

## Wings of Discovery® Early Years Adopt-a-Centre Initiative

### Overview

In 2004, Let's Talk Science (LTS) launched an innovative program to address the need for quality early learning programs in Canada and build the confidence of early years' educators to engage young children in science and technology with a goal of fostering their lifelong interest in those fields and developing critical skills and attitudes. *Wings of Discovery®* is a 'whole child' approach to early learning, which enables educators to engage young children's natural curiosity about the world. By using science and technology as the context to integrate language, mathematics, art and music, *Wings of Discovery®* develops children's skills, knowledge and positive attitudes. Published only four years ago, it is now in over 950 childcare centres across Canada.

During 2007/08, the Andersen Corporate Foundation supported a project called *Adopt-a-Centre*, which allowed LTS to adopt ten 'financially challenged' child care and family resource centres and provide them with *Wings of Discovery®*-Early Years resources and professional training. In so doing, our study shows that we fostered early learning and improved the early learning environment for 523 children in the London region.

Training was an integral part of the project and each participating centre received a 2.5 hour orientation and training workshop which:

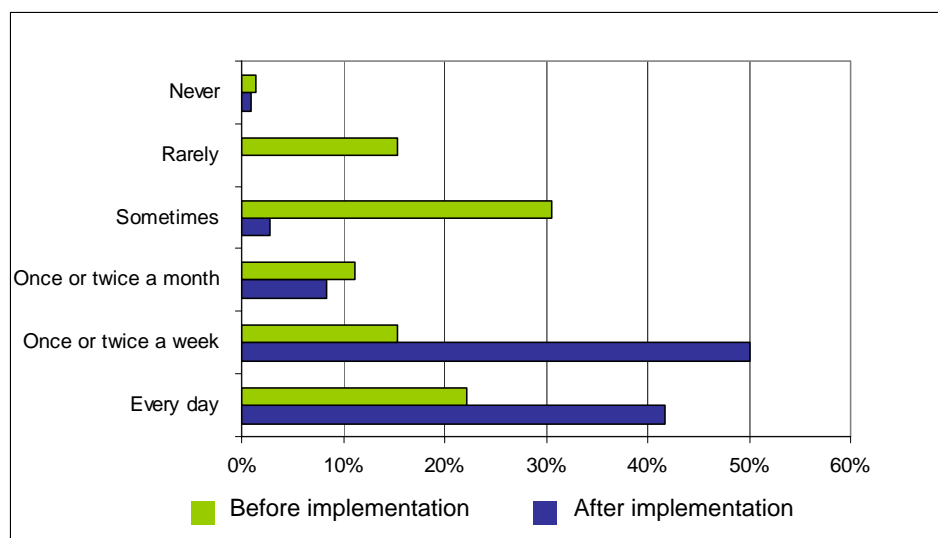
- familiarized educators with all aspects of the program;
- increased educators' comfort level with the program;
- provided educators with various options for implementing *Wings of Discovery®* explorations;
- encouraged usage of the *Wings of Discovery®* online discussion group; and
- familiarized educators with the Adopt-a-Centre project feedback forms.

In addition, an evaluation strategy consisting of ongoing activity logs and pre- and post-project surveys was implemented with the 138 participants, allowing LTS to assess the impact of *Wings of Discovery®* on participating children and educators.

