

ZOOM Season V Evaluation Executive Summary

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INTRODUCTION

Goodman Research Group, Inc. (GRG), a research firm in Cambridge, Massachusetts specializing in program evaluation has been conducting external evaluation of ZOOM for WGBH-TV Boston since 1998. GRG's Season V evaluation was comprised of two formative components, each with a separate sample and method, and both designed primarily to inform the outreach and production for ZOOM Season VI.

- 1) In preparation for a new outreach initiative and partnership with the Girl Scouts of the USA (GSUSA), ZOOM was interested in gathering feedback about the already existing ZOOM Into Engineering (ZIE) CD-ROM tutorial. Responses from two groups (engineers who used the tutorial in the previous season and GSUSA leaders and trainers who would be the target audience in Seasons VI and VII) would inform the creation of a new computer-based training tool with similar content and format.

ZOOM Into Engineering (ZIE) Tutorial Feedback: To obtain feedback about the current ZIE CD-ROM that would inform the new training resource for the GSUSA audience (which includes both troop leaders and leader-trainers), GRG mailed a ZIE CD-ROM to 20 Girl Scout troop leaders and trainers across the country for review. Feedback was gathered via pre-, during-use-, and post-surveys. Additionally, GRG recruited troop leaders and trainers to come together in groups of 10 at three different national Girl Scout computer sites. Group participants reviewed the CD-ROM at individual workstations and then shared impressions during a moderated group discussion.

- 2) WGBH was interested in how the ZOOM TV program was being received by its target audience of children ages 8-11 years. Over the first four seasons, ZOOM segments have been modified (e.g., longer length, off-site settings), both to adapt to a diverse audience and to accommodate new content (e.g., engineering concepts and process skills). This season, ZOOM producers and program directors were interested in how viewers respond to the various program segments, what they find appealing and entertaining, and what they may be learning from watching ZOOM, particularly from the ZOOMsci segments.

Kid Focus Groups: To inform program production for future seasons, GRG conducted seven focus groups with children in ZOOM's target age group (8-9 years: younger, 10-11 years: older). During each moderated group session, children gave their general impressions of ZOOM, viewed a Season V episode, and responded to that episode with particular attention paid to each individual segment. The focus groups were designed to assess overall appeal of ZOOM and perceived learning from ZOOMsci engineering segments.

This document highlights the major findings and recommendations from this year's evaluation.

KEY FINDINGS: ZOOM INTO ENGINEERING TUTORIAL FEEDBACK

- ❑ Girl Scout troop leaders and trainers responded well to the computer-delivered training offered through the ZIE CD-ROM. After using the tutorial, they felt prepared to lead science and engineering activities with children; 89% gave the top two ratings on a 4-point scale of preparedness.
- ❑ Group participants suggested additional tutorial content that would add to their own knowledge base and apply directly to the children with whom they work. For example, tip sheets with ideas for expanding activities to work with older or younger, and smaller or larger, groups of children.
- ❑ Participants enjoyed the features, particularly video clips, that demonstrated behavior to model and ways for leaders to adapt activities to their needs and the needs and interests of the children with whom they work.
- ❑ They offered suggestions about features and formatting they believed would enhance the learning experience:
 - Most expressed a preference for the flexibility to choose between narrated text and visuals or printed text and visuals as they participated in the training
 - Group participants suggested adding a "menu" of tutorial components that would encourage users to pick and choose among particular sections of the tutorial
- ❑ The Web appears to be a viable delivery mechanism for the GSUSA leader and trainer audiences. The majority of survey respondents (83%) were *completely comfortable* participating in the training on the computer. Nearly all (94%) gave the top two ratings on a 4-point scale of convenience regarding the proposed Web-based training. They felt it would be as convenient and effective as the CD-ROM.
- ❑ All evaluation participants confirmed they would print out all possible documents, tip sheets, activities, and other resources from the Web, just as they would have from the CD-ROM. They would use their hard copies as reference while leading activities with girls and training others. They would also use the PowerPoint presentation as an opportunity to hold a face-to-face training with others.

Potential advantages of online tutorial identified:

- Information could be modified, added to, and updated
- Web may increase ease of navigation; users could refer to different areas of interest and go back and forth more easily
- Web provides an opportunity for a chat-room, list-serve, or message board where different users could pose questions and share experiences

Potential disadvantages of online training identified:

- technical difficulties downloading and using the necessary web-based software
- not being able to ask for help if using the online training independently
- lack of access to an Internet connection

ZIE TUTORIAL RECOMMENDATIONS

Based on survey responses and group participants' comments about the current ZIE CD-ROM and the proposed online tutorial for the GSUSA, GRG makes the following recommendations.

