



# Educational Design Research

Volume 10 | Issue 2 | 2026 | Article 99

**Contribution** Academic Article

**Title** **Design-Based Research in Inclusive Reading Settings –  
Evaluations from a Reading Theatre Project**

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**Abstract** This study explores the potential of Design-Based Research (DBR) in the context of inclusive German language education. Using theatre pedagogy as a vehicle for literacy and reading development, the project documents how DBR can and cannot foster collaboration among diverse stakeholders, including teachers, students, researchers, and school partners, while generating context-sensitive instructional practices. The study provides insights from three iterative theatre cycles, highlighting both the challenges and transformative potential of co-designed literacy interventions in inclusive classrooms.

**Keywords** DBR; theatre project; drama; stakeholder; reflections

**DOI** <https://doi.org/10.15460/0exw8x95>

**Citation** Giera, W. -K. (2026). Design-Based Research in Inclusive Reading Settings – Evaluations from a Reading Theatre Project. *EDeR – Educational Design Research*, 10(2), 1-36.

<https://doi.org/10.15460/0exw8x95>

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# Design-Based Research in Inclusive Reading Settings – Evaluations from a Reading Theatre Project

Winnie-Karen Giera

## 1.0 Introduction – Addressing Literacy Through Design-Based Theatre Pedagogy

What does Design-Based Research (DBR) offer in the context of inclusive German didactics, especially when applied to theatre-based literacy projects? At its core, DBR challenges the traditional notion that instructional concepts and materials should be developed in isolation and later implemented in classroom settings. Instead, it posits that didactic innovations must emerge from a collaborative, iterative process that evolves through cycles of reflection, feedback, and adaptation (McKenney & Reeves, 2019; Euler, 2017; Voogt et al., 2015). Such processes involve stakeholders from across the educational landscape: teachers, university researchers, student teachers, NGOs, ministries, and, most importantly, learners themselves.

DBR is more than a methodological framework; it is a set of structural, epistemic, and interpersonal commitments (Voogt et al., 2015). It requires a disposition of mutual appreciation, transparency in goal setting, and sustained collaboration over time. Moreover, it demands systematic documentation and iterative revision in response to both formal and informal feedback (Euler, 2017). Within didactics, DBR thus becomes a powerful methodology for learning from practice, linking it to theory, and returning it to the field in a refined form (Barab & Squire, 2004; Design-Based Research Collective, 2003). Through this cyclical process (Euler, 2017), both practical insights and robust theoretical contributions can emerge.

The need for such responsive and inclusive approaches is especially evident in the field of literacy education (Harrison et al., 2024). As defined by UNESCO (2025), literacy encompasses the ability to “identify, understand, interpret, create, communicate and compute” using printed and digital materials within a range of contexts. Literacy development is not a neutral process; it is shaped by sociocultural dynamics, identity, and access (Harrison et al., 2024; Rowsell & Pahl, 2015). It is also a critical tool for participation in democratic life and for realising personal and academic potential (Rowsell & Pahl, 2015).

Yet, literacy education today faces numerous challenges. International assessments, such as PIRLS and PISA, continue to show declining reading proficiency among European students, with implications for mental well-being and academic achievement (Mullis et al., 2021; OECD, 2019). These declines are particularly troubling given the increasingly digital and multimodal nature of texts and the associated demands for

critical reading skills (Harrison et al., 2024). Moreover, students from multilingual, migrant, or socioeconomically disadvantaged backgrounds often face additional barriers, ranging from culturally unresponsive pedagogy to exclusionary classroom practices (Rowse & Pahl, 2015; Gay, 2018; Comber, 2015).

Thus, inclusive literacy interventions must go beyond technical skill-building. They must cultivate students' intrinsic motivation (Ryan & Deci, 2000), create spaces for critical reflection and self-expression (Cummins, 2001), and validate diverse sociocultural identities (Paris & Alim, 2017). This requires flexible and innovative teaching models that not only respond to local needs but also empower learners as agents in their own education.

The Reading Theatre Project *Stopp Mobbing! Ein Theaterprojekt* (translated: *Stop Bullying! A Theatre Project*) was designed with these objectives in mind. For the university participants and educational partners, the common goal was for the theatre project to involve a lot of reading aloud (reading fluency), joint discussion (reading comprehension), and joint performance (stage performance, group project), thereby strengthening group cohesion. The Reading Theatre Project integrated ritualised phases (for more details, see Giera, 2025a, Giera, 2025b) of Check-in and Warm-up (Boal, 2019) as social and emotional activities with movement games and playful improvisations, while establishing the organisational structure of rehearsal. After warm-up, students moved into small, flexible working groups that rotated between different literacy-focused activities. One key element was the reading corners, which offered protected space to practice the role texts with targeted support. For instance, paired reading was used to promote reading fluency, choral reading for rhythm and prosody, and reading aloud to improve articulation. The third phase of all rehearsals was working on a provisional stage. This required deep reading comprehension of the text at both the local and global levels to pose, move, interact, and express emotions in correspondence with the text and the group's interpretation. At the end of each rehearsal, we used a check-out phase to reflect on the rehearsal as a group and individually.

Across all cycles, the project led to a public performance in front of classmates, parents, and community members. Rooted in DBR, the project integrates theatre pedagogy with literacy support to promote inclusive learning experiences. First initiated in 2017 at a secondary school in a town in Germany and refined through research cycles from 2021 onward, the project addresses both literacy development and social-emotional learning through collaborative dramatic performance. It engages students with and without special educational needs in script reading, role-playing, group work, and reflective feedback processes – all within a structure informed by iterative design, inclusive values, and context-sensitive adaptation.

