Dance Choreography a Fun Way to Introduce Coding to the Under-Represented Kids

Kemka Ihemelandu
McDonogh School, Owings Mills, Maryland

Background

- Artificial intelligence is rapidly becoming entrenched in our daily lives.
- Unfortunately, we are quickly coming to understand the shortcomings associated with this innovative revolution
- Most notably related to racial, gender bias driven by unrepresentative dataset, and lack of diversity, equity and inclusion in the coding world,
- We hypothesize that using dance choreography to introduce coding to kids from the under-represented population will result in a positive attitude and a stimulated interest in coding.

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Methodology

- Using our established platform ColorCoded (www.colorcoded.fun) in collaboration with The Learning Box International (TLB) an international educational services firm catering to the educational needs of under-represented minority preschool to high school children (ages 5 - 17). We set up a 4-week summer camp for kids aged 8-12.

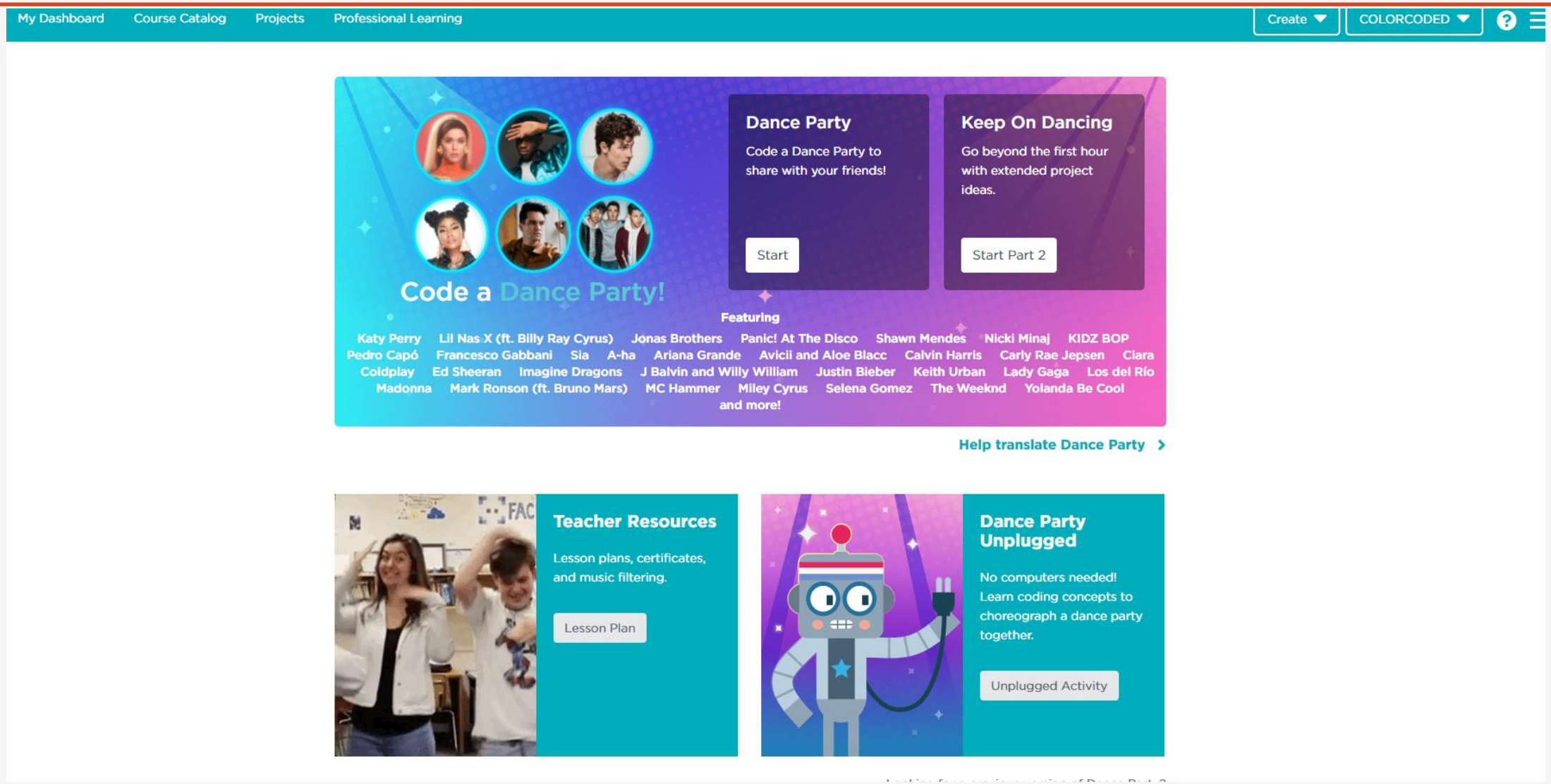
- Using the Likert scale, we surveyed student attitudes toward coding at the beginning and at two other time point intervals during the summer camp.

- Our Likert-type scale response anchor included:
    1.) Likelihood to choose coding - Not likely, somewhat likely, likely.
    2.) Likelihood to choose dancing- Not likely, somewhat likely, likely.

