



SELECTED FINDINGS

FROM THE JOHN F. KENNEDY CENTER'S
ARTS IN EDUCATION RESEARCH STUDY:



An Impact Evaluation of
Arts-Integrated Instruction
Through the Changing
Education Through the
Arts (CETA) Program





The Kennedy Center

THE JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS

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An Impact Evaluation of Arts-Integrated Instruction through the Changing Education Through the Arts (CETA) Program

WHAT IS CETA?

The Changing Education Through the Arts (CETA) program provides arts-integrated professional learning opportunities to elementary and middle school teachers in selected school districts across the Washington, D.C. metropolitan area. The key goals of the CETA program are to: 1) Develop teachers' abilities to plan, lead, and assess quality arts integration, 2) Build commitment to and skilled teaching practices of arts integration within entire schools, and 3) Establish a network of demonstration schools committed to arts integration as an approach to teaching that yields both increased student learning and motivation to learn. To achieve these goals, workshops, courses, demonstration teaching, and coaching opportunities for teachers are offered. As part of the program, teachers are encouraged to assemble in study groups at their respective schools, where they meet and discuss practical ways to integrate the material they learned through the CETA program with their curricula. A hallmark of the CETA program is the use of the Kennedy Center's definition of arts integration: an approach to teaching in which students construct and demonstrate their understanding through an art form. Students engage in the creative process which connects an art form and another subject area and meets evolving objectives in both.

ARTS IN EDUCATION RESEARCH STUDY

During the 2012-13 school year, a longitudinal research study was conducted to examine the impact of the CETA program on 4th and 5th grade students, their parents, and teachers in 32 schools over 5 school districts in the D.C. metropolitan area. Comparisons were made between CETA students and matched control students in randomly selected classrooms with 796 students, 796 parents¹, and 90 teachers sampled over three timepoints in one academic school year. Creativity² and Student Engagement are two areas impacted by the work of the CETA program, and were examined with the use of nine creativity measures and three engagement measures designed to provide a more comprehensive understanding of the numerous aspects that comprise these themes. **A strength of the study design was the examination of creativity and student engagement from three different perspectives (student, teacher, and parent) repeated over three timepoints during a single academic school year with randomly selected classrooms.**

¹ During the consenting process, each family unit was asked to designate one parent as the study participant at the parent level.

² Creativity is a field of study within cognitive psychology and has been measured by such constructs as flexibility (the ability to shift categories quickly and easily), originality (the ability to generate ideas that no one else will think of), and fluency (the ability to generate a number of ideas).

Following are selected findings from the Kennedy Center’s Arts in Education Research Study. Results will be divided into two key categories: findings documenting the impact of arts integration³ on Student Creativity and findings documenting the impact of arts integration on Student Engagement.

FINDINGS DOCUMENTING THE IMPACT OF ARTS INTEGRATION ON **STUDENT CREATIVITY**:

- [1] CETA students generated more **original and creative ideas** than non-CETA students at the end of the school year.
- [2] CETA students reported more **positive attitudes about the arts** and a belief that the **arts helped them understand non-arts subjects better**.
- [3] Teacher reports of **overall creativity** were higher for CETA students than for non-CETA students over the course of the school year.
- [4] Teacher reports of **social creativity**⁴ were higher for CETA students than for non-CETA students over the course of the school year.
- [5] Parent reports of **student personality traits associated with increased creativity** were greater for CETA students than for non-CETA students at the end of the school year.
- [6] Parent reports of CETA student **participation in arts activities** were greater than those of non-CETA students.
- [7] Analyses conducted with only CETA students revealed that over the course of one academic school year, CETA students showed an **increase in both flexibility**⁵ **and creativity**, and **exhibited more positive attitudes about artists**.

³ Arts Integration is defined by the Kennedy Center as an approach to teaching in which students construct and demonstrate understanding through an art form. Students engage in a creative process which connects an art form and another subject area and meets evolving objectives in both.

⁴ Social creativity refers to a range of attitudes and behaviors that includes collaboration and teamwork, as well as themes that fall along a continuum, which include conformity versus independence, and curiosity versus intellectual apathy.

⁵ Flexibility refers to the ability to shift categories quickly and easily and is well-documented in the creativity literature as a component of creativity.