This article presents the project's evolution and findings through the lens of DBR. It asks the following:

- RQ1: How can various stakeholders collaborate effectively in a theatre-based literacy project?
- RQ2: What types of feedback have emerged at the meta-organisational level of the project?
- RQ3: How can the maturity levels of the Reading Theatre learning model be assessed and further developed?

To explore these questions, the article proceeds as follows: Section 2 outlines the theoretical framework regarding the DBR methodology applied in the project. Section 3 provides empirical findings from three implementation cycles across varied educational settings. Section 4 offers concluding insights, reflections on the research questions, and implications for future practice. In this paper, I highlight the formative and summative evaluation phases of three theatre project cycles.

## 2.0 Design-Based Research for Inclusive Literacy and Theatre Education

This section outlines the theoretical foundations and methodological orientation of the Reading Theatre Project. Drawing on principles from Design-Based Research (DBR), inclusive education, and literacy development, it positions the project at the intersection of pedagogical theory and practice-oriented innovation. The section introduces key scholarly perspectives that inform the project’s conceptual approach, including relational pedagogy, dialogic learning, and co-design. It also details the DBR methodology used to guide the iterative development, implementation, and evaluation of the theatre-based literacy intervention, highlighting how theory and practice are brought into dynamic interaction across successive project cycles (Barab & Squire, 2004; Design-Based Research Collective, 2003).

### 2.1 DBR as a Methodological Foundation

This study is grounded in the methodological framework of Design-Based Research (DBR), an approach that integrates iterative design with empirical inquiry to address educational challenges in authentic contexts (McKenney & Reeves, 2019; Voogt et al., 2015). DBR is especially well-suited for projects that seek both practical impact and theoretical development, such as the Reading Theatre Project, which was implemented in multiple cycles across diverse school settings (Barab & Squire, 2004; Design-Based Research Collective, 2003).

McKenney and Reeves (2019) define DBR as “a genre of research in which the iterative development of solutions to practical and complex educational problems provides the setting for scientific inquiry” (p. 7). This dual orientation – toward both innovation and scholarly understanding – maps directly onto the structure of the theatre project, which was carried out in three iterative cycles. Each cycle informed and refined the next through reflection, stakeholder engagement, and structured feedback loops as part of the evaluation phase (see Fig. 1).

DBR is characterised by its co-constructive nature (Voogt et al., 2015; McKenney & Reeves, 2019): Researchers and practitioners jointly develop, implement, and evaluate educational interventions. McKenney, Voogt, and Kirschner (2022) argue that “learning by design enables the growth of pedagogical knowledge through practice-embedded inquiry” (p. 95). This principle was evident in the collaborative work between university drama coaches, school staff, and students throughout the Reading Theatre Project. However, the project also highlighted a key challenge in DBR implementation: a lack of organisational readiness and staff buy-in. This is identified by McKenney et al. (2022) as a critical tension in innovation processes (p. 98).

Bakker (2019) further emphasises that DBR aims to produce “usable knowledge” that is both context-sensitive and theoretically informed (p. 11). He outlines three stages of DBR, including exploration, design/construction, and evaluation/reflection (pp. 23–24), which align with the theatre project’s trajectory. The first cycle was exploratory, allowing for the identification of relevant pedagogical themes (e.g., group dynamics, bullying, literacy motivation); the second cycle introduced specific methodological scaffolds; and the third expanded implementation across different learner demographics. Reflective practices, including student feedback, and university drama coach observations, formed the core of this iterative learning process.

## 2.2 DBR for Inclusive Education

Beyond methodological concerns, the project was grounded in an inclusive educational ethos. Inclusive education as a broad concept is not simply a background condition for DBR; it is often its intended outcome.

Norwich (2023) discusses the importance of democratically navigating the “dilemmas of difference” (p. 21), advocating for learning designs that respond flexibly to individual and group diversity. The Reading Theatre Project attempted to achieve this by assigning meaningful roles, allowing creative expression, and integrating literacy support into drama work to address all students, considering their backgrounds (heterogeneity and diversity) and individual support needs (special educational needs). In the presented theatre projects, we worked with students with and without special educational needs at one stage.

Booth and Ainscow’s (2017) *Index for Inclusion* provides a useful framework for evaluating the inclusive quality of school-based initiatives. They emphasise that “inclusive development must be embedded in the school’s culture, policies, and practices” (p. 11).

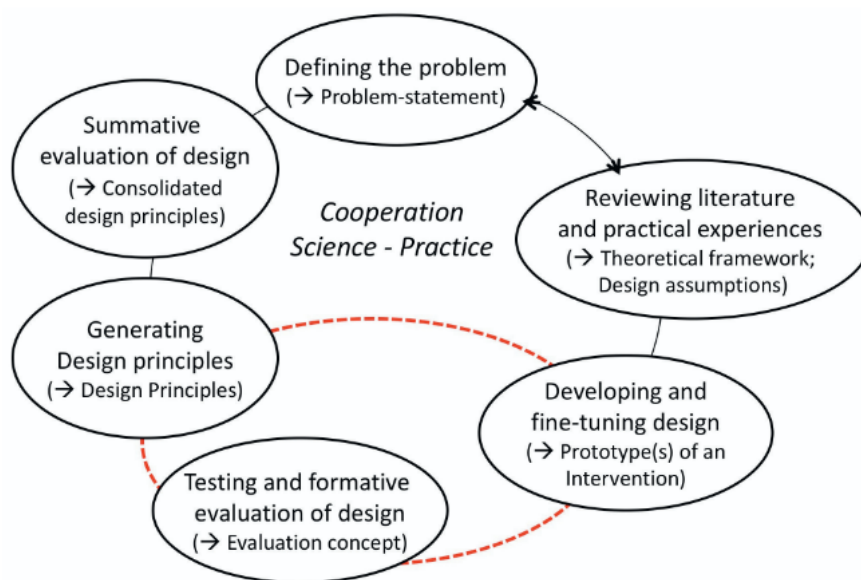
In the context of special and inclusive education, Schroeder and Reh (2023) advocate for DBR as a strategy of “dialogical science-practice cooperation” (p. 274). Such cooperation was central to the theatre project, especially when students contributed to staging decisions or addressed group conflicts through reflective activities and drama-based inquiry. These moments exemplified DBR’s capacity to both