Methodology

- Our curriculum was based on the use of dance choreography, we used "Dance Party Code.org".
- The students were shown some dance steps with coding instruction and then encouraged to create their own dance moves using coding instructions.
- There are about 10 stages, and we usually went through the first 6 and then let the students create whatever they wanted on the last stage.
- Students learnt the basics of coding encompassing iteration through looping and the sequential nature of executing code.

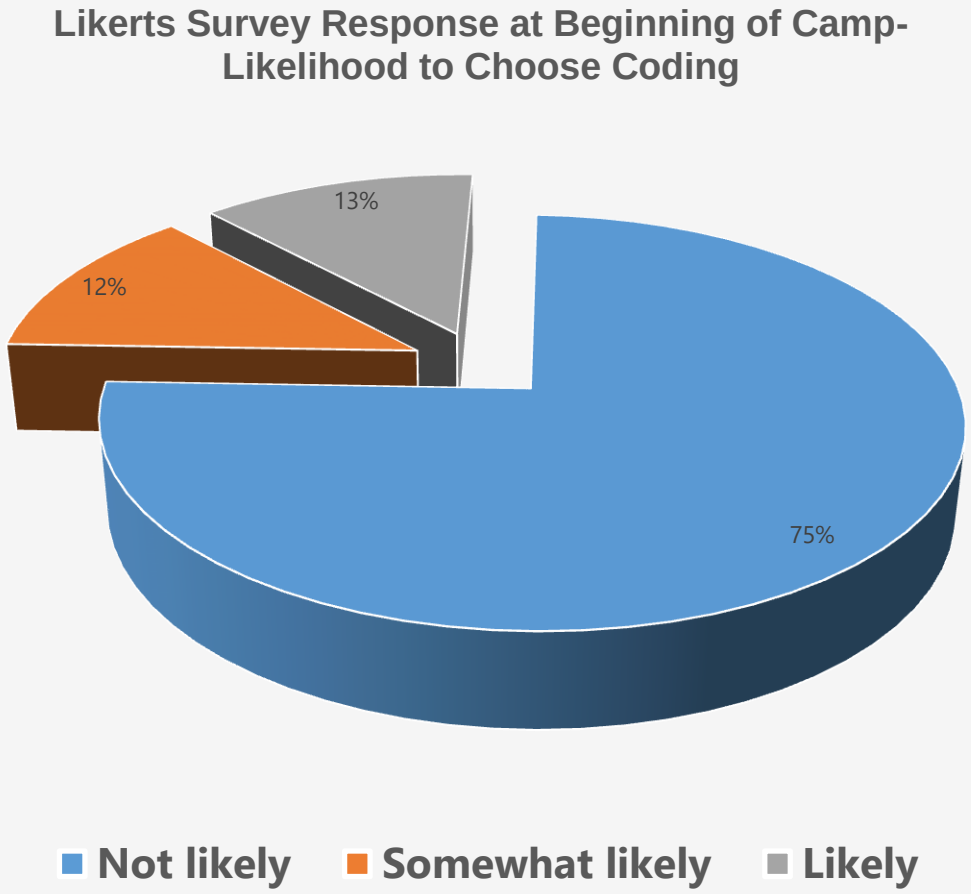
Our software Curriculum is based on Dance Party Code.org



