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VISUAL & PERFORMING ARTS | REVIEW ARTICLE

A theatre experiment: A research paradigm with applications for second language learning?

Natasha Janzen Ulbricht^{1*} and Marlene Kruger²

Abstract: Research on performative teaching has expanded in recent decades. This growth has been accompanied by interest in evidence-based practice and evaluation. However, experimentation is complex and classroom-based researchers must carefully and responsibly negotiate many obstacles. Despite challenges inherent in this endeavour, many practitioners are genuinely interested in how and why theatre supports learning. In this article we explore experimentation in the second language classroom and outline a conceptual framework which embeds qualitative data collection within an experimental design. These ideas can be regarded as an extensive case study that combines and furthers the work of teacher artists and scientific practice.

Subjects: Testing, Measurement and Assessment; Classroom Practice; Educational Research; Research Methods in Education; Art & Visual Culture; Theatre & Performance Studies; Performance Theory; Applied Linguistics; Language Teaching & Learning

Keywords: research paradigm; performative teaching; classroom-based research; second language learning; qualitative data; quantitative data

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Marlene Kruger graduated with distinction and was awarded a Master of Arts degree at the University of Pretoria. Her work explores how embodied language teaching approaches, such as drama-based teaching, affect second language acquisition. She has taught English in South Korea, Vietnam and South Africa, to an array of students speaking over 19 native languages. She will commence her doctoral studies in English Didactics at Freie Universität Berlin in 2023.

PUBLIC INTEREST STATEMENT

Theatre Experiments: A New Research Paradigm to Improve Language Learning is a text for a performance is something special, but how can this experience be used in research? Theatre experiments are a unique and valuable for collecting empirical data in naturalistic settings such as schools. Theatre experiments are a way to research the use of drama pedagogy, which is becoming increasingly prominent in the field of language teaching and learning. Theatre experiments provide a structured and rigorous approach to data planning and collection, which can capture subtle changes in language data as well as the voices of those impacted by learning and teaching. As evidence-based research become increasingly important for education, theatre experiments provide a valuable for educators and linguistic researchers to understand the unique complexity of classroom environments. This can provide useful help for teachers making pedagogical decisions and improve language learning outcomes for their students.



1. Introduction

Evidence-based research and education have become important topics (Hattie & Yates, 2013) which are relevant to second language teaching and learning (Sambanis, 2020). And in this context, how performative approaches and more specifically, how drama pedagogy in schools should be researched, is contested (Bora, 2020). On a day to day basis, educators juggle many emotional, organisational and relational demands and while it is widely accepted that research should provide useful help for teachers making pedagogical decisions, what this should exactly entail is unclear. Recent statements such as “Why teachers should stop trying to be more like doctors” (McKnight & Morgan, 2019) allude to this challenge. If a classroom is a complex, and “in a word, messy environment” (Crutchfield & Sambanis, 2017, p. 124), then research paradigms which function under exactly these constraints are needed.¹

In a search for answers on how to include drama pedagogy in rigorous classroom-based research, this article goes beyond classroom-based research experience to examine more closely the research method which we call a theatre experiment.² The main research question is: What are the characteristics of a theatre experiment? This general question breaks down into a series of more specific questions explored in different sections. a) Under which conditions was this research paradigm developed? b) How can we differentiate a theatre experiment from an experiment involving performative teaching methods? c) What criteria may we employ in assessing results from a theatre experiment? and finally, d) What conclusions can we draw from this kind of performative research about classroom-based learning?

We do not aim to discuss, analyse, interpret or criticise specific research findings, although these do indirectly receive some attention. This text rather attempts to bring together research (some published and some unpublished) from the area of drama pedagogy and language learning to create a collection of projects that can serve as subjects for comparison or can, perhaps, qualify as paradigmatic. We hope that this study helps to clarify, justify, and position theatre experiments as a unique tool currently in use within performative second language research. In order to reach this aim, we would like to start by defining drama pedagogy, in addition to shedding light on factors that have an impact on second language learning.