illuminate and transform educational relationships (Meyer & Land, 2005).

However, as Koenig (2022) notes, sustainable inclusion often requires schools to “rethink internal hierarchies and systemic inertia” (p. 23). From a design-based research perspective, this raises a critical tension: While DBR enables locally responsive innovation in teaching and learning, it is usually embedded in precisely those institutional school structures that inclusion seeks to transform, which limits its capacity to address exclusion at a systemic level. As a result, the same students may thrive within a DBR-supported project but continue to struggle in other school contexts across different teachers, subjects, and learning spaces, meaning that inclusive practices often fail to become stable beyond the immediate intervention.

### 2.3 Theoretical Refinement

The iterative structure of the Reading Theatre Project also reflects the cyclical model of DBR articulated by Euler (2017, pp. 4–9). His framework, shown in Figure 1, outlines a process beginning with problem identification (reading problems), followed by literature-informed design (at the university and in schools), prototyping (see Cycle 1), formative evaluation (at the end of each theatre rehearsal and each cycle with teachers and students), and theory generation (at the university after the project and data analysis). Each cycle is permeated by feedback loops that ensure responsiveness to context and participant voice.



**Figure 1:** Phases of DBR process (Euler, 2017, p. 9).

In the theatre project, formative evaluation was gathered through student surveys and drama coach observations (reflection protocols). These insights informed micro-level changes (e.g., adapting warm-ups or script passages) as well as macro-level shifts, such as selecting

alternative plays and rethinking teacher roles. In this article, we highlight the formative and summative evaluation phases in different cycles.

Moreover, the project engaged with the conceptual insights of Novais dos Santos and Nonato (2025), who frame DBR as a dialectical and participatory process. In their model, stakeholders are treated as co-designers rather than mere recipients of interventions. Drawing from Vygotsky's zone of proximal development and dialogic pedagogies, their work emphasises the relational dimension of educational design.

#### 2.4 First Conclusion: DBR as an Inclusive, Participatory Model for Literacy Education

By adopting DBR as its methodological backbone, the Reading Theatre Project provided a flexible and responsive framework for developing inclusive, literacy-enhancing educational practices. The project not only advanced students' reading motivation and social-emotional learning but also served as a testbed for inclusive intervention strategies in real-world school environments. Through iterative refinement, practitioner engagement, and theoretical modelling, DBR proved to be a productive paradigm for navigating the complex interplay between pedagogy, culture, and institutional constraints.

### 3.0 Evaluations of the Theatre Project in Three Cycles

This section presents the empirical findings from three successive cycles of the Reading Theatre Project, each implemented in a distinct educational setting between 2021 and 2023. Using a Design-Based Research (DBR) framework, the project sought to iteratively develop, evaluate, and refine a participatory, theatre-based approach to inclusive literacy education. Each cycle engaged a different constellation of students, teachers, and institutional partners, offering insights into the dynamics of stakeholder collaboration, project delivery, and student engagement. The following subsections describe the context, methodology, outcomes, and reflections for each cycle, laying the foundation for the concluding analysis in Section 4.

To achieve its aims, the project integrates a range of evidence-informed strategies. Inquiry-based learning, reciprocal teaching, and small-group instruction are employed to encourage students to explore texts through questioning, discussion, and collaborative interpretation, thereby promoting deeper comprehension and critical engagement (UNESCO, 2025; Harrison et al., 2024). Instruction is personalised to align with individual students' needs, interests, and reading levels, enhancing engagement, improving learning outcomes, and allowing for timely, constructive feedback.

Supporting struggling readers is a key component of the project. Peer tutoring and paired reading are used to provide targeted assistance, ensuring that students who face literacy challenges receive consistent support and encouragement (UNESCO, 2025; Harrison et al., 2024).

Feedback from both teachers and peers fosters a reflective and supportive environment that promotes continuous growth.

In all three cycles, a mixed-methods approach was applied using both quantitative and qualitative instruments to evaluate the intervention. Students completed a standardised 17-item questionnaire at the end of each cycle to assess, e.g., reading and playing engagement and social participation. Drama coaches provided end-of-project reflection protocols, which captured observations and student feedback. The project leader also submitted an open-ended reflection on the collaboration between the university and the school or youth centre, and field diaries were kept by the university drama coaches in all cycles, documenting informal observations during the project. Although not formally analysed, these diaries informed the coaches' final reflections. In Cycle 3, the drama coaches explicitly aligned their protocols with both the field notes and the student questionnaire results, allowing for triangulated interpretation. The consistent use of these instruments across cycles ensured comparability and enriched the evaluation process.