### Evaluation results

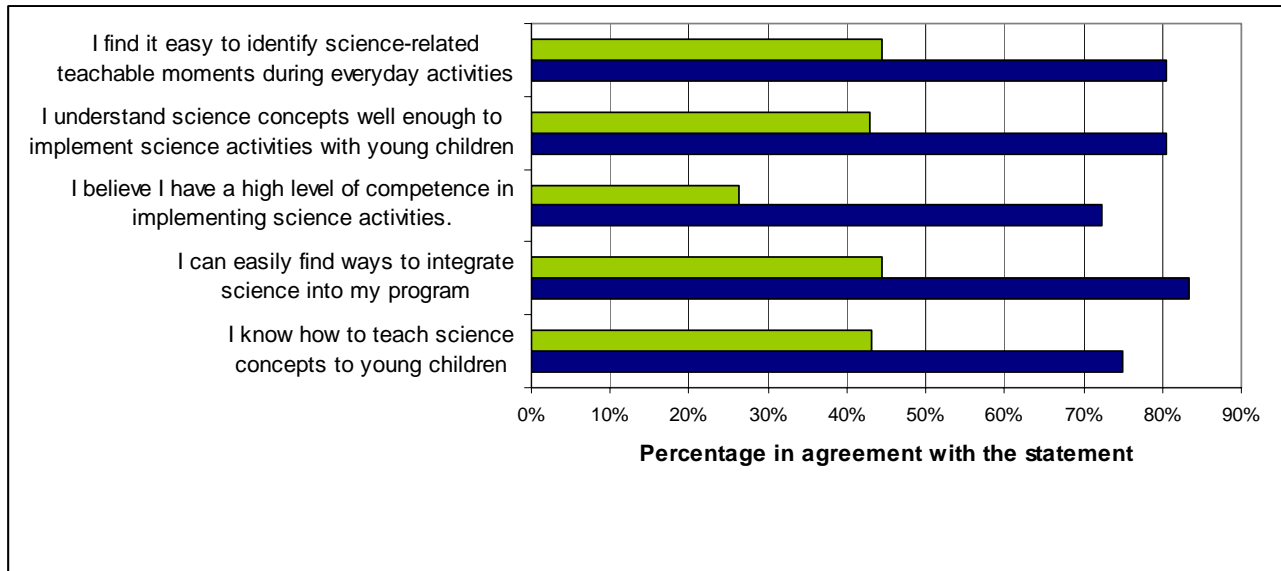
The *Wings of Discovery®* Early Years program had a strong impact on the frequency with which participating centres offered science explorations for the children. Once familiarized with the *Wings of Discovery®* Early Years program, the number of educators providing daily science explorations doubled from 22% to 42%, with a significant increase in the number of educators offering weekly or biweekly science explorations (15% to 50%).

### Comparison of Frequency of Science Explorations Before and After Implementation of *Wings of Discovery®* Early Years Program



In addition, a significant change in educators' beliefs in their capabilities to teach science was observed after implementing the *Wings of Discovery®* Early Years program.

**Comparison of Responses to Attitude Questions Before, and After, Implementation of *Wings of Discovery®* Early Years Program**



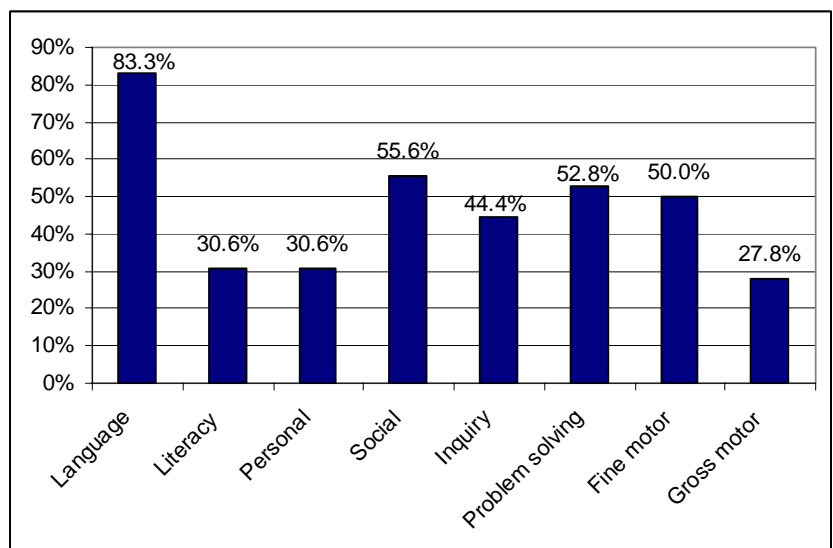
The majority (83%) of participants incorporated *Wings of Discovery®* explorations into their regular programming while others implemented the program by mini-projects (28%) or selected individual activities only (14%).

Almost half (44%) of educators sought additional support during the implementation phase, but this support was sought mainly from fellow staff members (44%) and supervisors (22%). Some participants also consulted with staff familiar with the program at other centres (11%). Educators did not use the online *Wings of Discovery®* discussion group and were reluctant to network or seek support from others outside of their centres, including the Let's Talk Science education specialists who had provided the training.

In terms of the effect of the program on participating children, educators reported that, overall, *Wings of Discovery®* appeared to have the greatest impact on the development of language skills (83%), social skills (56%) and problem-solving skills (53%).