Applied drama and theatre are umbrella terms referring to modes of drama and theatre that are generally responsive to social, political and personal challenges, in addition to having the aim of “change” at its core (O’Connor & O’Connor, 2009, p. 471). Applied drama explorations engage numerous processes that incorporate different contexts (fictional and “real”), various levels of involvement, meaning-making, multiple perceptions, interacting with metaphors and action (Prendergast & Saxton, 2013, pp. 12–13). Modes of applied drama are viewed as feasible and valuable approaches to teaching learners of all ages in a wide range of fields (Bournot-Trites et al., 2007, p. 4; Dawson & Lee, 2018). Drama pedagogy, in its various manifestations, is becoming increasingly prominent in the field of language teaching and learning (Galante & Thomson, 2017; O’Toole & Stinson, 2009; Sambanis et al., 2020; Surkamp, 2014).

Learning a second language is an extremely complex process in which many factors influence outcomes (Foster, 2020; Laufer & Hulstijn, 2001). This includes previous language skills, the personality of the learners, the use of learning strategies, the use of authentic materials, as well as teacher to learner and student to student interactions. It is in the nature of things that evidence-based science cannot deal with such a large number of possible influencing factors in a decisive way, and is therefore more concerned with investigating phenomena under laboratory conditions. However, this approach always carries the inherent risk that the causes of certain results may be ignored. For example, some teaching problems, such as learners not being able to perform a task, arise due to learners’ misunderstanding of instructions. In experimental settings, instructions are generally extremely well tested and do not take place under the normal, more spontaneous circumstances of the classroom. In summary, a theatre experiment can be described as a way to collect *empirical data* on

learning in a *naturalistic setting*, such as a school, which involves *performance* and *controls* for many of the influencing factors inherent in these learning settings.

Before more closely examining the characteristics of what we call a theatre experiment, it will be helpful to discuss the benefits of drama-based teaching in second language learning, as well as consider some previous classroom-based experiments involving performance.

2. The benefits of drama-based teaching in second language learning

The validity of drama-based teaching for its input into second language learning has been widely acknowledged (Belliveau et al., 2013; Fonio et al., 2011; Jansen van Vuuren, 2018; Stinson & Winston, 2011). Drama-based teaching has proven to enhance learner outcome, intercultural competence and personal development, such as: attitude, self-confidence and motivation in second- and foreign language learning (Kao et al., 2011; Piazzoli, 2010; Wagner, 2002; Yuanyuan, 2019). By means of a drama-based approach, learners can apply language through spontaneous interaction, utilising diverse language structures in wide-ranging, socio-cultural contexts (Matthias et al., 2007, p. 5), which enhances speaking and writing skills, as well as promotes communicative competence (Hulse & Owens, 2019, p. 19). Furthermore, drama-based teaching offers the capacity for multimodal (social, emotional, multi-sensory, kinaesthetic, cognitive) learning which combines and expands multiple literacies, as it utilises several modes of representation (spoken, written and visual forms) (Gallagher & Ntelioglou, 2011, p. 328; Greenfader et al., 2015, p. 199). However, there is a lack of knowledge of the extent to which drama-based teaching shapes the many layers that influence students' language learning and development processes, since there are many challenges to how its effect can be assessed.

3. Examples of performative classroom-based experiments

Any systematic endeavour to quantify classroom-based research in the area of performative second language pedagogy is quite likely doomed to failure. Theatre and learning happen in many settings, and disciplines related to drama pedagogy, such as education and psychology, or literature and theatre, tend to use different terms (Nicholson & O'Connor, 2014, p. 5). One reason to nonetheless attempt an overview is to gain insight on how widespread interest in empirical performative pedagogical research is.

A search in the scientific database Web of Science with the keywords *theatre* or *drama* plus *experiment* and *quantitative* from 1990 to 2020 produced a total of 12 hits, after excluding those connected to medical operating theatres. It is important to note that using the Web of Science database with these exact keywords (e.g. not using *performance* or *classroom*) is somewhat arbitrary. For a broader overview of research paradigms used in drama education, see Omasta and Snyder-Young (2014). Entries were from 12 different countries (including Turkey, Russia and Nigeria), with three of the journals being non-English language publications (*Apuntes Universitarios* from Peru, *Quadernos de Psicologia* from Brazil, and the *Deutsche Vierteljahrsschrift für Literaturwissenschaft und Geistesgeschichte* from Switzerland). It is notable that nine of the 12 abstracts explicitly mentioned a formal educational context, such as teenage school children from an outdoor interactive multimedia theatre project in Sweden (Ernst & Sauter, 2015), or “twenty unmotivated learners of literature” from a classroom in Malaysia (Kabilan & Kamaruddin, 2010, p. 132). While not a representative sample of any particular group, this selection of research demonstrates a wide interest in what can be learned or experienced through the arts, as well as an interest in the more specific purpose of second language acquisition.

