This chapter centers on a longitudinal research study set in rural South Carolina, a state located in the southeastern United States. In 2015, the South Carolina State Legislature passed SC House Bill Act 284, also known as the Read to Succeed Act. The law attempts to redress the state’s low third-grade reading scores on standardized tests and also to elevate the importance of early-learning reading skills. The intention of the law is to identify struggling readers in order to provide them with targeted interventions to improve overall literacy and stem summer reading loss. The bill stipulates that if a reader is not reading at grade level by the end of the third-grade year (at which, in this US context, the child is between eight and nine years old), that student must be retained in the third grade until they have achieved reading at grade level. Each school district receives state-issued financial support to create Read to Succeed Summer Intervention Camps where students work with teachers and reading specialists to improve their reading skills before their third-grade re-evaluation.

These camps provided an excellent opportunity to study the relationship between learning through drama and its impacts on a child’s motivation to read. A consortium of state arts and education organizations (The South Carolina Governor’s School for the Arts and Humanities, the South Carolina Arts Commission, and the University of South Carolina) partnered to develop and implement summer drama curricula and to research its impacts.

By incorporating drama into the daily reading interventions, researchers acquired data that could lead to understanding how and whether drama impacts a child’s comprehension of story, their motivation to read, and one aspect of creative thinking (as determined by a divergent thinking instrument, which should not be confused with an assessment of a child’s overall creativity. We have no interest in a creativity score, as such). For the past five years, a team of researchers developed a semi-experimental design to generate both qualitative and quantitative data. The complexity of the research questions, along with the ability to revisit and reshape the research practices between summers, has provided valuable insights and distinct challenges into investigating drama-based practices and investigating through drama-based practices. The major research question was whether incorporating theater strategies within the camp would impact student motivation to read and whether students would improve scores in assessment of divergent thinking, one component of creativity. This chapter addresses those insights while also contributing to the mixed methods research discourses in drama education.
Nature of the drama interventions within the read to succeed camps

I was contacted by a representative of the South Carolina Governor’s School for the Arts and Humanities to lead a research team to investigate the efficacy of drama interventions on a child’s motivation to read, their growth in divergent thinking, and on their overall MAP test scores. MAP tests are developed by the Northwest Evaluation Association (NWEA) and are used across the United States as a means to generate data to support academic decisions for student learning. I did not plan the drama interventions nor hire any of the teaching artists used to implement the drama curriculum. Of course, as a theater in education researcher, I had a sincere interest in the results of this research study. In spite of that, I was able to analyze the data along with other team members and follow the data where it led.

The students selected to participate in these camps were those whose MAP standardized testing scores indicated that they were in danger of being retained in the third grade. Two schools were used in this study, though only one elected to have a drama program for their students. The other school, within the same school district, was not interested in including drama during the camp day. This provided an excellent opportunity to have a control school, since both schools were in the same town and shared similar demographic information and test scores. Both schools also utilized the same pre-packaged reading curriculum (a mandate from the state) and had the same schedule. As is often the case with educational research in schools, we did not have the possibility to randomize which students would receive the drama interventions and which would not. Having two research sites with such strong similarities and who were using the same curriculum enabled us to design a non-randomized control trial.

The drama interventions used at one school camp supported the reading instruction that the students received throughout the day. The drama specialists pulled stories from the state-approved curriculum that the students encountered during their reading intervention time. These stories were the inspiration for the drama work which elaborated students’ understanding of the specific texts and also of how stories work. A sample of drama strategies employed during the residency included:

- Process drama (a group-improvised story in which students become various characters throughout the play)
- Storytelling
- Reader’s theater
- Improvisation
- Role play
- Structured drama strategies
- Character explorations
  - Hot seating (asking direct questions of a character in role)
  - Thought tracking (students in-role share the inner thoughts of their character)
  - Role on the Wall (students brainstorming the inner and outer influences on a character or situation)
  - Conscious Alley (a critical thinking technique that asks students to weigh the pros and cons of a character’s decision)

Students attended the summer reading camp for five weeks, four days a week (Monday through Thursday). They often had a different drama instructor every week so that they could experience a variety of drama techniques and approaches, but the central core goals of the drama work were consistent across instructors. These goals included supporting reading instruction, encouraging students to practice divergent thinking and elaboration skills,
helping students understand story structures, and developing drama literacies. The students had one hour of drama instruction every day of the camp, which culminated in a community sharing. The sharing consisted of demonstrating drama strategies and a closing improvisational storytelling process for the families and guardians of the children.