### 3.1 Cycle 1 – A Participatory Drama Project with Girls in a Youth Club

#### 3.1.1 Context and Objectives

As part of a pedagogical-psychological internship, a participatory theatre project was conducted at a youth centre for girls in July 2021. The project, titled *Alone! Crime Scene: School* and authored by theatre pedagogue Claudia Kumpfe (2013), addressed the theme of bullying through fictionalised school-based characters and conflict dynamics. The initiative took place within the framework of a community-based organisation committed to empowering girls aged 8 to 13 across cultural backgrounds. The primary aim was to explore the relationship between dramatic play and the sense of belonging in a heterogeneous group of young participants. A particular focus was placed on how the creative process might influence group cohesion, self-efficacy, and reading motivation.

#### 3.1.2 Participant Profile

The group consisted of nine girls aged 8 to 13 ( $M = 10$ ,  $SD = 1.90$ ), most of whom did not know each other prior to the project. Six participants had a migration background (primarily from Syria and Afghanistan), and the majority came from socioeconomically disadvantaged households. One participant (without a migration background) had a diagnosed reading and spelling disorder (LRS), and four out of nine girls expressed a negative attitude toward reading at the beginning of the project. The signed consent forms of the participants are available for this extracurricular project. In addition, the ethics committee reviewed the implementation of the intervention (see at the end of this article).

### 3.1.3 Methodological Approach

The project employed a mixed-methods research design. Quantitative data were gathered through a standardised, anonymous questionnaire at the project's conclusion, containing 15 items rated on a 4-point Likert scale (0 = not answered; 1 = does not apply at all to 4 = fully applies) completed by six children out of nine. Additionally, two open questions were included in this survey, but the response rate was too low to analyse them (see Appendix, Items 11 and 13).

The first set of items focused on engagement and participation, asking participants to reflect on the extent of their involvement both individually and within group settings (Item 1: I actively participated in the project; Item 14: I actively participated in group work). Items also addressed the organisational quality of the project, including its overall structure and the design of individual sessions (Item 2: The project was well structured overall; Item 3: The individual project sessions were well organised) as well as perceptions of its duration (Item 4: The duration of the project was appropriate).

To assess the clarity and accessibility of instructions, participants were asked whether they were able to follow instructions and whether their questions were addressed appropriately by facilitators (Item 5: I was able to follow the instructions well; Item 6: My questions were addressed well by the supervisors). Additionally, support structures were evaluated (Item 7: I received support when needed).

Items related to engagement with the content and personal development examined the degree to which participants found the material interesting (Item 8: The content was interesting to me), whether the project promoted self-reflection (Item 9: The project encouraged me to reflect on myself), and whether it contributed to their knowledge and skills (Item 10: I gained a lot of content-related knowledge through the project; Item 12: I learned many new methods through the project). Open-response items were included to allow participants to elaborate on their learning (Item 11 and Item 13: I can give the following examples).

To evaluate the social and emotional climate, several items focused on how participants experienced group interactions (Item 15: I felt comfortable in the group work; Item 16: I felt like an equal member of the group), providing insight into feelings of belonging and inclusion. Finally, overall satisfaction and willingness to recommend the project were assessed (Item 17: I would recommend this project to other young people), offering a broad indicator of the project's perceived success and impact.

Qualitative data were obtained through a written protocol at the end of the project by the two drama coaches to understand individual backgrounds, and through non-standardised participatory observation in a field diary (book with blank pages, Pinheiro & Matias Alves, 2025; Emerson et al., 2001), tracking changes in behaviour, motivation, and

engagement throughout the project. The girls' development was observed at three time points: before the project (initial attitudes and social behaviours), during the project (engagement with dramatic roles and peer interactions), and at the end (changes in reading fluency, confidence, and social integration).

At the end, the project leader also filled out an open feedback protocol about the collaborative arrangement of the drama project at the youth centre with university drama coaches and youth centre pedagogues (Williams, 2008). Due to scheduling constraints, it was not possible to conduct interviews or surveys with the staff members of the youth centre.

### 3.1.4 Evaluations of the Children and Youth about the Theatre Project

**Overall Project Structure and Clarity:** The children generally perceived the project as well structured. The statement "The project was overall well structured" received a mean rating of 3.67 (SD = 0.52). Similarly, the structure of individual sessions was positively rated, with "The individual project sessions were well structured" receiving a mean of 3.50 (SD = 0.52). The duration of the project was also viewed favourably, with the statement "The length of the project was appropriate" rated at 3.50 (SD = 0.55).

**Clarity of Instructions and Support:** Participants reported that they were generally able to follow instructions, as reflected in the item "I was able to follow the work instructions well," which had a mean score of 3.83 (SD = 0.84). Support from facilitators was consistently praised: "My questions were addressed well by the supervisors" was rated at a perfect 4.00 (SD = 0.00), and "I received support when needed" scored 3.83 (SD = 0.41). These responses indicate a high level of satisfaction with the guidance and assistance provided throughout the project.

**Engagement and Personal Learning:** The content of the project was found to be interesting, with "The content was interesting for me" receiving a mean rating of 3.83 (SD = 0.41). Participants also reported reflecting on themselves through the process; the statement "Through the project, I reflected on myself" received a mean of 3.83 (SD = 0.41). Furthermore, the children felt that they gained knowledge, with "I gained a lot of content-related knowledge through the project" rated at 4.00 (SD = 0.00). These high ratings reflect meaningful engagement and cognitive benefit.

**Methods and Participation:** Regarding the learning of new methods, the statement "I learned many new methods through the project" received a slightly lower and more varied score of 3.00 (SD = 1.67), indicating differing individual experiences. In contrast, group participation was evaluated very positively. The item "I actively participated in group work" received a mean of 3.83 (SD = 0.41).