FINDINGS DOCUMENTING THE IMPACT OF ARTS INTEGRATION ON **STUDENT ENGAGEMENT**:

- [8] CETA students were **more engaged in their school work** overall than non-CETA students throughout the school year.
- [9] CETA students experienced **greater emotional engagement, higher levels of interest, increased applied effort, and more frequent experiences of being positively challenged** throughout the school year.
- [10] Teacher reports of **overall student engagement** were higher for CETA students than for non-CETA students at the end of the school year.
- [11] Teacher reports of **student emotional engagement**⁶ were higher for CETA students than for non-CETA students throughout the school year.
- [12] Teacher reports of **applied student effort and grit**⁷ related to the completion of school work were higher for CETA students than for non-CETA students throughout the school year.

⁶ Emotional Engagement is described as positive affect resulting from enjoyment of a task.

⁷ Grit is defined as an individual's passion for achieving a long-term goal, coupled with a powerful motivation to achieve.

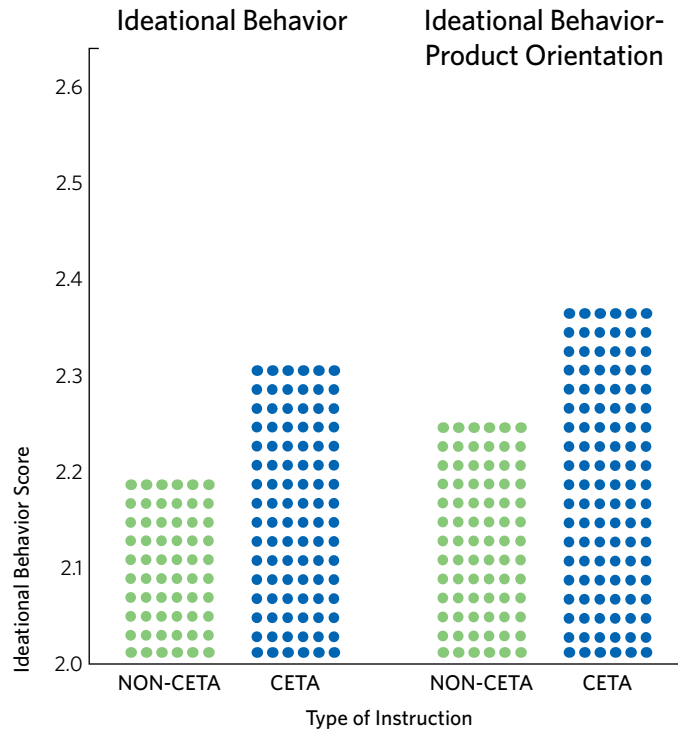


WHAT THESE FINDINGS TELL US:

1

CETA students generated more **original and creative ideas** than non-CETA students at the end of the school year. Compared to students who did not receive arts-integrated instruction, CETA students produced more original and creative ideas at specific points of the school year. At the end of the school year, CETA students scored higher on ideational behavior⁸ (by 2.4%) and product orientation⁹ (by 2.4%), which underscores the ability of these students to both generate more original and creative ideas, as well as determine uses and applications of these ideas in the real world.

DIFFERENCES IN IDEATIONAL BEHAVIOR ACROSS TYPE OF INSTRUCTION



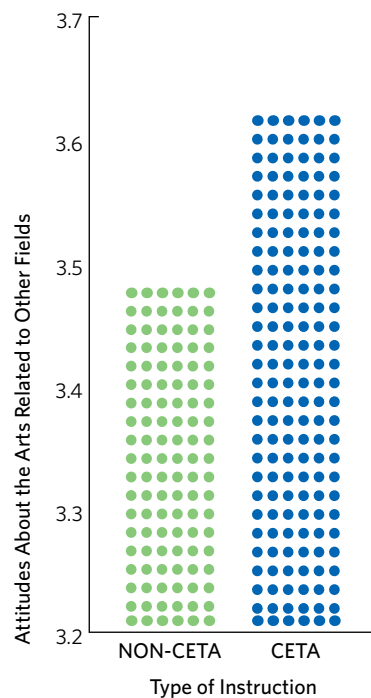
⁸ Ideational behavior refers to the ability to generate and evaluate the utility of ideas, as documented in creativity literature.

⁹ Product orientation refers to the ability to generate a number of original uses or applications for an original idea, as documented in creativity literature.

[2]

CETA students reported more **positive attitudes about the arts** and a belief that the **arts helped them understand non-arts subjects better**. CETA students began the school year with more positive attitudes about the arts and believed that the arts are related to non-arts subjects (2.8% higher scores).¹⁰ This result indicates that students in the CETA program more often believe that the arts influence real world, non-arts related subjects. Examples include CETA students believing that the arts influence science, history, or math.

