Capturing Student and Teacher Creative Growth through the
After-School JumpStart Theatre Program
Cincinnati, Ohio • Felicity, Ohio • Covington, Kentucky

Educational Theatre Association

Year Three and Final Report
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Gabby Arenge, MPhil
Research Associate
Centers for Research on Creativity

Dr. Sherry Kerr
Senior Research Associate
Centers for Research on Creativity
The JumpStart Theatre Program study was conducted with participation from the following Centers for Research on Creativity and Educational Theatre Association team members:

**Principal Investigator**
James Catterall, Ph.D.

**Data Investigator**
Gabby Arenge, MPhil

**Senior Research Associate**
Sherry J. Kerr, Ed.D.

**Field Researcher**
Jennifer Johnson

**Report Editor**
Kim Zanti

**Project Coordinators**
Dee Anne Bryll
Ginny Butsch
Jim Palmarini
Kim Zanti

*The CRoC team extends a note of appreciation to Jim Palmarini, the leadership and staff, administrators, teaching artists, teachers, students, and everyone who welcomed our presence as we documented the JumpStart Theatre Program.*

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Front Cover Photo: Joyful students perform at the JumpStart Theatre Performance Showcase.
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1. Introduction
The Educational Theatre Association (EdTA), based in Cincinnati, Ohio is a national nonprofit organization with approximately 100,000 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.

In 2015, in collaboration with New York City-based companies, iTheatrics and Music Theatre International (MTI), EdTA initiated the JumpStart Theatre Program in Ohio and Kentucky. The three-year scalable, pilot program is designed to build sustainable musical theatre programs where, previously, there were none. JumpStart Theatre 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. In Cincinnati, four iTheatrics teaching artists delivered the program – Marty Johnston, Susan Fuller, Cindy Ripley and Steven Kennedy. EdTA teaching artist program mentors Dee Anne Bryll and Becca Kloha Strand contributed to the delivery of the program.

EdTA contracted with the Centers for Research on Creativity (CRoC) based in Los Angeles, California to assess the impact of the JumpStart Theatre Program on the student, teacher, and school community’s growth in creativity while participating in a middle school musical theatre program. This report describes CRoC’s evaluation findings of:

1) the third year of implementation of JumpStart Theatre in four public schools in Ohio and Kentucky, and
2) the holistic three-year project period.

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).

1.1 JumpStart Theatre Schools
Each school stated their goals or hopes in offering the JumpStart Theatre Program to their students and teachers. These goals are offset as italicized, boxed text.
Felicity-Franklin students with their musical director in dress rehearsal for The Music Man JR.

**Felicity-Franklin Middle School**, Felicity, OH

[We hoped that that] this program would help our community recognize what our students are capable of when given a chance. At one time, our school had an active Boys and Girls Club, which provided a place for students to go after school and during the summer. Unfortunately, the club was closed and many of our students walk the streets of town, since there isn’t much else to do. I believe an experience such as this would be something students could get excited about. It could change the way some kids actually see themselves and also let the community see what our kids are capable of accomplishing.

Felicity-Franklin Middle School, herein known as “Felicity,” participated in Year Two and Year Three of the study, beginning with their response to the 2016 “All Call” for applications to JumpStart Theatre.

From the start, school leaders were notably enthusiastic. The principal and three teachers attended the interviews, which was uncommon with other school applicants. JumpStart Theatre recognized the importance of administrative buy-in and added Felicity to the study in the second year of implementation.
Felicity-Franklin Middle School (grades 5-8) is located in the village of Felicity, Ohio in Southeast Clermont County, 35 miles east of Cincinnati. The population of the village is under 1,000 residents. The school serves 281 students housed in a K-12 building. The school is similar to the other schools in the study in relation to school day structure and the fact that this is its first year with middle school theatre. Yet, it is distinctly different from the other JumpStart Theatre Program schools in that it is located in a rural setting with an entirely Caucasian student body.

Unemployment in Franklin Township is among the highest in Ohio with the principle industry being agriculture. Furthermore, Clermont County—where Felicity is located—had nearly 100 fatal drug overdoses in 2015, one of the highest rates in the state. As a result, many students in Felicity are cared for by secondary providers—grandparents, aunts, and friends of parents who have either died from, or who are struggling with, drug addiction. Despite these hardships, there is a strong sense of community and caring for the students, led by a well-known principal who is native to the area.

The mission at Felicity-Franklin Middle School is to ensure:
- Success in acquiring academic skills;
- Teamwork with students, parents, school personnel, and community;
- Ambition toward achievement of academic and personal goals; and
- Respect for ourselves, family, school, and community.

The school offers extracurricular sports activities including volleyball, soccer, tennis, track, softball, and baseball, and choir.

JumpStart Theatre is the school’s first theatre program. In this second year of the school’s participation, the selected play was *The Music Man* JR. Sixty students participated on stage and on the crew this year and three volunteers assisted the production. The students performed to an audience of 350 community members. The performances were a major event for the community, raising close to $2,000, the highest amount in ticket sales of the schools in the study. Many families donated materials, painted sets, and helped make costumes.

In addition to in-school performances, the cast performed the song from the play, “Wells Fargo Wagon” at the JumpStart Theatre Showcase, held at the Anderson Theater in Memorial Hall, a 556-seat theatre built in 1906 in the Beaux Art style.
Finneytown students perform Seussical JR.

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 Theatre program will assist in enhancing our academic programs and provide a creative outlet for our students where none currently exists.

Located in the urban–suburban Finneytown Local School District, Finneytown Secondary Campus includes both high and middle schools that serve a total of 700 students. The schools share a well-appointed theatre, the William R. Swartzel Performing Arts Center.

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, choir, orchestra, general music, and general arts education.

In this third year of the program, Finneytown presented Seussical JR. a 60-minute song filled celebration of the powers of friendship, loyalty, family, and community.
Thirty students participated as actors, production crew (sets, sound, props, costumes) and by promoting the show; three teachers participated as director, music director, and choreographer. Forty volunteers assisted the production, and 876 people attended a school performance.
In general, EdTA staff observed or heard teachers mention parents/volunteers helping sell tickets, distribute programs, sell concessions, build sets, build costumes, collect props, providing snacks, helping students memorize their lines, supervise backstage, assisting students with hair/makeup.

In addition to in-school performances, the cast performed the song “Oh, The Thinks You Can Think!” from the play at the JumpStart Theatre Showcase, held at the Anderson Theater in Memorial Hall, a 556-seat theatre built in 1906 in the Beaux Art style.
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 third year of the program, 31 students participated as actors, production crew (sets, sound, props, costumes) and by promoting the show; three teachers participated as director, music director, and choreographer). Seven volunteers assisted the production and 550 audience members attended a performance.

Gamble presented *Into The Woods JR.*, a 60-minute musical retelling of classic Brothers Grimm fairy tales *Cinderella*, *Jack and the Beanstalk*, and *Little Red Riding Hood*.

In general, EdTA staff observed or heard teachers mention parents/volunteers helping sell tickets, distribute programs, sell concessions, build sets, build costumes, collect props, providing snacks, helping students memorize their lines, supervise backstage, assisting students with hair/makeup.

In addition to in-school performances, the cast performed the song “Ever After” from the play at the JumpStart Theatre Showcase, held at the Anderson Theater in Memorial Hall, a 556-seat theatre built in 1906 in the Beaux Art style.
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 our 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 Theatre 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 Theatre is the middle school’s first after-school drama program.
Approximately 35 students participated as actors, production crew (sets, sound, props, costumes) and by promoting the show; three teachers participated as director, music director, and choreographer).

Holmes presented *The Little Mermaid JR.*, a 60-minute production.

In general, EdTA staff observed or heard teachers mention parents/volunteers helping sell tickets, distribute programs, sell concessions, build sets, build costumes, collect props, providing snacks, helping students memorize their lines, supervise backstage, assisting students with hair/makeup.

In addition to in-school performances, the cast performed the song from the play, “Kiss The Girl” at the JumpStart Theatre Showcase, held at the Anderson Theater in Memorial Hall, a 556-seat theatre built in 1906 in the Beaux Art style.
1.2 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 five indicators (on a scale of 1 – 4):

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

Felicity-Franklin Middle School applied and was selected in 2016, the second year of the study.

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 the states’ departments of education. For instance, at Gamble, 70% of the student population is eligible for the free or reduced priced lunch program.

Two research assistants (RA1 and RA2) were recruited through University of Cincinnati and Northern Kentucky University to conduct observations and assist with administering the Next Generation Creativity Survey to students. RA1 discontinued working with the study after the first year. RA2 continued for the second and third year. 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.

In the third year, RA3 was recruited from Northern Kentucky University. She began working on the JumpStart Theatre study while a full time student pursuing a degree in psychology with a minor in neuroscience and a focus in music. She then graduated and accepted a position with the Veterans Administration in Cincinnati and continued with the study. CRoC trained RA3 (in person and via Skype) to carry out observations specific to the EdTA Evaluation Plan.

RA3 displayed a deep affinity for the goals of JumpStart Theatre, as evidenced in her observation notes, and in-person and online communications. R3 engaged at a deeper level in the study, by participating in focus groups and filling in gaps in the data collection when R2 left the project midway through Year Three without notice, indication of her whereabouts, or completing her work plan.
2. Setting the Scene: Musical Theatre and Cognitive Neuroscience

Acting is about as complete and multimodal as you can get.
It's physical, it's emotional, it's cognitive, and it's social.
~ Art Kramer, cognitive research scientist

Tell the Story. Sing the Songs. Teachers learn these two mantras in the JumpStart Theatre Boot Camps. The goal is to focus their student’s attention on the most important elements of acting in a musical. In that sense, these mantras are practical strategies. Yet, they are so much more. These actions of telling and singing give students opportunities to exercise, develop, and feel the power of their humanity, bringing their bodies, minds and souls to the process. Teachers can also use these mantras in their teaching practice, across curriculum, to deepen and sustain student learning.

Telling the Story
Who can claim that they haven’t felt their heart rate increase as the protagonist faces danger? Or shed tears at the suffering of innocent characters? Who among us hasn’t laughed and cheered as the hero outsmarts the villain? As an observer of theatre, students find themselves reacting physically and emotionally to situations that characters encounter. As actors in roles, students imagine and behave as if they are other than themselves, in some other place, at another time. Enduring stories and plays have the power to alter what we believe is possible, the way that we think, and the life decisions we make.

Theatre is a meaning making experience that helps us to interpret life and understand the world. For youth, that world is often hyper-judgmental, where split second impressions can lead to a student being ridiculed, bullied, ostracized, or worse. When these are the potential consequences of certain attitudes or behaviors, where can a young person experiment with the consequence of a decision and express their deeper emotions? For many students,
theatre is the only place where instead of suppressing their feelings, they can examine them in the light of the characters they are involved with. Students who participate in theatre have a safe environment where they can be who they are by being who they aren’t. A place where everyone is different and united under a single purpose — to tell the story.

While we have known for centuries the impact of theater on our emotions and its ability to give us insights into other worlds, we haven’t known why or how it works. Theatre scholars and advocates would do well to explore what neuroscience reveals about brain functions and how such functions relate to theatre and performance. Yet it was quite by accident that a research team discovered that when a monkey watches another monkey or human perform certain actions, the neurons in the brain of the one who watches fires in the same way as the one who performed the action.

These particular neurons are motor neurons that carry messages from the brain to the muscles and activate a precise part of the brain that has a mirroring system. This seems to allow us to experience the actions of others at a very basic motor level. And if the experience produces an authentic feeling on a deeper level, the same neurotransmitters are released as if the experience were real. When we feel for the character, we develop empathy for them. The experience of empathy is an essential character trait for students to develop, because it allows them to better understand how others are likely to react to a situation.

As Robin Lithgow, former Director of the Arts Education Branch of the second largest school district in the country, Los Angeles Unified School District, noted, “When a drama teacher asserts that one of the primary things his students are learning is empathy, that teacher is absolutely right. The students are developing their mirror neurons. They are learning to care.” The capacity for empathy can transfer to others in similar situations as well as enhance our ability to see our own world more clearly.

