggestions for future programs or series.

- ➢ **Highlight the accommodations for WWDs successfully made by Corporations and Universities.**

- ➢ **Highlight the WWDs science and other accomplishments, grants received, discoveries, innovations and other contributions or rewards they receive while in the corporations and universities.**

Possibly have a show on corporations that have made accommodations. Outline what things they've done and how easy they are and how cost- effective they are. Something that might stimulate businesses to become more amenable to explore making accommodations.

Something…to make other corporations aware of what some corporations are doing from that perspective.   If we want the education system involved and we want parents and friends involved, we want the people who are searching for the services involved, then we need to make sure we touch on all the different areas that would be helpful. *(WWD)*

I think the example of the accommodation of the chair in and of itself was very powerful in terms of – "Look this is all you need to do. Bring another chair into the room." *(Educator, parent of child with disability)*

I think it's important. I think there's another way to go about that, because my experience at the University of Albany is that sometimes the students' "reasonable accommodations" are more complicated -- but not necessarily more expensive -- but they're more complicated than a just comfortable chair. *(WWD)*

Sure, but sometimes it's just something that's simple, and I don't think people think that way. They think that – Oh! It's going to be a whole bunch of money. *(Educator, parent of child with disability)*

Right, I think that it needs to be conveyed that there's a way to do it. It's not necessarily expensive, because I think that college and universities today tend to focus on how much this is going to cost us. *(WWD)*

I wish they would do a show on universities. Because when I go to the Disability Office, a lot of people who work there are **volunteers** -- which a lot of people don't understand. I get a reader and she volunteers to read me my exams. And they have scribes who volunteer to write peoples' exams -- which is very cost efficient. These people without disabilities take time out of their day to help. *(WWD)*

So, you think that light should be shone on them? *(Moderator)*

Yes, because these are people who want to help and they should really show other universities how this works without much cost.   *(WWD)*

That's actually a unique program to the University of Albany. I was on a statewide panel that presented on that program. People were stunned that we were able to recruit students, faculty and staff that were willing to volunteer their time. *(WWD)*

> Well, if people hear successful stories, then they may take some individual initiative to replicate it.   *(Moderator)*

> I thought to myself this would be fantastic if this was a national initiative.   *(WWD)*

> I wish they showed something like this to colleges about what they can do to easily accommodate us, because a lot of small colleges don't know this information. They just think that they can't do it because a"It's not cost efficient. I can't do it. It's going to cost me so much money." Whereas a lot of this stuff really doesn't.   *(WWD)*

> Yes, and gathering some informational links together in a website so the information is available to people who are interested.   *(Moderator)*

➢ Highlight how WWDs successfully present themselves in a job interview.

> Something else you might want to consider for sometime is how to present yourself in a job interview when you are a person with a disability and how to handle the kinds of questions you will get. What you have to say and what you don't have to say. How to allay the potential employer's anxieties or find out what they might be. I think that when there is a lot of competition for a particular job anybody who can is going to use your disability to weed you out. I don't how you'd want to address that, but I think it's an important thing. It doesn't mean you can get a job. These days it's hard for anybody to get at job.

➢ Research and identify key points of interest in STEM -- those that would attract women with disabilities towards careers in STEM. Incorporate those elements into future *A2A* programs to counteract the many things that discouraging them, driving them away.