JumpStart Theatre: Pilot Year Impacts in Three Schools
Cincinnati, OH and Covington, KY

JumpStart Teacher Bootcamp I, October 2015

Educational Theatre Association
Cincinnati, Ohio

Year One Report

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Introduction

The Educational Theatre Association (EdTA), based in Cincinnati, is a national nonprofit organization with approximately 90,000 student and professional members. EdTA's mission is to shape lives through theatre education by honoring student achievement in theatre and enriching their theatre education experience; providing professional development for teachers, including networking opportunities, resources, and recognition; and influencing public opinion that theatre education is essential and builds life skills.

EdTA joined with iTheatrics and several philanthropic partners to offer the JumpStart Theatre program. JumpStart was created and developed by iTheatrics, an educational theatre organization based in New York City, which works with educational communities around the country to build sustainable, in-school and after-school musical theatre programs. JumpStart is modeled after the successful Broadway Junior Musical Theatre Program, founded in 2005, by the Shubert Foundation, iTheatrics, and Music Theatre International, in collaboration with the New York City Department of Education. Three JumpStart teaching artists delivered the program – Marty Johnston, Susan Fuller, and David Kennedy. EdTA teaching artist DeeAnn Bryll contributed to the delivery of the program.

EdTA contracted with the Centers for Research on Creativity (CRoC) based in Los Angeles, California to assess creativity in a musical theatre for middle school program. This report describes CRoC's evaluation findings of pilot year implementation of the JumpStart Theatre program in three public schools in Ohio and Kentucky. EdTA selected the schools from a competitive application process. These schools agreed to present the program at their school for three academic years (SY 2015-16 through SY 2017-18).

Students Perform in JumpStart Showcase

JumpStart Theatre Schools

Each school stated their goals in offering JumpStart Theatre to their students and teachers. These goals are offset as italicized, boxed text.

Finneytown Middle School, Cincinnati, OH

> *The goal of [JumpStart Theatre] is to provide training that inspires creative thinking, self-confidence, effective communication skills, fluid movement, and voice control. Having the JumpStart program will assist in enhancing our academic programs and provide a creative outlet for our students where none currently exists.*

Finneytown Secondary Campus, which includes both high and middle schools is located in the urban–suburban Finneytown Local School District and serves a total of 700 students. The campus includes The William R. Swartzel Performing Arts Center, a well-appointed theatre shared by both schools.

After-school activities for middle school students are: academic support, craft club, student council, athletics, community service, and marching band. Art program offerings are: band, orchestra, choir, and general arts education.

In this pilot year, JumpStart was offered as the first after-school, drama program. Approximately 30 students participated as actors, production crew (sets, sound, props, costumes) and by promoting the show; 3 teachers participated as director, music director, and choreographer.

Finneytown presented *Honk, JR*., a 60-minute adaptation of the beloved fable "The Ugly Duckling," that celebrates through song, dance, and wit the experience of being different.

Parents at Finneytown sold tickets, distributed programs, helped students learn their lines and music, and promoted the show.

In addition to in-school performances, the cast performed two songs from the play, "A Poultry Tale" and "Warts & All" at the JumpStart Theatre Showcase, held in May, 2016 with all three schools at Gallagher Center on the campus of Xavier University in Cincinnati.

James N. Gamble Montessori High School, Cincinnati, OH

> *We welcome more creative arts opportunities for our students to grow*
> *socially, emotionally, and academically.*

James N. Gamble Montessori High School (Gamble) embraces Montessori educational values that encourage the development of 21st century skills, including:

- Curiosity and Creativity

- Critical Thinking and Problem Solving

- Flexibility and Adaptability

- Leadership, Teaming, and Collaboration

- Independence, Initiative, and Self-Direction

- Prioritization, Productivity, and Accountability

- Personal and Social Responsibility

Located in the urban Cincinnati Public School District, the high school (9-12) and junior high school (7-8) share the campus that serves a total of 410 students.

After-school programs include cheerleading, athletics, science clubs, video game clubs, art club, student government, Key Club (Kiwanis Service), and Korean Club.

In this pilot year, JumpStart was offered as the first after-school, drama program. Approximately 30 students participated as actors, production crew (sets, sound, props, costumes) and by promoting the show; 3 teachers participated as director, music director, and choreographer).

Gamble presented *Once On This Island*, Jr., a 60-minute musical that explores themes of prejudice and class through the story of a boy and girl who fall in love, though they hail from different sides of the island.

Parents at Gamble helped build the set, gather show materials, and choreograph the show. They also sold tickets, distributed programs, helped students learn their lines and music, and promoted the show.

In addition to in-school performances, the cast performed two songs from the play, "Human Heart" and "Why We Tell The Story" at the JumpStart Theatre Showcase, held in May, 2016 with all three schools at Gallagher Center on the campus of Xavier University in Cincinnati.

Holmes Middle School, Covington, KY

> *We are always looking for ways to engage students in their learning so that they make the positive connections with adults and peers necessary to be successful. The demographics of our school (91% free and reduced priced lunch) often preclude many of our students from having enriching learning experiences outside of our school walls. Our goal is to give out students all the experiences and opportunities that many of their more affluent peers have access to - helping them unlock the promise of their potential. The JumpStart program would help us give our students a chance to feel that they belong, experience success, and showcase talents that may not always be evident in the traditional classroom setting.*

Holmes Middle School is part of the Covington Independent Public Schools, the largest independent school district in the state of Kentucky. Holmes Middle (6-8) shares its campus with Holmes High School (9-12) on the site of the oldest public school in Kentucky, built in 1853. Holmes Middle serves a total of 716 students.

The Community Learning Center at Holmes provides before- and after-school opportunities (academic enrichment, youth development, and family and community engagement), including Art Club, Dance Troupe, and Glee Club. JumpStart is the middle school's first after-school drama program.

Approximately 30 students participated as actors, production crew (sets, sound, props, costumes) and by promoting the show; 3 teachers participated as director, music director, and choreographer).

Holmes presented *Annie!,* a 60-minute adaptation of the Broadway favorite that follows an orphaned girl, filled with a sense of possibility and gritty determination, as she makes her way in the big city, finding home and family along the way.

Parents at Holmes made costumes, found props, and established a partnership with Twinhofel Middle School to exchange resources. They also sold tickets, distributed programs, helped students learn their lines and music, and promoted the show.

In addition to in-school performances, the cast performed two songs from the play, "Hard Knock Life" and "Tomorrow" (reprise) at the JumpStart Theatre Showcase, held in May, 2016 with all three schools at Gallagher Center on the campus of Xavier University in Cincinnati.