DIFFERENCES IN ATTITUDES ABOUT THE ARTS ACROSS TYPE OF INSTRUCTION



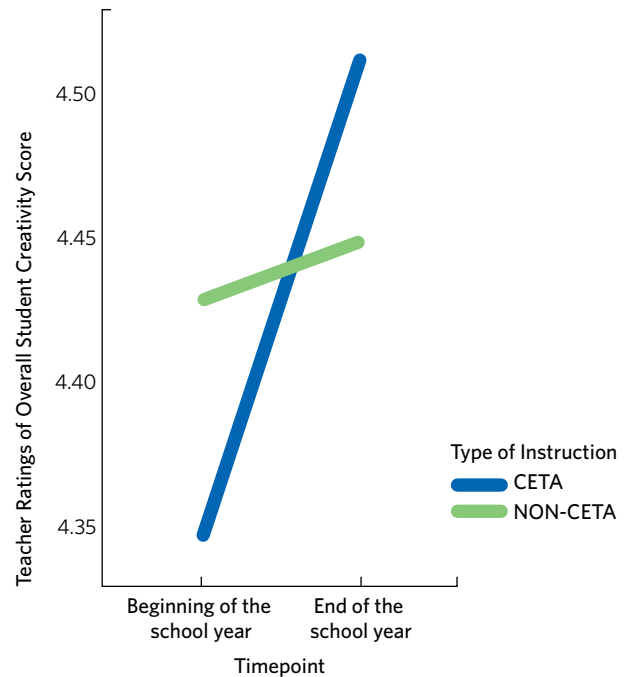
¹⁰ In all cases, the differences cited are statistically significant at a level of $p < .05$ (statistical notation indicating the probability that there is less than a 5% chance that a result occurred by chance; but is in fact due to the characteristic of the group being studied. In the current investigation, this characteristic is arts-integrated instruction). All percentages are based on averages reflecting scale scores specific to each research instrument. Bar graphs are used instead of the more statistically appropriate mean graphs in order to facilitate the visualization of differences. Thus, please note that graph scales have been adjusted and vary for each graph with the sole purpose of making mean differences evident and to facilitate visualization.

[3]

Teacher reports of overall creativity were higher for CETA students than for non-CETA students.

Over the course of the school year, teachers' ratings of CETA student creativity increased by 2%, while creativity ratings of non-CETA students stayed relatively constant.

TEACHER EVALUATION OF STUDENT CREATIVITY

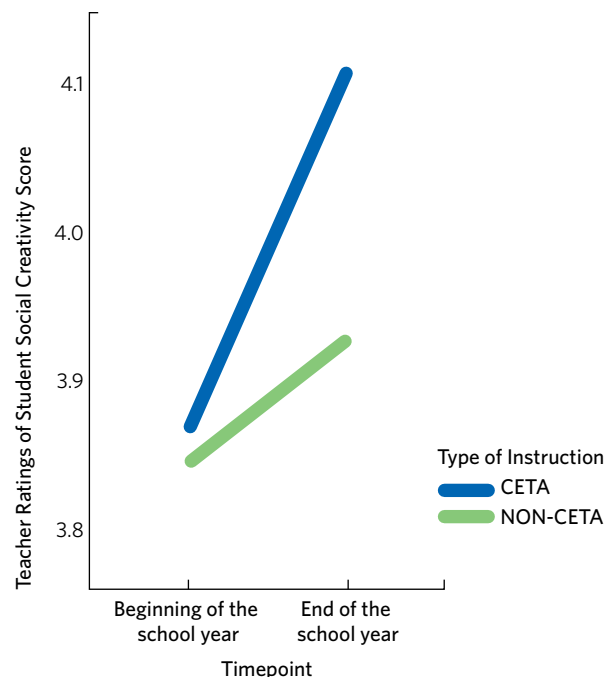


[4]

Teacher reports of social creativity were higher for CETA students than for non-CETA students.

Social creativity refers to a range of attitudes and behaviors that include the social cognitive aspects of collaboration and teamwork, as well as themes that fall along a continuum, such as conformity versus independence, and curiosity versus intellectual apathy. Over the course of the school year, teachers' ratings of CETA student social creativity steadily increased, while social creativity ratings of non-CETA students stayed relatively constant. In addition, by the end of the school year, a marked difference was observed between the two student groups with CETA students rating 2.43% higher than non-CETA students.