**Mixed methods and drama education**

Over the past four decades, research methods, methodologies, and reportage within drama education have diversified and expanded considerably (Norris, 2000; Woodson, 2009; Belliveau and Lea, 2011; Gallagher, 2014; Kershaw and Nicolson, 2011; Duffy et al., 2016). Since its beginning, research into drama education developed a bifurcated focus that pairs disciplinary research genres, drama, and learning. As Roger Bedard (1995), the then editor of the newly renamed *Youth Theatre Journal*, said,

Current research in theatre for young audiences and theatre education is strongly influenced by research from other fields, such as linguistics, sociology, history, child psychology, and literary criticism. No matter the terminology used, our task is to help young people find their voices with and through theatre. […] But researchers in the field are committed to the view that theatre educators and artists can be informed by sound research. The challenges of research in their field are significant; the potential rewards in helping young people find value in theatre are enormous.

*(p. 1)*

The challenges noted here by Bedard persist. Consequently, theater education researchers borrow from various disciplinary methods because of our inherent multi-focus. We examine, for example, learning *and* aesthetics, imagination *and* empathy, self-expression *and* representation, narrative *and* form, creativity *and* resilience, health *and* safety, community *and* belonging, performance *and* devising. Our research exists within the *and*; within the in between. To be sure, our inquiry is one of complex hybrids. Weltsek and Hammoor (2019), drawing from literacy research and discourse analysis, educe the multimodality of our inquiry when describing the complex hybrids that populate theater education research (p. 81). To capture the interdisciplinarity and multi-focus nature of their research, Weltsek and Hammoor (2019) moved beyond scholarly narratives in favor of a graphic novel approach to describe the disassociated space they hope to inhabit when researching and analyzing data.

Omasta (2019) convincingly articulates that collecting multimodal data helps story and tailor the data for a specific audience. Capturing the complexity of the theater experience requires a variety of methods that encourage scholars and practitioners to “develop fluency in multimodal approaches to research (including mixed methods), and […] share our work in ways both accessible to and appropriate for the specific audiences we hope to influence” (p 156). Leavy (2017) discusses mixed methods from the standpoint of intention of outcome. She suggests, for example, that mixed methods research (MMR) is more appropriate for a:

comprehensive understanding of the phenomenon under investigation because of the integration of quantitative and qualitative data. MMR is generally appropriate when your purpose is to describe, explain, or evaluate. MMR is also routinely used in applied social and behavioral science research, including that which seeks to prompt community change or social action.

*(p. 9)*
MMR relies upon two research traditions that, historically, have been separated by data categorization and disciplinary approach. In recent decades, however, this separation has proven to be a false dichotomy, an unnecessary either/or that limits a researcher’s more complete understanding (as if a researcher’s understanding could ever be fully complete). According to the *Sage Encyclopedia for Research Design*, quantitative data analysis is described as follows:

> The classic quantitative approach encompasses hypothesis formulation based on precedence, experiment, control groups and variables, comparative analysis, sampling, standardization of data collection, statistics, and the concept of causality. Quantitative design refers to a research paradigm that hypothesizes relationships between variables in an objective way.

Quantitative methods are related to deductivist approaches, positivism, data variance, and factual causation (Salkind, 2010, p. 814).

Numbers, statistics, causal relationships, research design, and data categorization are all hallmarks of quantitative design. An emphasis on such ways of knowing may seem antithetical to drama-based research, but researchers have been utilizing quantitative approaches for decades to help explain the multiple impacts of drama education. One advantage of the use of quantitative methods is that they do not necessarily rely on the researcher to function as the interpretive lens through which meaning is made. Of course, the researcher designs and chooses which statistical analysis to apply, but, when done ethically, the results of that analysis are independent of the researcher.