School Selection Process

Educational Theatre Association opened applications for JumpStart Theatre in the fall of 2015. Schools were required to commit to the program for three consecutive years.

Six schools applied; three were selected based on 5 indicators (on a scale of 1 – 4):

- Administrative Support
- Indicated Student Interest
- Confirmed Team
- Programmatic Needs
- Intangibles

Additionally, each school qualifies for Title I funds, which means that the school's high percentage of low-income families makes it eligible for federal education funds, distributed through state agencies. For instance, at Gamble, 70% of the student population is eligible for the free or reduced priced lunch program.

Two research assistants (RAs) were recruited through University of Cincinnati and Northern Kentucky University to conduct observations and assist with NGCS administration to students. CRoC trained both RAs (in person and via Skype) to carry out observations specific to the EdTA Evaluation Plan, developed collaboratively between CRoC and EdTA.

CRoC's Approach to the Question of Creativity

Conceptions and definitions of creativity, both stated and implied, range widely. Some scholars and authors, including Professors Howard Gardner (1993)[1] and Mihaly Csikszentmihalyi, (1996)[2] focus on extraordinary creativity – the production of masterworks of art, music, dance, or theater.

Others focus on inventions that impact the way we live and work on a global scale – the bread-slicing machine (1928), the hybrid car (2000), and the Swiffer mop (1996) as examples. While we may dream of producing a fresco for the front portico at New York's Metropolitan Museum of Art, or of penning the next best-selling novel, or choreographing dance performances for Alvin Ailey, these are not the types of invention we commonly find in school and after-school creativity programs.

The ideas that the JumpStart Theatre program brings to creative education focus on smaller acts of invention, which are nonetheless skills and behaviors that fit common, general definitions, of creativity. These definitions focus on two qualities – creative processes lead

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[1] Gardner, H. (1993). Creating Minds: An Anatomy of Creativity Seen Through the Lives of Freud, Einstein,

[2] Stravinsky, Eliot, Graham, and Gandhi. New York: Basic Books. Csikszentmihalyi, M. (1996). Creativity: Flow and the Psychology of Discovery and Invention. New York: Harper Perennial.

to ideas or things that (1) are new or novel, and (2) have
value. That is, a creative idea is an original or unusual idea that can be put to some use or purpose that has value to someone. We can substitute product or invention for idea in this definition. A creative invention is novel or unusual, and it accomplishes something of value. Of course, we dispute how new something must be and how valuable something must be, in order to count it as creative, and just who should make such judgments.

Next Generation Creativity Survey Model

Quantitative Evaluation Method: The Next Generation Creativity Survey

Design for a better test. The instrument that James Catterall, Ph.D. and Mark Runco, Ph.D of the Centers for Research on Creativity created for this work is intended to measure creative skills and dispositions as well as supportive attitudes (e.g. interest in collaboration), first at the time when program students begin the JumpStart program and then again when they finish. Growth in scores between the pre- and post-administrations provides indications of the effects of programs on their participants.

A signature improvement in testing that the Next Generation Creativity Survey brings is the opportunity for students to display creative thinking and creative behavior through tasks required by the survey. These tasks include creating a character from a script, speculating on what life would be like if a novel condition or conditions prevailed, and drawing and explaining self-portraits showing the student inventing, designing, or solving a problem.

Following Amabile's (1996) Consensual Assessment Model, we gather expert educators including classroom teachers and teaching artists to make judgments about the creativity of student responses to these tasks. Following Runco, we also examine the creativity of children's drawings.

As a footnote to the Consensual Assessment Technique, Amabile and her colleagues and followers have reported that, "In study after study, these expert ratings, done completely independently of one another and without rubrics of any kind, have yielded quite satisfactory inter-rater reliabilities." (Baer, Kaufman, and Gentile, 2004). We have used both double ratings and single ratings to assess individual demonstrated creativity and have found both sufficiently reliable.

We include a Torrance-like set of questions eliciting student self-reports of their own creative practices and orientations. We also include scales probing the development of student attitudes and behaviors that are believed to be important ingredients in their students' success. These are measures of collaboration, empathy, creative self-efficacy beliefs, and creative problem solving. These elements align with what is known as the social psychology of creativity.

Human judgment to assess creativity. Our use of actual student work to elicit appraisals of creative thinking and problem solving requires a design to measure and report on the qualities of this student work. The NGCS employs a professional scoring staff for this purpose. The scores on student tasks were averaged to yield actual scores. As Amabile implies, if you want to know about someone's creative capacity and potential, you cannot improve on letting her create while watching the process and appraising the product(s)[3].

NGCS ITEMS AND SCALES

Creative problem solving – approaching problems by testing alternative solutions, without rush to judgment, willingness to be wrong while speculating.

Creative self-efficacy – e.g., agreement with "I can usually solve a difficult problem if given enough time."

Creative fluency – e.g., agreement with "I find it easy to think of lots of ideas."

Originality – e.g., agreement with "My ideas for solving problems are often unusual."

We also measure psychological states or dispositions supporting creative behavior:

Collaboration attitudes and skills – e.g., agreement with, "I like listening to the ideas of other students." Or, "I like to contribute to group projects."

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[3] Amabile, Teresa M., and Julianna Pillemer. "Perspectives on the Social Psychology of Creativity." *Journal of Creative Behavior* 46, no. 1 (March 2012): 3–15.

Empathy – e.g., agreement with, "I can usually tell how someone else is feeling."

Or, "I care about helping others who are having difficulties."

Student work items making up the six "demonstrated creativity" scales
In this section of the survey, students respond to open-ended questions and prompts by writing their analyses and conclusions and by drawing themselves doing creative activities, such as inventing, designing, and solving problems.

Critical thinking. This is shown in the evidence students present to defend their opinions about what an artist may have intended in a displayed work of art on the survey.

Demonstrated creative fluency (associative thinking) – the ability to envision implications of novel, hypothetical circumstances, e.g., "What if all animals spoke English and Spanish?" or "What if all roads and streets were rivers and streams?" Fluency also means demonstrated capacity to generate innovative and potentially useful or aesthetic ideas. Coming up with more, rather than fewer, ideas when asked to generate them shows demonstrated creative fluency.

