

Post-Workshop Questionnaire

Preparing primary school teachers in developing countries for computational thinking teaching: A Namibian Case Study

Thank you for participating in the Computational Thinking Training Workshop. After attending the workshop, you are requested to complete the following survey. The survey includes:

- Demographic information about your teaching background.
- Questions to measure how your perceptions about the meaning of CT, beliefs and attitudes toward CT and potential integration into classrooms have changed after the intervention.

The purpose of this research, the nature of the data that will be collected and how it will be protected is detailed in the consent form that was provided to you.

SECTION A

1. Demographics Information

Grades Currently Taught	
Subjects Currently Taught	
Years of Teaching Experience	

SECTION B

Note: All items use a five-point Likert scale with options of: Strongly Agree (SA), Agree (A), Neither Agree nor Disagree (N), Disagree (D), Strongly Disagree (SD).

2. CT Knowledge Comprehension

Item #	Statement	SD	D	N	A	SA
1.	I can define what computation thinking (CT) is					
2.	I can describe fundamental computational thinking concepts (e.g., algorithms, abstraction, decomposition, pattern recognition & evaluation).					
3.	I can describe fundamental coding/programming concepts (e.g., loops, variables, conditional logic).					
4.	I can look at a process and figure out how to make it more efficient.					
5.	I can suggest different solutions in order to solve problems.					
6.	I can generalize solutions that can be applied to many different problems.					
7.	I am good at finding patterns in data.					
8.	I am good at solving puzzles.					
9.	I can read a formula (e.g., algorithm, equation, input/output					

	process) and explain what it should do.					
10.	When I'm presented with a problem, I can easily break it down into smaller steps.					
11.	When solving a problem, I work with others to solve different parts of the problem at the same time.					
12.	When solving a problem, I look how information can be collected, stored, and analyzed to help solve the problem.					
13.	When solving a problem, I create a solution where steps can be repeated.					
14.	When solving a problem, I create a solution where some steps are done only in certain situations.					
15.	When solving a problem, I try to simplify the problem by ignoring details that are not needed.					

3. Value Beliefs

Item #	Statement	SD	D	N	A	SA
1.	Computing should be taught in primary schools					
2.	Learning about computing can help primary school learners become more engaged in school.					
3.	Computing is like art—you are either born with the ability to think that way or you are not.					
4.	Computing content and principles can be understood by primary school children.					
5.	My current teaching situation does lend itself to teaching computing concepts to my learners.					
6.	Knowledge of computer programming is needed in most careers.					
7.	Providing more computational thinking activities is necessary to enrich my learners' overall learning.					
8.	Computational thinking is an important 21st-century skill.					
9.	My current primary school learners are going to need to know how to apply computing concepts to remain competitive for jobs by the time they are adults.					

3. Self-Efficacy for Computational Thinking

Item #	Statement	SD	D	N	A	SA
1.	I feel confident using computer technology.					
2.	I feel confident writing simple instructions for another person on paper.					
3.	I know how to teach computing concepts effectively without the use of a computer.					

4.	I know how to teach programming concepts effectively without the use of a computer.					
5.	I can promote a positive attitude towards computational thinking to my learners.					
6.	I can guide learners in using programming as a tool while we explore other topics.					
7.	I feel confident using programming as an instructional tool within my classroom.					
8.	I can adapt/create lesson plans incorporating unplugged activities as an instructional tool.					
9.	I can adapt/create lesson plans incorporating programming as an instructional tool.					
10.	I can identify how computational thinking concepts relate to the syllabus.					

a. *Items Aligned with Programming Concepts*

Item #	Statement	SD	D	N	A	SA
<i>I can create a computer program which ...</i>						
1.	executes a step-by-step sequence of commands					
2.	uses loops to repeat commands					
3.	responds to events like pressing a key on the keyboard					
4.	does more than one thing at the same time					
5.	only executes some commands when a specific condition is met					
6.	perform arithmetic operations like addition and subtraction					
7.	can store, update, and retrieve values					
8.	can ask the user a question					

b. *Items Aligned with CT Practices*

Item #	Statement	SD	D	N	A	SA
<i>When creating a computer program, I ...</i>						
1.	make improvements one step at a time, and incorporate new ideas as I have them.					
2.	run my program frequently to make sure it does what I want, and fix any problems I find.					
3.	share my programs with others and look at others' programs for ideas.					

4.	break my program into multiple parts to carry out different actions.					
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5. Teaching Self-Efficacy for Computational Thinking (TSECT)

Item #	Statement	SD	D	N	A	SA
<i>With my future classes ...</i>						
1.	I can explain basic computing concepts to children (e.g., algorithms, loops, conditionals, functions, variables, debugging, pattern-finding).					
2.	I can help learners debug their computer programs.					
3.	I can integrate unplugged activities into my current curriculum.					
4.	I can integrate computer programming into my current curriculum.					
5.	I know where to find the resources to help learners learn CT skills.					
6.	I believe that I have the necessary computational thinking skills to integrate computing content into my class lessons.					
7.	I can recognize and appreciate computational thinking concepts in all subject areas.					
8.	I can create computational thinking activities at the appropriate level for my learners.					
9.	I can explain how computing concepts are connected to daily life.					
10.	I can develop and plan effective computational thinking lessons.					