Dr. James Catterall puts this concept into the context of the stage in his article, “A Neuroscience of Art and Human Empathy: Aligning Behavioral and Brain Imaging Evidence”.

Theatre and drama offer a quintessential platform for engaging empathic dispositions. The actor must develop a sense of a character to initiate a role – understanding that character in a sociocultural context. More than this, the actor must grow to understand other characters in a production – empathizing in turn to put the action on a footing suited to who the players intend to be.

We turn to the plays selected by each school in the study to offer specific examples. In the play, *The Little Mermaid*, Holmes students might empathize with Ariel, a girl who doesn’t fit in or live up to the expectations of adults. Ariel learns to let go of what is expected of her and summon the courage from within to seek her own world and pursue her own dreams.

On the other hand, students may recognize Ariel’s encounter with a smooth talker like Ursula, who manipulates her at her most vulnerable, and better recognize and understand the scene the next time it plays out in real life.

Felicity’s play, *The Music Man*, depicts the powerful impact of music on various characters. Students may feel empathy for a young boy who overcomes shyness, a teen who strives for recognition, a young woman who is afraid to love, even Harold Hill, a con man, who is inspired to live a better life. The once removed experience these feelings and aspirations depict enable and empower real life.

*Into the Woods*, produced by Gamble, offers many lessons that may resonate with students. Every character in the play wishes their life were different. Each character desperately wants something he or she does not have. The play teaches us that wishes, like actions, have consequences and appetites. Once we get our wish, we will most likely wish for more. The musical play ends with Cinderella’s song, ’I wish!"

In Finneytown’s choice, *Seussical*, the main character Horton is ridiculed and ostracized for defending his beliefs and Jojo is admonished by his school and parents for his overactive imagination The choice is ’get in step’ or ‘get out of line,’ a daily choice for adolescents.

Most teachers consider student’s interests, their social context, and the issues they face individually and as part of a community, when they choose their play for the year. Musical theatre offers classroom teachers, across curriculum, a myriad of opportunities to make connections to the characters and world of the play that guide students to reflect on their lives, the world at large, and their place in it.

*Singing the Songs*
Stephen Koelsch describes the neurology of music in his book, “Brain and Music.” He writes, “As soon as music hits our ear it stimulates spinal motor neurons and vestibular, visceral systems.” He identifies the function of the core emotional network that is responsible for the feeling we get when we listen to music. The three main areas of this network are the amygdala, the nucleus accumbens and the hippocampus.

Dr. Catterall addresses music, emotion and the brain in his article, *A Neuroscience of Art and Human Empathy: Aligning Behavioral and Brain Imaging Evidence.*

Music ties to emotion and empathy in the case of making music as well as simply in listening. Playing music in ensembles is as much a human community experience as a music experience. Musicians develop feeling and understanding for the emotions, as well as for the joys, needs, and predicaments we might say, of fellow musicians – and for the feelings and understandings of themselves as performers. Making music is a fluid enterprise, requiring adaptations or modifications along the way, at the behest of a musical director whose “needs” and concerns may be worth understanding, or in a nearly autonomous response to the sound as it goes forward – slipping in and out of grooves, adjusting volume or timbre, or just sitting out. Listening to music unleashes a number of imagined human situations where empathy may be involved. Imagining you are a cellist, or the Who’s drummer, or singer Eartha Kitt, or maestro Gustavo Dudamel puts you in juxtaposition with another as sure as seeing a performer in concert does.

A compelling argument for educators to offer programs like JumpStart Theatre, as well as to incorporate theatre and music into the school curriculum, has to do with the way that both art forms directly affect our emotional and memory systems. Current findings on the neurobiology of storytelling show that character-driven stories with emotional content result in better understanding and better recall. Humankind has many long traditions of oral storytelling that preserve stories for innumerable generations. Likewise, there is a powerful relationship between music, emotion, and memory. For thousands of years, songs have been used as a mnemonic device. Song taps into multiple retrieval systems and can bring forth vivid memories of important stories, knowledge, or special times in our lives.

Educators are learning from recent neuroscience that emotion and cognition, feeling and thinking are interconnected and that without emotions, memories are not stored in the long-term memory system. In other words, we remember what we care about and what is relevant to our lives. In order for the brain to store information in our long-term memory it has to matter. In his book, “The Feeling of What Happens,” Antonio Damasio writes, “We are not thinking machines that feel, we are feeling machines that think.”

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emotion plays a critical role in attention, learning, and memory. If they [students] feel no connection to the knowledge they learn in school, the academic content will seem emotionally meaningless to them; even if they manage to regurgitate the factual information, it will lay barren and without any influence on their decisions and behavior. Without emotion students feel no connection to the knowledge they learn in school.  

Dr. Immordino-Yang takes it another step further to advise and caution educators:

If emotions are not taken seriously when they occur and are not given appropriate room to influence decisions and thinking in the classroom, the effective integration of emotion and cognition in learning will be compromised...for good cognition to manifest in the classroom and beyond, emotions need to be an honored part of the learning experience all along.

A teacher’s task is to engage the class in explorations that go deeper than their preconceptions and increase their understanding of the stuff of life. There are teachers who intuitively use drama and theatre to light fires in young minds. These teachers can connect the stories and plays back to student’s personal sense of self and help them adapt to making choices that optimize their journey towards adulthood. As a result of the JumpStart Theatre Program, the teachers/directors are discovering ways to implement theatre and music activities as highly effective learning strategies in their content areas. Cognitive neuroscience research strongly endorses these teaching methods that tap into the emotions and prior experiences of students.

Students participating in the plays have confided to each other, their teachers, and to the researchers that the JumpStart Theatre Program has given them a place where they are accepted for who they are and given them the freedom to explore who they can be.

As business and education leaders assess the values and skills students will need to thrive in the 21st century global economy, they agree that problem solving, critical thinking, collaboration, communication, adaptability and creativity are essential. These are also some of the skills that students learn through their involvement in the JumpStart Theatre Program.

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3. Evaluation Focus & Methods

We now present the research focus and methods in detail. In the third year evaluation report, the Centers for Research on Creativity (CRoC) examined the JumpStart Theatre Program’s impact on student, teacher, and administrator creativity, attitudes towards theatre, and growth. More specifically, the research team aimed to illuminate:

1) student growth, particularly in self-efficacy, empathy, collaboration, critical thinking, creativity, and problem solving in JumpStart Theatre
2) the ways in which teachers implemented and embodied the JumpStart Theatre Program throughout the production period
3) teacher support, growth, and plans for sustainability
4) administrative support, growth, and plans for sustainability

CRoC researchers used several data generation methods, including student creativity assessments, teacher surveys, focus groups, and program observations as tools to capture evidence of the hypothesized increase in creativity and growth. We detail each data generation method in the following sections.

3.1 Capturing Creativity through the Next Generation Creativity Survey (NGCS)

The research team used CRoC’s signature student creativity assessment, the Next Generation Creativity Survey (NGSC), to measure student creativity, problem solving, originality, self-efficacy, empathy, and dispositions to collaboration.

Before expanding upon the details of the NGCS’s design, it is essential to clarify CRoC’s approach to understanding human creativity. Conceptions and definitions of creativity, both stated and implied, range widely. Some scholars and authors, including Gardner (1993)6 and Csikszentmihalyi (1996)7 focus on extraordinary creativity – the production of masterworks of art, music, dance, or theatre.

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, these are not the types of invention we commonly find in school and after-school creativity programs.

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The ideas that the JumpStart Theatre Program brings to creative education focus on smaller acts of invention, often known as ‘everyday creativity’ or ‘little’ or ‘mini c’
creativity, which are nonetheless skills and behaviors that fit common, general definitions of creativity.

These definitions focus on two qualities – creative processes that lead to ideas, or things, that (1) are new or novel, and (2) have value. Thus, a creative idea is an original or unusual idea that can be put to some use or purpose that has value to someone. Furthermore, the creative processes, in which learners experiment, explore, imagine, tinker, test, and take risks are often of equal or greater value than the resulting creative product.

CROc assesses for everyday creativity, and creative processes, behaviors and orientations using a variety of qualitative methods, such as rehearsal and performance observations. To complement these qualitative process-oriented methods, CROc employs the NGSC, a quantitative tool that captures learners’ creative orientations and problem solving abilities at a given moment in time. Thus, the survey contains questions that ask students to self-report their creative orientations and tasks that can be rated by human judges for their levels and types of creativity. The model below lists the variety of scales on the survey.

### 3.1.1 Next Generation Creativity Survey Model

<table>
<thead>
<tr>
<th>Self-Reported Creativity</th>
<th>Demonstrated Creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Fluency</td>
<td>Creative Fluency</td>
</tr>
<tr>
<td>Originality</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Creativity in Inventing</td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
</tr>
<tr>
<td>Creative Problem Solving</td>
<td></td>
</tr>
<tr>
<td>Creative Self-Efficacy</td>
<td></td>
</tr>
</tbody>
</table>

The NGCS is designed to measure creative skills and dispositions as well as supportive attitudes (e.g. collaboration and empathy) at the time when students began their work in the JumpStart Theatre Program and then again after participating in their school’s musical production. Growth in scores between the pre- and post- administrations provides indications of the effects of programs on their participants.

With the NGCS, students have the opportunity to display creative thinking and creative behavior through tasks required by the survey. These tasks include speculating on what life would be like if a novel condition(s) prevailed, inferring what a character in a drawing might be thinking, and bringing evidence from the drawing to bear on that inference. Students are invited to make multiple speculations. The number they create can be thought of as creative fluency. Their tendency to be original contributes to their creativity scores.

Following Amabile’s (1996) Consensual Assessment Model¹, we gather expert educators, including teaching artists, to make judgments about the creativity of student responses to

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these tasks. We also include a set of questions eliciting student self-reports of their own creative practices and orientations. This is a common feature of available creativity tests such as the Torrance Test of Creative Thinking Skills. We also include self-report scales probing the development of student attitudes and behaviors that are believed to be important ingredients in their success. These are measures of collaboration, empathy, creative self-efficacy beliefs, critical thinking, and creative problem solving. These elements align with what is known as the social psychology of creativity.

3.1.2 NGCS Items and Scales

<table>
<thead>
<tr>
<th>Self Reported Creativity</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Fluency</td>
<td>e.g., agreement with the statement, “I find it easy to think of lots of ideas.”</td>
</tr>
<tr>
<td>Originality</td>
<td>e.g., agreement with the statement, “My ideas for solving problems are often unusual.”</td>
</tr>
<tr>
<td>Creative Problem Solving</td>
<td>Approaching problems by testing alternative solutions, without rushing to judgment and with a willingness to be wrong while speculating.</td>
</tr>
<tr>
<td>Creative Self-Efficacy</td>
<td>e.g., agreement with the statement, “I can usually solve a difficult problem if given enough time.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychological States or Dispositions Supporting Creative Behavior</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration</td>
<td>e.g., agreement with the statement, “I like listening to the ideas of other students.” or, “I like to contribute to group projects.”</td>
</tr>
<tr>
<td>Empathy</td>
<td>e.g., agreement with the statement, “I can usually tell how someone else is feeling” or, “I care about helping others who are having difficulties.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demonstrated Creativity</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creativity in Inventing</td>
<td>Students compose a self-portrait of themselves designing or inventing something. Portraits are judged for creative details and originality.</td>
</tr>
<tr>
<td>Creative Fluency</td>
<td>Students are asked to list as many ideas as possible. The greater number of ideas a student produces in an allotted period of time, the higher her creative fluency.</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>This is evidenced as students present their ideas and opinions about what the featured, fictional animal is thinking.</td>
</tr>
</tbody>
</table>

Note: In this section of the survey, students respond to open-ended questions and prompts by writing their analyses and conclusions and by drawing.

3.1.3 NGCS Implementation

In the first year of the study, the 2015 – 2016 academic year, the CRoC research team administered a first cohort of pre/post-test NGCS to 150 students in the three original schools, Finneytown, Gamble and Holmes. Approximately half of the surveyed students...
participated in the JumpStart Theater Program and approximately half of the surveyed students served as a control group.