Qualitative design, by contrast, is an interpretive approach that relies on narrative forms of inquiry and on the researcher to function as the interpretive lens. As described in the *Sage Encyclopedia for Research Design*, it is a form of inquiry that seeks to make meaning from social contexts:

> The classic qualitative approach includes study of real-life settings, focus on participants’ context, inductive generation of theory, open-ended data collection, analytical strategies based on textual data, and use of narrative forms of analysis and presentation. Basically, the qualitative method refers to a research paradigm that addresses interpretation and socially constructed realities.

(Salkind, 2010, p. 814)

Quantitative and qualitative research designs offer researchers different, yet, when appropriate, equally important layers to addressing research questions. MMR provides, as Norris (2009) describes, contexture (p. 86) to the study. Survey, inventory, and completion task data are just a few examples of the types of numerical analysis that may help a researcher more richly understand the inner workings of the research events. Interviews, researcher field notes, textual analysis, and discourse analysis, likewise, illuminate the social relationships and the opinions of events, people, and ideas. As Bernard (2006) explains,

> Across all the sciences, all data, qualitative and quantitative alike, are reductions of our experience. In the social sciences, we are particularly interested in people’s behavior, thoughts, and emotions and the environmental conditions in which people behave, think, and feel. When we reduce our experience of those things to numbers, the result is quantitative data. And when we reduce people’s thoughts, behaviors, emotions and environments to sounds, words, or images, the result is qualitative data.

(p. 23)
Again, to draw from Omasta (2019), the value and impact of our work is of little consequence if the storying of the data lives in isolation. It is the responsibility of researchers in the field to share findings in a way that brings stakeholders and others into the conversation about research. Research reportage is storytelling, and like all good theater artists, the reporters must consider their audience. The scripting and delivery of the story is equally important.

**Method and methodology**

Saldaña (2014) distinguishes method from methodology as follows: “A method is how you go about doing something. A methodology is why you're going about it in a particular way” (p. 10; emphasis in the original). Methodology concerns the why or to what end questions. Why devise with young people? To what end do we employ image theater to elucidate participants’ thoughts on a given topic? Why use critical theory as the interpretive lens for this research project? Such questions are the domain of methodology. The method is how you create the conditions for collecting and/or generating the data germane to your inquiry. Saldaña offers this example: “…the how of interview methods come into play through our strategic use of probing questions, guided conversation, elicitation techniques, and other tactics” (p. 10; emphasis in the original). How do you devise a piece with young artists about life in their community? How do you sequence questions on your interview protocol? These concerns are in the domain of methods.

The how and why of drama education research matter no more or no less than the how and why of all research. This is the very heart of inquiry – to more fully understand the world and the human condition. But the landscape that Bedard described in 1995 is quite different from that of today. It has always been true that researching drama requires the borrowing of methods from other fields and research traditions. The development of drama-based inquiry has emerged to include a field with its own research practices and methods. Drama as research method is now cited and oft used by scholars from fields outside of theater education. For example, the citation database ERIC yields dozens of articles from a variety of fields that cite drama as a methodology. Journals focusing on topics such as learning differences, educational studies, social work, applied linguistics, sex education, and environmental education appeared under the search terms: drama, methodology, education. This variety of fields recognizes drama practices as a productive means of generating data (Norris, 2016).

Embodied data transcends numbers, observations, and words. The body is, as Jane Bacon (2006) aptly describes, the landscape through which we understand our thoughts and reasoning (p. 141). Drama, as an embodied research method, generates unmediated embodied data (numerically or interpretively) previously unknown to researchers in other fields. Embodied data evoke a human topography. It reveals through image, sound, and movement how one feels or responds (perhaps even unconsciously) to a given prompt, situation, circumstance, or idea. Knowing why a researcher would employ embodied response as a means of generating data is as important as understanding how to facilitate the process. Method and methodology, theoretical framework, research genre, and interpretive lenses all work together to unravel the story of the research questions. MMR aids researchers in dealing with complexity, relationships, and significance, and helps to provide nuance to what is being studied. Rather than presenting a hodgepodge of random research traditions and methods, MMR provides a means for revealing the intricacies of the research in new and exciting ways. As Kathleen Gallagher (2014) describes,

Nesting quantitative studies within a qualitative one also allowed us to ask broad questions about students’ lives outside of school that we wouldn’t have come to understand
ethnographically or through interviews. [...] In our research, we wanted to take a comprehensive look at environmental forces like neighborhood, family, and peer and community supports, and how they are impacted by drama pedagogy and by responsive and relational teaching.

