Results from an Aviation-Themed Pilot Project Designed to Improve Executive Function Skills and Increase Transportation Career Awareness

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ABSTRACT

Learn to Fly with Katie Doo is an imaginary play activity designed to improve executive function skills in preschool-age children. In this pilot project, two classes of preschoolers ranging in age from three to five were given four months to engage in a learning experience of physical and spatial challenges, aviation terminology, and related training aids. Assessment tools included anecdotal and running records, and a scoring rubric for the physical challenges, aviation terms, and executive functions. Although project constraints necessitated a greater focus on processes than outcomes, we were able to collect some data for analysis.

Executive functions and interest in aviation careers were evaluated, including judging performance on specific physical challenges, basic identification of the parts of an airplane, and the use of training aids during role playing. The experience appears to have had a positive influence on working memory, mental flexibility, and inhibitory control, as well as on improving awareness of careers in aviation. The difference between engaging in the physical challenges and not engaging in them were significant. While the greatest improvements occurred between the tricycle and no challenges groups, the benefits of performing the challenges in the pedal plane over the tricycle were marked as well.

The results support the hypothesis that general aviation airports can increase their value to their communities by partnering with preschools to improve executive functions and increase transportation career awareness in preschool students. Lessons learned and recommendations for further investigation are offered as well.

Keywords: outreach, STEM, airport, aviation, pilot, executive function, transportation

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PROJECT DESCRIPTION

Learn to Fly with Katie Doo is an imaginary play activity designed to improve executive function skills in preschool-age children. The activity was inspired by Katherine Wetter, a New Jersey high school student who wanted to combine her interest in aviation with a desire to earn the prestigious Girl Scout Gold Award (Girl Scouts, 2019). The project was undertaken by Up, Up, and Away in Hunterdon, Inc. (UUAH), a company based at Alexandria Field Airport in Pittstown, New Jersey that has been creating innovative, aviation-themed outreach programs for nearly two decades.

Assessment methods for this pilot project were based on a review of qualitative and quantitative research structures. Assessment tools included anecdotal and running records, and a scoring rubric for the physical challenges, aviation terms, and executive functions. Although project constraints necessitated a greater focus on processes than outcomes, we were able to collect some data for analysis.

The project lasted 22 months. All data included in this report were obtained in accordance with a protocol approved by the Rutgers University Institutional Review Board (IRB).

Participants

Katie Doo was piloted at the Second Street Youth Center (SSYC) in Plainfield, New Jersey. SSYC began its first program in 1968 and became SSYC Preschool in 2001. The preschool is accredited by the National Association for the Education of Young People and employs a certified teacher and a teacher assistant in each classroom (Second Street Youth Center Inc., 2019). SSYC uses the HighScope Active Learning Curriculum, where preschoolers direct their own experiences with assistance from their teachers (HighScope, 2019).

Two SSYC preschool classes implemented Katie Doo. Each class consisted of one certified teacher, one teacher assistant, and 15 students ranging in age from three to five years old. After receiving training from UUAH, teachers integrated Katie Doo into their classroom activities for four months.

Activities

SSYC preschoolers engaged in a learning experience that involved physical and spatial challenges, aviation terminology, and related training aids. Challenges included navigating around a mock airport traffic pattern either in a pedal plane or on a tricycle. Aviation terminology included learning the parts of an airplane and the legs of a traffic pattern. Training aids included moveable switches in the cockpit of the pedal plane, an aviation headset, airline pilot hat and t-shirt, windsock, model of a control tower, and signs. Students also sang songs about airplanes, had access to toy airplanes and books, took a field trip to a typical, general aviation airport, and did a home craft project that included making an airplane or a rocket.

To prepare them to guide and evaluate Katie Doo activities in their classrooms, SSYC teachers also participated in a train-the-trainer workshop held at Alexandria Field Airport and facilitated by UUAH personnel.