Treatment students were those involved in play productions at the three schools. Control students were surveyed from among non-participants at the three schools. The general analytical design of the work was to compare post-scores to pre-scores and to report on gains that students made of various elements or dimensions of creativity.

In the 2016 – 2017 academic year, CRoC administered a second cohort of pre/post-test NGCS to students in the original three schools and to Felicity-Franklin Middle, the fourth school that joined in the second year of the study (SY2016-17). In this second year of study, a total of 152 surveys were “usable.” A usable survey is one that has both pre- and post-surveys completed, such that pre- and post-survey data align for each student. Seventy-five surveyed students participated in the JumpStart Theatre Program and 77 surveyed students were in the control group.

In the 2017 – 2018 academic year, CRoC administered a third cohort of pre/post-test NGCS to students in the original three schools and to Felicity-Franklin Middle, the fourth school that joined in the second year of the study (SY2016-17). In this third year of study, a total of 198 surveys were “usable.” Ninety-nine surveyed students participated in the JumpStart Theater Program and 99 surveyed students were in the control group.

It is important to note that because students self-select to participate in the JumpStart Theatre Program and some students may choose to participate in one year, but not the next, the NGCS is not tracked with students across years. Instead, each cohort serves as a snapshot of the program over the course of three years. In this report, we detail general and recurring trends from all three cohorts’ performance on the NGCS.

3.2 Observations
To complement the quantitative data generated through the NGCS, CRoC used several types of observations as qualitative data collection methods. These methods serve as triangulation to the quantitative data and are detailed in the following sections.

3.2.1 Teacher Boot Camp Observations
RA2 and RA3 attended all Boot Camp professional development trainings held on September 29, 2017, November 4, 2017, and January 19, 2018 at the Aronoff Center in Cincinnati. iTheatrics and JumpStart Theatre teaching artists led the Boot Camp 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 Boot Camp using a customized guide.
3.2.2 Rehearsal Observations
The evaluation plan called for each RA to observe three rehearsals, one dress rehearsal at each school. Observations were scheduled so as to capture an arc of change from beginning of the rehearsal process, through the middle, and to the end. The observation guide that the RAs used was refined from previous years to deepen their observations. The work of Sheila Page\(^2\) was shared with each RA to deepen their understanding of the creative behaviors that they might observe.

RA3 reported observational quantitative data regarding the frequency of observed creative behaviors in 7 rehearsals in two schools (Felicity and Finneytown) including: creative problem solving, critical thinking, collaboration, and empathy. These observational quantitative findings are reported after the NGCS quantitative findings, to further illuminate creative assessment data with observational reports of students’ creative behaviors.

3.2.3 Performance and Share-Out Observations
RA2 and RA3 attended one performance at each school, using the guide to focus their observations. RA3 attended the JumpStart Theatre Showcase at the Anderson Theater, Memorial Hall in Cincinnati.

3.3 Student, Teacher, and Administrator Focus Groups
In the third year of the study, CRoC conducted focus groups to expand and deepen understandings of the JumpStart Theatre Program. Teachers from Finneytown, Gamble, and Holmes participated in a focus group conducted by CRoC researchers with EdTA staff support at The Gruff in Covington, Kentucky on May 2, 2018. The principal from Holmes also participated in the focus group. Teachers and the principal from Felicity-Franklin were unable to attend due to scheduling conflicts, so CRoC researchers conducted a focus group the following day with JumpStart Theatre teachers and the principal at the school. A separate, impromptu focus group was also held with three JumpStart Theatre students at the school. Additionally, CRoC researchers conducted a focus group at the EdTA offices with EdTA staff and teaching artists and who were involved in producing and administering the program.

3.4 Teacher Surveys
To complement the quantitative data generated through the NGCS and the qualitative observations, CRoC used qualitative teacher surveys. These surveys further triangulate the quantitative and qualitative data.

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\(^2\) Creative Attributes Inventory, courtesy of Ms. Sheila Page, HM Inspector of Education, at Kirkcaldy, Scotland Ministry of Education. See Appendix A.
Ten JumpStart Theatre teachers completed a paper pre-survey. The surveys prompted teachers to reflect upon their expectations, hopes, and plans for the JumpStart Theatre experience.

Four JumpStart Theatre teachers completed a post-survey delivered online via Survey Monkey. The survey prompted teachers to reflect upon their and their students’ learning, growth, and challenges during the JumpStart Theatre Program and musical theatre production. Due to a low response rate, teacher surveys are not analyzed in a comparative pre/post fashion. Instead, the data is used to triangulate findings from focus groups.

4. Quantitative Evaluation Results: The NGCS

We now detail the data findings, starting with the quantitative results from the Next Generation Creativity Survey (NGCS), which shed light on student creative problem solving, empathy, collaboration, and more. First, we present the Year Three study sample size and results for all students from all four schools. Next, we present results for each of the four schools. Then, we feature supplementary observational quantitative data on the frequency of students’ creative behaviors in rehearsals, which brings the numbers to life. We conclude with a three-year overview of student performance on the NGCS in all years of the study and synthesize all quantitative results.

The NGCS: Sample Size

CRoC attained an overall sample of 99 treatment student surveys and 99 control surveys, for a total of 198 completed, matched (pre/-post) surveys. Treatment students were those involved in play productions at the four schools. Control students were selected from among non-participants at the four schools and given the same pre- and post-surveys as participants. The general analytical design of the work was to compare post-scores to pre-scores among students in the treatment and control group and to report on gains or losses that students made in various elements or dimensions of creativity.

<table>
<thead>
<tr>
<th># of Usable Surveys</th>
<th>Treatment Students</th>
<th>Control Students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felicity</td>
<td>51</td>
<td>51</td>
<td>102</td>
</tr>
<tr>
<td>Finneytown</td>
<td>22</td>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>Gamble</td>
<td>13</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>Holmes</td>
<td>13</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>All EdTA</td>
<td>99</td>
<td>99</td>
<td>198</td>
</tr>
</tbody>
</table>

The following tables include averages of pre- and post- scale scores, which were analyzed to determine if there are statistically significant differences between students' NGCS scores on the pre- and post- creativity scales. Each self-report scale, in which students reflect on their perceived creative problem solving, collaboration, empathy, creative self-efficacy, and
creative fluency skills, ranges from 1 – 4. The demonstrated creativity elements of the survey are scored by trained survey scorers, and scores range from 0 – 2. Thus, all averages presented in the following tables fall within the 0 – 4 range, depending upon whether the question assesses elements of creativity through self-report questions or demonstrated creative tasks.

The ‘Gain?’ column indicates whether there is a statistically significant difference in the pre- and post-scores for each group. The final column compares the treatment and control group scores and highlights areas in which treatment students outperformed the control students.

4.1 NGCS - All Students: Year Three

Generally, in Year Three of the study, students who participated in the JumpStart Theatre Program achieved higher NGCS scores than the control group students before and after participating in the program. However, JumpStart Theatre students, en masse, did not show statistically significant gains in the NGCS over time. We anticipate that this is largely due to small sample sizes and a hypothesized slower rate of student growth in their third year of the program. These findings are presented in Table 1.

Table 1: Comparison of EDTA Treatment and Control Students’ Performance on NGCS Scales

<table>
<thead>
<tr>
<th>SCALE OR MEASURE</th>
<th>EDTA ALL N = 99</th>
<th>Gain?</th>
<th>CONTROL ALL N = 99</th>
<th>Gain?</th>
<th>EDTA OUTPERFORMS CONTROL STUDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Problem Solving</td>
<td>Pre: 3.14</td>
<td>Post: 3.09</td>
<td>Pre: 3.1</td>
<td>Post: 3.05</td>
<td>XX</td>
</tr>
<tr>
<td>Creative Self Efficacy</td>
<td>3.34</td>
<td>3.31</td>
<td>3.18</td>
<td>3.15</td>
<td>XX</td>
</tr>
<tr>
<td>Collaboration</td>
<td>3.28</td>
<td>3.33</td>
<td>3.2</td>
<td>3.11</td>
<td>o</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.26</td>
<td>3.21</td>
<td>2.96</td>
<td>2.97</td>
<td>XX</td>
</tr>
<tr>
<td>Originality</td>
<td>3.3</td>
<td>3.4</td>
<td>3.18</td>
<td>3.15</td>
<td>XX</td>
</tr>
<tr>
<td>Creative Fluency</td>
<td>3.11</td>
<td>3.16</td>
<td>3</td>
<td>3</td>
<td>XX</td>
</tr>
<tr>
<td>Creativity in Inventing*</td>
<td>1.1</td>
<td>1.08</td>
<td>0.89</td>
<td>0.84</td>
<td>XX</td>
</tr>
<tr>
<td>Critical Thinking*</td>
<td>1.05</td>
<td>1.06</td>
<td>0.94</td>
<td>0.94</td>
<td>XX</td>
</tr>
</tbody>
</table>

* = demonstrated, scored 0 - 2
x = statistically significant gain; o = statistically significant loss
XX = program outperforms control

Table 1 illustrates that JumpStart Theatre students out-performed control group students in creative self-efficacy, collaboration, empathy, originality, creative fluency, demonstrated creativity in inventing, and demonstrated critical thinking, before and after the JumpStart Theatre Program, even without experiencing a significant growth in these areas over time. Meanwhile, control students showed a significant loss in collaboration and their scores overall are notably lower than the treatment students’ post-scores. It is worth nothing that
JumpStart Theatre students did not experience the same loss in collaboration, which may indicate a degree of resiliency among JumpStart Theatre students that enabled them to maintain similar levels of perceived collaboration skills after the program. Finally, all treatment students demonstrate the highest scores in creative self-efficacy, collaboration, and originality regardless of treatment group.

4.2 NGCS - Students by School: Year Three

Tables 2 – 5 show score changes for all four participating schools: Felicity, Finneytown, Gamble, and Holmes. We present each table below with a brief explanation of the trends.

As illustrated in Table 2, Felicity JumpStart Theatre students demonstrate a significant growth in originality between pre- and post-survey periods. Felicity control students did not demonstrate any gains or losses. Felicity JumpStart Theatre treatment students did demonstrate a significant loss in critical thinking, yet out-performed the control students on the following scales: creative self-efficacy, originality, creative fluency, and creativity in inventing. These findings are promising because Felicity sample sizes are the largest in the study, with both treatment and control samples at 51 students. Larger samples sizes may indicate that the detected trends are meaningful differences between students in JumpStart Theatre and control students, and not a result of confounding factors.

Furthermore, we hypothesize that Felicity’s gains may be related to the length of their participation in the program; currently, they are in year two. We hypothesize that the first two years may be the most transformative for students and teachers, in which they experience the most significant growth and that by year three, students and teachers demonstrate high levels of creativity, but slower rates of growth. This hypothesis applies to all schools in the third year of the program: Finneytown, Gamble, and Holmes.
As illustrated below in Table 3, Finneytown JumpStart Theatre students demonstrated a significant gain in *critical thinking* and a significant loss in *creative problem solving* over time in the program; these students also outperformed control students on *creativity in inventing*. Meanwhile, control students did not demonstrate a significant gain or loss on any of the scales on the NGCS. It is important to note that Finneytown sample sizes for each treatment group are small, making it difficult to determine the extent of program’s effects on students' NGCS performance.