Classroom learning is complex. At the same time that interaction between people is important, (i.e. students can motivate or distract each other), such social interaction is influenced by our physical and neurobiological architecture impacting how we perceive objects and actions (Janzen Ulbricht, 2020). For example, in addition to perceiving colour and movement, the recognition of a known pattern automatically leads to anticipation of what is coming next (Grisoni et al., 2017). This is true if the pattern is a melody, or a taste or a sequence of meaningful movements. As

exemplified by both personal teaching experience and the research survey above, we know that learners can be very diverse in their backgrounds, abilities and opinions. However, we also must have an understanding of biological mechanisms, which play an important role in the learning process as well, since they are the same for all learners.

Writing about the debate surrounding research approaches appropriate for drama and learning, Podlozny (2000, p. 267) reminds researchers that “skimping on study design only clouds the results of an already murky field of research”. Franks (2019) suggests that it might be productive to examine the specific qualities and capabilities that learners gain when they learn in, through and about drama. Discussing artistic research Borgdorff (2012, p. 13) makes a similar distinction about research through the arts, rather than on the arts. What a theatre experiment is, and how it may be a useful tool to examine how learning takes place, will be the focus of the rest of this text. To begin, it is important to review three larger paradigms which all play a role in any theatre experiment.

4. Quantitative, qualitative and performative research paradigms

Brad Haseman (2006) has proposed using the term performative research to distinguish this paradigm from other qualitative research paradigms, and this proposal has been echoed by researchers in education and the arts (Østern & Nødtvedt Knudsen, 2019), including drama pedagogy (Conrad, 2004). Differences among these three paradigms are contrasted below in Figure 1.

As is coincidentally also true for most of the Web of Science experiments previously mentioned, all of these three paradigms play an important role in a theatre experiment. Writing on research in the arts Borgdorff (2012, p. 23) cautions:

In raising the issue of [...] artistic research, we should not seek confrontations with experimental research in the empirical-deductive exact sciences, nor with socially engaged empirical-descriptive research in the social sciences, and also not with the cultural-analytical, aesthetic, or critical-hermeneutic interpretive approaches in the humanities. [...]

Figure 1. Key differences between quantitative, qualitative and performative research paradigms adapted from Haseman (2006) and others.

Quantitative Research	Qualitative Research	Performative Research
studies the relationship of one set of facts to another	studies views and behaviours and refers to social inquiry that relies primarily on nonnumeric data in the form of words	is expressed in nonnumeric data, in forms of symbolic data other than words in discursive text
uses techniques which are likely to produce results expressed as a quantity or amount	uses techniques which are concerned with understanding individual perceptions of the world	includes material forms of practice such as still and moving images, music and sound, and action and digital code.
is seen as the “gold standard” for producing knowledge (Oxford, 2017: 38)	is seen as a way to address social justice issues and give power to marginalised groups (Jarvie, 2012: 36)	is seen as a way to take the body and its aesthetic experiences as a source of knowledge
follows the scientific method	follows multiple methods	follows multiple methods and is led by practice
data is expressed in symbolic numbers	data is expressed in symbolic words	data is expressed in performances

To adopt one-sidedly the ‘natural science’ model, or the ‘humanities’ model [...] will produce a myopic understanding of what is really going on.

Using multiple research methods has been described as rejecting dogmatism, and as a pragmatic position for researchers to collect data using different strategies, approaches, and methods bringing about a combination likely to result in “complementary strengths and non-overlapping weaknesses” (Johnson & Onwuegbuzie, 2004, p. 18). In the rest of this article we will discuss the four questions mentioned in the introduction. We begin by describing the circumstances leading up to the first author conducting her first theatre experiment.