Group Climate and Inclusion: The project appeared to foster a strong and inclusive group environment. The statement “I felt comfortable in the group work” was unanimously rated at 4.00 (SD = 0.00), as was “I felt like an equal part of the group,” also scoring 4.00 (SD = 0.00). These results underscore the project's success in building a safe and welcoming atmosphere for all participants.

Willingness to Recommend the Project: Most children expressed a willingness to recommend the project to others. The item “I would recommend this project to other young people” received a mean score of 3.83 (SD = 0.41), suggesting a high level of overall satisfaction.

To sum up the reflections of the participating children, the project was well received by the children, who reported high satisfaction with its structure, facilitation, and group dynamics. They felt supported, engaged, and included. While most aspects were uniformly praised, the greater variability in the learning of new methods points to a potential area for further development. Overall, the data highlight a successful implementation of a theatre-based project that was both meaningful and inclusive. The questionnaire results indicated a strong level of active participation, positive group dynamics, and recommendation of the project to peers. Items such as “I felt like an equal member of the group” and “I felt comfortable in group work” received predominantly high ratings.

### 3.1.5 Evaluations of the University Drama Coaches

The two facilitators observed a substantial learning effect among the participants. Moreover, the project allowed them to view the children from a new perspective, particularly in terms of their creativity, emotional expression, and social interaction. The children demonstrated a high level of intrinsic motivation, which in turn acted as a powerful source of motivation for the facilitators themselves. This reciprocal dynamic enhanced the overall energy and engagement throughout the project. Addressing a complex topic such as bullying demanded a high degree of sensitivity and emotional awareness. The facilitators recognised the importance of creating a safe and respectful environment in which difficult experiences could be explored through fictional narratives. The project highlighted the necessity of creativity and flexibility, particularly in achieving impactful results with limited resources. The facilitators emphasised that even minimal materials could produce significant theatrical and emotional effects when used imaginatively.

There was a notable increase in reading motivation and fluency, particularly among children who had initially expressed reluctance or disinterest in reading activities. Group cohesion was visibly strengthened over the course of the project, fostered by mutual support among participants and the pursuit of shared creative goals. An observable rise

in self-efficacy was documented, which aligns with findings by Domkowski (2011), suggesting that theatre-based interventions can significantly enhance individual empowerment within group contexts.

### 3.1.6 Evaluation of the Collaboration between University Drama Coaches and the Youth Club Workers by the University Project Leadership

The collaboration with the organisation has continued through 2025. From the beginning, despite the conditions imposed by COVID-19 and the need for social distancing, it was fruitful. Initially, preparatory meetings and the setting of shared goals took place via Zoom. This was followed by an in-person preliminary meeting at the youth centre to become acquainted, view the spaces for the theatre project, and coordinate the daily schedules together. The chosen play was also read together to assess whether it would be engaging enough for the children. During the theatre week, the youth club workers were present at all times. They assisted with setting up and dismantling the space, welcomed the children, observed the first rehearsals, and offered encouragement to children who were initially dissatisfied with their performances. Breaks were organised jointly with everyone involved.

Overall, the educators of the youth club on site, the university drama coaches, and the children all felt comfortable and at ease. This was also publicly expressed by all three groups through their social media channels. Consequently, the following design principles for further cycles were derived from the first cycle: The recurring phases such as check-in, warm-up, reading exercises with support, rehearsal on stage, feedback, and check-out provided structure and support for the participants. The implementation of needs-based reading support made them feel supported and motivated in their own reading development, transforming their initial extrinsic motivation to read into intrinsic motivation. When rehearsing for a stage performance, the participants were motivated to read and act together because of their roles.

## 3.2 Cycle 2 – A Participatory Theatre Project at a Comprehensive School in One Drama Class

### 3.2.1 Context and Objectives

This school also responded to our department's call for schools or institutions interested in collaborating on a reading theatre project. Both the teaching staff and the school leadership expressed interest in participating. However, the two originally designated teachers were unable to join the project, as they had been assigned to a different class. As a result, a new classroom teacher was brought into the project. This teacher had not been involved in the initial discussions and was there-

fore not familiar with the original aim of the project – to use the theatre setting as a means of strengthening group cohesion and fostering dialogue around bullying.

### 3.2.2 Participant Profile

In this cycle, 51 students from a comprehensive school participated in a university-led research project. Based on their individual interests, students were given the choice to join a theatre project or to participate in sports or arts activities. Of the 51 students, 14 seventh-grade students opted to take part in the theatre project, which ran from the end of the summer break in August 2021 through to the final survey in January 2022. Due to the extensive range of test instruments administered – aimed at exploring additional research questions related to self-regulation and reading competence – it was not feasible to collect detailed background data on the individual students (see Appendix). The signed consent forms of the participants, parents, and school management are available for this school project. In addition, the ethics committee and the Ministry of Education of a federal state reviewed the implementation of the intervention (see at the end of this article).

### 3.2.3 Methodological Approach

Quantitative data were collected at the conclusion of the project using a standardised, anonymous questionnaire comprising 17 items (see Appendix), rated on a 4-point Likert scale (0 = not answered; 1 = fully applies to 4 = does not apply at all). In addition, three open-ended questions invited participants to provide examples to elaborate on their impressions. The wording of certain items and the scale range were modified compared to previous cycles to better reflect the evolving project context. Complementing the quantitative data, qualitative insights were gathered through written feedback protocols completed by drama coaches and the project leader. These narratives served to capture reflections on the collaboration between the university and the school (see Section 3.1.3 for references).