Deliverables

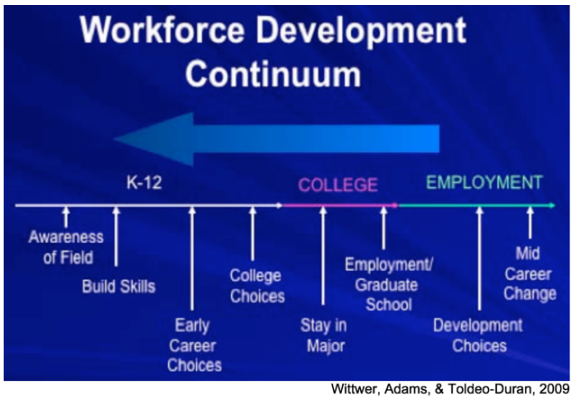
The following tasks were accomplished during the project:

- Constructed a pedal plane
- Developed the curriculum and assessment tools
- Beta tested the physical challenges with Milford YMCA Preschool children
- Trained preschool teachers from SSYC
- Conducted an airport field trip with preschoolers from SSYC
- Integrated Katie Doo into SSYC classroom activities
- Performed evaluations/analyzed results
- Published a report

PROGRAM DESIGN

To meet the needs for a "STEM-capable citizenry, a STEM-proficient workforce, and future STEM experts," our nation must prepare students to be proficient in science, technology, engineering, and math (STEM) subjects, inspire them to learn STEM, and motivate them to pursue STEM careers (President's Council of Advisors on Science and Technology, 2010).

To develop a STEM-proficient workforce, young people must be connected to STEM careers before they make their career choices (Wittwer, Adams, & Toledo-Duran, 2009). Attracting, educating, and retaining students in STEM means extending outreach efforts at least to K–12 classrooms, and even to Pre-K.



Wittwer, Adams, & Toldeo-Duran, 2009

In fact, early childhood experiences with STEM correlate with later success in STEM subjects and in school generally, as well as growth in executive function and literacy development (McClure, et al., 2017). Early STEM experiences also lay the foundation for a skilled workforce and a thriving economy (Center on the Developing Child, 2012).

With insufficient numbers of young people choosing careers in technical fields to meet projected demands, the transportation industry in particular will face a major challenge in finding qualified employees (Wittwer, Adams, & Toledo-Duran, 2009). The aviation sector, however, offers an exciting yet largely untapped gateway into STEM fields. Thus, the working hypothesis for Katie Doo became:

> Can general aviation airports increase their long-term value to their communities through programs that feature careers in transportation? In this case, by partnering with preschools to deliver an aviation-themed program that is designed to improve executive function skills and career awareness in students.

Research on mindset, deep practice, play, and executive functions informed the design of the Katie Doo experience.

Mindset

Research suggests that neither intelligence nor talent (collectively, ability) are static. Ability can be developed when learning is approached with a growth mindset (Coyle, 2009; Dweck, 2016). The growth mindset sees the brain as a trainable muscle where new learning is possible through practice.

Katie Doo encourages risk taking in an environment of trust and teamwork. Channeling the growth mindset, students learn to embrace challenge, persist in the face of setback, see effort as the path to mastery, learn from constructive criticism from trusted teacher-coaches, and gain inspiration from the success of others. Katie Doo engages the student's mind, body, and emotion:

- Mind: Retain information, pay attention, be coachable, and control your impulses.
- Body: Master the complex movements in the physical challenges.
- Emotion: Feel like a pilot and be proud of your new learning.

Deep Practice

Mastering a skill requires persistent and deep practice. It requires a willingness to risk initially being bad at something in order to get good at it. Guided by proper coaching, deep practice turns motivation into talent (Coyle, 2009). In Katie Doo:

- Students are motivated by the exciting prospect of being a pilot (new learning);
- Teachers are trained how to coach students through aviation-themed activities (chunking it, repeating it, feeling it); and
- Students become more successful at pedaling the plane around a set pattern, and at using aviation terminology and training aids. More importantly, students improve their executive functions and gain increased knowledge about careers in the transportation industry (growing talent).

How much benefit a student gains from Katie Doo depends on practice frequency. Guided by HighScope Curriculum requirements, SSYC teachers helped develop logbooks where they would document the number of practice sessions and record student progress.

Play

Traditionally, play has been defined as "behavior that is freed from consequences" (Ellis, 1973). Novak (1993) suggests that the basic metaphors for life are drawn from play, games, and sports. Katie Doo is a designed experience—purposeful play that taps the power of imagination. Rules of the game guide student actions, reinforce new learning, and allow for measurable outcomes. Students are asked to maneuver around a rectangular pattern, while maintaining visual contact with a model of an air traffic control tower and a windsock. They learn to recognize names of the legs of the traffic pattern displayed on the floor as well. Yet no negative consequences are attached to performing the pattern incorrectly, or failing to return to the starting point.