Value of creative ideas – ideas that are potentially useful or aesthetic in quality
Our scoring team rates the value of ideas and suggested designs. (Because we rate multiple responses from different tasks for the demonstrated creativity scales, we use ratings for each of the tasks, for which raters are typically in tight agreement. By this we mean using a scale such as: 0 - Not original, 1 - Somewhat or in part original, 2 - Definitely original.– e.g.., the share of ideas deemed original

Demonstrated originality – producing new or novel ideas.

Creative representations – student drawings of self, "inventing, designing, or solving a problem" is rated by scorers for fluency, originality, and overall creativity.

Overall drawing response – quality of student responses to the assigned self-portrait of themselves inventing or designing something.

Quantitative Results: NGCS Survey Results

Please note: the terms 'program' and 'JumpStart' are used interchangeably to identify students
who participated in the musical theatre productions. Students who did not participate in the musical theatre
production are referred to as 'control' students.

In this section, we present and discuss results from the Next Generation Creativity Survey. First, we present the results for all JumpStart Theatre programs combined and then present the results for the three participating schools separately. The following display shows the number of program and control student surveys we collected. CRoC attained a sample of 78 treatment student surveys and 83 control surveys in all, for a total of 161 completed, matched (pre-/-post surveys). The survey numbers were relatively balanced overall and within the three schools combined.

Number of Usable NGCS Surveys (per school, total)

# of Usable Surveys	Program Students	Control Students	Total
Finneytown	20	24	44
Gamble	29	29	58
Holmes	29	30	59
All EdTA	**78**	**83**	**161**

Note: a usable survey is one that had both pre- and post-surveys completed, such that pre- and post-survey data align for each student. Changes in student performance could then be noticed by comparing pre/post data. One survey at Holmes was unusable as the student was in detention. Two surveys at Holmes were unusable because the student was either removed or quit the play.

At Finneytown, pre-surveys were administered to program and control students in a classroom environment; post-surveys were administered in a larger media room classroom. At Gamble, pre- and post-surveys were administered in a large auditorium. At Holmes, pre-surveys were administered to program students in a classroom. Pre-surveys were administered to control students after-school in the lunchroom area. Post-surveys were administered to both groups in the lunchroom area.

NGCS Results for All Schools
Table 1 shows the composite pre- and post-scale scores for all JumpStart or EdTA students and all control students combined. Where scales increased from pre- to post- scores, we show a small "x" for insignificant gains and a large "X" for substantial gains. The small x's show increased scores but these increases are not considered statistically significant. With small samples such as these, the standards for statistical significance require large gains.

Nonetheless, the score gains are worth noting and may illustrate a meaningful positive change over time. The program students showed gains in four scales: creative problem solving, empathy, creativity in art interpretation, and critical thinking. The control students showed gains in creative problem solving, collaboration, and originality – all of these gains were small.

We can see the strength of the control group design when we compare results for program students with results for control students. The right hand column indicates the nine scales where the JumpStart students out performed the control students. This occurs when the program student scores increase more than the comparison student scores, or when the program school scores decline less than the control student scores. Figure 1 shows a listing of these nine scales.

TABLE 1: Comparison of EDTA Schools and Control Schools' Performance on NGCS Scales						
SCALE OR MEASURE	EDTA ALL		Gain?	ALL CONTROLS		Gain?	EDTA Out-performs Control Students
	Pre	Post		Pre	Post		
Creative Problem Solving	2.98	3.08	X	2.95	2.98	x	XX
Creative Efficacy	3.22	3.16		3.14	3.04		XX
Collaboration	3.21	3.11		3.17	3.21	x	
Empathy	3.15	3.21	x	3.02	2.90		XX
Originality	3.31	3.27		3.17	3.09		XX
Creative Fluency	3.14	3.13		3.03	2.76		XX
How would the world be different?							
N of suggestions (fluency)	5.7	5.2		5.68	3.86		XX
Percent creative (originality)	74	72		0.81	0.87	x	
Creativity in Art Interpret.	0.89	0.92	x	0.92	0.91		XX
Critical Thinking	1.17	1.39	X	1.15	1.18		XX
Overall Drawing Response	2.92	2.65		2.67	2.49		
Creativity in Drawing	1.11	1.03		1.17	1.02		XX
x = small gain; X = large gain					XX=Program Outperforms Control		

Table 1: shows the composite pre- and post-scale scores for all JumpStart students and all control students combined. A small "x" represents statistically insignificant gains. A large "X" represents statistically significant gains. The final column with two X's indicates the scales in which program students outperformed the control students.

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The logic of these comparisons lies in the fact that we don't know the full range of influences on our scales over the course of a program.   Score declines amounting to less for program students than comparison students suggest a measure of relative resiliency for the program students and, as such, positive indications for the program.

But this interpretation is not definitive. We cannot unambiguously say that EdTA outperformed the control school in some areas under this logic—especially where JumpStart students started out at a higher score or very high score. If EdTA scores were substantially higher from the start, it suggests that the samples may not be comparable or may not support a good comparison. For a good comparison with the control group, both groups need to start with similar scores or abilities. For example, with "Originality" program students started at 3.31 and dropped to 3.27; meanwhile the control started at 3.17 and dropped to 3.09—maybe the drop was not as steep in Jumpstart students, but the original starting point was significantly higher.

As another example, the average collaboration score in all EdTA programs dropped from 3.21 to 3.11. We ask, "why would perceived collaboration drop over time in the EdTA program?" It is possible that some students realized how difficult collaboration can be in the program and perhaps they rated themselves higher in the beginning before the program, only to learn during and after the program that their collaboration skills could improve. A review of our qualitative observations could show this but we have not seen concrete evidence yet from these sources.

Figure 1

**Creativity Domains in Which EdTA Students
Out-performed Control Students**

Self-reported Creativity Scales

Creative Problem Solving
Creative Self-efficacy
Empathy
Originality
Creative Fluency

Demonstrated Creativity Indicators

Fluency with Ideas
Creativity in Art Interpretation
Critical Thinking
Creativity in Drawing

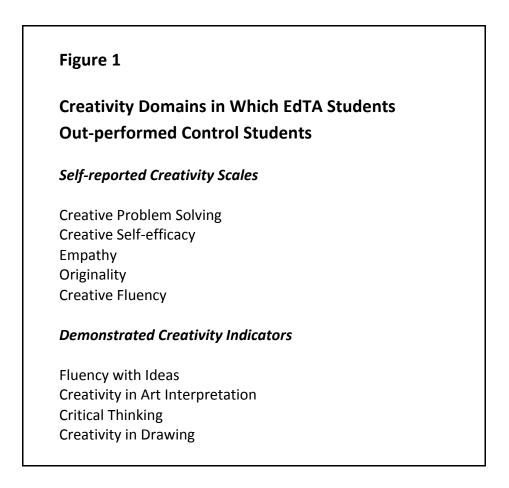**Figure 1**: summarizes the scales and domains where the JumpStart students outperformed the control students by showing larger gains, or less erosion, over time. CRoC considers a "gain" as any positive change in score over time, i.e. a higher post-test score than a pre-test score on a given scale. EdTA student gains include five of six of our self-reported creativity scales and four of six of our demonstrated creativity scales.