<table>
<thead>
<tr>
<th>SCALE OR MEASURE</th>
<th>EDTA N = 22</th>
<th>Gain?</th>
<th>CONTROL N = 19</th>
<th>Gain?</th>
<th>EDTA OUTPERFORMS CONTROL STUDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Problem Solving</td>
<td>Pre 3.22</td>
<td>Post 3.02</td>
<td>o Pre 3.03</td>
<td>Post 3.04</td>
<td>XX</td>
</tr>
<tr>
<td>Creative Self Efficacy</td>
<td>3.42</td>
<td>3.31</td>
<td>3.34</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Collaboration</td>
<td>3.21</td>
<td>3.16</td>
<td>3.19</td>
<td>3.06</td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td>3.35</td>
<td>3.23</td>
<td>3.05</td>
<td>3.12</td>
<td></td>
</tr>
<tr>
<td>Originality</td>
<td>3.36</td>
<td>3.48</td>
<td>3.24</td>
<td>3.29</td>
<td></td>
</tr>
<tr>
<td>Creative Fluency</td>
<td>3.29</td>
<td>3.19</td>
<td>3.17</td>
<td>3.16</td>
<td></td>
</tr>
<tr>
<td>Creativity in Inventing*</td>
<td>1.05</td>
<td>1.18</td>
<td>0.89</td>
<td>0.86</td>
<td>XX</td>
</tr>
<tr>
<td>Critical Thinking*</td>
<td>1.07</td>
<td>1.23</td>
<td>x</td>
<td>1.05</td>
<td>1.08</td>
</tr>
</tbody>
</table>

* = demonstrated, scored 0 - 2  
X = statistically significant gain; o = statistically significant loss  
XX = program outperforms control
As illustrated in Table 4, Gamble's sample sizes are notably small with only a total of 24 students completing both pre- and post-surveys in total; this makes it very difficult to detect meaningful change in student performance. Gamble students in either the treatment or control group did not show significant gains on the scales measured by the NGCS and JumpStart Theatre students did not outperform control students significantly in any area. Also, unlike the three other schools, Gamble JumpStart Theatre students tend to demonstrate lower scores that are more equivalent to typical control student performance on the NGCS. This may indicate less of a difference between students self-selecting to be a part of the program and students opting out of the program.

<table>
<thead>
<tr>
<th>SCALE OR MEASURE</th>
<th>EDTA N = 13</th>
<th></th>
<th>CONTROL N = 11</th>
<th></th>
<th>EDTA OUTPERFORMS CONTROL STUDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale                  Pre</td>
<td>Post</td>
<td>Gain?</td>
<td>Pre</td>
<td>Post</td>
<td>Gain?</td>
</tr>
<tr>
<td>Creative Problem Solving</td>
<td>2.83</td>
<td>2.71</td>
<td></td>
<td>3.2</td>
<td>3.22</td>
</tr>
<tr>
<td>Creative Self Efficacy</td>
<td>3.21</td>
<td>3.07</td>
<td></td>
<td>3.19</td>
<td>3.27</td>
</tr>
<tr>
<td>Collaboration</td>
<td>3</td>
<td>3.08</td>
<td></td>
<td>3.15</td>
<td>3.16</td>
</tr>
<tr>
<td>Empathy</td>
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<td>2.96</td>
<td></td>
<td>2.76</td>
<td>2.76</td>
</tr>
<tr>
<td>Originality</td>
<td>3.27</td>
<td>3</td>
<td></td>
<td>3.27</td>
<td>3</td>
</tr>
<tr>
<td>Creative Fluency</td>
<td>2.86</td>
<td>2.84</td>
<td></td>
<td>3.04</td>
<td>3.15</td>
</tr>
<tr>
<td>Creativity in Inventing*</td>
<td>1.04</td>
<td>0.81</td>
<td></td>
<td>0.73</td>
<td>0.5</td>
</tr>
<tr>
<td>Critical Thinking*</td>
<td>0.85</td>
<td>0.96</td>
<td></td>
<td>0.94</td>
<td>0.78</td>
</tr>
</tbody>
</table>

* = demonstrated, scored 0-2  
= statistically significant gain, o = statistically significant loss  
XX = program outperforms control
Finally, as illustrated in Table 5, Holmes’ EdTA students demonstrated significant gains in collaboration and creative fluency, while Holmes control students did not experience any significant gains or losses. JumpStart Theatre students also significantly outperformed the control students in creative self-efficacy, collaboration, empathy, creative fluency, creativity in inventing, and critical thinking. Generally, Holmes JumpStart Theatre students demonstrate the greatest gains in NGCS scores across time and outperformed control students in the greatest number of areas on the NGCS, compared with the other participating schools. However, it should be noted that sample sizes in Holmes are very small and students in the program are self-selecting, making it difficult to ascertain whether detected effects among JumpStart Theatre students are significant because of the program or because of other confounding factors. That said, the strong performance is worth noting and worth considering when examining Holmes’ JumpStart Theatre production process and performances.

As a whole, the NGCS scores show a variation in growth across schools, which is likely strongly related to the sample size at that school and the year of participation in the program. It is important to emphasize that the schools and the JumpStart Theatre program should not be discouraged by the quantitative data presented in this section; the qualitative data presented throughout the report suggests that students and teachers demonstrated high levels of creative behavior throughout the program. The NGCS may not have been able to detect such creative behavior because it measures self-perceptions (which may not reflect demonstrated behaviors or skills) and was implemented with small sample sizes.
4.3 Frequency of Observed Creative Behavior

We now present observational data about students’ demonstrated creative behavior during JumpStart Theatre rehearsals at Felicity and Finneytown. These data were collected from a total of seven rehearsal observations, three at Felicity and four in Finneytown. These observations were documented in narrative form at the rehearsal site and in follow up while typing notes. Likert Scale questions were answered using prompted recall from the detailed observation write-ups.

We first detail the combined averages for observed empathy, collaboration, critical thinking, and creative problem solving in the seven rehearsal observations in Figure 1. Then, we present specific rankings for the rehearsal observations at each school in Figures 2 and 3.

The data in Figure 1 reveals that on average, students at Finneytown and Felicity demonstrated collaborative behaviors most regularly (often to always), and critical thinking and creative problem solving behaviors closely behind also at a high frequency (often to always). On average, students demonstrated empathic behaviors regularly (sometimes to often).

![Bar chart showing the frequency of observed student rehearsal behaviors.](chart)

**Figure 1. Total Frequency of Observed Student Rehearsal Behaviors**

To bring these quantitative data to life, researchers provided examples of these observed behaviors, and we list several examples below.

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3 The data collection of observations was limited to two schools this year, because one RA assigned to Gamble and Holmes dropped out unexpectedly without turning in any notes or data. CRoC and EdTA staff have made multiple attempts to find the RA to no avail.
Empathic Behavior:

1. “There were moments when the chattier students were overpowering [the director] and her ability to direct, and the students that were working with her individually were able to speak up and quiet the room, so the empathy they displayed for their teacher was inspiring.”

2. “The students of this cast show [empathy] towards the two leads and their more adult, romantic scenes. They have grown so much and had really managed to remove the giggling all together and reserved themselves to eye rolls or small blushes when the “kiss” scene came up, and during this rehearsal they saw it twice. Each time the ensemble members and the crew were polite and not distracting, despite the nervousness shown on stage by their peers.”

3. “Specifically, a boy with a lisp had a heartfelt moment when he wanted to avoid his lisp because he felt like he would be made fun of, but after a brief discussion with the teachers, and encouragement from his cast mates who explained their understanding, he truly had the opportunity to explore himself in his character without fear.”

Collaborative Behavior:

1. “Some students reached out to help others conquer their fears while others helped distract them and gave them something else to focus on during their lines so they weren’t as nervous.”

2. “The first rehearsal was filled with interactions meant to help the students learn their groups and where they needed to be on stage. This rehearsal was no exception, and students were quick to jump in and help their peers remember where they needed to be and when.”

Critical Thinking:

1. “This rehearsal was the second rehearsal with tech crew present and the work this team did to mark up the stage, organize props, and address technical issues was incredible. They were constantly working to make the sound run smoothly while also working on making sure the stage was marked for the cast and for crew members.”

2. “This rehearsal still focused quite a bit on the idea that the students need to project to and interact with their audience. Some of the students volunteered thoughts on how to overcome nervousness, while others remembered being taught to “speak to the back wall,” so that everyone in attendance could hear them.”

Creative Problem Solving:

1. “This rehearsal presented quite a few lighting issues and the students worked around it using flashlights to illuminate the important moments during the dress rehearsal.”

2. “This was the first rehearsal with furniture, and only the third with tech crew, so learning the cues, working with the props, and figuring out where everything
needed to be presented the students with tons of time to figure out the best flow for them as a cast and crew.”

We now present school-specific figures demonstrating frequency of observed student rehearsal behaviors at Finneytown and Felicity. In Figure 2, Finneytown generally shows improved empathy over time and high levels of collaboration consistently in rehearsals. There is greater variation in critical thinking and creative problem solving across rehearsals, with the final observed rehearsal ranked very highly with collaboration, critical thinking, and creative problem solving “always” present.

![Finneytown Frequency of Observed Student Rehearsal Behaviors](image)

**Figure 2. Frequency of Observed Student Rehearsal Behaviors in Finneytown**

Felicity students demonstrate consistently high levels of critical thinking and creative problem solving across rehearsals, and a growth in collaboration over time to very high levels. Felicity student’s empathic behavior is slightly lower and more inconsistent than the other three observed behaviors, but on average still present sometimes or often.
In summary, the observed rehearsal behaviors complement and support the NGCS quantitative findings, suggesting that students self-reported beliefs on their collaboration, critical thinking, problem solving, and empathy align with the observable skills demonstrated in rehearsals. More specifically, Felicity’s strong performance in critical thinking and creative problem solving in rehearsals is reflected in high scores on the NGCS. Similarly, Finneytown’s high scores in observed creative problem solving suggests that the significant decrease in creative problem solving on the NGCS may be more influenced by small samples sizes than by actual creative problem solving abilities. Thus, the complementarity of these two types of data help to provide a more holistic image of student growth as documented in quantitative forms.

### 4.4 Summary and Synthesis of Quantitative Findings: Years One, Two & Three
Finally, we present a three-year glimpse of the ways in which EdTA students have outperformed control students in the NGCS in Table 6.
In summary, Table 6 illustrates that EdTA students outperform the control students in all but one measure (creative problem solving) of creativity across schools in Year Three, even though they did not necessarily experience significant gains over time while participating in the JumpStart Theatre Program. The three-year scope also indicates that Holmes and Felicity appear to show more consistent student performance on the NGCS while Finneytown and Gamble have more variation in scores. This variation may be related to year of participation, sample size, as well as when and how the survey was implemented. For example, in year one at Gamble, both treatment and control students took the survey in the same auditorium resulting in general chaos. The second and third year treatment and control students completed the survey separately.

It is important to reemphasize that school specific analysis is very limited due to small sample sizes, and greater emphasis should be placed on the summative EdTA data with all schools, which is a result from much a larger combined dataset. The larger data set affirms that students in JumpStart Theatre outperform their peers in the control group before and after the program regularly and significantly.

This result is fascinating, yet largely unsurprising. Students who opt to participate in the JumpStart Theatre Program are likely to be attracted to creative expression and the arts out of personal interest. It could therefore be anticipated that those same students report more confidence in their creative self-perceptions prior to participating in JumpStart Theatre than their peers before or after participating in the program. These same students may show higher demonstrated creativity scores, as well, because they have an interest in creative arts and/or have dedicated time to developing their creative skills through other extra-curricular activities in the arts at school, in their community or at home.
Consistent with findings across all three years of the study, students who choose to participate in the JumpStart Theatre Program probably enjoy the creative arts and feel relatively confident in their own abilities, which is reflected in their NGCS self-report scores. Furthermore, these students may have sought out other creative arts opportunities in the past, which have further developed their creative abilities as demonstrated on the inventing and critical thinking portions of the NGCS.

The qualitative data, presented in forthcoming sections of this report, support the findings in Table 6 and in Figures 1 – 3, and illustrate through observations from rehearsals and performances that JumpStart Theatre students show high levels of creative problem solving, collaboration, and empathy. Although the NGCS may not detect significant gains over time in the third year of study, the consistent high scores on the NGCS are supportive of the observations and suggest that JumpStart Theatre students who choose to engage in theatrical and creative performance are also relatively confident in their creative abilities.