(p. 12)

The MMR framework provided Gallagher (2014) the level of granular detail as well as the broad overviews necessary for the research team and research participants (whom Gallagher would consider to be part of the team) a means to tap into the multidimensionality of their study (p. 13). The complications and messiness that accompany the multidimensionality of mixed methods research are both the challenge and the payoff when making meaning out of rich and knotty data. It is precisely for this reason that MMR requires a team of experts to work with the data and a willingness to listen to the hard truths the data reveal.

It was a desire for this same multidimensionality that drove the five-year longitudinal pilot study that I will describe in the next section. Having a team comprising an education doctoral student who focused on testing and evaluation and three master’s students in theater education who helped me code data, conduct field observations, interview participants, and analyze video of the summer sessions was invaluable to our developing an understanding of the data we gathered.

Research context

In order to understand the rationale behind developing a mixed methods research study, a little context is required to appreciate the state of South Carolina (SC) and the region in which the study occurred. South Carolina lies on the southeast coast of the United States just north of Georgia and Florida. According to the US census data, roughly 5,000,000 people live in SC. Approximately 69% of the residents self-identify as White, 27% African American, about 6% Hispanic or Latino, and almost 2% as Asian. South Carolina is a rural state with deep ties to manufacturing and agriculture. It is among the ten poorest states in the US and has struggled to provide an education that lives up to the potential of the children who live there. The National Center for Educational Statistics (NCES) provides quantitative data that contextualize reading scores for South Carolina’s fourth graders as compared to national US averages. The NCES 2019 reading snapshot data are their most recent available. They reported the following about South Carolina fourth-grade readers for 2019:

In 2019, the average score received by fourth-grade students in South Carolina was 216. This was slightly lower than the average score for students in the nation of 219.

The average score for students in South Carolina in 2019 (216) was not significantly different from their average score in 2017 (213) and was higher than their average score in 1998 (209).

The percentage of students in South Carolina who performed at or above the NAEP Proficient level was 32%. This percentage was not significantly different from that in 2017 (29%) and was higher than that in 1998 (22%).

The percentage of students in South Carolina who performed at or above the NAEP Basic level was 61% in 2019. This percentage was not significantly different from that in 2017 (59%) and was higher than that in 1998 (53%).

Furthermore, NCES disaggregated the data to analyze score gaps among and between various student groups. Their 2019 data suggest:
African American students had an average score that was 31 points lower than that of White students. This performance gap was not significantly different from that in 1998 (29 points).

Hispanic students had an average score that was 19 points lower than that of White students. Data were not reported for Hispanic students in 1998, because reporting standards were not met.

Female students in South Carolina had an average score that was higher than that of male students by 9 points.

Students who were eligible for the National School Lunch Program (NSLP) had an average score that was 32 points lower than that of students who were not eligible. This performance gap was not significantly different from that in 1998 (29 points).

These statistics demonstrate the persistent need for South Carolina policymakers and educators to address reading achievement gaps and summer reading loss (and, to be clear, the pernicious scourge of poverty). The Read to Succeed camps target several of the factors that inhibit reading ability in young readers.

The region where the research study took place is one of the most economically depressed areas in South Carolina. The anonymity of the region is at risk if exact statistics are shared. Consequently, the region will be described in general terms and will be aptly renamed as Research County. According to the South Carolina Department of Employment & Workforce (SCDEW), the unemployment rate in Research County has followed national and state unemployment trends in terms of rise and fall, but the rate of unemployment here is significantly higher. In February 2019, for example, the unemployment rate in Research County was just under 5%, while the state’s unemployment rate was 2.8% and the US unemployment rate was 3.7%. Such disparities reflect state trends that have been consistent for more than a decade. Occupational projections of the SCDEW show that the largest employment sector in Research County is manufacturing, which offers an average annual salary of $20,438 – well below the national average of $32,485, according to the US Census.