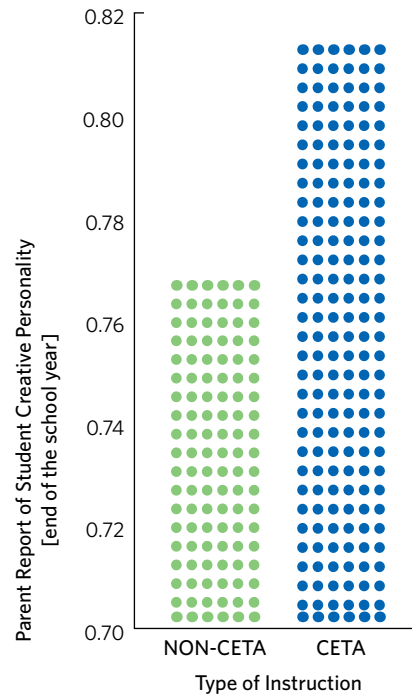
TEACHER REPORT OF STUDENT SOCIAL CREATIVITY



[5]

At the end of the school year, parents reported more creative personality traits in CETA students than in non-CETA students. A creative personality trait includes a tendency toward: solving ill-defined problems, risk-taking, flexibility of thought, originality in the quality of ideas, and increased tolerance of the opinions and ideas of others.

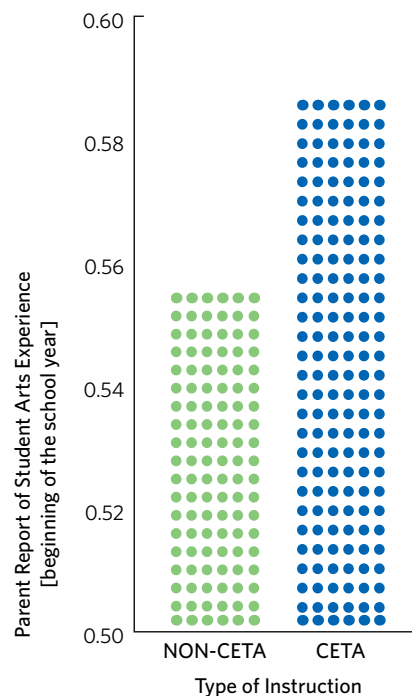
PARENT REPORT OF STUDENT CREATIVE PERSONALITY



[6]

Parent reports of CETA student participation in arts activities at the beginning of the school year were greater than those of non-CETA students. Arts experiences included a broad range of activities, such as: attending non-school sponsored arts activities, ceramics, and engaging in debates about aesthetic or artistic issues.

PARENT REPORT OF STUDENT PARTICIPATION IN ARTS ACTIVITIES







7

Analyses conducted with only CETA students revealed that over the course of one academic school year, CETA students showed an increase in both flexibility and creativity, and more positive attitudes about artists.

Scores of positive attitudes about artists increased by 2.6% over the course of the school year.

Over the course of the school year, attitudes about flexibility scores increased by 2.8%, as well as scores on flexibility in problem solving (1.2%).

Lastly, the increase over time was especially evident for idea judgment. CETA students had a 4% increase in their scores. This result indicates that they used more original criteria in determining the value of an idea, highlighting their increased levels of critical thinking.

OVER THE COURSE OF THE SCHOOL YEAR:

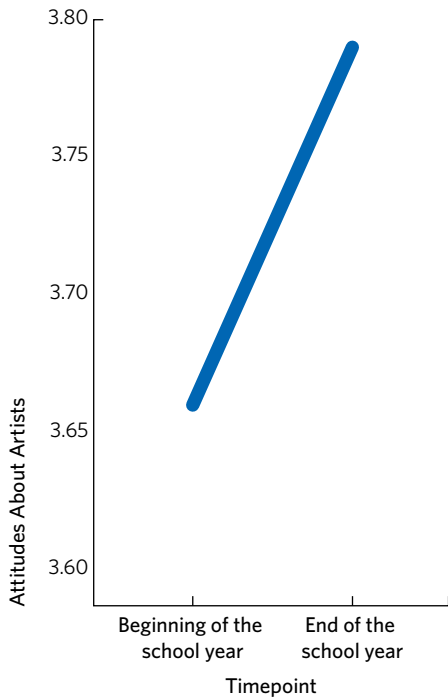
2.6% Increase in Positive Attitudes About Artists