5. How was the theatre experiment research paradigm developed?

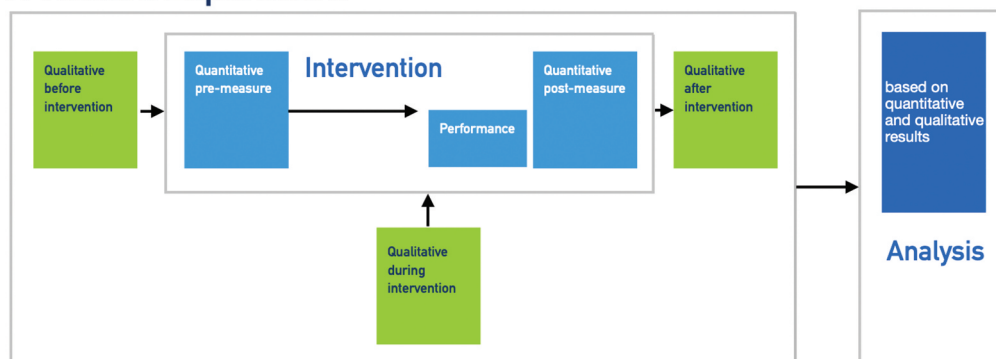
New research methods, often begin with a set of questions that one is unable to answer any other way. Teaching methods which pair hand gestures to morphemes exist, prompting curiosity as to whether such methods are founded on more than individual preference. This leads to our first question. Do teaching gestures which show second language morphology have a measurable effect on learning?

A fundamental aspect of empirical research is that scientific work should be reproducible by others. The word *experiment* in a theatre experiment suggests validity, reliability and findings which may be generalised to other groups. Figure 2 below displays the data collection process of a theatre experiment. For a theatre experiment on the influence of teacher gestures on oral fluency (Janzen Ulbricht, 2018a), this consisted of collecting quantitative and qualitative data. Quantitative data was collected in the form of a transcribe beginner speech from picture description tasks in English (see *quantitative pre-measure* and *quantitative post-measure*). Qualitative data collection took place in the form of focus groups with learners (see *qualitative after intervention*), an anonymous online questionnaire for teachers (see *qualitative after intervention*), and field notes collected throughout the entire project (see *qualitative before, during and after*).³

The word *theatre* implies both creative and aesthetic learning, as well as performing in front of an audience. This tensions makes one wonder whether it is possible to strike a workable balance between these two factors. Schewe et al. (2013) distinguishes between small and large-scale forms of drama-based teaching and learning in an attempt to demarcate the broad field of practice. He categorizes drama-based activities which can be executed in fewer instructional hours, since they consist of explorations that are divided into episodes, as small-scale forms. Process drama is an example of a small-scale form of drama-based teaching. He goes on to categorize the performance of a production as a large-scale form, as these drama-based activities require more instructional hours, because they form a whole and are not separated into shorter sections, as with small-scale forms. In our understanding of a theatre experiment, the

Figure 2. A schematic representation of the basic procedures needed to implement a theatre experiment adapted from the embedded experimental model found in Creswell and Plano Clark (2007, p. 68).

A Theatre Experiment



performance is of the kind described by Schewe et al. (2013, p. 12) as a large-scale form and includes an audience.

Recognizing the kind of data that was required, led to the question as to where this data should be gathered. For the results to be applicable to other naturalistic teaching settings, it was important that learning would need to take place in a classroom. Over time, it became evident that access to schools would not be granted solely based on the novelty of the teaching technique, but rather because gatekeepers, such as teachers, headmasters, education officials, and parents were convinced that children participating in the experiment in and of itself was a worthwhile endeavor. An important aside is that this took place in 2015 and the intention was to include children who were new to Germany in the experiment.

It is relevant to note that in terms of time, gaining permission to include these children created major setbacks. It can be argued that research with a potentially vulnerable group of refugee children should not easily be done. While considering and mitigating potential risks is essential, at the same time, gaining knowledge about effective teaching techniques is also extremely important. It is beyond the scope of this text, but in the end, key to gaining permission at the school level were teachers who could be persuaded that a week-long arts-based project would have tangible positive effects on their individual students, as well as help prepare their classes to cooperate with their new school members. Ultimately, the idea of a common project and performance between children born in and outside of Germany were crucial.

In order to facilitate practicing and performing in school, adopting a “use what you can find or borrow attitude” (Busby, 2022, p. 2) is necessary. At one school with a craft room, large expanses of painter’s masking paper were transformed into boulders, setting the scene for a play based on the Bears in the Night story (Berenstain & Berenstain, 2007). At another school the same play was staged with several children playing “boulders”. In this instance, by simply asking children to repeat a line of the play they had already memorised, the classroom teacher added humour to the play by suggesting that the rocks echo the narrator and call out “between the rocks” when each of the bears passed.