**Quasi-experimental design**

Researching within school contexts poses a challenge to researchers in that experimental research design is often problematic. For example, randomization of study participants is often not possible due to school schedules, teacher workloads, and length of the intervention, not to mention the ethical considerations that must be considered when mapping out any research design. With such challenges, how can researchers draw any sort of meaning from work done within schools? According to Kelly (2016), all good educational research address three fundamental considerations of causal inference: accounting for chance, ruling out competing explanations, and explaining causation. Effective research design produces results which are able to demonstrate that a relationship between the intervention and the change is not due to chance or other factors (time of day, income level of parents, etc.). When those elements are satisfied, then causality can be considered.

Quasi-experimental design (QED) recognizes the limits that randomization places on research within schools and uses “regression discontinuity, instrumental variables, differences-in-differences, two-way fixed effects, and other QEDs [to] exploit nonrandom but plausibly exogenous (or as-if random) variation in key parameters to establish causality” (Gopalan et al., 2020, p. 220). In other words, while researchers cannot randomly assign which students get which treatment, there is an element of randomness (for example, which
class might receive the intervention and which one will not), and statistical analyses are used to limit potential conflicting influencing elements.

For our research, we utilized within-group and whole-group models. Doing so allowed us to compare pre- and posttest data from the students who received the intervention to themselves and to the groups that did not receive the drama intervention to themselves. This orientation allowed the research team to determine whether there was any statistically significant change over time and whether only the drama group or the control group experienced the change.

**Divergent thinking task**

Creativity researchers have long debated the definition of the term “creativity.” Is creativity an intrinsic gift or lucky combination of novel ideas within an individual? Noted creativity researchers Runco and Jaeger suggest a standard definition of creativity should contain both “originality and effectiveness” (2012, p. 92). Jerome Bruner (1962) recommends that creativity should contain an “effective surprise” (p. 18), while Boden (2004) combines all of these elements and suggests that creativity must be novel, valuable, and surprising. This leads us to ask the following: Useful and surprising to whom and for what purpose?

Divergent thinking tasks are often used by creativity researchers to measure the creative inclinations of a subject. Let me be clear: our use of a creativity inventory does not mean that we endorse the idea of a creativity score. We do not. We do not believe that a child is defined by a creativity score any more than we believe that a student is defined by a standardized test score. We looked to the Torrance Test of Creative Thinking (TTCT) because of its high validity and reliability and the fact that it could offer insights into potential change over time. This test has been around since the 1960s and has been administered millions of times to people around the world. This makes it an attractive instrument to use with our sample. Additionally, it is not a written test; it is a drawing test. This is ideal for students who might have reading, writing, or language challenges. They can complete this test regardless of language of origin or of any other challenges with which they might contend.

There has also been analysis to determine whether the TTCT has a bias against people who struggle economically or has a cultural or racial bias. In some instances, it has been shown to favor children of color and children of low socioeconomic backgrounds (Kim, 2006, p. 8). For all of these reasons, we chose to implement the Torrance Figural Test A and B as a pre- and post-intervention design.

A strong motivation to investigate creativity for this research project is that it is one of the “world-class skills” as defined by the Profile of the South Carolina Graduate. This profile was created by TransformSC – also known as the South Carolina Council on Competitiveness – as a document to articulate the values and skills all South Carolina students should possess. It was adopted by the South Carolina Department of Education in 2015. The Profile advocates three basic principles: Real World Knowledge, Real World Skills, and Life and Career Characteristics. Creativity, innovation, critical thinking, problem-solving, and perspective-taking comprise the Real World Skills. These essential life skills also encompass the heart of drama instruction. There can be no drama without creativity, innovation, critical thinking, divergent thinking, problem-solving, and perspective-taking.

These skills are taught and reinforced through drama instruction, but the first of these skills, creativity, is also a central part of literacy development. Research demonstrates that there are strong connections between creativity and literacy. Wang (2012) found, for example, that “negative reading attitudes significantly correlated with low creativity” (p. 42),
Mixed methods in drama education research

meaning that those who read only when they have to are more likely to score poorly on creativity measures. Furthermore, Wang described that the literacy skill of “elaboration” is closely aligned to high creativity scores. Elaboration is the concept of a reader’s ability to explain an idea beyond what they read from a book. For example, a reader can describe what kind of a person a character is because of an action the character took in a text. Additionally, Wang found that not only were reading skills, but also improved writing was tied to creativity. Creativity is powerful, Wang demonstrates, as “adding rich details raises the elaboration scores and increases the overall creative performance. According to the above findings, reading and writing have a positive relationship with the ability to enrich original ideas with details” (p. 45). The more opportunities the students have to engage in tasks creatively, to use their bodies and imaginations, it stands to reason that the more they will be able to reinforce literacy skills that focus on elaboration, symbolic thinking, and reading comprehension.