As stated earlier, it is important to emphasize that results are very likely affected by the small sample sizes, ranging from 11 – 35 students. There is also a likely ‘spillover effect,’ in which control students are exposed to some elements or experiences that the treatment students experienced in JumpStart Theatre. For example, control students may be friends with students in the treatment group and, thus, may watch a rehearsal; or they may hear about the benefits of the program, see the school buzzing with excitement, or be in a class with a teacher who also takes part in the JumpStart Theatre program and who has integrated some of the practices into everyday learning—all of which could affect their perceptions of themselves or their demonstrated creativity as captured on the NGCS. Although control students did not experience a statistically significant gain in any scale of the NGCS in any school, spillover effects may account for slight variation in student scores.

5. Qualitative Evaluation Findings

In this second findings section, we present qualitative data and analyses that provide greater insight on the JumpStart Theatre Program’s impact on student, teacher, and administrator creativity, attitudes towards theatre, and growth. In particular, we use the qualitative data to illuminate:

1) Boot Camp learning, philosophies, and tools
2) Observed student growth
3) Teacher support, growth, and plans for sustainability
4) Administrative support, growth, and plans for sustainability

These qualitative findings are gleaned from rehearsal and performance observations teacher, student, and administrator focus group, and teacher survey data. More specifically, in this section we use qualitative data to understand how the JumpStart Theatre professional development Boot Camps are translated into practice in school and the extent
to which students, teachers, and administrators experienced growth in creativity, problem solving, confidence collaboration, and a ‘sense of community.’

To contextually orient the qualitative data and reported growth, we start by briefly presenting the philosophies promoted during the observed Boot Camp sessions. We then provide insights on student, teacher, and administrative growth and the factors that appear to have enabled such growth through the JumpStart Theatre program.
5.1 Boot Camp Learning, Philosophies, and Tools

The JumpStart Theatre Boot Camp trainings serve as one of the primary and most intensive professional development mechanisms to support teachers implementing the JumpStart Theatre Program. After attending Boot Camp all-day workshops, teachers are provided with ongoing support from EdTA Teaching Artists and staff to sustain the approaches, philosophies, and tools that are introduced and cultivated in each Camp session. The Boot Camps provide relatively new theatre directors, choreographers, set designers, and leaders in the JumpStart Theatre Program with an initial critical and concentrated foundational period for professional growth and support. A strong Boot Camp session with practical, actionable, and experiential training makes the JumpStart Theatre Program possible in the schools. It is therefore important to note the emergent themes from the third year Boot Camp to understand the growth experienced by students, teachers, and schools during the JumpStart program.

CRoC field researchers, RAs 2 and 3, observed the three scheduled Boot Camps at the Aronoff Center for the Arts in downtown Cincinnati on September 29, 2017, November 3, 2017, and January 19, 2018. Upon analysis, the collected qualitative data demonstrates that the following prominent themes defined the third year Boot Camp:

1. Building a Sense of Community & Community of Practice
2. Creating Comfort with Discomfort & Growth
3. Advancing Technical Skills
4. Cultivating Resourcefulness & Creative Leadership
5. “Tell the Story”

All of the identified themes are consistent with and build upon the identified themes from the first and second year Boot Camps in the study. We elaborate upon each of these themes with examples from observational data. Note that all schools participating in the JumpStart
Theatre Program, not just the four schools included in the full study, participate in the Boot Camps. These schools might be referenced in quotes from observers to illuminate a point.

5.1.1 Building a Sense of Community & Community of Practice
As in years past, the Boot Camp training sessions had a strong emphasis on creating space for teachers to express and share their experiences, and, in turn, build a sense of community. CRoC observers noted that teachers were given the time and space to develop comfort, trust, and easy communication with each other throughout the Boot Camp:

“The first half of the Boot Camp seemed to focus a lot on creating a common bond between the teachers. The warm ups presented opportunity for the teachers to mingle with new groups of people every time a new set of characteristics were presented. [...] There was plenty of bonding and a mere 10 minutes into camp, the room had gone from a room full of small circles to a massive blended group. A representative of the Community Arts Initiative noted this and said, “This is amazing. You would never know they didn’t know each other.”

“Throughout the Boot Camp, the teaching artists allowed for interjection and questions from the teachers there to learn. After each exercise, questions were welcomed, discussion was encouraged, and ideas from teachers were learned by teachers.”

As the Boot Camps continued, teachers had ample opportunities to “bounce ideas off of each other and get experience from a multitude of experienced eyes.” The Boot Camp leaders intentionally created the space for teacher-to-teacher discussion and sharing, so that teachers could see that they were each other’s greatest resources:

“The third year teachers were referred to for help and questions. This final year of Boot Camps has been different in the sense that there is ample communication between teachers from each year in the program.”

Thus, teachers not only had a chance to forge personal connections. They had an opportunity to share techniques, support one another, and problem solve together. In this sense, teachers had the opportunity to develop a JumpStart Theatre community of practice. In other words, teachers were able to leverage their experiences in JumpStart Theatre to deepen their relationships and support one another to advance their craft as musical theatre practitioners and teachers. Several teachers noted the importance of the emerging community of practice for themselves and for their students:

“I enjoy being able to discuss the specifics in our show with the other teachers.”

“Nothing gets accomplished without building relationships. These Boot Camps give us these relationships so that we can take it home to our kids and build similar ones with them, so that we can succeed in our programs.”
The sense of community and community of practice cultivated in the Boot Camps set the stage for teacher and student growth in the JumpStart Theatre Program. Teachers built mutual confidence through supportive relationships and learned that such relationships could be modeled to aid student development, too.

5.1.2 Creating Comfort with Discomfort & Growth
Boot Camp also provided teachers with opportunities to become comfortable with discomfort and growth. Starting with silly warm up exercises, like repeating “Billy button bought a bunch of beautiful bananas” at rapid speed not only helped teachers with a practical enunciation and rhythm exercise; it also provided an opportunity to make mistakes in front of each other, to “giggle through” the awkwardness, and to support one another with affirmations. This and similar opportunities were woven throughout the Boot Camp and noted by CRoC researchers and teachers themselves:

“[Teacher A] is a third-year teacher and he hates dancing, but every year he comes in knowing he’s going to be uncomfortable but being okay with it because of the trust built within these camps. He knows he’s there to learn and he’s okay that that may include pushing his own comfort zones so that he can create a good space for his students when he returns to his school.”

“Teachers were asked to group themselves according to which of the five super tools they considered themselves the worst at. This gave each of the teachers the opportunity to see that they were not alone in their struggles, and it gave the Boot Camp leader the perfect channel to bring each group out of their comfort zones and prove that as scary as theater can be, each section can be easily broken down into very simple forms and done by nearly everyone.”

“Teachers pointed out that they all came into the camp feeling uncomfortable and awkward, and they could now empathize with their students when they returned.”

In other words, throughout the Boot Camp teachers had the opportunity to experience the same level of discomfort as their students may feel when trying something new, like musical theatre. This is an opportunity to develop empathy for students, to experience personal growth as educators, and to model fearlessness to their students when faced with a new, uncomfortable challenge.

5.1.3 Advancing Technical Skills
As in previous Boot Camps, in an effort to “demystify tackling blocking, learning music, or staging a production number” teachers were provided with practical, clear, and codified planning and rehearsal tools, tips, and tricks to use as creative leaders and as teachers. For example, warm ups were introduced as a way to create a comfortable culture amongst students and to intentionally further character development:

“Teachers were introduced to a few new warm up selections like “Whatcha Doin” and “Run, Run, Run, My Pony.” The main idea of these two warm ups is to keep everyone
involved during the warm up, while also loosening up and getting comfortable with themselves and their cast mates. [...] A teacher noted that during warm ups like these, to focus the activity for the students, they should try to imagine their character in the circle, and bring something that their character would do to show the group. It was a great insight to ensure the students are finding ways to become their characters while still enjoying themselves and melding their characters personality with their own so that it comes out more natural on stage.”

Teachers were also taught that “music is just for the mood, to help with understanding” and how to use “body language and raw materials to tell a story” with staging and blocking concepts like levels, proximity, and planes. All of the technical skills were not only reviewed in theory, but practiced by all and connected to a broader purpose in musical theatre. Thus, the Boot Camp served as valuable, concentrated periods of time for teachers to advance their technical theatre skills.

5.1.4 Cultivating Resourcefulness & Creative Leadership
The Boot Camp was designed to empower teachers with creative problem solving skills and with the knowledge “that even with zero costumes, materials, or stage effects, [they could tell] a story in the purest fashions, through body language and placement.”

Teachers’ experiential learning in the Boot Camp also included participating in activities that would prepare them to be resourceful, clear-headed, decision-makers. CRoC field researchers noted examples of practical problem-solving activities that would prepare them to embody these qualities. For example, Boot Camp leaders guided teachers through an activity that would help all students in successful dance numbers, regardless of ability:

“She allowed the teachers to see that a basic set of ideas can be morphed into full dance numbers that don’t require too much memory. Then, [the other leader] jumped in and brought the levels and planes idea back into play, showing how some students who may not be great at the dancing portion of the show can sit on the edge of the stage and show different aspects of the story, for instance eating a banana, while the better dancers are standing and dancing.”

Another particularly memorable opportunity for problem solving occurred when teachers were prompted to create props with limited resources:

“Some teachers offered ideas of blue streamers attached to black gloves to create rain, others suggested oven mitts to imitate crab claws, and all the discussion during the game led to discussion of storage for the props before tech week when they constantly had to be moved around due to rehearsal space issues. One school, Aiken, was smart to use butcher paper and cover a table, and then have the kids trace props onto a table to designate areas for the props to lie in. This again started a great rapport between schools who are not always in one space, or those who don’t have a ton of wing space for utilisations on their stages. For example, Finneytown, who isn’t on their stage until late February, has found replacement “rehearsal” props that are from the dollar store
and are miniature versions of what they will actually be using on the stage. They are all transportable in a single bag that reduces stress for the teachers, but stills allows the students to get used to holding and interacting with their props for the time being.”

In this example, experienced JumpStart Theatre teachers demonstrated how creative problem solving made them better and more organized musical theatre leaders; they developed practical strategies to overcome everyday challenges faced during rehearsals and through sharing, prompted each other to engage in deeper discussion and collective problem solving.

5.1.5 “Tell the Story”
As in all previous Boot Camps, perhaps the strongest theme that emerged was that teachers should “emphasize the true idea that theatre is designed to tell a story.” Several CRoC researchers noted this in their observations and confirmed, “that simple motto seem[ed] to be ingrained into teachers’ brains, and when they are able to convey that to the students, the teachers feel that a lot of pressure is taken off, and that kids are able to enjoy the experience being offered.”

Several teachers also noted the importance of this theme in empowering and enabling their leadership and their students’ participation:

“The minimalist approach was what really helped us. Breaking things down and knowing you don’t need the biggest, most expensive things to have a good show.”

“For my ELL students, if they can tell a story without words, they can feel involved without the added stress of lines in a language unfamiliar to them.”

This simple and focused approach to musical theatre has remained a constant and stabilizing principle that soothes teachers’ worries in overwhelming moments, refocuses energy on the purpose of musical theatre, and empowers all students to engage freely in musical theatre.

The aforementioned themes and approaches that emerge in the Boot Camp are important stand-alone concepts that characterize a well-executed musical professional development. However, these themes also provide important context when examining teacher and student growth in the JumpStart program.

5.2 Teacher Growth and Change
We will now examine JumpStart Theatre teacher growth in light of the philosophies and practices employed in the Boot Camp. Teacher growth was documented by teachers in their pre- and post-program surveys, focus group discussions, interviews, and observations. To summarize, teachers experienced a sense of growth and learning in the following ways:
1. Co-creation: Letting go while providing support
2. Confidence
3. Improved Teaching

5.2.1 Co-creation: Letting Go While Providing Support
Teachers consistently expressed and demonstrated growth in their ability to provide their students with a unique balance of guidance, support and agency. CRoC observers documented this regularly across observations and schools:

“The teachers were great guiders today. They were very good with directions for the tech crew, and they were sure to feed lines when necessary, but for the most part they allowed the students to find their own mistakes and fix them when they could, which seemed to allow the students to really take their own responsibility for their success.”

“The students all had an open opportunity to make their character whoever they wanted them to be. The teacher directed when things got a little too out of hand and would bring them back with questions of feelings and emotions in a certain moment, and she would hint at options, but overall, the children had control of themselves and their characters.”