The pedal plane and training aids are the stimuli. Being immersed in the structured environment of a pretend airport traffic pattern feeds the imagination and bolsters the idea that the student is a pilot. The experience is enhanced further by learning aviation terms (English is the official international language of aviation). For example, students first learn to recognize the parts of a plane displayed on a felt board. That knowledge is transferred to the pedal plane by walking around it, pointing to various parts, and naming them out loud. Engaging students in thinking, speaking, and acting like pilots makes them feel like pilots.

Executive Function Skills

According to the Center on the Developing Child at Harvard University (2012), "In the brain, the ability to hold onto and work with information, focus thinking, filter distractions, and switch gears is like an airport having a highly effective air traffic control system to manage the arrivals and departures of dozens of planes on multiple runways." Apropos of the aviation analogy, Katie Doo targets executive function and spatial skills through the physical challenges associated with prescribed movements around a pretend airport traffic pattern. Improving executive functions helps children develop other skills such as teamwork, leadership, decision-making, critical thinking, and adaptability (Center on the Developing Child, 2012).

The Katie Doo Effect

Experience-based learning must engage students, be meaningful to them, and involve their minds, bodies, and emotions (SERC, 2019). A successful experience must be transformative, i.e., it must result in a change in behavior or attitude.

Katie Doo immerses students in role playing. Students must risk new learning not only by pedaling the plane, but also by following the layout of an airport traffic pattern. They must risk learning aviation terms. They must learn to trust their teachers and be coachable. And they must develop deep practice habits. All of this is accomplished in an environment of imaginary play. Thinking, acting, and talking like a pilot makes the student feel like a pilot. Pretending to be the pilot-in-command helps the student take better command of executive functions. It also raises awareness of transportation careers at a young age. Hence, the following outcomes were anticipated:

- Improved working memory, mental flexibility, and inhibitory control (executive functions);
- Increased awareness of transportation careers (workforce development through the lens of aviation); and,
- Improved engagement in purposeful role play (inspiration and motivation).

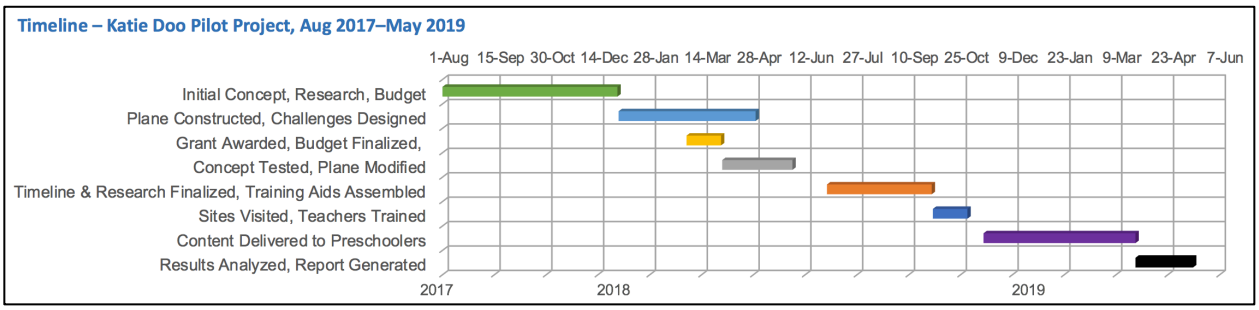
PROJECT MANAGEMENT

Executing this project demanded considerable resources and followed a steep learning curve. Aspects managed by UUAH included:

- Clarifying the concept and formulating the plan
- Collaborating with stakeholders
- Seeking funding
- Constructing a pedal plane with moveable switches in the cockpit
- Researching executive function skills
- Designing the activity
- Procuring the training aids
- Finding and partnering with an accredited preschool
- Ensuring compatibility with the HighScope Curriculum
- Training SSYC preschool teachers
- Evaluating the design and process
- Conducting evaluations and analyzing results
- Publishing a report

Timeline

The pilot project lasted 22 months from initial concept to final report. Key categories are shown in the following chart.



PRIOR PROJECTS

With programs delivered throughout New Jersey, as well as in Colorado, Idaho, Massachusetts, Oregon, and Pennsylvania, UUAH has nearly two decades of experience creating aviation-themed, community outreach programs. UUAH believes that outreach efforts must be viewed as a continuous process; otherwise, such efforts are random acts of STEM (Castner & Stowell, 2017). Further, outcomes must be measured and critiqued.