### 3.2.4 Evaluations of the Students about the Theatre Project

The evaluation of the participatory theatre project was conducted using a standardised questionnaire consisting of 17 items, completed by 9 of the 14 students. Each item was rated on a 4-point scale, where higher scores reflected lower agreement (a different range than in Cycle 1). The aim was to assess the participants' engagement, perception of project structure, group experience, and perceived learning outcomes. Below is a detailed summary of the findings:

**Perceived Participation and Project Structure:** Participants generally responded positively regarding the structure of the project. The statement “The project was well structured overall” (Item 2) received a mean score of 1.67 (SD = 0.50), and “The individual project sessions were well structured” (Item 3) followed closely with a mean of 1.78 (SD = 0.67). This indicates that most children found the project’s organisation to be clear and effective.

**Time Frame and Instructional Clarity:** Regarding the duration, most participants disagreed with “The project lasted too long” (Item 4), which had a high mean score of 3.33 (SD = 0.71). Responses were more mixed regarding “The project was too short” (Item 5), which had a mean of 2.67 (SD = 1.22). When asked directly if “The length of the project was appropriate” (Item 6), the mean score was 2.00 (SD = 1.12), suggesting some variance in how participants experienced the project’s timing. **Clarity of Instructions and Support:** Responses to instructional clarity and facilitation were very positive. The statement “I was able to follow the instructions well” (Item 7) received a low mean score of 1.44 (SD = 0.53), indicating strong agreement.

**Perceived Relevance and Reflective Learning:** Participants also felt that their questions were addressed effectively, as shown in “My questions were addressed by the supervisors” (Item 8) with a mean of 1.56 (SD = 0.53), and “I received support when I needed it” (Item 9) also at 1.56 (SD = 0.53). These results indicate that the project staff were accessible and responsive to participants’ needs.

**Learning Gains:** The children and youth reported moderate engagement with the content and personal development. “The content was interesting to me” (Item 10) received a mean score of 1.67 (SD = 0.87), showing that participants were generally engaged. The item “The project made me reflect on myself” (Item 11) had a slightly higher mean of 2.11 (SD = 0.78), suggesting that while many participants engaged in self-reflection, the depth of that experience varied. In terms of knowledge acquisition, the statement “Through the project, I now know much more about the topic” (Item 12) received a mean of 2.33 (SD = 1.22), indicating that learning outcomes were perceived more modestly, with considerable variation across responses.

**Methods and Participation:** The perception of learning new methods through the project was one of the more critical areas. “I learned many new methods through the project” (Item 13) had a mean score of 2.78 (SD = 0.83), suggesting that while some participants benefited from methodological exposure, others did not perceive a significant gain in this area.

**Social Integration and Group Dynamics:** The social and emotional dynamics of the project were among its most positively rated aspects. “I actively participated in group work” (Item 14) received a strong mean score of 1.44 (SD = 0.53). Similarly, participants agreed with “I felt comfortable in the group work” (Item 15), which had a mean of 1.56 (SD = 0.53). The sense of inclusion was particularly strong in the item “I felt

like an equal member of the group” (Item 16), which also scored 1.44 (SD = 0.53). These ratings reflect a healthy, inclusive group climate.

Motivation, Recommendation, and Student Voice: When asked if they would recommend the project to others, participants responded positively. “I would recommend this project to other young people” (Item 17) received a mean score of 1.56 (SD = 0.88), indicating general satisfaction with the experience, though with slightly more variation among responses.

To sum up, the feedback from participating children and youth suggests that the theatre project was largely successful. Participants appreciated the overall structure and felt supported by the facilitators. The group atmosphere was inclusive and encouraging, fostering a sense of active participation and comfort. While engagement with content and group work was strong, the perceived gains in new methods and deeper subject learning were more varied. Overall, the project was well received, with most participants willing to recommend it to others, indicating its value as an inclusive and youth-centred initiative.

### 3.2.5 Evaluations of the Collaboration between University Drama Coaches and the School Teacher

An important component of the theatre project was the cooperation between the university-based drama coaches and the school’s teacher. While the students showed encouraging growth in motivation and performance skills, the collaboration with the school-based partner proved to be highly challenging and, at times, counterproductive to the project’s goals. From the very beginning, the participating school teacher expressed clear opposition to the project’s premise.

Another point of tension involved role boundaries. Although the university coaches were intentionally positioned outside of evaluative authority, the participating school teacher repeatedly insisted that they provide student assessments. This pressure conflicted with the relational, process-oriented nature of their role. Communication with and about the students also proved problematic. Yet, when the coaches directly asked the students how they were feeling and whether more preparation would help, they were met with enthusiasm: “They told us they were excited about the performance and had never said they were scared.” Disruptions during rehearsal further strained the collaboration. These actions disrupted concentration and detracted from the atmosphere of respect and focus cultivated by the coaches. Perhaps most disheartening was the teacher’s persistent lack of encouragement. “The teacher didn’t say a single positive thing about us or the children during the entire process”, a university coach reflected. This was in stark contrast to what the coaches observed: “Student J1 started off reading very hesitantly and now performs with great expression; Student J2 was initially embarrassed on stage and now knows his part by heart.” Moreover, “all the children were excited and

even prepared for the performance in their free time – some brought their own headbands and accessories.”

In contrast to the teacher’s assertion, the coaches witnessed a highly motivated and engaged group of students who grew in confidence, expression, and collaboration. This was the reason why the project was continued even with barriers between university coaches and teachers. Also, the principal supported the further steps of the project and tried to intervene in the difficult situation between university coaches and the participating teacher.