NGCS Results for Holmes

Table 2: Holmes EDTA Student performance VS. Holmes Control Student Performance					
SCALE OR MEASURE	HOLMES	Gain?	Holmes Controls	Gain?	Holmes Out-Performs It's Control Students
SELF-REPORTED CREATIVITY					
	Pre Post		Pre Post		
Creative Problem Solving	2.96 3.07	XX	2.84 2.92	x	XX
Creative Efficacy	3.28 3.17		2.83 2.74		
Collaboration	3.27 3.10		3.22 3.20		
Empathy	3.39 3.26		2.83 2.48		XX
Originality	3.29 3.28		3.18 2.76		XX
Creative Fluency	3.20 3.00		2.77 2.64		
DEMONSTRATED CREATIVITY					
How would the world be different?					
N of suggestions (fluency)	6.56 4.42		5.25 2.70		XX
Percent creative (originality)	0.72 0.85	X	0.67 0.72	x	XX
Creativity in Art Interpret.	1.00 0.89		1.00 0.73		XX
Critical Thinking	1.50 1.39		1.09 0.68		XX
Overall Drawiing Response	3.33 3.11		2.18 1.70		XX
Creativity in Drawing	1.22 0.94		0.91 0.90		
x = small gain; X = large gain				XX=Program Outperforms Control	

Table 2: shows analogous statistics for the Holmes students versus their control students. Holmes shows fewer scale score gains, but shows eight scales where their students outperformed their comparison counterparts. As with all students, Holmes students showed a strong gain in creative problem solving.

As indicated in Table 2 and listed in Figure 2, Holmes program students outperformed control students in five of the six demonstrated creativity scales through larger gains or small losses over time.

But we also note with the Holmes program students that the group started out significantly higher than the control group on a number of scales.

As we discuss above, this raises questions about whether the two samples are reasonable to compare given their stark differences at the start.
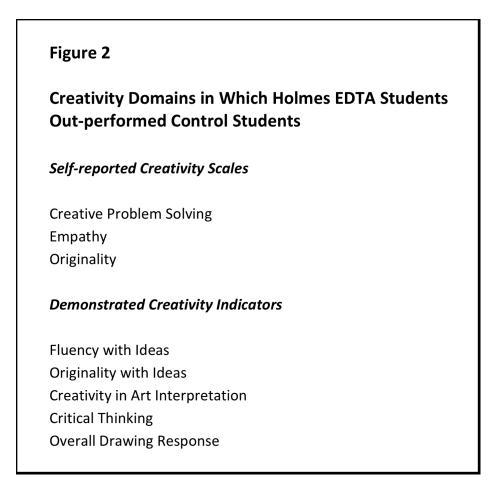

Figure 2

Creativity Domains in Which Holmes EDTA Students Out-performed Control Students

Self-reported Creativity Scales

Creative Problem Solving
Empathy
Originality

Demonstrated Creativity Indicators

Fluency with Ideas
Originality with Ideas
Creativity in Art Interpretation
Critical Thinking
Overall Drawing Response

Figure 2: summarizes the scales in which Holmes JumpStart students out performed their controls over time.

NGCS Results for Finneytown

Table 3: FINNEYTOWN EDTA Student performance VS. Holmes Control Student Performance					
SCALE OR MEASURE	**FINNEYTOWN**		**Gain?**	**Finneytown Controls**	**Gain?**	**Finney Out-Performs It's Control Students**
SELF-REPORTED CREATIVITY						
	Pre	Post		Pre	Post	
Creative Problem Solving	3.09	3.05		3.07	3.07		tie
Creative Efficacy	3.37	3.29		3.36	3.27		x
Collaboration	3.29	3.17		3.33	3.39	x	
Empathy	3.33	3.47	X	3.04	2.93		XX
Originality	3.38	3.37		3.05	2.98		XX
Creative Fluency	3.23	3.26	x	3.10	2.97		XX
DEMONSTRATED CREATIVITY						
How wouldthe world be different?						
N of suggestions (fluency)	6.05	6.15	x	6.00	6.00		XX
Percent creative (originality)	0.86	0.88	x	0.81	0.94	X	
Creativity in Art Interpret.	1.00	1.00		1.00	1.00		tie
Critical Thinking	1.68	1.68		1.16	1.27	X	
Overall Drawiing Response	3.30	3.32	x	2.91	3.25	X	
Creativity in Drawing	1.30	1.21		1.21	1.15		
x = small gain; X = large gain					**XX=Program Outperforms Control**	

Table 3: shows results for the Finneytown JumpStart program. Finneytown participants showed gains in two self-report scales: empathy and creative fluency. They also showed gains in demonstrated fluency, originality, and in the quality of their self-portrait drawing responses. Finneytown participants relatively outperformed their controls in four self-report scales and on the demonstrated fluency scale.

We note that Finneytown control students experienced gains on several scales including collaboration, critical thinking, originality, and overall drawing response. This may be due to factors related to the testing environments, the time of day in which the survey was administered, or the activities students had performed before completing the survey. Alternatively, there may have been an outside circumstance that is partially responsible for program and control students' growth in these areas. Such circumstances may include class activities and curriculum, school trips, or other events in the community or school environment.

Figure 3

Creativity Domains where Finneytown EDTA Students Out-performed Control Students

Self-reported Creativity Scales

Creative Self-efficacy
Empathy
Originality
Creative Fluency

Demonstrated Creativity Indicators

Fluency with Ideas

Figure 3: summarizes the scales in which Finneytown JumpStart students out performed their controls over time.