The TTCT Figural Test is administered by a proctor in three segments. Each segment takes ten minutes and all responses are drawn; the only words required are brief titles students give for each drawing. The limited writing is essential because the test seeks to evaluate a child’s creative engagement and not their ability to spell or put together complete sentences. The test is a divergent thinking test, meaning that it evaluates answers that expand on possibilities and extend ideas broadly. The tests are independently scored, and, in the case of our study, the research team received the resulting data about three weeks after the summer reading camps.

Motivation to read

Allington and McGill-Franzen (2009) substantiate the idea that students who read more, both in and out of school, will be more highly skilled readers. This seems self-evident, but the results of this research cannot be understated. If we want to improve a reader’s reading abilities, the best thing for us to help them to do is read. This research project is not attempting to demonstrate that if students do drama, they will be better readers. The researchers are interested, however, in determining whether doing drama will increase a student’s motivation to read and have an impact on the development of specific literacy skills like elaboration. Motivation to read is strongly correlated to reading ability, and elaboration is an essential skill.

How do students become motivated to read and what sort of motivation – intrinsic or extrinsic – is most effective? This is a vital question for the developers of summer reading programs to consider, and ascertaining what motivates young readers is central to the success of any reading program. Becker, McElvany, and Kortenbruck (2010) demonstrate that fourth graders who are intrinsically motivated to read, find reading to be desirable and will, therefore, be more frequent, skilled, and self-directed readers as sixth graders. They also demonstrate that fourth graders who have high levels of extrinsic motivation to read (pressure from parents or reading prizes, for example) will be less frequent and skilled readers as sixth graders. Motivation to read features prominently in the research literature, and this is an area where we thought drama might make an impact.

To determine a student’s motivation to read, we utilized the Motivation to Read Profile Survey (Gambrell et al., 1996), which is an instrument used to determine two essential features of reading motivation: self-concept as a reader and perceived value of reading. This instrument is widely implemented and is the industry standard in researching student reading motivation. As reported by Applegate and Applegate (2010), “the [Motivation to Read Profile Survey] instrument has a Cronbach’s alpha $\alpha = 0.75$ for self-concept and 0.82 for
value), no small feat for the assessment of a construct as complex as human motivation” (p. 227). Because of these high measures of internal reliability, the Motivation to Read Profile Survey is a reliable instrument for measuring a reader’s self-concept and perceived value of reading. The instrument contains a 20-question survey – ten questions measure the value one has for reading and ten evaluate one’s self-concept as a reader. The numbers for value and self-concept combine to determine an overall motivation score. While a number generated from a survey is not a complete or holistic assessment of the child’s overall motivation to read, it predicts their general motivation in a way that has proven valid. This information can be useful in making decisions about the child’s reading program.

One unexpected outcome the researchers encountered with the Motivation to Read Profile Survey was the high self-reported ratings the students gave themselves as readers. As the majority of the students in the Read to Succeed camp were struggling early readers (grades first through third), it was a surprise to the research team that the ratings they gave themselves as readers were so high. One possible explanation is that to assess themselves, they compared their reading ability to their peers, many of whom were also struggling readers.

**Challenges with this mixed methods study**

While the research team was able to compile a large data corpus (both qualitative and quantitative), one of the largest challenges was associated with the exigencies that came from observing a summer program. In the case of Read to Succeed camps in the study, students are state-mandated to attend the camps if they are identified as struggling readers. Parents must sign a document demonstrating they understand that they have an obligation to get their child to school to attend the summer reading intervention camp. However, because there is no real incentive to attend or consequence if the child does not, many children start the program and eventually stop coming. Conversely, many will start the program halfway through the five weeks; maybe they will complete the program or maybe they will not. Of all of the students who participated, very few completed all five weeks.

