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PEEP Explorer's Guide
Summative Evaluation Executive Summary

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PEEP and the Big Wide World (PEEP), produced by WGBH/Boston since 2004, was the first media project to create a developmentally appropriate science curriculum for children ages three to five years old. Through its television series, website, and outreach initiatives, PEEP aims to model hands-on science inquiry skills for preschool children and to provide activities, ideas, and material support to their educators and caregivers.

Goodman Research Group, Inc. (GRG), a research firm that specializes in the evaluation of educational programs, materials, and services, conducted external formative and summative evaluation of PEEP for the series' fourth season. During the 2010-2011 academic year, GRG conducted a national summative field test study of the PEEP Explorer's Guide in early childhood education (ECE) classrooms. GRG assessed changes in 30 teachers' science-teaching practices after using the Explorer's Guide with their students over the course of one school year.

While a few teachers were familiar with the PEEP series and had watched it on TV, most were not familiar with the PEEP Explorer's Guide before the study and had not received training for using it with students. Most had access to a personal computer, and about half had access to the Internet in their classrooms.

The majority of teachers were White women with at least a two- or four-year college degree. On average, they had been teaching for 10 years. During the study, they worked in a range of school types and settings with children who were three to five years of age. Most students were White and spoke English in school and at home.

FINDINGS

The PEEP Explorer's Guide was very well received by teachers, students, and families. GRG's summative evaluation revealed that the intended impacts on the professional audience of early childhood educators were achieved when teachers used multiple PEEP activities over the course of the school year.

- With its ease of use, clear instructions, and variety of activities, the PEEP Explorer's Guide serves well as a solid year-long science curriculum.

- Offering effective and engaging activities for students, that are easy for teachers to lead, the Guide fulfills a real need in early childhood classrooms. It increases teachers' quality of teaching and their comfort with leading hands-on inquiry science activities.

- The Guide provides accessible materials and ideas for engaging and retaining parental involvement in the classrooms, which benefits teachers as well as students and their families.

Throughout the school year, the participating teachers used at least part of all six PEEP Explorer's Guide units with their students, and their response was similar across all units. The following findings are based on teachers' reports.

- The Guide met teachers' needs for science teaching throughout the year and teachers were highly satisfied with all aspects of the Guide.
- The Guide was easy to access online and the activities were easily incorporated into teachers' curricula. The units were easy to use, with just the right number and variety of activities.
- The Guide included new activities that teachers reported they had not seen in other curricula.
- The Guide's science, language and literacy, and early math goals for students were met and the activities were appealing to children.
- Teachers learned new content, new techniques, and gained new insights about their students' interests and found it easy to share general and science-related information with parents.
- Teachers planned to use the Guide again and to share it with others.

IMPACT

The evaluation supports the effectiveness of the Explorer's Guide in achieving the professional audience impacts it was designed to address. As a result of using several PEEP units and activities:

Preschool educators reported that *the quality of their inquiry-based science teaching had improved.*

- Teachers reported that the PEEP teaching approach of repeated exposure to one topic over time was unique compared to their typical teaching.
- After using PEEP, more teachers had all students doing PEEP science activities rather than offering a choice to do a different activity either in small or large groups.
- After implementing PEEP activities, teachers perceived fewer challenges to leading hands-on science activities.

***Preschool educators reported spending more time doing science investigations* in their classrooms.**

- While using the PEEP Explorer's Guide, nearly all teachers reported they spent three to four weeks on a science unit, which was an increase of at least one to three weeks for nearly half of them.
- The majority of teachers offered science every week and/or every day while using PEEP, compared to offering science a few times a month in prior years.
- The majority of teachers reported incorporating science into more classroom activities more often during the PEEP field test than they did before using the Guide.

Preschool educators reported they were *more comfortable conducting hands-on science activities and investigations in their classrooms*. Teachers reported significantly higher comfort in:

- Guiding children in hands-on science activities.
- Trying new materials or activities themselves before using them with children.
- Asking children open-ended questions during hands-on science activities.
- Asking children to share their discoveries with each other during science activities.
- Incorporating science into free play options outside.
- Incorporating science into circle time activities.

RECOMMENDATIONS

Given a wide reach, PEEP has the potential to advance knowledge and practice of informal science education on a very large scale. GRG recommends that PEEP producers highlight the ease of use of the Explorer's Guide and the opportunity for higher-quality science teaching that benefits teachers, students, and families as they promote and distribute the PEEP curriculum.

Not all ECE classrooms have Internet access. GRG recommends that tips for implementation are included in the Guide making it clear that teachers can conduct activities with or without video and present the same high-quality experience to their classroom students.

Parental involvement is a valuable and valued part of children's learning. GRG recommends the Guide include even more specific suggestions for ways to involve parents in the PEEP science activities. Suggestions include offering concrete tips for bringing parents into the classroom to assist with or lead certain activities, asking parents to donate supplies, holding an open-house, and sending home letters to introduce and update parents about the curriculum. Extension activities could also be set up such that children would present their at-home work to their classes after working with their families.

GRG recommends that future evaluation examine the added benefit of enhanced parental involvement. Any ways in which the school experience may be extended at home and that home experiences may be shared in the classroom will likely benefit children's overall development. It would be helpful to obtain empirical support for the benefit of this type of parental involvement in children's school experience.

GRG recommends continuing to offer resources and letters in Spanish as well as English to meet the needs of more classrooms and to serve as a means to encourage participation and involvement by more families.

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