NGCS Results for Gamble

Table 4: Gamble EDTA Student performance VS. Gamble Control Student Performance						
SCALE OR MEASURE	GAMBLE		Gain?	GAMBLE Controls		GAMBLE Out-Performs It's Control Students
SELF-REPORTED CREATIVITY						
	Pre	Post		Pre	Post	
Creative Problem Solving	2.90	3.12	X	2.90	2.94	x	XX
Creative Efficacy	3.07	3.05		3.09	2.98		XX
Collaboration	3.11	3.06		3.01	3.08		
Empathy	2.85	2.98	X	3.07	3.06		XX
Originality	3.25	3.25		3.29	3.32	X	
Creative Fluency	3.02	3.16	X	3.07	2.66		XX
DEMONSTRATED CREATIVITY						
How would the world be different?						
N of suggestions (fluency)	4.90	4.80		5.62	3.00		XX
Percent creative (originality)	0.67	0.51		0.86	0.87	x	
Creativity in Art Interpret.	0.75	0.88	X	0.83	0.92		XX
Critical Thinking	0.58	1.17	X	1.16	1.31		XX
Overall Drawiing Response	2.37	1.85		2.62	2.22		
Creativity in Drawing	0.89	0.96	X	1.24	0.96		XX
x = small gain; X = large gain						XX=Program Outperforms Control

TABLE 4: shows NGCS results for Gamble middle school. Gamble program students showed pre- to post-scale gains in three self-report scales (creative problem solving, empathy, and creative fluency). They also showed absolute gains in demonstrated creativity (creativity in art interpretation, critical thinking, and creativity in drawing). Gamble program students also relatively out-performed their controls in four self-report and four demonstrated creativity scales. Figure 4, on the next page, lists these scales.

We note an anomaly in the Gamble statistics. This is the very low starting score in critical thinking for the Gamble EdTA students and the more than doubling of this score over time. The comparison group started relatively higher, made a substantial gain, but did not out-

perform the Gamble students according to our guidelines.
The Gamble students doubled their pre-score, while the control students gained about ten
percent.

Figure 4

**Creativity Domains in Which Gamble EDTA Students
Out-performed Gamble Control Students**

Self-reported Creativity Scales

Creative Problem Solving
Creative Self-efficacy
Empathy
Creative Fluency

Demonstrated Creativity Indicators

Fluency with Ideas
Creativity in Art Interpretation
Critical Thinking
Creativity in Drawing

Figure 4: lists the scales where the Gamble program students out performed the control students.

Overall NGCS results

JumpStart program students gained in creativity according to the NGCS scales. The most powerful results were in creative problem solving - both overall and in two of the three participating schools. The same result shows for empathy. Program students consistently out-performed the control students on a majority of the scales according to our definition of performance on these scales – overall and in each school. Our observations suggest that the creative motivation and behaviors of students, as well as their engagement with the program, increased over the course of the program, and the NGCS provides some triangulation suggesting that these observations have validity. And conversely, this suggests that the survey has some general validity when it comes to capturing dimensions of creative growth.

We might expect at the outset that a musical theatre program would impact creative problem solving self-beliefs as well as empathy. From start to finish, the creation of a play production can involve solving many problems on a daily basis. There are many small issues, decisions, and problems that must be addressed throughout the play creation process; involvement in these is likely to boost skills and perceptions of skills.

At the same time, musical theatre and drama present exercises in understanding self and others as characters take on their roles. Empathetic skills are a fundamental part of creating roles for the stage and classroom.

Qualitative Evaluation Methods

CRoC used observations and surveys as qualitative data collection methods to further explore the JumpStart Theatre program in the first year. These methods serve as triangulation to the quantitative data and are detailed in the following sections.

Teacher Bootcamp Observations
Research Assistants (RAs) attended Bootcamps I, II, and III that took place at important junctures in the JumpStart Curriculum. JumpStart Teaching Artists led the Bootcamp sessions, which successively prepared and coached teachers to create the world of the play and to present a complete production with music, sets, costumes, and props. RAs were trained to record their observations of the Bootcamp using a guide. (See Appendix I)

Rehearsal Observations
An RA attended 4 - 5 rehearsals at all of the schools at the beginning, middle, and end of the rehearsal process, using a guide to focus their observations. The work of Sheila Page is shared with each RA to deepen their understanding of creative behaviors that they might observe. (See Appendix II, III, IV)

Performance and Share Out Observations
An RA attended 1 performance at each school using a guide to focus their observations. (See Appendix II, III) Additionally, the Principal Investigator attended the JumpStart Showcase and recorded his observations.

Teacher & Teaching Artist Surveys
Eighteen JumpStart teachers completed a pre-survey at Bootcamp I in October, 2015. Due to the practical demands made on time at the end of the program, the identical post-survey was delivered online to the same teachers via Survey Monkey. At the time of this report four responses were collected. Surveys were also delivered online via Survey Monkey to four Teaching Artists. At the time of this report two responses were collected. We collected data with both teacher and teaching artist surveys in order to compare teachers and Teaching Artists perceived experiences with our observations of the program.

Qualitative Results

In this section, we detail the findings generated from observations and surveys. Our findings are largely focused on the opportunities for and demonstrations of creativity and creative learning during the JumpStart rehearsals and performances with a brief summary of the philosophies and guiding ideas presented during the Bootcamp.

Bootcamp Philosophies
In the Bootcamp training, teachers engaged in participatory and experiential learning. Several RAs noted this as a significant and influential teaching strategy:

> *"They make the teachers experience everything themselves first, giving each teacher a musical theatre teacher's handbook, but discouraging anyone from just sitting down and going through it until after they had participated in all of the warm-ups and singing, dancing, and acting activities of the day. This way, when the trainers asked the teachers at the end of each activity what they learned from it, and how it could be useful in their classes or rehearsals, the teachers are able to speak more directly to its application, as they have just experienced and learned what the students are supposed to learn from it to."*

In addition to learning the value of 'warm-ups' and other rehearsal activities by engaging as participants, teachers learned that the JumpStart program is largely *process*-oriented. The Bootcamp facilitators encouraged teachers to embrace 'simplicity,' to focus on 'telling the story,' even if the means of telling the story were non-traditional, and to avoid 'overreaching' or striving for perfection. In teacher post-surveys, several confirmed that they felt as if the JumpStart Theatre program taught them "the importance of telling a story through movement, voice, song, and dance" and how to "efficiently tell a story without saying anything at all." Teaching Artists also indicated that they felt that the program had helped teachers to "just get up on their feet [and] learn how to tell a story."

Based on the Bootcamp training philosophies, it was clear that the JumpStart program does not aim to produce or expect artistically exquisite performances. Instead of focusing on a perfected end product, teachers were encouraged to focus on the process. Furthermore, teachers were encouraged to develop strategies to maintain student engagement, provide opportunities for creative exploration and improvisation, and to overcome the "rehearsal doldrums." Some of these strategies included placing students in unusual or leadership roles or experimenting with different ways to perform or communicate (with or without words, gestures, etc.) in particular scenes. In this sense, the Bootcamp encouraged teachers to be creative in their approach to the musical production as a means to promote their students' creativity.