“One teacher was phenomenal with the students and encouraging them to discover their character on their own. She asked the girl playing JoJo, “Is JoJo supposed to be innocent or serious? What do YOU think?” The question was not addressed to only the girl playing JoJo either, rather, the cast that was present was also asked the question and collaboration was encouraged.”

“As they ran scenes, energy seemed to be a problem, but the more the teacher stayed with them and brought energy to his direction, the more they started to add some choices and expression.”

As illustrated in all of the examples above, teachers were capable of directing students and providing support; this demonstrates teachers’ confidence in directing and understanding how to lead a musical theatre production. But even though teachers were knowledgeable about how to solve a problem or bring out a character’s personality, they would strategically hold back and provide students with space to explore their characters, make independent creative decisions, and problem solve with their peers. This suggests notable growth among teachers in their ability to lead when appropriate in order to build trust with their students, and to also step back in order to give students agency and grow their skills through the creative theatre process.

Several teachers reflected that they enjoyed this process and the experience of co-creation with students when providing them with the ability to creatively collaborate and design elements in the show:
“I learned that it is more exciting to students when you play the music and let them dance while you watch and then take their moves and use them in the choreography.” – Post Survey

“The most fun times are when we are able to brainstorm blocking on the spot with the kids suggesting ideas.” – Post Survey

“I have learned that I am good at giving my performers a scaffold of direction and then trusting them to fill the performance.” – Post Survey

“Especially after the first year, I don’t know about you, but we felt like we had to have our hands on everything, and we were doing everything, and we were stressed. We realized, “What are we doing?” The kids can do this!” Like they need to do this for themselves, especially when you have older ones that have been through it before. That takes a lot of the work and stress off of your plate, to allow them to teach each other.” – Teacher Focus Group

This area of growth is particularly important to note because achieving co-creation with students is not easy or always intuitive. Teachers that become genuine co-participants with students must have confidence, level-headedness, and technical skills, as well as openness and flexibility to the creative process. The JumpStart teachers demonstrated such traits throughout the third year of the program, indicating substantial and holistic growth.

5.2.2 Confidence
JumpStart Theatre teachers also noted in their post-surveys and focus groups that they felt more confident after participating in the third year of the JumpStart Theatre program:

“I can do anything I put my mind to. You have to set goals and crush them.”
– Post-Survey

“I am feeling a lot more confident. Last year I felt more panicked, like OH MY GOD, is this going to come together? Is this actually going to happen? Now, I feel more like, yeah, this is definitely going to happen.” – Focus Group

Teachers increased confidence is not surprising, yet reassuring. After participating in several years of intensive musical theatre training and productions with limited resources and capacity—and seeing success despite the many challenges—we would expect to see teachers’ confidence improving. The evidence of their confidence bodes well for the program and suggests that the three-year program yields well-equipped teachers capable of leading the program into a sustainable future beyond the intensive three-year period. This can be summarized in a teacher focus group reflection:

“I think we feel pretty comfortable through the process now, having been through a third year. We were very rattled the first year, about a lot of things, because we didn’t know what to expect. And the more you experience a production, the more you know that nothing will be perfect; roll with the punches, it will all come together, the show will go on – all those clichés, those are real. And the kids never disappoint. So I feel very confident that whatever happens from here on out, with the knowledge we learned here, we can achieve whatever we set out to do. I feel very confident that as we bring new people on board, we can pass on that knowledge and expertise. So my sense is just a sense of confidence and accomplishment at this point – knowing that we still have plenty of room to grow.”

5.2.3 Improved Teaching
Finally, teachers reported feeling that the JumpStart Theatre Program improved their teaching in and beyond the program:

“My biggest takeaway from the three years, and the thing that I’m most appreciative of, is the knowledge that I’ve gained about myself. I have become a better teacher by using what I’ve learned through Jumpstart Theatre. I’m a Special Ed teacher, and I use tableaux with the kids so that they understand the stories that they’re reading in class. We’ve even gotten up and acted some of them out. That’s the hook that I need with some of my kids.”

“It allowed me to teach students how to make do with what you have. So many of the students I work with are concrete in their thought process that they see what is in front of them, but they cannot see what those things can be.”
In other words, teachers feel as if they are more able to engage their students, push their students’ thinking, and cultivate imaginative and ‘possibility thinking’ orientations by using techniques from the JumpStart Theatre program.

### 5.2.4 Summary of Teacher Growth

To summarize, JumpStart Theatre teachers appear to have grown in their confidence and teaching abilities in and beyond the JumpStart Theatre program. Most notably, teachers have developed an ability to be leader and follower, teacher and learner. They’ve learned to guide and support students when necessary, and, at the same time, to know when and how to let go so that students can maximize their agency and genuinely contribute to the creative production. Teachers may have been able to guide students and also let go because of their increased confidence in problem solving and teaching musical theatre, and their comfort with discomfort—key areas addressed in the Boot Camp. Thus, the Boot Camp may have prompted initial growth that was further developed through the practical experience of leading a musical theatre production and collaborating with their students in sometimes challenging rehearsal spaces with limited resources, and other complicating factors.

Students shine on stage at the Performance Showcase

### 5.3 Student Growth and Change

The qualitative data collected in observations and teacher surveys complement the quantitative findings on students’ growth in creativity, collaboration, and more. Every teacher reflected delight, surprise, and pride in their students’ ability to exercise their creativity, and to persist, adapt, and thrive in times of tight schedules, limited materials, and general stress. CRoC observers also note particular moments of student creativity and
collaboration. We present our analyses with excerpts from the data according to the following domains in which students demonstrated growth:

1. Ownership and Agency
2. Creative Problem Solving
3. Empathy
4. Confidence
5. Collaboration
6. Sense of Community

5.3.1 Ownership & Agency
Like previous years, students showed increasing ownership and agency of the musical theatre production throughout the JumpStart Theatre process. Often, students demonstrated a greater sense of ownership as a result of a teacher inviting students into the creative process. CRoC observers noted that, “outside of technical suggestions, the students had the freedom to make their character bloom, and the script and music stayed true to how they were written.” This was exemplified in a few practical examples:

“The teacher explained that she didn’t give any direction to the student for her dance, that she let her find her own way through the song, and it looks wonderful. The student seems confident in the dance she created for this piece, and the Bird Girls all fed off of her to create their own portion of background dancing.”

“Students were asked to think about and consider the space they would need to cover, how they would get to their exits without blocking their faces or their fellow actors, and each student worked to know their entrances and how to come on stage as their character, not as a student who fears missing their cues.”

Teachers remarked that this was always an intentional decision in order to build students confidence, agency, and ownership—and to learn what it takes to put on a collective, creative work.

“The constant push to use the kids’ ideas is vital. I like to micromanage, but that doesn’t help them learn, so I am way too stressed if I try it that way. The kids get so much more out of it being involved. There has always been some guidance in Boot Camp, and having the idea that they give us these small tools, and we use them on our own and grow them and then seeing that reflected in my students has been super helpful.” – Teacher Focus Group

“I think having that time for the students to be involved in the smaller pieces of things, collectively, as a cast and crew makes them appreciate all of the little things that go into making a show a success.” – Teacher Post-Survey

Although teachers intentionally provided opportunities to cultivate students’ agency, students also exercised their agency and ownership independently. As a CRoC observer
noted, “the students were taking the steps they need to take ownership of their own success.” For example:

“None of the props were in their designated area, and that seemed to really mess with the students’ flow. By the end of rehearsal everyone was looking for their props and placing them where they needed to be, because the flow was not there otherwise, and the students recognized that.”

“Some of the senior students were doing well with keeping their newer castmates in line and focused. It takes a lot for a student to stay in character, while also watching their peers and trying to ensure that everyone is where they are supposed to be. Key players all worked hard to ensure they and their classmates were where they were meant to be.”

In summary, students demonstrated high levels of agency, independence, and ownership in all aspects of the creative process; teachers were intentional and designed co-creative learning opportunities, and students demonstrated agency and ownership even when unprompted. This area of growth is particularly noteworthy given the frequency of this observation, the extent to which it connected to other areas of growth like creative problem solving and confidence, and the scope for students to transfer this skill into other areas of their learning and life.

5.3.2 Creative Problem Solving
Students also exhibited strong levels of creative problem solving while participating in the JumpStart Theatre Program—and through their creative problem solving, continued to exercise their ownership and agency. CRoC observers noted creative behaviors throughout the rehearsal observations (see section 3.3 for additional examples):

“With as many bodies as there are on the stage, the students are [working to ensure] that their faces are turned to the audience while also ensuring their faces are not blocked by a ton of other students or props.”

“Getting the students to focus on and pay attention to the cues in the music and in the dialogue while also staying focused on keeping in character and interacting with their families or groups is proving difficult. However, one student creatively offered to add levels into their standing so that the students could still watch what was happening while also interacting with their groups.”

“The students adapted to no music. Their teacher had an after-school commitment that kept her away from rehearsal until nearly 4:15. [...] However, the students did well singing through what they could, and sang along to the best of their abilities with the quiet music from a phone and laptop.”

These examples and the frequency of these types of observations indicate that students demonstrated creative problem-solving behaviors regularly and independently. Such
results further suggest that the general lack of change in NGCS creativity scores may be more due to small sample sizes or selection bias, as opposed to a genuine lack of student creativity. The qualitative data indicates that JumpStart Theatre students are creative problem solvers.

5.3.3 Empathy
JumpStart Theatre students also demonstrated empathy for their characters and, at times, for their peers. CRoC observers noted several instances in which students were “digging into their characters and having the space to learn who they were.” For example:

“The young boy who plays the character with a lisp is doing great grasping the reasons he needs to play up his lisp. I honestly had no idea he didn’t naturally have it until I heard him speaking in the wings later in rehearsal. I knew he had struggled with being made fun of, but he seemed to grasp why and how the lisp played into his character. It was great to see him really coming into his character.”

“With one student, the ability to detect the emotion that should be present, down to feeling angry at outside sources but also finding anger within himself was profound. For Mayzie and the Bird Girls, one student had asked if the Bird Girls were jealous of Mayzie and another replied, “I think that the thought process of the Bird Girls is that they adore Mayzie. They are very happy to be as close to her as they are, but there isn’t any jealousy there.”

The empathy that students demonstrated for the characters also sometimes showed itself in their interactions with each other. One teacher noted this when speaking about her special needs students’ interactions with other students:

“A lot of our students won’t take the time to make relationships with students like that. But when I’m there at practice and in the classroom with him, and we’re joking around, and we’re joking at this level, when some of the kids see how smart he is and they start to want to become friends with him. And they did that during the show, because they had those opportunities that they would never have had before.” – Teacher Focus Group

In other words, the JumpStart Theatre Program seems to have provided genuine opportunities for students to cultivate their empathy, starting with their characters, but extending to their peers and real relationships in their lives.

5.3.4 Confidence
Prior to participating in the program, most teachers indicated on their pre-surveys that they anticipated and hoped to build students’ confidence through the JumpStart Theatre Program. In teacher post-surveys and CRoC field researcher notes, throughout the study, it is documented that students actually demonstrated increasing confidence throughout their participation in the JumpStart Theatre Program. Many observers and teachers reported seeing tremendous growth in students’ throughout the three-year program:
“One thing my husband commented on – because he’s seen all three of them – he said the confidence in the kids, and just how clean things were! He said, that closing number, you could put it on any stage.” – Teacher Focus Group

(Of a previously challenging student who has participated in JumpStart Theatre for three years): “He knows he’s playing a pivotal part, not only in the show, but in the program as well, and it is amazing to see this student, who the teachers will tell you struggled before, grow into such an incredible student.” – Teacher Focus Group

Even students with special needs demonstrated, in their own way, a growth in confidence throughout the program.