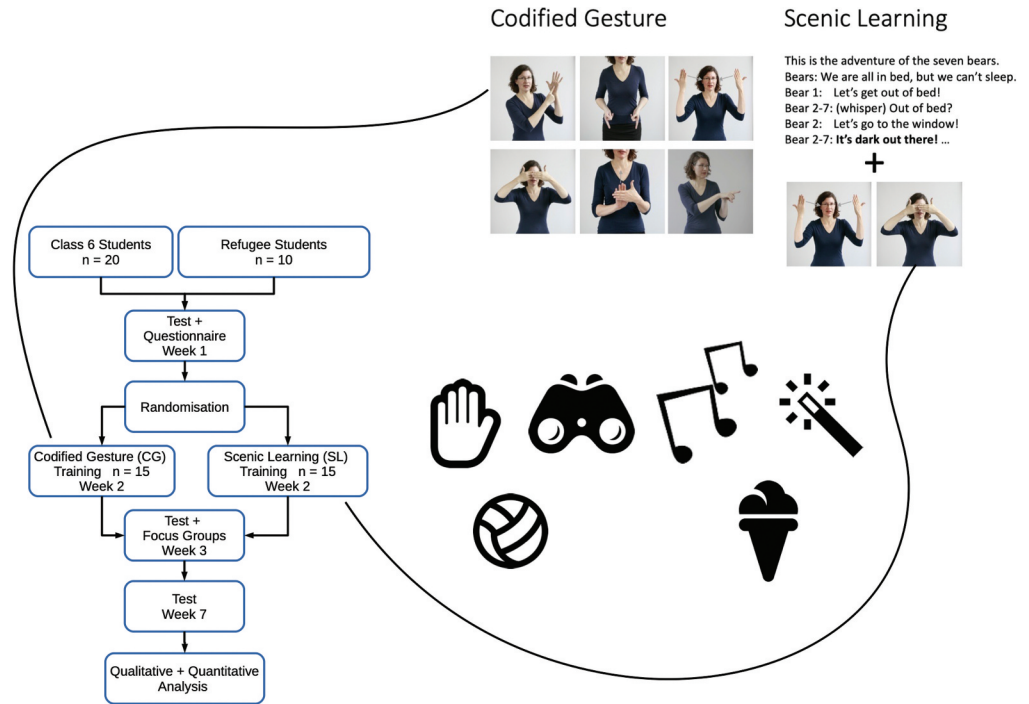
Another example of how objects, characters, dialogue and events brought the story to life in different ways has to do with the owl in the story. In the school where children had worked at constructing boulders, it was natural that the “owl” hides and dramatically appears from behind the rocks to scare the bears. In the school with the speaking rocks, there was much more space and fewer opportunities to hide. In this version of the story dramatisation was different, with two owl characters, when both a girl and a boy asked to perch on two three metre ladders which were kept in the school gymnasium where the play took place. Mentioning these dimensions of drama instruction lead to the question of how we can distinguish between a theatre experiment and an experiment involving performative teaching methods.

6. How can we differentiate between a theatre experiment and an experiment involving performative teaching methods?

Experiments are about comparisons and different experiments compare different things. Figure 3 represents a theoretical theatre experiment where the comparison is between two teaching methods, the Codified Gestures (CG) and the Scenic Learning (SL) training conditions. In this diagram, time moves from top to bottom and the numbers of children and tests are examples. In the past when this paradigm has been used, there were different numbers of students at each school and the tests used were to measure changes in English oral fluency or spatial term learning.

Following the left side of Figure 3, one can see that the entire experiment ran over seven weeks. In week one, three and seven of the children were tested, for example with a picture description task, in which they described a picture of a family. In week two, shown in the middle, learners spent 14 hours in total together where three hours (12 sessions of 15 minutes each) were spent

Figure 3. The codified gesture and scenic learning conditions over time.



learning the text of the play in the experimental groups. During the text-learning sessions of the CG group, the teacher provided gestures for all the words of the play, meaning words and gestures were learnt simultaneously. In the SL group, after becoming familiar with the text, the students acted out the scenes of the play using gestures at the sentence level to support their learning.