Data from the teacher pre-survey also reveals that despite their hesitation or lack of confidence in their understanding of theater performances and techniques, teachers were enthusiastic about learning how to successfully develop and manage a new theater program. Their enthusiasm was reflected in their engaged participation throughout the Bootcamp.

Rehearsals
Creativity & Time
Across all three schools, time appeared to be the greatest factor affecting rehearsal success, student engagement, creativity, and final performances. In the pre-program surveys, most teachers expressed concerns about having enough time to successfully complete the theatrical production. They also frequently mentioned that they were most worried about time management and hoped that their school administration would be supportive with flexible scheduling. The Teaching Artists also indicated that teachers sometimes had a hard time grasping the need for a schedule, experienced schedule conflicts, or struggled to know how much time was necessary for each aspect of the show production and preparation. One teacher expressed a similar sentiment in a post-survey:

> *"We had another school donate many of our costumes and props but they were not available until the very close to the performance which made rehearsing with these*

things very stressful. This could easily be fixed for future performances now knowing how much time is needed for students to interact with these items. [...] EVERY single thing needs to be planned, well scheduled and followed to the letter."

When asked to reflect on what they learned during the JumpStart process, the same teacher reflected:

"There was so much more that goes into it than I ever realized. The person in charge of or responsible for the performance needs to have specific uninterrupted time dedicated to the play. There is too much to only have a few after school rehearsals for our students. Our students needed more time, or even time during the day to commit to the play. [I also] learned that we needed more support with scheduling the auditorium and with scheduling rehearsals, which may be able to be covered in future bootcamps."

Given the importance of time, in the future, it may be beneficial for Bootcamps to explicitly train teachers on scheduling and time management.

Furthermore, consistent with recent literature on creative learning (Jeffrey & Craft, 2003, 2004), possibility thinking (Craft et al, 2012; Craft, 2013), and teaching through the arts (Denmead, 2009), lack of time in rehearsals and before the final performance appeared to limit student and teacher creativity[3]. Observers repeatedly noted that time seemed to be an important element when cultivating creative risks and improvisation. Even the school that

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[3]Craft, A., McConnon, L., & Matthews, A. (2012). Child-initiated play and professional creativity: Enabling four-year-olds' possibility thinking. *Thinking Skills and Creativity*, 7, 48-61.

Craft, A. (2013). Childhood, possibility thinking and wise, humanising educational futures. *International Journal of Educational Research*, 61, 126 – 134. doi: 10.1016/j.ijer .2013.02.005

Denmead, T. (2009). Being and becoming: Elements of pedagogies described by three East Anglian creative practitioners. *Thinking Skills and Creativity*, 6, 57-66. doi: 10.1016/j.tsc.2010.10.004

Jeffrey, B., & Craft, A. (2003). Creative learning and possibility thinking. Paper presented at British Education Research Association Conference, BERA, UK.

Jeffrey, B., & Craft, A. (2004). Creative teaching and teaching for creativity: Distinctions and relationships. *Educational Studies*, 30(1), 77 – 87. doi: 10.1080/0305569032000159750

demonstrated tremendous theatrical potential and talent seemed rushed and would have benefitted from more time.

Although every school would have benefitted from more time, when given sufficient time to go beyond rote scene and line rehearsal and to freely experiment, students and teachers exhibited creative improvisation and possibility thinking. One teacher reflected in a post-survey: "I felt most creative in the moments when we were challenged for props or scene changes. I really learned to embrace the simplest of options." For a list of students' creative improvisations, see Table 5.

Table 5

Domain of Improvisation	Example of Student Improvisation
Blocking Experimentation	Using dance moves from another number
	A student playing two characters who were both on stage at once recruited her twin to play one of the characters during that scene
Character development	An actor played a dog and one playing a policeman added in a back and forth – added bits to make the characters more real
	A lead actor channeled his fidgeting into mannerisms for his character.
Props	Students use patting to keep time
	A student used a chair to stand on for stairs
	When a prop interfered with stage directions, teachers asked kids to find a way that wouldn't interfere.
	When there were lighting issues near the beginning, the kids used curtains to show breaks between scenes
Comedy	A boy playing a villain took the opportunity to do some comedic physical acting

Table 5. Selected Sample of Student Creative Improvisations

Additionally, a lack of time forced each school to cut certain scenes or songs either prior to the final performance or during the final performance. While this did not inhibit the 'storytelling' per se, in at least one school, the time limit prevented several students from performing in the final observed performance.

Across the three schools, the degree to which creativity was actively cultivated through teachers' tasked varied. At one school, in each rehearsal, students were challenged to collaborate in new ways—either with their older high school peers or in small groups on specific aspects of choreography—and to experiment with their character communication and development in a variety of stylistic exercises. For example, students were prompted to think about 'what shoes their characters might wear.' However, at another school, behavioral issues appeared to distract all participants from engaging fully in the philosophies of creative practice and there were fewer opportunities for teachers to intentionally prompt students' creative character development and exploration.

In each school, even if only briefly, students were allowed to lead and contribute as equals when developing choreography and staging. Furthermore, when given the autonomy to take the lead in rehearsals or to improvise in performance, students exhibited more creative behaviors.

Carry Over from the Bootcamp

Although the Bootcamp appeared to be an informative and well-executed training program for teachers, some of the guiding philosophies or strategies were not maintained consistently throughout the rehearsals. Only one school consistently used warm-ups and debriefing sessions to start and conclude each rehearsal; the other schools, especially when under time pressure, did not engage in warm-ups or debrief discussions.

While some strategies may have been underutilized, the Bootcamp guiding philosophies were apparent in most rehearsals. One observer noted this in an observation:

GAMBLE

One key aspect to JumpStart's program is that as long as the musical "tells the story," nothing else really matters. Gamble teachers are able to incorporate that into their musical seamlessly because the importance of storytelling is woven throughout the dialogue and songs, especially in the last song of the musical. They end their warm up and start the play with saying together "Tell the story."

Moreover, the notion that 'there are no right or wrong answers' appeared very strongly in all of the schools' rehearsals and final performances. Students were free to improvise, especially during the final performances, and many of the students were unafraid and eager to do so. For example, in Finneytown's final performance, the observer noted 7 areas of improvisation and commended the students on their alertness and responsiveness to one another's improvisations; the storyline did not stop, there were no awkward pauses, and often times, improvisation resulted in comedic relief.