2.8% Increase in Attitudes About Flexibility

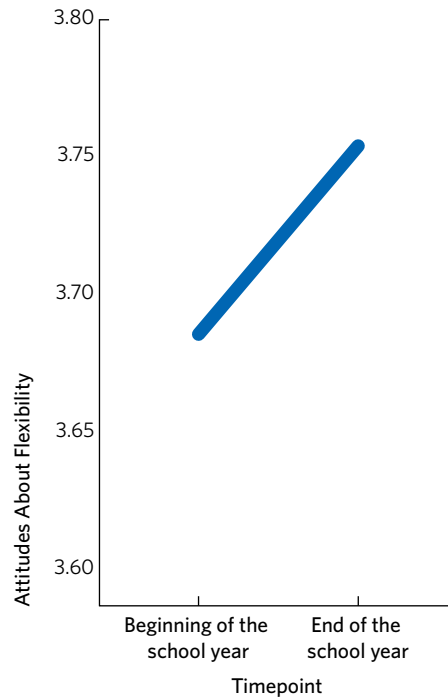
1.2% Increase in Flexibility in Problem Solving

4% Increase in Creativity in Idea Judgment

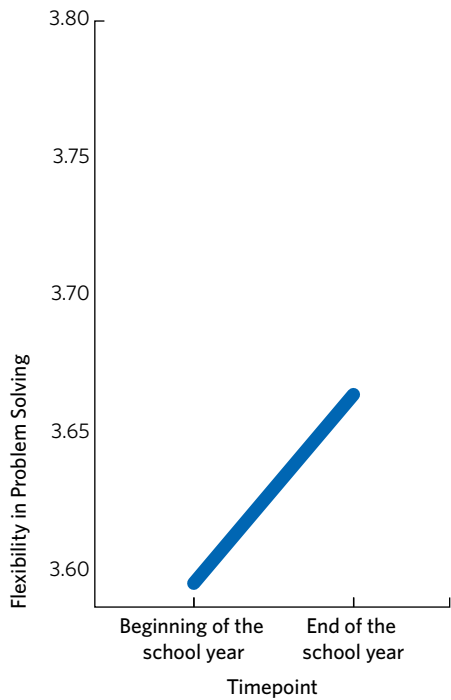
CETA STUDENT ATTITUDES ABOUT ARTISTS



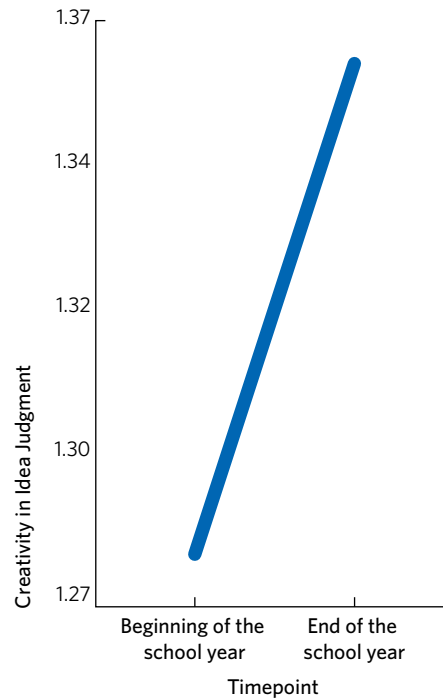
CETA STUDENT ATTITUDES ABOUT FLEXIBILITY



CETA STUDENT FLEXIBILITY



CETA STUDENT ORIGINAL IDEA JUDGMENT



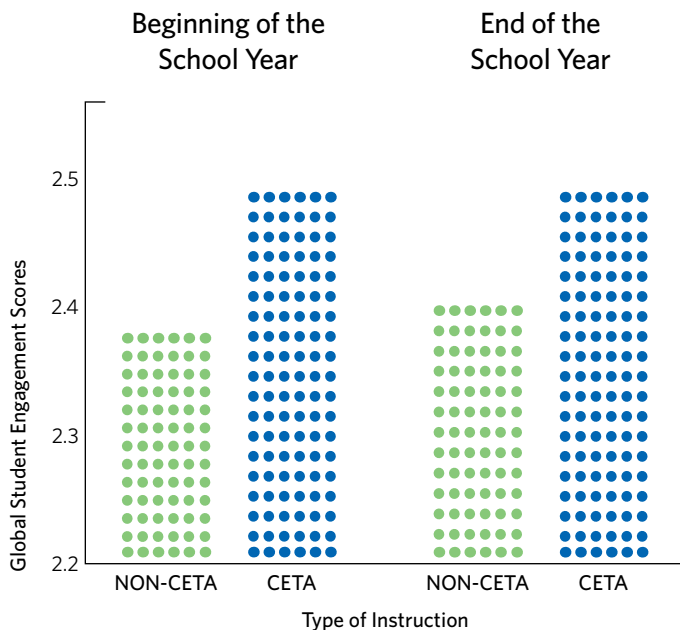


ARTS INTEGRATION IMPACTS STUDENT ENGAGEMENT

[8]