SL is a drama-based approach to language learning that combines choral repetition and movement to learn vocabulary words, phrases or sentences (Sambanis, 2013, pp. 97-98). The SL teaching method has certain advantages, as it is also conceivable that being a part of a scene and “being in the moment” has emotional advantages that the CG condition, which is more closely tied to the actual text, might not have. The SL teaching method relates to Bertolt Brecht’s *Gestus* (Weber, 2005) and Michael Chekhov’s (Chekhov, 2003) *Psychological gesture* which are acting techniques designed to assist actors with embodying a character. Bertolt Brecht’s *Gestus* refers to a gesture that is developed by an actor to portray the attitude of a character or situation, in other words, a specific aspect of the character (Weber, 2005), whereas Michael Chekhov’s *Psychological gesture* is used for developing the character as a whole (major gesture). Nonetheless, the *Psychological gesture* could also be applied to any fragment of the role (separate scenes, speeches, or sentences, as well as single words or gaps between words), whenever the character experiences any change (minor gesture). Chekhov explains that after a while you do not physically do the gesture, but only experience it inwardly while you say the lines (Chekhov, 2003, p. 201). This corresponds to the SL and CG conditions in the experiment, even though the gestures were not applied to the characters, but to the meaning of the text, with a view to learn the text of the play.

The remainder of the time, which did not form part of text-learning sessions, was used for other group activities, as indicated by the icons, for creative activities such as music, costumes and props design, with the magic wand, symbolizing the final performance. After the text-learning phases finished, both groups (i.e. the CG and SL groups) were combined, roles and narrators were assigned and the focus moved from learning the text to performing it on stage. As stated in Bryant et al. (2015, p. 9), the content-related linking of explicit language support during the training phases and

implicit language support provided during other activities are central and were incorporated into the drama-based processes in the experiment.

To summarize the characteristics presented so far, a theatre experiment can be described as following an embedded experimental design (Creswell & Plano Clark, 2011: 90–96) which generates quantitative and qualitative data relevant to learning in naturalistic settings. The learning intervention includes a performance and for which randomising the learners into their experimental groups and data collection procedures, control for many of the influencing factors inherent in learning in naturalistic settings.

Although each type of research has its distinctive features and may be useful in different contexts, applying these four criteria, the holiday theatre camp experiment described in Bryant et al. (2015) would not be a theatre experiment. During the theatre camp, learners developed and performed a play. The scenes of the play were created through using pre-texts and other drama strategies (freeze frame that incorporated gestures for characterization at times, slide show, writing-in-role and ceremonial rituals) which fall into the category of small-scale forms.

The scene and character work provided the content background for the grammar work, as learners utilized linguistic structures through role-plays (guided) and scenic improvisations (unguided). Learners also conducted theatre-related activities (movement, dancing, and singing), built sets, made props and costumes, all the while focusing on the language that is used to perform the actions. Finally, there was a performance (large-scale form) and reflection (small-scale form). While standardized tests as well as teacher and learner questionnaires (+ empirical data) were used, teaching took place in a summer theatre camp (+ naturalistic setting), and a performance was included in the intervention (+ performance), the comparison group consisted of children who did not take part in any instruction (– comparison group).

The experiment described in de Koning et al. (2017) on reading and training in mental simulation with third and fourth-grade children would also not fulfil all four criteria. They made use of mental simulations, drawing upon multi-sensory as well as multimodal (kinaesthetic and emotional) experiences. Learners had to put themselves in the shoes of the main character which is at the core of drama pedagogy. However, learners did not take on the role of a character, thus the experiment does not fall into the category of small or large-scale forms of drama-based teaching. Here data was collected on reading comprehension and motivation (+ empirical data) in primary school (+ naturalistic setting). However, while the comparison group did receive instruction (+ comparison group), the authors mentioned that instruction was from their own teacher, and not the same university research assistant as in the mental simulation experimental group, and no performance was mentioned (– performance).

In addition to the theatre experiment on fluency and spatial term learning already mentioned, several other experiments have been conducted at the Freie Universität which do fit the criteria of a theatre experiment. For example, Sellin's (2014), investigates the extent to which performative approaches can support or encourage the ability to shift perspectives in the English as a foreign language classroom. This is likewise based on a qualitative study (+ empirical data) of several groups (+ comparison group) of 11th graders in Berlin public schools (+ naturalistic setting) and included a performance (+ performance), which makes it a large-scale form of drama-based teaching. Due to circumstances beyond her control, one group of students was unable to perform. Through this natural experiment Sellin had the opportunity to observe the difference taking part in a performance made in her data and found a connection between participating in a performance and an increase in the ability to shift perspectives (2014: 38–41).

