Mega-bites and ABC's: Examining use of integrated technology in an early literacy healthy eating kindergarten program

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Introduction

Evidence indicates that childhood obesity is a problem (CIHI, 2004, p.8; Chinn & Rona, 2001; Taylor, 2003; Tremblay & Willms, 2000; Troiano & Flegal, 1998) and Atlantic Canada has the lowest literacy rates in Canada (Human Resources and Skills Development Canada, 2005).

***Eating Between the Lines: A Healthy Eating Literacy Program for Preschool Children and their Families (EBTL)* was a large two-year research project using children's emerging literacy to build preschoolers' nutritional health information and help them become informed decision makers.**

Specific outcomes:
1) **vocabulary development (word recognition and word meaning);**
2) **writing and representing skills;**
3) **oral language skills; and**
4) **basic nutrition knowledge.**

Children were encouraged to make sense of concepts, develop perspectives, and make decisions around:
- **word recognition**
- **balanced nutrition**
- **moderation**
- **the concept of food groups, salads, and eating a good breakfast**
- **the reasons why it's important to eat healthy**

A model of emergent curriculum encouraged meaningful learning by using learning stations, providing choice, and letting students direct their learning (Wien, 2006).

Purpose of Study

1) **Examine the role of technology within the context of the EBTL in a naturalistic environment**

2) **Investigate how children transferred and applied new nutrition information in their homes**

Participants

- **14 girls and 9 boys (and their parents)**
- **Campus Kids Kindergarten PEI**

Methodology

- **Participatory Action Research (PAR)**
- **Based on the notion that literacy is situated within a sociocultural context**
- **Participants shared in design, development, implementation, and expanding the understanding of issues that are important to early childhood education.**

Research Questions

1. **How do preschoolers use technology as a literacy tool in the process of learning about health and nutrition?**

   ➢ ***What was the role of integrated technologies and how did they support and/ or influence the acquisition of health literacy and new knowledge for young children.***

2. **How do kindergarten children transfer and apply their emerging knowledge of technology and healthy eating to their family/community life?**

   ➢ ***How do families report the transfer of new knowledge from the kindergarten context to the home environment?***

Technology

Focus of the study was on how the children used the computer to:
1. **Create a painted Adventure Book in the *Eating the Rainbow* unit,**
2. **Create a shared PowerPoint Big Book, in the *Salads* unit,**
3. **Use the internet exploring activities and games, and to use Health Canada's 'build your own food guide' website.**

1. The Adventure Books

- Activity enhanced motivation and excitement about healthy foods
- Afforded children opportunity to use new nutrition vocabulary
- Gained familiarity with mechanics of computer (just like a book).

Eating the Rainbow By: Kiara and Gracie

Once upon a time, Kiara and Grace went to climb up the mountain and they saw a delicious picnic rainbow made of fruits and they scooped up some drinks from the water. It was rainbow juice! It made them healthy, it was made out of different kinds of foods. Cauliflowers, blueberries, grapes, oranges and Clementine's. Rainbow of spaghetti was good, it is a rainbow of spaghetti from the rainbow of foods: meatballs, and potatoes, and tomato sauce. And then it had some delicious cookies in it and some pie. And then they went home to pick some blueberries in the garden. And they lived happily ever after. The end!

2. Big Book Slide Show

Children:
- Began with a read aloud
- Created an art representation
- Added print text (captions) for the art
- Digitized that image
- Typed the caption into the scanned image
- And had it published as a slideshow of the pages in a Big Book.

Summary: Students made unique choices of salads, suggesting that they were learning about new foods, introducing new vocabulary into their repertoire, and applying them in a playful way.

3. Internet Use

Students created personal food guides using Health Canada's interactive website.

Summary:
- Encouraged and enhanced new vocabulary
- Global awareness, varied foods and cultures
- Read-alouds (new foods)

Summary of Results

- Children openly and actively embraced the integration of technology
- Oral language was developed and enhanced
- Technology was a media by which children used new knowledge and applied it through play
- Literacy was modeled beyond traditional print formats
- Children practiced cooperative learning
- The concept of health was being formed and reinforced through a social process
- **There is potential of new technologies to orient children toward rich literacy futures**
- **Literacy and technology have the potential to exist together in a social context with young children, in a healthy eating emergent curriculum**

Discussion

The primary role of integrating technology into the kindergarten curriculum was to facilitate learning about healthy eating through mediated learning activities with play-based, emergent curriculum philosophy, and to foster active engagement using a literacy focus. The focus was not about teaching children how to use the computer, although this occurred inadvertently.

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