UUAH has delivered programs to teachers and students from K–12 through college, as well as to corporate and government employees. Significant prior projects have included developing a series of Living Labs for sixth grade students, conducting train-the-trainer workshops, hosting a Women Take Flight research project through Rutgers University, presenting at the 2012 National Workforce Summit hosted by the Department of Transportation in Washington, DC, and directing a yearlong demonstration project funded by a Garrett A. Morgan Technology and Transportation Education Program (GAMTTEP) grant.

The GAMTTEP grant in particular helped fund the formation of the Central Jersey Collaborative (now the N85 Aerospace Club), which represents a partnership between a small airport and local school districts, universities, businesses, and community organizations. During the grant period,

$100,000 of grant funding, $50,000 of in-kind donations, and hundreds of hours contributed by volunteers were leveraged into more than twenty outreach programs. Women and minorities were targeted to nurture populations that remain largely underrepresented in STEM. The grant allowed the advancement of high-quality STEM education, while promoting diversity in STEM fields.

LIMITATIONS

Project constraints necessitated a greater focus on processes than outcomes. Even so, we collected some insightful data. While the project lacked a control group, we were able to compare the results for students who performed in the pedal plane with those who performed on the tricycle. In some cases, we were able to make comparisons with students who did not complete either physical challenge.

Results may have been affected by variations in teacher motivation and skill, small sample sizes, and the use of SSYC teachers and UUAH personnel to conduct evaluations instead of independent evaluators.

RESULTS

A total of two certified teachers, two assistant teachers, and 30 preschool students ages three to five began the pilot project. All of the teachers saw the project through. All 30 students were evaluated on executive functions and awareness of careers in aviation. Twenty-five students were evaluated on the physical challenges (pedaling the plane or the tricycle), while 26 were evaluated on naming the parts of the plane.

Students who were able to pedal the plane were either four or five years old. Those who pedaled the tricycle, or who did not complete a physical challenge, were either three or four years old. Although the pedal plane cohort was 16 percent older than the tricycle and no challenges cohorts, performance differences exceeded the age differential as seen in the following table.

Katie Doo Effect on Executive Function Skills					
Physical Challenge	Pedal Plane		Tricycle		None
No. of Students	13		12		5
Executive Functions	**Change vs. Tricycle**	**Average**	**Change vs. None**	**Average**	**Average**
Working Memory	+22%	3.3	+59%	2.7	1.7
Mental Flexibility	+23%	3.2	+44%	2.6	1.8
Inhibitory Control	+23%	3.2	+53%	2.6	1.7

Students who pedaled the tricycle were ranked from 44 to 59 percent higher on executive functions by their teachers than students who did not complete a physical challenge. The teachers ranked students who pedaled the plane 22 to 23 percent higher on executive functions than those who only pedaled the tricycle. Compared to students who did not complete a physical challenge, students who pedaled the plane scored from 78 to 94 percent higher on executive functions.

Katie Doo appears to have had a positive influence on working memory, mental flexibility, and inhibitory control.

While teachers judged the career awareness of students in both classes, useful scores were available only for Class #6.

Katie Doo Effect on Awareness of Careers in Aviation & Space					
Physical Challenge	Pedal Plane		Tricycle		None
No. of Students (Class #6 only)	7		5		3
Career Awareness	Change vs. Tricycle	Average	Change vs. None	Average	Average
	+35%	2.7	+67%	2.0	1.2

Students who pedaled the tricycle were judged to have 67 percent more awareness of careers in aviation and space than students who did not complete a physical challenge. Students who pedaled the plane were judged to have 35 percent more career awareness than students who only pedaled the tricycle. And compared to students who did not complete a physical challenge, students who pedaled the plane were 125 percent more aware of aviation careers. Katie Doo appears to have had a positive effect on improving career awareness.

Regarding aviation terms, students who pedaled the plane were judged 25 percent better at naming the parts of the plane than students who only pedaled the tricycle.

Anecdotally, most of the students appeared to enjoy playing the role of a pilot, even if they might not have fully understood what that meant. Most used the training aids. Students who pedaled the plane seemed to enjoy playing with the moveable switches in the cockpit as well.