“We have a student with autism, and I worked with his caseload manager to encourage him, tell him to come out. Well, he came out, he attended performances, but with autism it’s just like a special monster – you don’t know the boundaries of it. And that’s happened a lot during the practices. He would reach that boundary, and he would retreat. It’s like, how close can you get to the turtle, before he snaps back in? And we can’t get him to come out before the practice is over. So, by the end, when we were at performance time, he would never go out on stage, but he was always backstage singing along, he was right there in the wings. And when we went to go take the bows at the end, the first night he was like – at the very end, snuck back in. But last night he walked out on stage with everyone and took a bow. And that was the reward for me, all year – if I worked that hard, to see him do that.”

There were also instances in which they saw students’ confidence visibly grow during a JumpStart Theatre rehearsal or performance. For example, teachers reflected on one particularly anxious student and the effects of the program on her confidence and ability to cope with uncertain situations:

Teacher 1: “…She panics in the classroom when teachers call on her to answer out loud. And then she is on stage, and she’s just belting it, and she’s hitting every mark. The second night her microphone fell out – the pack fell out of where it was wrapped up around her…”

Teacher 2: “And we’re going, “Oh no, what’s she gonna do?!”

Teacher 1: “And everybody is freaking out over the radio. And she just comes over, and – well, first of all, she’s on stage, and everybody’s like “Go off stage!” And she just picks it up and holds it in her hand and carries on. And then she comes off, and we fix it. Those are the kinds of things that to me are so powerful.”

Finally, when asked in small focus groups, students also reflected that they felt more confident because of the program:
“I like all the skills in life you can get from it. ‘Cause, I have to do public speaking all the time and presentations. And just learning how things get put together is very helpful. And, like, confidence is really key to what you do.” – Student Focus Group

This program appears to provide ample opportunities for students to be pushed beyond their comfort zone, to learn how to handle unanticipated challenges and problem solve, and co-create with their teachers. All of these opportunities have likely made it possible for students to realize their capabilities and grow their confidence.

5.3.5 Collaboration

Students had opportunities to co-create with their teachers and their peers throughout the program and, thus, a chance to exercise collaboration skills. CRoC observers often noted that rehearsals “allowed for students to interact and ask questions not only to their teachers, but to their peers as well.” For example:

“Each student struggled with their spacing, but I noticed discussion between the students in each group. They were marking who they were with and finding their own solution to remembering who they were with and who they stood between.”

It is also important to note that when students collaborated, they collaborated well. They exhibited cohesion, communication, and respect to each other when problem solving or supporting one another. For example:
"The students were great with marking the stage, and I was impressed with the team work coming out to the tech crew [from the stage]. They were incredibly cohesive."

"A student led the other two students who played alongside her, and when they struggled, she was great with combating the delays and got them back to where they needed to be."

The JumpStart Theatre Program appears to have created space for students to work together productively and to collaborate meaningfully.

5.3.6 Sense of Community
Finally, students fostered an authentic sense of community within their JumpStart Theatre Programs. Many teachers expressed hope that their students would grow in this way in their pre-surveys, and teachers and CRoC field observers noted examples of this collaboration and community in several schools:

"What’s obvious is just the enjoyment and fun and community that the kids appreciate being a part of this whole work, this group, this play. It’s more about that than anything, for a lot of them. “I’m a part of something. I’m a part of a bigger community, I’ve collaborated.” I thought our student who spoke yesterday hit on that. It helped her make friends, it helped her reach out and feel more comfortable with her peers. And the bus ride was a big party – they were happy to be together. I think that’s something we’re always celebrating, whenever we see it. It’s a sense of community.” – Teacher Focus Group
A CRoC observer informally interviewed a student during a rehearsal and the student reflected on the JumpStart Theatre process, working with their peers, collaboration, and community:

“The people that join it, you know they’re determined. They want to do something. And usually most of ’em are nice. And if not, they’ll evolve. And they’ll become friends, and you’ll have memories, and make laughs.”

The student’s sentiments were echoed in other moments throughout the musical theatre production, as when the students would regularly congratulate one another and clap after finishing a scene, or when motivating their peers to persist and improve. A CRoC observer noted this several times in rehearsal observations. For example:

“A student was being praised for fixing issues, and her cast and crew mates were cheering for her success, I can only assume she was enjoying that she had come so far from last year with her knowledge of the technology at hand.”

One particularly useful mechanism to encourage students’ sense of community was bringing former JumpStart students back to assist in set design and mentoring current students. A teacher reflected on this in a focus group:

“Because there were many times that we brought [the former students] down – they would be rehearsing on the same day they were having club, so we would take two or three kids from the high school club that had been a part of the production in the past to come down and tutor kids one-on-one in memorization of lines, characterization techniques, you know, just helping them build confidence.”

The depth of student growth in the JumpStart Theatre Program was likely enhanced because of the strong sense of trust, togetherness, and community.
5.3.7 Summary of Student Growth and Change
To briefly summarize, the qualitative data reveals that students demonstrated growth in several key areas including ownership and agency, creative problem solving, empathy, confidence, collaboration, and a sense of community while participating in the JumpStart Theatre Program. These areas of growth were demonstrated consistently throughout the qualitative data in observations, student reflections, teacher focus groups and surveys, and more, which suggests strong triangulation and depth of impact.

It's also important to note that the areas of growth appear interrelated, and greatly affected by the experiences that teachers had during the Boot Camp and the skills and relationships developed over the course of three years. Thus, the JumpStart Theatre Program appears to be a program of genuine and deep growth for all participants who engage fully and freely—and when teachers model deep engagement and provide the same opportunities to students, the most desirable result occurs: students flourish.

5.4 Results Discussion: Factors that Enabled Student and Teacher Growth
To briefly review, students and teachers who participated in the JumpStart Theatre Program experienced growth in:

1. Comfort with Discomfort
2. Confidence
3. Creative Problem Solving
4. Empathy
5. Ownership and Agency
6. Sense of Community, Community of Practice, and Collaboration

While it is important to make note of these areas of growth as a measure of success, it is also worthwhile to ask why and how students and teachers experienced such growth while participating in the JumpStart Theatre Program. When analyzing the data, the CRoC research team made note of potentially influential factors that enabled student and teacher growth. We briefly present these factors below.

5.5.1 Guided Structure with Room for Creativity
As in previous years, the qualitative data suggests that when teachers provided a sense of guided structure that still had plenty of room for creativity, students and teachers were able to grow alongside each other.

In the Boot Camp, teachers were often given a base level of support and structure from calm, confident Boot Camp leaders, which let teachers feel confident in the production ideas and tools and empowered to use such tools. However, there was still enough flexibility and space for creative adaptation and interpretation through discussions of how teachers may use such tools and approaches in their own schools. This balance of guidance and structure with openness towards creative interpretation likely fostered teachers’ agency and ownership over the tools and practices, and more.

Similarly, observation data reveal that students often needed the guidance or confidence from their teachers in order to feel confident taking risks. The only time that rehearsals became chaotic in schools was when teachers were frazzled, uncertain, and lacked direction or a calm confidence. Whereas rehearsals led by calmly confident teachers often struck the ideal balance of structure and space for creativity. In such rehearsals, students were not limited by rigid direction from teachers; rather, students had enough guidance from teachers so that they could feel assured by their teachers’ support and general direction, while also feeling empowered, invited to contribute creative ideas, and participate as equal and valued members of the creative learning community.

5.5.2 Co-creation Among Students and Teachers
Cultivating an environment conducive to co-creation—equal participation in a creative and iterative process—among students and teachers may also have been an influential factor in student and teacher growth. Throughout the rehearsals, CRoC observers regularly noted moments in which students and teachers appeared to engage in a creative dialogue, in which they designed choreography, blocking, or sets together through respectful, curious, and equal conversation and experimentation.

In these moments, the teacher initially guides or prompts the students. Then, once students start participating, the creative process becomes a conversation. Teachers start to respond to students’ ideas and inputs and the outcome is truly co-creative and a result of a reciprocal dynamic between teacher and student. This co-creative process is one that
inherently cultivates a sense of community among students and teachers, through collaboration, confidence, agency, and improvisation. Thus, this particular dynamic is likely to be a strong factor in enabling student and teacher growth in the JumpStart Theatre Program.

5.4.3 Strong Teaching Teams
When the JumpStart Theatre teaching team had a predictable and reliable working dynamic, with clear roles and responsibilities, the theater process and production appeared to run particularly well. This smooth working environment may have been a powerful mechanism for teacher growth and general success. Several teachers reflected on this in focus groups and post-surveys:

“The second year I was the lead person. It went really well, and the kids had a blast, but I was a nervous wreck the whole time. So, this year, with my colleague being in that lead role and me being able to just jump in and out, is a much better fit for me.”
– Teacher Focus Group

“I learned to see my colleague’s strengths and recognize their weaknesses so that I can best fill the gaps to get everything done that needed to be done by the deadlines. I learned to allow someone else to take the lead which allowed me to address missing areas. In the past, I [took] the lead and [took] on everything myself while delegating tasks. I learned how to compromise so that other teachers can learn and grow.”
– Post-Survey

These clear roles allowed teachers to specialize and focus in their area of interest without duplicating efforts and running into direct conflict over competing visions. At another school, in which there was a significant lack of communication amongst teachers, there was slightly more chaos in rehearsals, which may have affected student participation and growth. CRoC researchers repeatedly noted that the connection between a strong teaching team and student performance matters:

“Seeing the involvement of these teachers gives me incredible hope for this school, and a true understanding of why a strong team is a vital part of this program. The students are learning very well, and the freedom to explore their characters is doing them all good.”

“I am repeatedly impressed with the time management of the teachers. As a team, they seem to work together very well. The students are progressing very well with their songs, and a few of the students are already off book with their lines. Regardless of where a student may be with memorization, the teachers keep a great flow with watching pages and keeping the students on track. Nothing felt too rushed, and I never felt as if they were running out of time.”

Therefore, it may be worthwhile to continually investigate how to support strong teaching teams with clearly defined roles. Investing in teachers’ productive collaboration and shared responsibility could yield benefits for teachers and students.
5.4.4 Feeling Like Part of a Community
As mentioned when discussing student growth, feeling a strong sense of community likely played an important role in students’ growth. However, the sense of community appears to have extended beyond school-specific programs. Teachers and administrators feel connected to the JumpStart Theatre community. In teacher and administrator focus groups, they expressed this sense of connectedness:

“After these [Boot Camps] I always feel like I am part of the other schools and their shows because of all the talking and ideas we get from each other. I really enjoy learning from them.”

Not only do they feel connected to a community, they see the value in the community and opportunity to share, learn, and collaborate—and are willing to create ways to grow this sense of community beyond the three years and beyond the provided JumpStart Theatre Program structures. This was illustrated in a focus group conversation amongst teachers:

Teacher 1: “I value this [conversation/focus group]. I think this is a great way to problem solve and support each other. So something like this – monthly? I don’t know. That would be pretty interesting.” – Teacher Focus Group

Teacher 2: “I think, too, that Saturdays are great. So having a once-a-semester Saturday [...] and it’s professional development, maybe some lunches. And if you had these topics – again, not that we have the funding for this, but if you do a brown-bag lunch – [...] and then offered those independently from the Boot Camps, is that something that you believe people want to come participate in?”
– Teacher Focus Group

In this scenario, teachers expressed a desire to continue their connection and collaboration, or sense of community, even without funding or formal support. This connectedness has and will likely to continue to be a factor that enhances success of the program; the more connected teachers and schools are to one another, the more support they can provide, ideas they can share, and growth they can experience.

5.4.5 Community Buy-in
Community buy-in beyond the school appears also to be a factor that increased student growth. The JumpStart Theatre program is implemented in urban and rural school communities that have not offered this generative learning experience to their middle school students. CRoC observers and teachers noted that these communities have rallied and expressed their support through participation and attendance at the shows:

“Seeing the community itself support these kids, who are doing something that typically in rural communities would get you labeled negatively…if this had started up where I was in school, people in the program would’ve been exiled for being nerds. I assumed the same thing would happen here because they’re so much like us. It’s a farming town. You farm and you play basketball – those are your options. I was like,
“Oh, I hope that they’re not getting bullied.” But this community rallied behind this program.” – Teacher Focus Group

“For the community, this show was the happening thing in town. I remember last year, a lot of the members of the community were excited to see how the students had done, and this year was no different. The people of the community all joked about being at school on a Saturday and how excited the kids were to be there.” – Performance Observation

“There were so many smiling faces in the audience, and I always love hearing the community members discuss the students and how they have all collectively watched them grow up.”- Performance Observation

When the whole community believes in a program, the participants likely believe in their program, too, participate fully and deeply, and thus experience sincere and tangible growth.