FINNEYTOWN

"When improvisation was called for, the other actors tended to be right on the ball, maintaining their characters. The audience reacted very well. One dance number that got particular applause was almost totally choreographed by the girl who sang the majority of the song."

Additionally, because many of the schools experienced obvious setbacks or challenges, it was nearly impossible for teachers or students to expect perfection or the "right" answer. Thus, embracing the failures and the creative experimentation that comes with uncertainty and improvisation seems to have been a highlight and potential point for growth within the program. The culminating performance for Holmes is a prime example of this type of creative improvisation in action:

HOLMES

"When there were lighting issues near the beginning, the kids used curtains to show breaks between scenes. The lead put on a brand new 'nervous' act that was very effective. The cast was good about pressing on, rather than pausing, when there were small missteps.

Challenges
Each school encountered several challenges throughout the duration of the rehearsals and performance. In all schools, student family transience was a consistent challenge. As a result, there were many understudies and students who performed multiple characters in one show. Behavioral management also affected the degree to which students and teachers could engage in rehearsals and the performance. Student engagement ranged widely and often times, disruptive students distracted the performance and frustrated teachers and students. Technical issues related to lighting, costuming, and scene transitions also

appeared to be a distraction for teachers and students when attempting to engage in creative and collaborative theater practice.

Despite the challenges, the final productions were well received in each community. Audiences were supportive, engaged, and pleased by the performances. Student audience members laughed at the appropriate times; the principal encouraged the performers and praised their efforts and ability to do something positive for the community and school; and one school even received a standing ovation. Furthermore, the final share-out performances of two songs from each participating school's musical proved very successful. An ample house at Xavier University's theatre saw polished, costumed performances involving typically 15-20 students from each school. Each number appeared to benefit not only from the rehearsal routines building up to the final shows in each school community, but preparation and polishing for the final share-out resulted in fine performances by all three casts.

Conclusion

The JumpStart program yielded value for teachers and students in the *process* of co-creating and implementing a theatrical performance. Students and teachers had sufficient time to explore creative practice through improvisation and collaboration, though more time may have enabled greater creativity and collaboration amongst students and teachers. Furthermore, the imperfect nature of the process may have created a safe and nonjudgmental environment in which students felt free and confident to improvise and 'tell the story' in whatever way possible given the moment in time and resources at hand. In other words, the uniquely imperfect process may have been key to cultivating particular elements of student and teacher creativity.

Preliminary Conclusions & Recommendations: A Summary of Quantitative and Qualitative Data

The combined quantitative and qualitative research findings from the first year of EdTA's JumpStart program illustrate a robust picture of student and school community creative growth. A synthesis of these findings, though tentative, suggests a few key insights about the nature of creative learning through theatre. Student growth in creative problem solving over time may be related to frequency of their improvisations during rehearsals and the final performances. The uncertain environment, in which students frequently dropped out of the show, time was limited, and technical difficulties were common, may have been a crucial factor in developing students' creative problem solving abilities. When tasked to

improvise a line, a character's choreography, or scene transitions, students had to use instantaneous creative problem solving to keep the show moving forward and to continue to 'tell the story.' Furthermore, because uncertainty was a common factor throughout the rehearsal and final performances, students had the opportunity to develop their improvisation and creative problem solving skills over time. Because creative problem solving became the 'norm,' students may be more likely to retain these creative problem-solving skills in the future, beyond the JumpStart program. Further research in years two and three may provide evidence to validate such a hypothesis.

In addition to uncertainty, time and autonomy appear to have been important factors in increasing student creativity. When students had the time to rehearse scenes repeatedly and the autonomy to take ownership over their character development, choreography, etc., they demonstrated more creative behaviors and improvisations. Autonomy and time may also relate to students' growth in empathy. When given the time to think deeply about their characters' dialogue and motivations and the autonomy to make creative decisions about blocking, choreography, character expression, and props, students had the opportunity to engage more deeply with their characters. With time and creative license, students may have been able to cultivate empathy—or a true understanding—of their characters.

Finally, JumpStart's special emphasis on 'telling the story' (in contrast to perfection), seems to have been an important underlying value that may have enabled students and teachers to embrace greater creative experimentation and improvisation. When the expectation for perfection is removed, space for possibility, innovation, and creativity can emerge.

Looking towards the second year of study, CRoC recommends:

1) JumpStart creates a list of questions or prompts that teachers can use for student reflection throughout the process.

2) JumpStart emphasizes the importance of not skipping warm up and/or debrief, and encourages teachers to view these sessions as an integrated, essential part of the whole process.

3) JumpStart may want to add in a time saving protocol (ie – lining students up outside classroom in preparation to entering rehearsal space and reviewing expectations, attitudes, etc.) to facilitate classroom management.

4) JumpStart may want to emphasize the value of improvisation and the link to creative thinking and problem solving in the Bootcamp training sessions.

5) JumpStart may want to provide a more extensive overview of time management and scheduling strategies in the Bootcamp. training sessions.

6) CRoC will add a question regarding the role of music in the theater performances in teacher and student surveys, time permitting.

7) The NGCS Survey is administered in similar conditions across all groups – program and control. Ideally, the survey is administered separately to program and control students at each school site, around the same time of day, in a similar environment with minimal distractions. A classroom setting is optimal.

End of Report

Appendices

I. Bootcamp Observation Guide

1. Record noteworthy teacher responses/reactions to the training.
2. What seems to be the most important that participants are learning in this training?
3. What does the teaching artist(s) do specifically to support teacher learning about JumpStart's approach to the basics of implementing a middle school theatre program?

Sample Bootcamp Observations: All Schools

Noteworthy teacher responses/ reactions to the training:

"Facilitators asked teachers to reflect about how the warm-up exercise benefited the group and their productivity. Then the facilitator asked them to imagine what it would be like to rehearse without a warm-up and than with a warm-up activity. When asked during the end of day wrap-up what they had done well that day, the teachers responded that they: listened, committed to every exercise, focused, and learned to see the big picture, to organize, to choreograph, and that they could dance. When asked what they were going to do now in class or in rehearsal, the teachers answered: use tableaux exercises, do different warm-ups, teach students to focus, keep it simple, teach step-by-step procedures, dictate less, relinquish control, and give their students more empowerment."

What seems to be most important that participants are learning in this training?