Practice Frequency

A review of the logbooks revealed that students only engaged in four or five Katie Doo practice sessions prior to being evaluated. Given this lower-than-anticipated practice frequency over the four-month test period, the results are all the more remarkable.

Differences Between Classes

Each preschool class had fifteen students. The average age of the two classes differed by less than three percent. They differed by less than seven percent in ability to name the parts of the plane. The classes, however, were notably different in their average scores on executive function skills, with Class #3 outscoring Class #6 by a significant margin in all three areas.

Differences Between Classes – Executive Function Skills			
Physical Challenge	Pedal Plane	Tricycle	None
No. Students, Class #3	6	7	2
No. Students, Class #6	7	5	3
Executive Functions	**Working Memory**	**Mental Flexibility**	**Inhibitory Controls**
Average, Class #3	3.1	3.1	3.2
Average, Class #6	2.5	2.3	2.2
Difference (all Class #3)	+24%	+35%	+45%

On the physical challenges and aviation terminology, all of the students were judged by the same team of evaluators. In contrast, the teachers evaluated executive functions only for their respective classes. This likely drove the differentials in executive function scores. A look at scores for the physical challenges supports this idea.

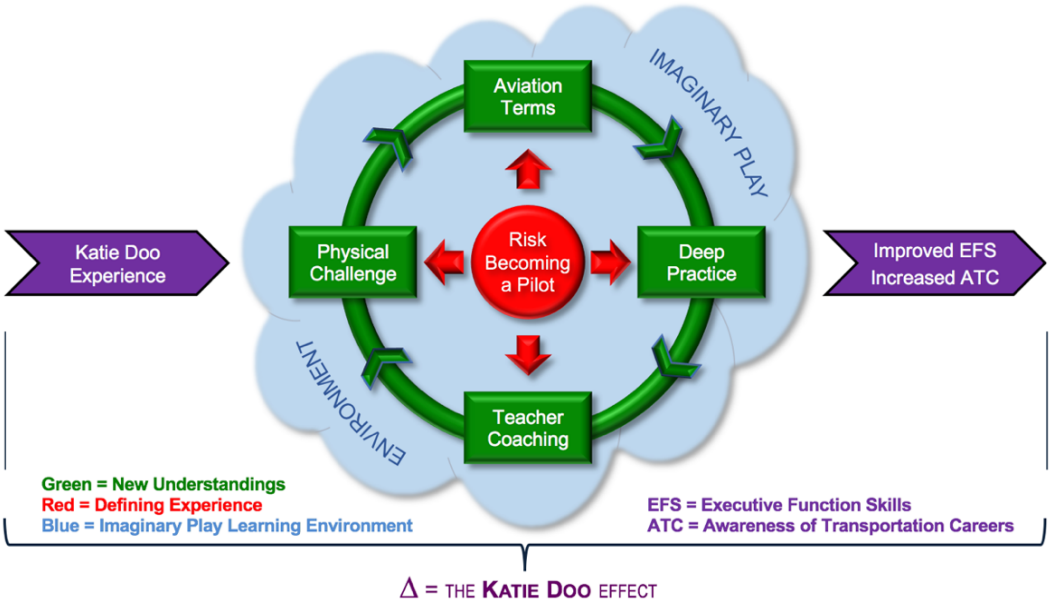
Differences Between Classes – Physical Challenges				
Physical Challenge	Pedal Plane		Tricycle	
Class #	3	6	3	6
No. of Students	6	7	7	5
Average Age (years)	4.2	4.3	3.4	3.8
Average Score	2.9	2.8	3.0	3.4
Difference	**+4% (Class #3)**		**+13% (Class #6)**	

Class #3 and Class #6 participants in the pedal plane challenge were close in age and close in performance. In the tricycle challenge, however, differences in age and performance were more significant. Tricyclists in Class #6 averaged twelve percent older than their counterparts in Class #3; similarly, tricyclists in Class #6 outperformed those in Class #3 by thirteen percent. This performance difference likely was driven more by age disparity than class assignment.

Again, all of the students were judged by the same team of evaluators on the physical challenges and aviation terminology, whereas each class was evaluated on executive functions by its own teachers. Differences in executive function scores between the two classes point to the need either to establish a common baseline of judging for the teachers, or to have the same evaluators judge executive functions for all students.