This dissonance highlights a critical lesson: for theatre-based educational projects to succeed, collegial respect, shared values, and constructive communication are essential. The experience underscores the need for clear role definitions, open dialogue, and mutual support between institutional partners to create a sustainable and empowering learning environment.

### 3.2.6 Evaluations by the University Project Leadership

Regrettably, no final feedback was provided by the school’s teacher. By the conclusion of the project, tensions between the university team and the school representative had escalated to such an extent that, despite two highly successful public performances, communication between the school and the university had entirely broken down.

A key structural issue became apparent early on: Although the school’s administration had proactively reached out to the university to initiate the collaboration, the designated school teacher had not been involved in this decision. This lack of initial inclusion created a fundamental obstacle for productive cooperation throughout the project. The absence of shared ownership and transparency regarding the project’s goals and responsibilities led to persistent misunderstandings and ultimately hindered a meaningful partnership.

The situation was particularly unfortunate given the enthusiasm and engagement shown by the students. They delivered two strong performances – one for their peers during school hours and one for families in the evening. It was not possible to finalise the project with an appointment between principal, teacher and university staff to communicate feedback and find ways for future projects.

The design principles for the theatre project were also confirmed in Cycle 2. The ritualised phases provided structure, which was appreciated by the participants. In addition, individual reading corners with the application and testing of several reading methods (paired reading, choir reading, and reading aloud) provided support for reading fluency and reading comprehension. The school structure, on the other hand, allowed little flexibility in terms of time, in contrast to a holiday theatre project. Collaboration on an equal footing between university

and school trainers only works if there is trust and common goal setting, preventing tension in the students' learning environment.

### 3.3 Cycle 3 – Participatory Theatre Projects in a Comprehensive School in Two Classes

#### 3.3.1 Context and Objectives

In the following third cycle, from September 2022 until January 2023, at another comprehensive school, the school principal approached our university department during the "Day of Science" event. The school principal was eager for her seventh-grade students to participate in the theatre project in order to address the topic of bullying – an issue present in these classes – while simultaneously linking it to academic reading support. She independently selected two classes with children with and without special educational needs to collaborate with us on the project. The language teachers were not known prior to the project. The drama coaches decided to work with the play *Don't Call Me Ishmael!* (Bauer, 2006). It also addresses the topic of bullying in schools and is widely included in reading curricula around the world.

#### 3.3.2 Participant Profile

Even within these two participating classes, the collection of personal or background data was not permitted. This restriction was stipulated by the Ministry of Education and the school principal to ensure the protection and privacy of the students. In each class, twelve students participated in the theatre project. The average age across both classes was 12.50 years (SD = 0.52), based on information provided by the participating teachers. The project was implemented in inclusive classroom settings that included students with formally diagnosed special educational needs. These students were not personally known to the university team. The signed consent forms of the participants, parents, and school management are available for this school project. In addition, the ethics committee and the Ministry of Education of a federal state reviewed the implementation of the intervention (see at the end of this article).

#### 3.3.3 Methodological Approach

As in Cycle 2, the project adopted a mixed-methods research design. Quantitative data were collected at the end of the project using a standardised, anonymous questionnaire consisting of 17 items rated on a 4-point Likert scale (0 = not answered; 1 = fully applies to 4 = does not apply at all), and two open questions. Qualitative data were gathered through reflection protocols completed by each drama coach, which summarised and interpreted student feedback, as well as by the

project leader, who reflected on the collaboration between the university and the school. The intention to align the qualitative reflections with the findings of the student questionnaire aimed to connect both perspectives – that of the students and that of the facilitators – thereby enhancing the depth and coherence of the evaluation. This approach aligns with Gläser-Zikuda et al. (2024), who demonstrated how student feedback can inform educators' reflective writing and support the integration of learner and facilitator perspectives in mixed-methods educational research.

### 3.3.4 Combined Evaluations of the Participating Students and the University Drama Coaches

#### **Class A**

**Perceived Participation and Project Structure:** Students ( $n = 12$ ) evaluated their active participation in the project positively, with Item 1 ("I actively participated in the project") yielding a mean score of 1.5 ( $SD = 0.67$ ), suggesting high levels of self-reported involvement. This impression was corroborated by the drama coach, who noted, "The response pattern fully reflects my own experience as a facilitator." The general structure of the project (Item 2) was also well received ( $M = 1.92$ ,  $SD = 0.79$ ), as was the organisation of the individual sessions (Item 3,  $M = 1.92$ ,  $SD = 0.79$ ). However, the drama coach identified a potential limitation in the latter: While some students were consistently engaged in performing, others had shorter roles and experienced idle time. This imbalance may have led to disengagement among certain students. "I should have paid more attention to ensuring that everyone felt involved and had a clear task or responsibility", the coach reflected.

**Time Frame and Instructional Clarity:** The project's duration (Item 4) was rated relatively poorly ( $M = 2.5$ ,  $SD = 1.09$ ). According to student comments, the project coincided with the loss of a valued weekly free learning period, which may have contributed to this dissatisfaction. Nevertheless, the comprehensibility of instructions was assessed positively (Item 5,  $M = 1.92$ ,  $SD = 0.79$ ), indicating that students generally understood their tasks and the learning objectives. Support from facilitators was also rated positively: Students felt that their questions were taken seriously (Item 6,  $M = 1.5$ ,  $SD = 0.52$ ), and while the availability of support when needed (Item 7,  $M = 2.25$ ,  $SD = 1.14$ ) received a more moderate score, the coach noted that few students actively sought assistance: "I didn't get the impression that they were hesitant to ask; they simply didn't seem to need much help".