CETA students were more engaged in their school work overall compared to non-CETA students throughout the school year. CETA students began the school year with higher levels of student engagement (2.2% higher scores than non-CETA counterparts), suggesting residual positive effects of previous years of arts-integrated instruction. CETA students had greater levels of student engagement throughout the school year, evidenced by their higher scores at both the beginning and end of the school year: global engagement scores (1.8% higher).

DIFFERENCES IN STUDENT ENGAGEMENT ACROSS TYPE OF INSTRUCTION



2.2%

Higher Levels of Student Engagement at the Beginning of the School Year

1.8%

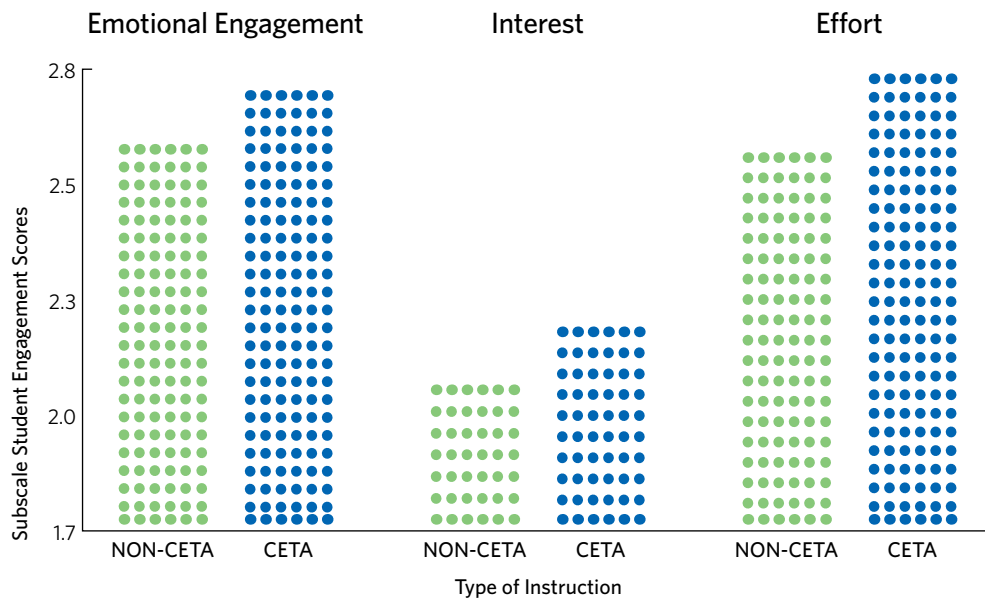
Higher Global Engagement Scores Throughout the School Year

[9]

CETA students experienced greater emotional engagement, higher levels of interest, increased applied effort, and more frequent experiences of being positively challenged. At the beginning of the school year, differences between CETA and non-CETA students on dimensions of engagement reveal: higher emotional engagement in school (2.6% higher scores), greater interest in school (2.8% higher scores), and increased effort applied to schoolwork (3.8% higher scores).

DIFFERENCES IN SUBSCALES OF STUDENT ENGAGEMENT ACROSS TYPE OF INSTRUCTION

[beginning of the school year]



AT THE BEGINNING OF THE SCHOOL YEAR:

2.6%

Higher Levels of Emotional Engagement in School

2.8%

Higher Levels of Interest in School

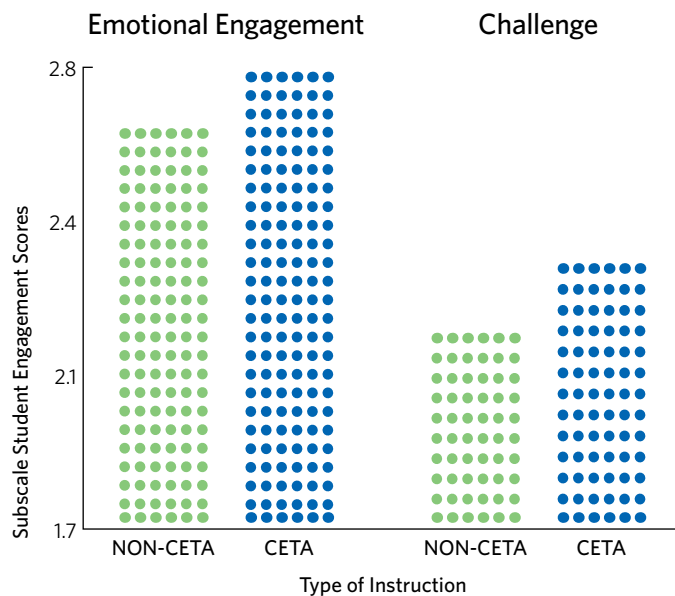
3.8%

Higher Levels of Applied Effort to Schoolwork

Evidenced by their scores at the end of the school year, CETA students (as compared to non-CETA students) had higher levels of student engagement as seen in subscale scores identifying different components of student engagement: emotional engagement in school (2.8% higher), and levels of positive challenge and motivation (3.2% higher).

DIFFERENCES IN SUBSCALES OF STUDENT ENGAGEMENT ACROSS TYPE OF INSTRUCTION

[end of the school year]



AT THE END OF THE SCHOOL YEAR:

2.8%

Higher Levels
of Emotional
Engagement in School

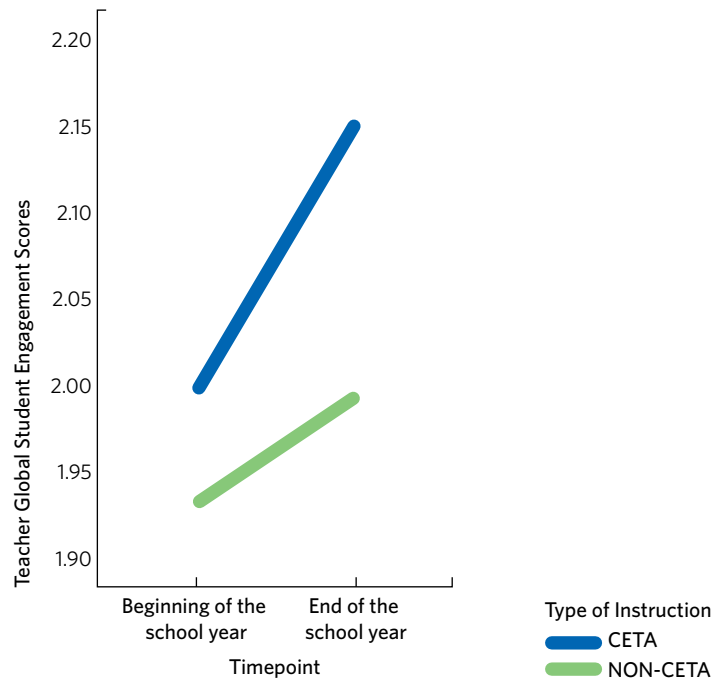
3.2%

Higher Global Levels
of Positive Challenge
and Motivation

[10]

Teacher reports of overall student engagement were higher for CETA students than for non-CETA students by the end of the school year, indicating that these students experienced greater enjoyment from school, participated in class more often, and sustained their interest in their school work.

TEACHER REPORT OF STUDENT ENGAGEMENT



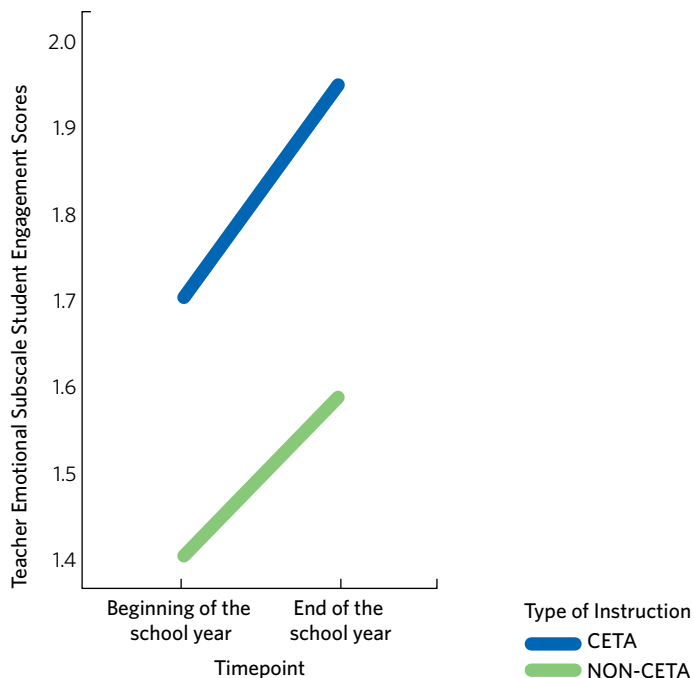


[11]

Teacher reports of student emotional engagement were higher for CETA students than for non-CETA students over the course of the school year.