Visualizing the Theory

While analyzing the results, parallels emerged between Katie Doo and *The Flying Effect*, a program theory developed as part of an experiential leadership workshop. The workshop centered on taking risk by flying a real airplane and was delivered by UUAH to female STEM faculty from Rutgers University (UUAH, 2019). Thus, we have adapted the model for *The Flying Effect* to *The Katie Doo Effect*.



LESSONS LEARNED

Prior Experience and Mindset

We did not consider the previous play or physical education experiences of the students. Many, for example, had not ridden a tricycle before. Probing questions we might ask in the future include how did students view their Katie Doo experience? did they consider it a test? did the act of observing them hinder their activities?

Other questions to consider: Was it easier to imagine being a pilot if the student was able to pedal the plane? Conversely, was being a pilot seen as too hard or not fun if the student was unable to pedal the plane?

Age

The age range of the student cohort was three to five years old. The motor skills and experience with play required of Katie Doo turned out to be too advanced for the three-year-olds. Consequently, we believe Katie Doo is best suited for four- and five-year-olds.

Language

While English is the international language of aviation, it was not the first language for the majority of the SSYC students. Even though the teachers were transitioning their students to English, language barriers complicated explanations of the rules, aviation terms, and the parts of the airplane and traffic pattern. Better coordination between UUAH facilitators and school teachers during train-the-trainer sessions might alleviate some of these issues.

Self-Direction

Students learn to participate in Katie Doo according to certain rules of the game. While students could choose if they wanted to take part in Katie Doo or not, it was done in the context of specific blocks of time dedicated to Katie Doo activities. It would be interesting to see the level

of participation during regular play periods, where Katie Doo would be one of several opportunities available to students. It would also be interesting to see if a more relaxed structure for Katie Doo would produce measurable changes in executive functions and awareness of transportation careers.

The training aids proved helpful (e.g., most students wanted to wear the pilot cap), but more could have been done to augment the aviation experience of the teachers and help the students know how to assume the role of a pilot. For example, the field trip to the airport could be structured to include a talk by an airline pilot, seeing a short movie about aviation, watching a flight instructor working with a student pilot, or interacting with youths from an aerospace club. The intent is to present the students with diverse role models.

Supporting Teacher Success

We underestimated the experience of SSYC teachers not only with teaching lead-up skills that would help with pedaling the plane, but also with managing group instruction of a physical nature. Thus, the teachers received additional coaching in lead-up activities for the physical challenges. It seems teachers generally could benefit from training in simple physical education programs to help them conduct group activities like Katie Doo more effectively.

In addition to the materials provided by UUAH, SSYC teachers took the initiative and created their own training aids for aviation terms and careers. Performance differences between the two classes, however, point to the need to improve our train-the-trainer sessions. Delving deeper into teacher skills, needs, and motivation could reduce differences in outcomes between classes.

Practice Frequency

Repetition is key to maximizing the Katie Doo effect. While the results were encouraging with just four or five practice sessions per student over the four-month test period, teachers need to be given a target minimum number of practice sessions, as well as guidance on the practice intervals. A good practice frequency for Katie Doo would be at least once per week.

CONCLUSIONS

The Katie Doo experience appears to have had a positive influence on the executive functions of working memory, mental flexibility, and inhibitory control, as well as on improving awareness of aviation careers. Further, students who pedaled the plane were 25 percent better at naming the parts of the plane than students who only pedaled the tricycle.

The difference between engaging in the physical challenges and not engaging in them were significant. While the greatest improvements occurred between the tricycle and no challenges groups, the benefits of performing the challenges in the pedal plane over the tricycle were marked as well. Pedaling the plane completes the imaginary experience of being a pilot.

General aviation airports indeed can increase their value to their communities by partnering with preschools to improve executive functions and increase transportation career awareness in preschool students. Based on the results, Katie Doo seems ripe for further investigation. Recommendations for a future study include:

1. Improving the content, pedal plane construction, and training aids;
2. Improving the train-the-trainer workshop for teachers, especially in situations where English may not be the student's primary language;
3. Providing additional guidance to teachers on practice frequency and the effective management of group instruction;
4. Setting the minimum age of participants at four years old;
5. Offering self-direction opportunities for Katie Doo during regular play sessions; and,
6. Employing independent evaluators for the physical challenges, aviation terms, executive functions, and career awareness. If multiple classes are engaged in the Katie Doo program simultaneously, this would mitigate differences between otherwise equal classes, or it would highlight any real differences between classes.