Extensive research produced little documented results of the use of drama-based teaching in English as a second language in South Africa. Due to shortfalls in second language classrooms in South Africa, there is a need to establish more effectual second language teaching practice

(Kaiper, 2018; Nel & Müller, 2010, pp. 636–637). In many educational institutions, learners have limited exposure to learning materials (Nel et al., 2016, p. 48) and are confined to using only general textbooks (Mkhize, 2013, p. 278). Following Li and Wei's (2022) work on the impact of anxiety, enjoyment and boredom on second language learners' performance, a theatre experiment could contribute to the enjoyment of learning English, the lack of varied learning materials in South Africa, and potentially enhance English teaching practice. The hypothetical study could apply a qualitative research approach with a pre- and post-testing experimental research design (+ empirical data) in rural public schools (+ naturalistic setting), with secondary English learners as participants. The purpose of the theatre experiment could be to compare output that is elicited by drama-based language teaching to textbook-based language teaching (+ comparison group), in order to determine if drama-based teaching enhances second language output, following the development and performance of a play (+ performance). Accordingly, the dependent variable would be second language output. We are of the opinion that a theatre experiment could be a highly effective form of research in South African educational institutions, as it has minimum financial implications, enhances intercultural competence and aligns with the age-old African oral tradition of storytelling. If one can provide empirical evidence of the effect of drama-based teaching on second language output, one could enhance trust in the approach, and therefore increase implementation of a drama-based approach in English classrooms in South Africa and beyond. Nonetheless, in order to achieve this aim, the theatre experiment should allow for a valid comparison between different learning conditions. The next section explores the role of what a valid comparison in a theatre experiment is.

7. Where is the control group?

As can be seen in the first column of Figure 1, quantitative research investigates the relationships of one set of facts to another. The capacity of quantitative research to describe, predict, and explain the social and psychological phenomena which constitute learning, has provided a significant part of the foundation on which modern pedagogy has been built. However, how these facts relate to one another is not always clear or easy to clarify. Below is an exchange between a reader and a journal editor on the topic of what makes a valid comparison:

The results of this study were that there was an increase in fluency in both groups (CG and SL). I would say that this demonstrates merely that the learning of the play affected fluency. Any impact of gesture per se (whether using CG, SL or other methodology) would really only be demonstrated if there was a group that learnt the play using gesture and another without.

EDITOR'S NOTE: This is an important point which needs acknowledging, or addressing in some way which makes the claims based on your data appropriate.

Thus, perhaps a more pertinent research question [would be] the difference in fluency after learning using some gesture-based methodology vs traditional learning without gestures e.g. (in the case of learning a play), by rote.

The attentive reader may suspect that the above text under discussion was eventually published, but it was a bumpy ride, because of the tacit assumption that useful experimental comparisons should differ in one variable only. In contrast to this expectation, in the experiment above under discussion, two teaching methods were compared, one with one gesture for every morpheme in the CG condition, and one with gestures at the sentence level with access to the written text in the SL condition.

In writing about transformative experimental design, Creswell and Plano Clark (2011, p. 97) mention that researchers often see their work as helping to empower individuals and bringing about positive social change. In the context of research in education, using a control condition that seems inferior (for example, without drama when one knows that drama "helps") seems to go

against basic principles. Conversely, situations do exist where the needed comparison could well be between drama vs. no drama conditions, for example when a funding source would like details about educational impact and is not primarily interested in research on teaching methods.

8. Which criteria may we use in assessing theatre experiment results?

A good assessment of student ability enables teachers and other decisionmakers to monitor student progress and to thus identify teaching strengths and weaknesses. Referring back to the differences between quantitative, qualitative and performative research (see Figure 1), it is clear that all of these research paradigms suggest and require different criteria. For reasons of space and lack of expertise, we will justify skipping over criteria for assessing qualitative and performative results and refer instead to Morrin (2018) and her work on embodiment and language learning. This leaves establishing criteria for quantitative results.