Teachers perceived that CETA students experienced higher levels of thrill from their school work, had more positive affect related to their classroom experience, and were more likely to lose track of time while working on their school projects than non-CETA students.

TEACHER REPORT OF STUDENT EMOTIONAL ENGAGEMENT

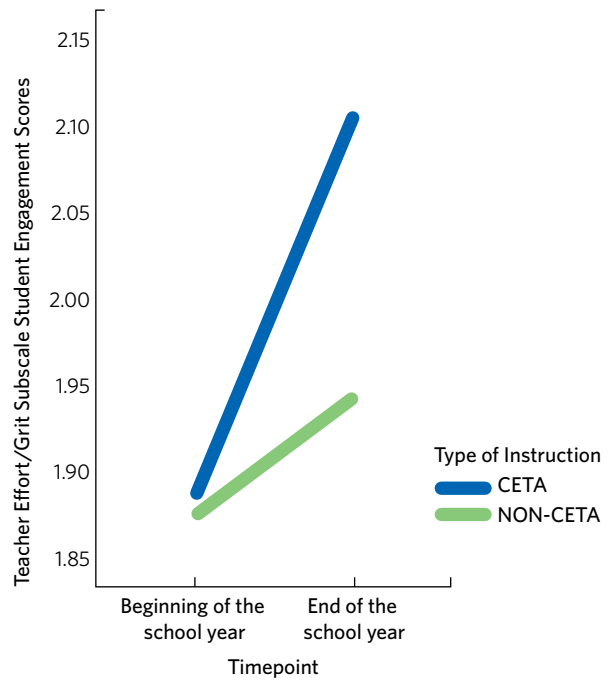




[12]

Teacher reports of student effort and grit related to the completion of school work were higher for CETA students than for students who did not receive arts-integrated instruction over the course of the school year. While both groups of teachers began the school year with similar ratings of their students' work, teachers of CETA students reported a marked increase in effort and grit by the end of the school year. Effort and Grit refer to the ability to maintain motivated persistence to complete a project despite obstacles that may be present.

TEACHER REPORT OF STUDENT EFFORT/GRIT



THE IMPORTANCE AND RELEVANCE OF THESE RESULTS FOR 4TH AND 5TH GRADE STUDENTS ACROSS THE UNITED STATES:

The results presented indicate the impact of arts integration on components of creative thinking and student engagement in the sample studied. By using a control group in the study design with the appropriate sample size, the findings can be generalized to the larger population of 4th and 5th graders across the United States. The current study examined predictors of higher standardized test scores and found: **Attitudes about art, flexibility, and creativity are associated with higher standardized test scores.** The data revealed that standardized test scores in math and reading are higher in students who are more flexible, can easily generate different ways to solve problems, are more creative in their judgment of ideas, or have positive attitudes about the arts. Flexibility in problem solving is a component of creative thinking which is central to work in the arts. The findings presented in this paper highlight twelve selected results documenting the impact of arts integration, specifically the Kennedy Center's CETA program, on student creativity and engagement. A detailed, comprehensive analytical report will be released, designed to both document and outline how these results can be applied to classrooms, school districts, future research studies, and the broader educational and research communities.

KEY RESULTS SUMMARY

These results highlight specific skills that improved in student performance as a result of arts-integrated instruction. Not only do students in the CETA program see the influence of the arts in non-arts subjects, and produce more original and creative ideas, but their teachers notice and encourage this creative ideation as evidenced by significant correlations between student and teacher responses. Teachers in CETA schools also report that their students display more intellectual curiosity, experience higher levels of excitement from their school work, and apply more effort and grit during their attempts to complete their school projects and assignments. Parents of these students identified their children as risk-takers, more comfortable solving ill-defined problems, and tolerant of the opinions and ideas of others. The student profile created by these results offers a perspective for creating confident, intellectually curious, and positively challenged citizens who may be better equipped to generate original ideas to improve their world and contribute to a creative global economy.



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The results of the study reveal that **the CETA program is instrumental** in not only enhancing the artistic and creative experiences of students, but also in improving skills that impact standardized test scores.



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