FOLLOW-ON ACTIVITIES

Second Street Youth Center

Teachers saw students with low executive functions improve their performance as a result of the Katie Doo experience. Parents also gave positive feedback to school administrators. Consequently, SSYC has agreed to deliver the Katie Doo program during the 2019–2020 school year. This will include building their own pedal plane (this version will have moveable control surfaces), and implementing many of the lessons learned during the pilot project. Two new preschool classes and their teachers will receive more in-depth training on Katie Doo's potential.

Milford YMCA Preschool

Soon after the pilot project with SSYC, students from Milford YMCA Preschool in Milford, New Jersey revisited UUAH at Alexandria Field Airport. The purpose was to experience Katie Doo activities organized as a preschool physical education class. Two hours were spent talking about the transportation system, the parts of an airplane, and how a wing makes lift. One hour was spent on self-directed physical challenges. The objective there was to pedal the plane and a tricycle in an open space with only one rule: don't run into anything.

The students were four- and five-years old, and had a good grasp of the English language. Observations from this three-hour session follow:

- Many students were able to point to and name the parts of the plane;
- Students used the training aids and were able to deep practice the act of pedaling; and,
- When the airport traffic pattern was added to the experience, the students were able to follow directions and return to the starting point even though they did not yet know the names of the legs of the pattern.

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About the Authors

Linda Fritsche Castner holds an M.S. in Exercise Physiology from Smith College and is a Master Aviation Educator. Castner grew up on her family’s small airport in Pittstown, New Jersey, and has owned and operated that airport with her brother for more than two decades. A licensed Private Pilot and Advanced Ground Instructor, she is President of Up, Up, and Away in Hunterdon, Inc., which promotes general aviation through innovative, aviation-themed programs. Castner is an author and motivational speaker, received the 2011 MAAC Award for Innovations in Aviation Education in New Jersey, and was inducted into the New Jersey Aviation Hall of Fame in 2018. She is a member of the Society of Aviation and Flight Educators. Castner’s teaching career includes eleven years in the Physical Education and Athletics Department at Bryn Mawr College, as well as six years developing behavior change products as Fitness Center Product Director with Johnson and Johnson Health Management.

Rich Stowell holds a B.S. Mechanical Engineering from Rensselaer Polytechnic Institute and is a Master Flight Instructor-Emeritus. Stowell began his aviation career as an instructor specializing in spin and upset recovery training in 1987. The author of two aviation textbooks, he is the 2014 National FAA Safety Team Representative of the Year and 2006 National Flight Instructor of the Year. He has logged 10,000 hours of flight time with 9,000 hours of flight instruction given. Stowell is a charter and life member of the Society of Aviation and Flight Educators. He has been involved in aviation outreach with Linda Castner for nearly two decades and was recognized as the 2016 Idaho West Central Mountain STEM Gem of the Year. Stowell is also the Project Leader for 4-H STEAM Programs in Valley County, Idaho, and holds a Dimensions of Success Observer Certification from the PEAR Institute.

Ronke Olabisi is an Assistant Professor of Biomedical Engineering at Rutgers University. She is a committee member on the National Academies of Sciences, Engineering, and Medicine's study session, *Promising Practices for Addressing the Underrepresentation of Women in STEM.* Dr. Olabisi's research encompasses biomechanics, biomaterials, and tissue engineering to develop biosynthetic materials that combine synthetic and biological materials towards controlling cell and tissue function. She has presented her work in two book chapters, 14 peer-reviewed articles, 42 conference presentations, and 19 invited talks. Dr. Olabisi received the Frontiers in Bioengineering Best Poster Award (2014), the Charles and Johanna Busch Memorial Grant (2014), an Engineering Information Foundation Award (2016), the National Science Foundation CAREER Award (2018), the Rutgers' TechAdvance Commercializing Innovative Technologies Award (2018), the Johnson & Johnson Women in STEM^{2}D Scholars Award (2019), and the Biomedical Engineering Society's Young Innovators in Cellular and Molecular Bioengineering (2019). In 2013, she participated in a UUAH leadership workshop for female STEM faculty from Rutgers. As a result of that experience, Dr. Olabisi enrolled in flying lessons and works with Linda Castner as an advisor to the N85 Aerospace Club.

FOR MORE INFORMATION

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