Educators (42%) also reported that the program helped children to build a general knowledge base while increasing enthusiasm for science and learning (47% educators). Educators (42%) reported that many children took

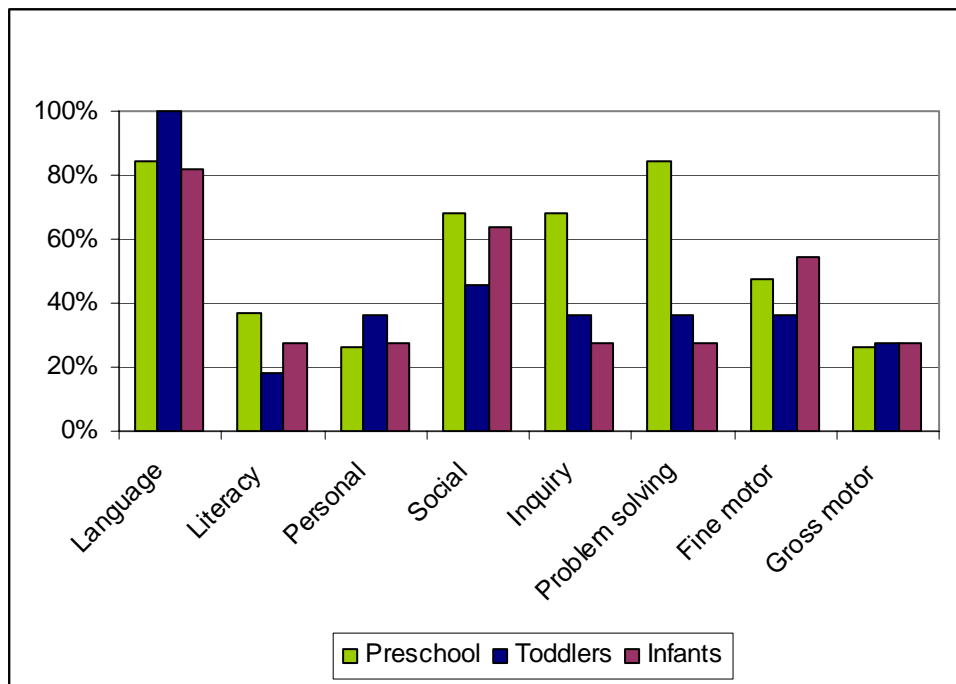
**Percentage of respondents reporting an impact on specific skill development as a result of *Wings of Discovery®***



what they had learned back to their families.

Although the reported impact of *Wings of Discovery®* on language development was significant, there was some variance on the impact of the program on other skill areas for each age group.

**Comparison of percentage of respondents reporting an impact on specific skill development as a result of *Wings of Discovery®* for Preschool, Toddlers and Infants**



For preschool children (ages 3-5 years), the majority of educators (84%) indicated that the program had a significant impact on problem solving as well as language skills. For this age group problem-solving means that the child identifies problems, begins to plan ahead, performs investigations, brainstorms solutions, encounters new situations and deals with new ideas using reasoning skills. A significant number of educators (68%) also reported an impact on inquiry skills— indicated when children gain information through observation, show curiosity and show inquisitiveness through questioning.

All educators (100%) working with toddlers (ages 1-3 years) reported that *Wings of Discovery®* had an impact on children’s language development which includes the use of nouns, verbs and adjectives in combination and in simple sentences and asking simple questions (i.e., what, where). Just over a third (36%) of educators reported social skill development as well as development in the areas of inquiry (readily exploring new situations), problem solving (solve problems through trial and error, seeking adult assistance) and fine motor control.

For infants (under 12 months old), educators (82%) reported an impact on the development of language skills which, for this age group, includes the use of gestures to communicate, word repetition, single word communication and responding to verbal requests. Almost two thirds of educators (64%) reported an impact on social skill development. More than half (55%) reported an impact on fine motor skills for this group of children whereas 47% of educators reported an impact on

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fine motor skills for preschool children and 36% of educators reported an impact on fine motor skills for toddlers.

### **Summary**

Through the implementation and evaluation of *Wings of Discovery*® Early Years program in ten 'financially challenged' child care and family resource centres, it is clear that the program has a positive effect on participating children and their educators.

In addition to increasing enthusiasm for science, the use of science and technology in *Wings of Discovery*® has shown to be a powerful context for developing skill in language, inquiry, problem solving and social skills for children from infants through the preschool years.

Educators also benefit from *Wings of Discovery*® though increased confidence and ability in teaching science to young children.