Because classrooms are complex, it is important to control for differences between experimental groups, if one wants to investigate subtle changes in student learning, and relate these differences in results, to differences in teaching. As previously mentioned, learning and assessing student performance in a theatre experiment takes place in a naturalistic setting which introduces influencing factors that would be eliminated in a laboratory setting. These expected influences can be controlled for by, for example, randomly assigning learners to the experimental groups before the learning intervention begins (see left side, line three in Figure 3) and by balancing activities during the intervention.⁴ Here is a non-exhaustive list of commonly known influences which play a role in classroom-based experiments:

- To control for individual differences (such as personality and learning preferences), children are randomly placed in the experimental training groups.
- To control for teacher effects (such as personality or teaching preferences), teachers alternate between experimental groups and teach both.
- To control for individual learning which takes place outside of the experimental groups, but during school hours, other activities, such as sports or going on a walk can take place with both experimental groups combined.
- Where combining groups is not possible, (perhaps because the room for preparing costumes or stage decorations is simply too small), teachers simultaneously teach and alternate between two groups that consist of half of both experimental groups.
- To control for influences resulting from teachers, students and or parents knowing that certain learners are (or are not) in a potentially favoured or “better” training condition, it should be common knowledge that the experiment is about gaining knowledge about “movement and learning Spanish” or “speaking Chinese and theatre” and not about what is being experimentally compared.

When many of these criteria are met, then this is what is meant by the “gold standard” of knowledge production (see Figure 1, first column). As an aside, it is noticeable that in discussing the need for improved arts-based teaching research, authors sometimes discuss in detail how to achieve these aims, and then proceed by saying how experimental research “is very difficult to carry out in the real world of schools”. These difficulties are then followed by a statement that suggests that researchers “must therefore adopt quasi-experimental methods” (e.g. Winner & Hetland, 2000, p. 5). Without question, experiments following quasi-experimental designs can be of value, and are perhaps less complicated to organise. At the same time, this line of thought also implies the importance of moving research on the effectiveness of drama pedagogy into a field which is perhaps less “murky”.

9. Which conclusions can be drawn?

While many experiments mentioned here demonstrate positive learning outcomes even when drama is constrained by an experimental paradigm, following the constraints of a *theatre experiment* paradigm, does not guarantee performative success (see Janzen Ulbricht, 2018b: 203–4). Rather, experience with this research method indicates the importance of trust and flexibility

alongside rigour, when teachers and learners interact using performative language teaching methods in experimental settings. At the same time, clarity about why a certain experimental procedure is necessary can create transparency and a broader public interest in how knowledge about teaching and learning is generated.

The current emphasis on evidence-based practice asks us to critically and carefully research our day-to-day work and the impact that we are making in educational communities. In application, a theatre experiment can potentially be used in many different settings (with preschool children and adult learners) to compare performative approaches in the field of educational research and second- and foreign language learning. Research following the theatre experiment paradigm will be productive as more investigators study and regularly practice it. As stated by Dragović (2019) and others, while many positive effects of drama on language learning are known, it is only when drama education can be shown to address the needs of all involved, that less adventuresome teachers would be willing to try out drama pedagogy as a tool in their classrooms. This article is intended as a call for respect for the creative collective and individual efforts of students, teachers, policy-makers, and researchers alike, as they contribute in different ways to performative foreign language pedagogical research.

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Notes

1. Kuhn (1962) and others (e.g. Johnson & Onwuegbuzie, 2004) have described a research paradigm as a general concept that includes a community of researchers with a common set of beliefs, values and assumptions about how research should be conducted. While among this community there is a general consensus on what constitutes any given paradigm, the same paradigm is

somewhat flexible and can have different versions (Knoeferle & Guerra, 2016, p. 67).

2. The term *Theaterexperiment* has been previously used in German language publications (e.g. Janzen Ulbricht & Uhl, 2020).
3. For a more complete overview of the two experiments, including details from the plays and performances, see Janzen Ulbricht (2018a) (Janzen Ulbricht, 2018b) for the study on gestures and fluency in two urban schools in Germany and Janzen Ulbricht (2020) for a study on gesture and spatial-term learning in Germany and Poland. Both these experiments compared different drama-based teaching methods and can be seen as building on work by Hille et al. (2010) which had drama vs no drama conditions.
4. Of course, other possibilities for dealing with individual variation, such as the quasi experimental design described in Bora (2022), also exist. Here one group of Italian final-year secondary school students learned English in two drama conditions sequentially. In the analysis the effects of learning theatre plays as texts combined with drama games (a text-based approach) was compared with learning theatre plays as a full-scale performance (a performance-based approach).

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