- ❑ Cast a wide net for promotion of the online tutorial when it is ready for national dissemination. Participants were extremely interested in the training and eager to make use of it as soon as possible.
- ❑ Include and encourage use of the face-to-face training opportunity to precede or otherwise supplement the online training.
- ❑ Accommodate various learning styles by including:
 - instructions pertaining to use of the tutorial that appear automatically on-screen, rather than in an optional document
 - visually appealing “buttons” to click to **begin** the tutorial and a clear indication (audio or visual) that a **section has ended**
 - options to make variable use of narration, text, and visuals throughout the tutorial
 - as many printable documents as possible, including tips for reference during activities, and handouts for multiple activities
 - a list of facts about women in science -- taken from the relevant field of research, and cited appropriately -- and career options in science and engineering
 - a list of FAQs for each activity so leaders may anticipate science-related questions and be able to provide an answer to the girls

KEY FINDINGS: KID FOCUS GROUPS

- ❑ Kids 8 to 11 years old consider ZOOM a program for children their age that features real children around their age. They enjoy the variety ZOOM provides in terms of cast members, segments, and activities conducted and demonstrated. Their favorite ZOOM segments, and those from which they take ideas and try activities at home, are the ZOOMsci and CafeZOOM segments.
- ❑ Older children (10-11 years) focused on the realism of TV in general, and of ZOOM specifically, as a factor that determines interest and enjoyment. Girls and boys expressed different perceptions of the level of realism inherent in ZOOM.
 - Older girls tended to appreciate that the cast were real people, rather than actors. They like ZOOM because it features children like them, doing things they would like to do. Older boys, however, felt the segments were too scripted and the cast's behavior did not reflect real children their age.

- ❑ Older kids described ways to make the show more realistic: having cast members behave and react more naturally, asking more socially-relevant questions during WhatZup?, and reviewing popular music, books, and movies.
- ❑ Older boys and girls enjoy seeing and learning about different people, places, and cultures on ZOOM. They would like to learn even more about the people featured on the ZOOM in Action segment (Native American Dancing), including learning specific dance steps and some of the cultural traditions.
- ❑ Younger children focused on humor and on opportunities to learn in the TV programs they enjoy. They liked ZOOM segments that were easy to understand, funny, with lots of detail, and with activity and movement. Suggestions for improvement included acting more things out.
- ❑ ZOOMsci segments, or “*experiments*” were listed among their favorite segments by boys and girls in both age groups, both before and after viewing. Most children would rather see multiple related science segments in one episode than segments “to be continued” in a future episode. They described learning both science content and science process skills from the ZOOMsci segments they viewed.
 - Younger children viewed two studio ZOOMsci segments in one episode (making and then testing the strength of homemade glue). They recalled, in great detail, the steps involved in testing the strengths of the different glue, recognized the science Habits of Mind demonstrated by the ZOOM cast, and expressed interest in making the glue and trying the experiment on their own.
 - They said they learned that different types of glue were stronger than others. Some children were surprised by the findings, for example, that white glue was stronger than rubber cement.
 - They agreed they might want to try this activity at home and suggested variables they would change, including the types of glue and the coins they would use to test the strength, and predictions they would make in relation to the variables and process used.
 - Older children viewed one remote ZOOMsci (Future Cities Competition). This segment appealed slightly more to boys than to girls. In particular, they enjoyed seeing real students working in a classroom with real engineers.
 - Older boys and girls were interested in knowing the outcome of the competition.
 - In describing what they learned, children demonstrated an understanding of the engineering design process, providing evidence that ZOOM is meeting its goal with the engineering segments. They learned about the value of planning and of teamwork, and that you can make various uses of recycled goods.
- ❑ Children associate ZOOM with learning how to do something. They are eager to try the activities they see on ZOOM, including experiments, recipes, and games, and they are interested in step-by-step instructions to follow. They know that they can go to the Web site to find anything they missed or want to see again.

ZOOM PRODUCTION RECOMMENDATIONS

Based on children's comments across all the focus groups, GRG makes the following recommendations for ZOOM Season VI production.

- ❑ Maintain the level of variety: of segments, of children featured including cast members and guests, and of ideas, games, and activities. Children refer to this variety when describing what ZOOM is about and why they like it.
- ❑ Continue to show step-by-step instructions of the entire process for science activities and crafts, and give suggestions for variables to change. Children perceive ZOOM as a program that shows them how to do featured activities on their own. The detailed instructions help ensure viewers can replicate the activity at home.
- ❑ Maintain a level of humor on the program and check in periodically with children aged 8 to 11 years to be sure jokes and plays are perceived as “funny.” Children list as their favorite segments those that make them laugh. They do not enjoy segments that they do not understand.
- ❑ If segments are continued over several episodes (e.g., for remote ZOOMsci following students throughout a school year), include background information to set the context and summarize what will happen next.
- ❑ Consider viewers' perceived realism of segments when creating segments to produce and when directing cast members:
 - Consider filming some scenes outdoors or in a different setting when appropriate.
 - Cover topics (in segments like WhatZup) that are socially relevant to children ages 8 to 11. Include respondents from various parts of the country.
 - Encourage cast members to respond as they would naturally to a game, activity, or recipe.

Children who view ZOOM regularly or have viewed regularly in the past are aware of the opportunities to interact with ZOOM via the Web site, email and mail correspondence, and by replicating the activities they see featured on ZOOM. Their suggestions to improve the program reflected this familiarity and continued interest in the ZOOM format.