5.4.6 Integration with the Curriculum
Finally, formal integration of JumpStart Theatre practices into the school beyond the performance is likely to increase student and teacher growth. In some schools, teachers have integrated elements independently into their teaching, while in other schools, they have developed a formal JumpStart Theatre class operating Monday through Friday as an elective.

“I teach a literacy enrichment course. So I get struggling readers and writers. When I have students in my class that are also in the musical theatre program, it enriches their academic pursuits in our class more than I can quantify. When we talk about plot, when we talk about tableaux, telling stories – beginning, middle and end – I can use their theatre experiences, what they’re doing in rehearsal, in the curriculum in the classroom.” – Teacher Focus Group

“Their class is set up as a Monday through Friday course, it was an elective this year, and since auditions haven’t happened yet, to hold the kids over, they are learning all about the history of musical theater. I loved hearing that these teachers arranged for an entire class period a day to be set aside for these students.” – Teacher Focus Group

When students and teachers have greater access to JumpStart Theatre philosophies and techniques throughout the school day, it is more likely that their growth translates across time and context and becomes a transferable skillset.

5.4.7 Summary of Factors that Enable Teacher and Student Growth
In summary, we identified the following factors that may enhance the depth of student and teacher growth in JumpStart Theatre:
1. Guided Structure with Room for Creativity
2. Co-creation among Teachers and Students
3. Strong Teaching Teams
4. Feeling like a part of a Community
5. Community Buy-in
6. Integration with the Curriculum

To ensure lasting and transformative change among students and teachers, we suggest targeting these six areas and supporting schools to embody these principles, practices, and approaches.

5.5 Administrator Growth and Change
We now present a brief section on school administration growth and change, to examine the perceived change in schools after participating in three years of the JumpStart Theatre Program. Generally, we identified two areas of growth experience by administrators: (1) seeing value in the program and (2) building sustainable structures for JumpStart Theatre after the three-year period.

5.5.1 Seeing Value in the Program
Although JumpStart Theatre teachers and some administrators anticipated or saw value in the program from day one, some administrators remained unconvinced of the impact and value of the program. However, several teachers and JumpStart Theatre staff members noted substantial changes in administrators’ attitudes during the program in this third year. This shift was captured in the teacher focus group discussion:

Teacher 1: “Their first performance, and [the Principal said], “We’re not going to have the second show. These kids are terrible, they can’t sing, they’re not hitting notes. And I said, “I thought they were amazing.” And she said, “Well, clearly you don’t see much theatre.”

Teacher 2: Because they couldn’t find pitch.

Teacher 1: Because that’s their biggest problem in life, right?

Teacher 2: So I said to her, “It’s not the destination, it’s the journey.”

CRoC Researcher Quoting Principal: “I didn’t get it. Well, guess what? I got it. I had an ‘aha’ when I saw that Special Education kid up there. Our kids need this.” That’s what she said as she walked off.”

This example illustrates how a principal experienced transformative growth in her ability to see value in the JumpStart Theatre Program. This growth is important to note because school leadership can determine if and how the program is sustained beyond the three years. If administrators see value in the program, there is a greater likelihood that they will build sustainable systems to continue the program. For example:
"The principal has never talked to the teachers. And did not attend rehearsals. She came only for the second production. And she just announced to them that she’s found a way for them to get funding. So you never know where something triggered her. The good thing is she came here, and she believes she’s found a way to build this into a sustainable program."

5.5.2 Building Structures for post-JumpStart Theatre

Over time, as school administrators have seen greater value in the program, they have committed to building sustainable structures to support the program’s continued success. One principle expressed this:

“My next “aha” is, “Oh gosh, third year – how do I keep this going?” Which I think we’ve got to plan for. You all don’t know that yet. I think we’ve got to plan if we want to continue, to create some partnerships and keep going.”

Several schools have moved beyond contemplating a plan, to executing a plan for sustainability, which demonstrates growth in administrators. They are willing to take action before the program’s conclusion to ensure that there is no delay in the program’s continuity. For example, one school created a high school drama club that meets once a week after school to ensure that students who participated in middle school could continue to develop their skills and interests in musical theatre. The school administrator described the program and their intentions to design a high school program in the near future:

“All those alumni, and then some new kids from the high school, are now in an after school club that meets once a week. We have a little bit of district money. They actually did their own generated lip-sync production of Michael Jackson’s “Thriller.” We recently did it at a talent show at the school. It was all student-generated, student-driven. We just facilitated whatever they want to do. Telling them the whole time that our plan is to try to open up a high school program before they graduate."

– Teacher Focus Group

Other schools have created funded positions to ensure the program continues while another school administrator has decided to build a school identity around the arts in order to attract more students:

“They’ve started marketing that “Maybe you’ll want to come here to school, if you appreciate the arts,” and he listed all the subjects, including junior high theatre and high school theatre. So, how exciting that will be! I think that when we look back on what’s worked and what hasn’t worked, those have been some of the highlights.”

Thus, we have seen evidence of administrator growth because they have already sourced funding and created sustainable structures to ensure the program continues.

6. Third Year Conclusions and Recommendations

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To summarize, the third-year evaluation of EdTA’s JumpStart Theatre Program reveals positive gains and growth for teachers, students, and administrators who participated in the program. Teachers and students have become co-creative collaborators, working together and with confidence to achieve collective success in their musical theatre performances. Students with troubled pasts are transforming into student leaders. The benefits of the program are spilling over into regular classroom teaching and the local community; and school communities are actively pursuing—or planning to pursue—ways to make the JumpStart Theatre program sustainable. These remarkable successes are documented throughout the three-year reporting process.

We conclude the three-year study by returning to recommendations proposed in previous reports. We rank each recommendation on a scale of 1 (not implemented) – 5 (implemented very well) to indicate the extent to which previous recommendations have been successfully implemented. We then highlight ways to continue success in years to come.

Recommendations:

1. **Continue to Build Upon Trained Teacher Experience.**
   
   **Ranking:** 4
   
   **Noted improvement:** In year three’s Boot Camp, more experienced teachers were prompted to provide advice, support, and mentorship to new JumpStart Theatre teachers. This provided an opportunity for trained teachers to share their experience and help others to grow in the process.
   
   **Recommendation for Future:**
   
   (1) Teachers who have participated in Boot Camp training can return as alumnae to the Boot Camp for refresher courses, or advanced training to continue to share experiences and be a resource for new teachers.
   
   (2) Create a professional development network whereby JumpStart Theatre teachers meet once a month to discuss their experiences, challenges, and musical theatre techniques. This could take a similar format to the teacher focus groups used in this study. Teachers found a live platform—potentially with a Teaching Artist available to guide the discussion—to be productive and inspiring. This network would continue and deepen the emerging ‘JumpStart Theatre community of practice.’

2. **Support Strong and Clearly Defined Teaching Teams.**
   
   **Ranking:** 4
   
   **Noted improvement:** We found several strong teaching teams in the JumpStart Theatre schools and noticed that when strong teaching teams are present, the musical theatre
production runs very smoothly and creates ample opportunity for student and teacher growth.

**Recommendation for Future:**

(1) Building upon the co-creative culture between students and teachers, we suggest integrating students more formally into strong teaching teams. Students have demonstrated their capacity for leadership through their creative problem solving when teachers are unavailable, or resources are limited. It may be very beneficial to introduce the role of Student Assistant Director(s), whereby emerging student leaders can take a more prominent teaching and leading position, while also strengthening the fiber in teaching teams.

3. **Include Emerging Student Leaders in Boot Camps.**

   **Ranking:** 1
   
   **Noted improvement:** We did not note any student participation in the Boot Camps.
   
   **Recommendation for Future:**
   
   (1) As mentioned in the aforementioned recommendation, we suggest creating formal student leader positions, such as Assistant Directors. These emerging student leaders could be nominated and selected prior to the Boot Camps and therefore included in Boot Camp training.

4. **Require Rehearsal Spaces.**

   **Ranking:** 3
   
   **Noted improvement:** Some schools started to adhere to this requirement, which vastly improved rehearsal consistency and quality.
   
   **Recommendation for Future:**
   
   (1) Continue pushing for this requirement and support schools to identify appropriate rehearsal space in classrooms or other school facilities.

5. **Coordinate Ideal Scheduling.**

   **Ranking:** 3
   
   **Noted improvement:** Some schools developed clear and visible calendars for students, parents, and administrators to create clear expectations and ensure all facilities were available when needed.
   
   **Recommendation for Future:**
   
   (1) Continue to encourage JumpStart Theatre teachers to coordinate with their school administration to work towards an ideal rehearsal and performance schedule.

6. **Continue to Provide Constant Feedback.**

   **Ranking:** 5
   
   **Noted improvement:** JumpStart Theatre teachers and students are provided with ongoing feedback from Teaching Artists and EdTA staff throughout the rehearsal and performance process. This feedback has been tremendously helpful in improving the
program and in helping teachers and students feel supported and connected to a wider JumpStart Theatre community.

**Recommendation for Future:**
(1) Continue to encourage a strong and regular feedback loop between students, teachers, and JumpStart Theatre or EdTA staff. It may also be useful to link specific teachers with EdTA teaching artists for regular feedback during the JumpStart Theatre program, in a mentor-mentee type relationship.

7. **Cultivate an Environment Conducive to Co-Creation.**

**Ranking:** 5

**Noted improvement:** Based on three years of observations, it is very likely that the greatest moments of growth among students and teachers in collaboration, creativity, and sense of community, were as a result of the co-creative approach to designing and producing a musical performance. This process is one that inherently cultivates a sense of community among students and teachers through creativity, collaboration, confidence, agency, and improvisation. Thus, this particular dynamic is likely to be a strong factor in enabling JumpStart Theatre’s student and teacher growth.

**Recommendation for Future:**
(1) Continue to encourage this co-creative relationship by supporting JumpStart Theatre teachers to make formal or semi-formal roles for student leaders and by modeling co-creation in the Boot Camp professional development.

8. **Integrate into the School Curriculum.**

**Ranking:** 3

**Noted improvement:** As evidenced in Gamble over the past two years—and in some individual teachers’ classes at other schools—integrating the program’s theme into the school day curriculum is a beneficial practice for students’ and teachers’ creative growth and for building school community and pride.

**Recommendation for Future:**
(1) We recommend that JumpStart Theatre teachers meet with content teachers, music, dance, band, choir, and art to establish curricular connections with subject areas and transferable skills.
(2) We also recommend that a JumpStart Theatre professional development network is used to encourage administrators and teachers to transition the program from being a solely after-school program to an integrated school-day curriculum.

9. **Include Parents.**

**Ranking:** 4

**Noted improvement:** Parents involvement has improved.

**Recommendation for Future:**
(1) We recommend asking parents how they would like to be involved in the JumpStart Theatre program and how they may want to connect with each other on their own time.

10. **New Recommendation: Consider leaning on the JumpStart Theatre Program as a safe space for students and teacher to manage change and conflict.** We recommend drawing upon the emerging JumpStart Theatre community and community of
practice—one that embodies resilience, collective success, empathy, and growth—to overcome challenges faced by students, staff, parents, and the community. The JumpStart Theatre community is a valuable resource built upon sturdy relationships. Utilize those relationships to persist and grow in challenging times.

In conclusion, the JumpStart Theatre team has responded to our recommendations well, with significant progress demonstrated in nearly every area. We anticipate continued growth, especially as administrators and teachers create paths for sustainable implementation beyond the three year program period. We are heartened by the program's success and all students', teachers', administrators', and communities' growth over the past three years.

End of Report

7. Appendix A: Sheila Page Creativity Inventory

Behaviors that support development of creativity
CROCS approach to data collection 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. 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 support 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