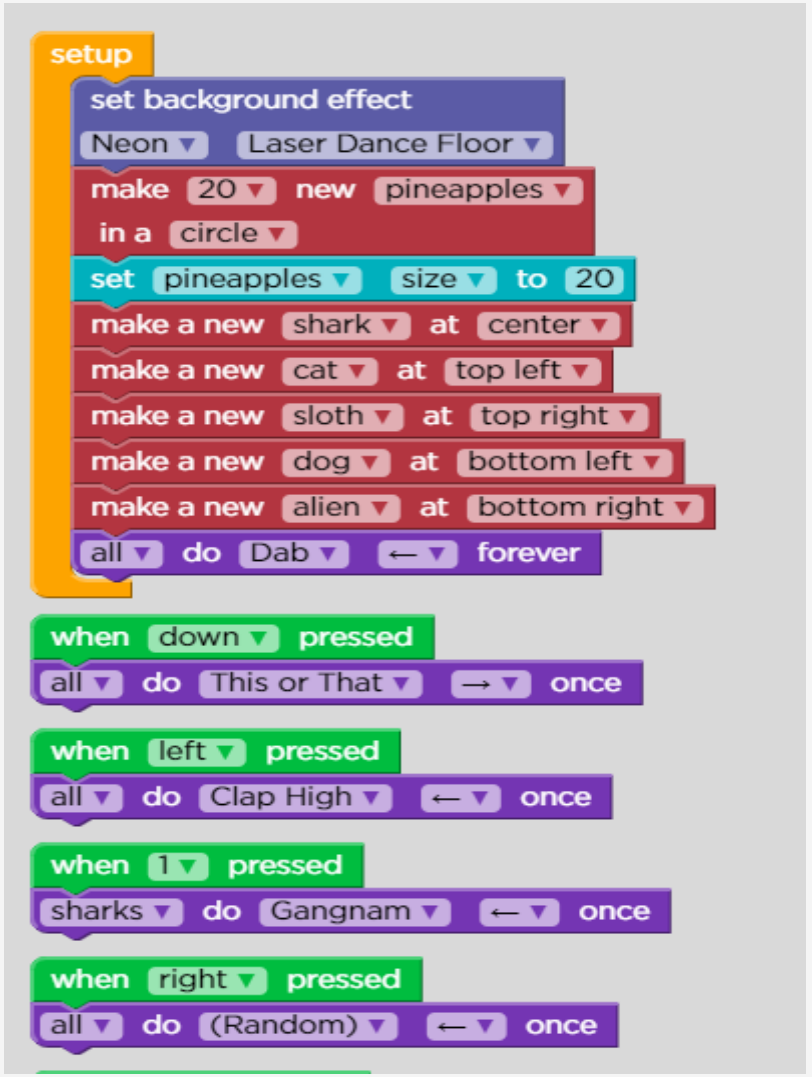
Results

- Of the thirty-two kids who signed up for the TLB camp and who were surveyed at the beginning of the camp only 4 (12.5%) indicated they were likely to choose coding as a coursework,

- 24 (75%) stated they were not likely to choose coding while 4(12.5%) were somewhat likely to choose coding as a coursework.



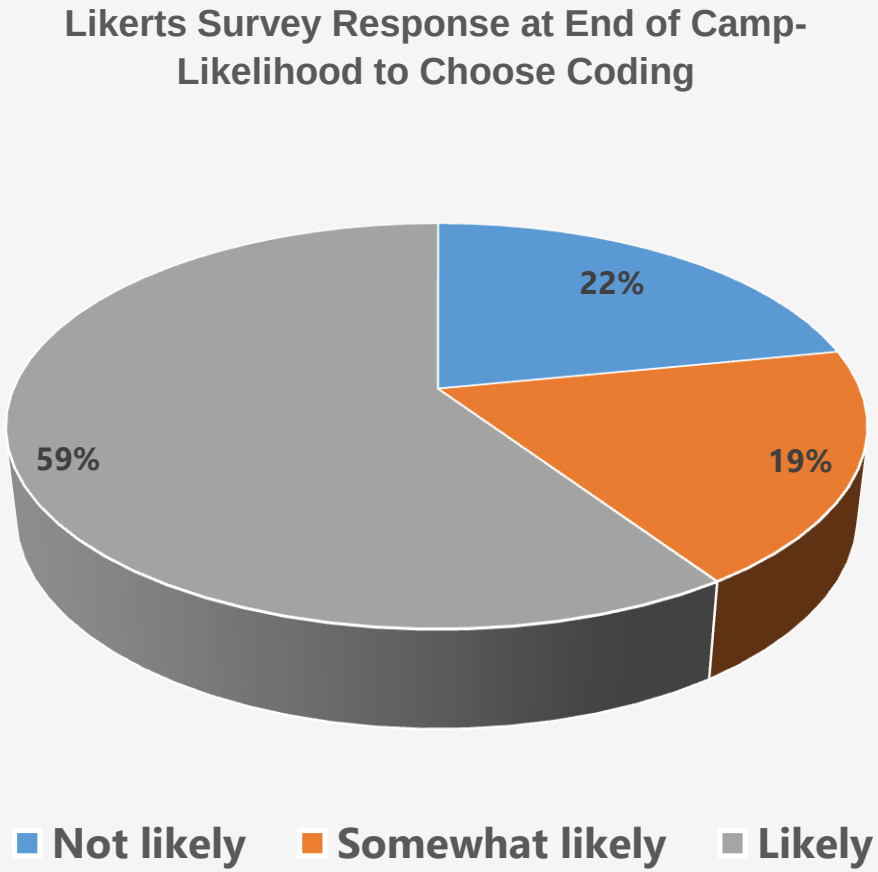
Sample of Students Work



Results

- Following a two-week exposure to our curriculum a repeat survey showed an increase in the respondents who indicated that they were likely to chose coding as a coursework 15(46.8%),

- This number increased to 19(59.3%) at the end of our 4 weeks program, a 46.8%-point increase.



Results

- Interestingly at the end of our 4-weeks program, we also noted an increase in the number of students who were likely to choose dance as a coursework

- 28(87.5%) vs. 18(56.2%) and 24(75%) at the beginning and midway through the 4-weeks camp respectively, a 31.3%-point increase.

- A nonparametric spearman’s correlation analysis of our data revealed a positive correlation between an interest in dance and coding; rho coefficient 0.581, $p < 0.001$.

Conclusion

- Our use of dance choreography to introduce coding to kids from under-represented minority population resulted in an increased interest in coding and interestingly also increased interest in dance.

- This represents a fun simple way of helping close the diversity, equity and inclusion gap in the coding world,

- Which in the long run should impact Algorithmic biases and errors in artificial intelligence use positively

Acknowledgement

- https://code.org/dance

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