"Common ideas that come up throughout the bootcamp: inclusion, fun, ownership/empowerment, and the idea that there is no right or wrong in musical theatre. The type of facilitators Steve and Martin are play a key role in giving teachers ideas of positive reinforcement for students: showing how to give minimal directions, guiding throughout the exercise and how to promote inclusion among all students regardless of the important of their roles."

What does the teaching artist(s) do specifically to support teacher learning about JumpStart's approach to the basics of implementing a middle school theatre program?

"They make the teachers experience everything themselves first, giving each teacher a musical theatre teacher's handbook, but discouraging anyone from just sitting down and going through it until after they had participated in all of the warm-ups and singing, dancing, and acting activities of the day. This way, when the trainers asked the teachers at the end of each activity what they learned from it and how it could be useful in their classes or rehearsals, the teachers are able to speak more directly to its application, as they have just experienced and learned what the students are supposed to learn from it to.

II.   Rehearsal, Dress Rehearsal, and Performance Observation Guide

School:_____Date:_____Observer:_____

1. What **demands** for creative actions or creative problem solving are placed on students during this rehearsal?   (Requests from teaching artists/directors.)

2. Does the rehearsal generally provide sufficient time for creative actions on the part of cast and crew? Give an example.

3. Describe 3-4 creative **actions/responses** made by students during this rehearsal.

4. Do you recall any student reactions to their own creative actions? E.G. what verbal reactions, comments to cast-mates/crew-mates?

5. Do the teaching artists or Director present creative adaptations to story lines and or spoken lines used in this play?

6. In your observations of this cast and crew, how would you describe the progress they all are making toward a finished production up to this point in time?

III. Sample Rehearsal and Performance Observations

Rehearsal: Finneytown

General overview:
"This was the first rehearsal observed with the participation of senior students as mentors. Students broke into different groups based on what needed to get accomplished. A senior gave a detailed explanation of what needed to be done, along with sharing theory and anecdotes from his experience. Senior mentors worked to teach middle school-ers different aspects, however there was some lack of organization. Much of the organization seemed to be in the lead teacher's head. Some disruption as the lead teacher checked in with each group, but overall things were quite upbeat. No warm up or wrap up exercise, but students gathered in circle at beginning and end."

What demands for creative actions or creative problem solving are placed on students during the rehearsal?
"The teachers brought in high school seniors to help run rehearsal, and most of it was left to them, though the delivery of lines and making sure blocking was working was something the teachers engaged on. At the end of rehearsal, students were asked to think about what kind of shoes their character would wear."

Does the rehearsal generally provide sufficient time for creative actions on the part of the cast and crew?
"Absolutely. When practice started, the cast divided into multiple groups and engaged in different parts of the show, which let each group focus more on their actions. This allowed them to tweak the performance and to perfect the blocking."

Describe 3-4 creative actions/ responses made by students during this rehearsal
"When told to get straight and formal a group of actors added an action that fit with their childish characters, playing up their role. When asked if they knew the choreography, one girl said it should be simple and the students then proved her right, hammering the scene together in very little time. Tech crew decided to lower the pit and use it in an area to work in. When given stage direction by a senior that didn't make sense for the scene, the students were quick to point out the issues with the stage direction and suggest an alternative."

Do you recall any student reactions to their own creative actions?
"Student reactions tend to be uniformly positive. Students build off each other's ideas."

Do the teaching artists or Director present creative adaptations to storylines and/or spoken lines used in this play?

"Not in this rehearsal. Teachers seemed to focus more closely on the tech side of things, making sure sound/lighting/props/scenery were progressing."

In your observations of this cast and crew, how would you describe the progress they all are making toward a finished production up to this point in time?
"Progress is being made at a nice pace, yet there isn't much time to put the play together..."

Performance: Gamble

What demands for creative actions or creative problem solving are placed on students during the rehearsal?
"For the final performance, students were asked to arrive early, ate there, and then dispersed while waiting for others to arrive. Then they got into costumes and make-up, have a pep talk and warm up before the show."

Does the rehearsal generally provide sufficient time for creative actions on the part of the cast and crew?
"The time between arrival and the start of play is not structured like the rehearsal, but they do have time for a warm up backstage."

Describe 3-4 creative actions/ responses made by students during this rehearsal
"Students ran lines in the music room and then later while eating dinner. There were no teachers involved in either instance, but the students chose to work on improving for their last performance."

Do you recall any student reactions to their own creative actions?
"Some students said that Friday night was perfect. One girl said that being part of the musical was hard, but fun, and another said that it helped with her problems talking to people. "

In your observations of this cast and crew, how would you describe the progress they all are making toward a finished production up to this point in time?
"Mr. Frank had a big smile on his face and said that Friday night went really, really well. He expresses his joy and surprise that they were able to put on such a great show because he didn't think the dress rehearsal went that well. He had gotten mics for the performance to help with volume issues. The cast got a standing ovation."

IV. Sheila Page on Creativity

BEHAVIORS THAT SUPPORT DEVELOPMENT OF CREATIVITY
CRoC's approach to data collection through observation is informed by the work of Ms. Sheila Page, HMIE, Education Scotland. What follows is her framework for defining creative attributes, which can be applied to student learning, teacher learning, and teaching for creativity.

CREATIVE ATTRIBUTES
The following attributes are not exclusive to the development of creativity skills, nor do they represent a linear process. However, taken together, they point the way towards learning behaviors that suport the development of creativity skills.

People who are creative tend to be:
- Inquisitive
- Open-minded
- Imaginative
- Able to identify and solve problems
- Confident in their right and ability to
- Influence change

CREATIVE LEARNING BEHAVIORS
Inquisitiveness:
- Being curious
- Noticing deeply
- Registering patterns
- Making connections between elements
- Referring to previous knowledge
- Researching productively

Open-mindedness:
- Formulating good questions:
  - What if….?
  - Why does….?
  - Suppose that…?
  - Who says…?
- Challenging assumptions or the status quo
- Identifying problems
- Exploring multiple viewpoints
- Functioning in uncertain situations

Use of Imagination:
- Lateral thinking
- Using analogy
- Hypothesizing
- Playing with several possibilities
- Synthesizing and refining multiple options and viewpoints

Delivery of constructive solutions:
- Planning
- Inventing
- Crafting, delivering and presenting
- Applying discipline and resilience
- Evaluating solutions against initial problem
- Evaluating impact of solutions
- Identifying next steps in refinement or development process

Confidence:
- Motivated and ambitious for change
- Confident in validity of own viewpoint
- Able to identify impact of creative process on:
  - personal development
  - project outcomes
- Able to apply creative process to other situations
- Able to lead and work well with others

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