Because attendance was spotty, it was hard to determine the impact that the drama made on a child’s divergent thinking. In the 2018 summer, for example, we lost nine students in the drama intervention group but only one from the control group. In 2019, we only ended up with 5 matched TTCT samples, whereas the control group had 13. Additionally, there were questions surrounding dosage, which simply refers to the amount of time the students had experiencing drama. There were several students for whom we have pre- and posttest data, but their attendance during the five weeks was sporadic. Furthermore, we collected a large set of pre- and posttest data, but little of that data matched up because of student attendance issues. We have analyzed all of the data we have, but we, as of yet, are unable to draw any real causality from it. Such variance is a challenge.

As a consequence, we have incredibly messy data. We have results that are baffling. (For example, the drama students showed greater improvement on overall student reading test scores on the MAP test. This result is completely unexpected and defies logic, given that results on overall creativity index scores favor the control group.) The data are so incomplete between the matched and unmatched samples (students for whom we have the pre- and posttest data and those for whom we do not), that we have very little idea of what is making the difference, when differences actually appear. Students in the drama group tend to show a higher motivation to read in their posttest data, but they also demonstrate lower elaboration scores as determined by the TTCT. Because of the messiness of the data, finding real impact is a challenge.
In spite of having an excellent research team and working with a specialist in testing and measurement, we know very little about the true efficacy of drama on a reading curriculum (as defined by the instruments used). We do, however, have excellent qualitative data that will help us understand the nature of activities in which children appear to be deeply engaged in dramatic play and in which they are not. We have also done a discourse analysis of teacher and student talk and have been finding useful data about how teachers can unknowingly create conditions for off-task behavior within the drama.

The disappointment is that we have a large data corpus and the results we have thus far do not point us in a clear direction. With qualitative inquiry, even if the data do not answer the initial research question, there are any number of ways to reconsider the data and understand the story they have to tell. With quantitative data, you can do only so much with the raw numbers. So, is our pilot study a bust? It is actually too early to tell. Some fascinating questions have risen from the qualitative data we have, and we are still in the process of drilling down and looking at the relationships within the quantitative data. Our inquiry now is considering whether the TTCT is the right instrument to use to capture changes in divergent thinking and elaboration over time. What does it mean that the drama students tend to be testing better on the reading MAP tests than the control students? Is that an outcome unique to the students we have, or is something about the drama work influencing the results? There is no credible research that clearly demonstrates a relationship between increased reading ability and engagement with a drama curriculum. More research must be done here.

We will drill down further with the data we have, look for the trends as far as the data can show, and make adjustments moving forward, so that we can learn how to best generate the data that will help us understand the research story within this particular context. It is quite possible that the instruments we have selected to measure student change are not the most appropriate ones and that there are better tools for us to consider. It could also be that the drama work is not having the impact we had hoped it would have. It is always possible the null hypothesis is the correct one. We are eager to share more of our findings and process as we continue our work.

In conclusion, all data tell a story – the story of a cancer cell, the story of excess carbon in the ocean, the story of the relationship between drama and a child’s motivation to read. Although we utilized quantitative instruments to generate data, the challenge of the data capture raises important questions about the efficacy of our drama work, the literacy camps themselves, and whether these approaches are the most effective ways to help a child who struggles with reading.

Another piece to a research puzzle is also the story the funders want to tell, which may influence the data generation and analysis. If funders are merely interested in telling the story for their philanthropy brochure of how they help kids within a poor community, only tidy quantitative data will help that cause. In our case, the grant providers have long-standing relationships in these communities; they have committed significant resources to finding solutions that will meaningfully improve the lives of those who live there. They continue to support this research in spite of its messiness.

I wish this were a chapter that exalted the impacts of drama on reading motivation and on divergent thinking tasks. I wish we were able to offer hard data to back up what we all intuit to be true: embodied ways of knowing and learning make a significant difference to students. Our results do not make that assertion less true, but, unfortunately, the data we have collected so far do not help us sing that song. We will continue to follow the data and rely on mixed methods to help us uncover what this experience has to teach us.
Peter Duffy

Note

1 Cronbach’s alpha is an indicator or coefficient of reliability (or consistency) of items on a test or survey. In essence, it is a way to determine whether how well the questions grouped around a particular concept measure what is intended to be measured. A score of 0.75 falls into the acceptable category of internal reliability, which is high for a scale to measure motivation. The self-concept score is 0.82, which is considered to have good internal reliability.

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