**Perceived Relevance and Reflective Learning:** One of the weakest ratings was given to Item 8 ("The content was interesting and relevant to me"), which had a mean of 2.83 ( $SD = 0.94$ ). The coach identified this as a clear signal that the selected play, *Don't Call Me Ishmael*, may not have been age-appropriate. "This confirms our impression that the play did not resonate with the students thematically or emotionally."

The item concerning self-reflection (Item 9) received the lowest overall rating ( $M = 3.08$ ,  $SD = 1.00$ ). Despite exercises about bullying, which aimed to initiate reflection on social behaviour, students reported limited personal insight. The coach attributed this to the tight project schedule and the late implementation of a supplementary information session on cyberbullying, which took place after the evaluation.

**Learning Gains:** Students reported limited acquisition of content-related knowledge (Item 10,  $M = 2.5$ ,  $SD = 0.90$ ) and largely did not provide specific examples in the corresponding open-ended item (Item 11). A few mentioned basic moral takeaways, such as “It made me realise you shouldn’t bully others”, while most left the item unanswered. Methodological learning outcomes (Item 12) were also rated poorly ( $M = 2.92$ ,  $SD = 0.79$ ), which the coach found consistent with the instructional reality. Although reading techniques such as tandem reading were demonstrated, they were not widely adopted by the students. Warm-up routines were also discontinued midway through the project due to time constraints and student preferences. The follow-up item (Item 13) asking for examples of new methods yielded minimal or no responses.

**Social Integration and Group Dynamics:** Group participation (Item 14) was again rated highly ( $M = 1.58$ ,  $SD = 0.67$ ), consistent with the coach’s observations of strong engagement and collaboration. In contrast, the students’ sense of comfort during group work (Item 15) received a lower-than-expected score ( $M = 2.17$ ,  $SD = 0.58$ ). The coach expressed surprise at this result, given the class’s perceived cohesion and minimal clique formation. She speculated that some students may have interpreted the item as relating specifically to the act of performing rather than group collaboration per se. A greater sense of inclusion was expressed in Item 16 (“I felt like an equal part of the group”,  $M = 1.83$ ,  $SD = 0.83$ ), which better matched the coach’s observations.

**Motivation, Recommendation, and Student Voice:** In the final evaluative items, students identified the performance itself and the experience of acting for the first time as the most motivating aspects (Item 17). However, when asked if they would recommend the project to others (Item 18), the mean score was a modest 2.75 ( $SD = 1.29$ ). The coach attributed this to dissatisfaction with the chosen play: “It was overly long and thematically inconsistent, focusing more on debate than bullying”.

Suggestions for improvement (Item 19) included requests for shorter and more engaging content. A few students expressed complete satisfaction, while others made no suggestions. Additional comments (Item 20) ranged from “It was a lot of fun!” to more neutral or critical feedback, such as “It was okay, but I wouldn’t offer it to next year’s seventh grade – we missed our free time hour”.

### ***Class B***

**Perceived Participation and Project Structure:** Item 1 (“I actively participated in the project”) received the most positive evaluation ( $M =$

1.92, SD = 0.67, n = 12), suggesting substantial involvement. This aligns with the coach's observations, noting that all students contributed written reflections, provided peer feedback, and even personally invited guests, including trainers and the deputy headteacher, to the final performance. These actions indicate a high degree of ownership and initiative. Items 2 (SD = 0.90) and 3 (SD = 0.80) were rated at M = 2.5, reflecting mixed perceptions. The coach attributed this to severe behavioural disruptions and a destructive group dynamic at the start of the project – issues confirmed by subject teachers. While the instructional format was consistent, conflict resolution and reflective exercises were incorporated ad hoc to address persistent interpersonal tensions and an active bullying issue. These adaptations may have been perceived by students as a lack of structure. Additionally, changing school staff and inconsistent communication (e.g., room and schedule changes) undermined the stability of the project. Notably, the school did little to promote the final performance; one teacher even stated the group did not "deserve an audience". In contrast, students themselves ensured the deputy head was personally informed.

**Time Frame and Instructional Clarity:** The appropriateness of the project's duration (Item 4) received a modest score of M = 2.6 (SD = 0.89). While some students wanted more time for a second performance, others – especially those disengaged from the start – may have felt that the project dragged on. Clarity of instructions (Item 5, M = 2.17, SD = 0.58) was rated positively given the challenging circumstances, suggesting that students understood what was expected of them. Items 6 and 7, relating to facilitator support and responsiveness, received mid-level ratings (M = 2.33, SD = 0.78 and M = 2.42, SD = 1.24). These results reflect the inherent difficulty of balancing attention in a group marked by deep-seated conflicts. The coach emphasised efforts to validate student ideas and intervene in conflicts where possible, although long-term change in group culture was only partially achieved.

**Perceived Relevance and Reflective Learning:** Item 8 ("The content was interesting") scored low (M = 3.08, SD = 0.67), reinforcing earlier concerns that the selected play was not well suited to the group's needs or interests. Reflection on personal development (Item 9, M = 2.67, SD = 0.78) was also limited. Students struggled to identify personal growth or strengths – a pattern the coach interpreted as indicative of a culture that suppresses positive reinforcement. Efforts to initiate feedback and recognition were hindered by a group norm in which praise was seen as undeserved.

**Learning Gains:** Content-related learning (Item 10) and method acquisition (Item 12) both received poor ratings (M = 2.92, SD = 1.16). Responses to open-ended Items 11 and 13 were sparse or explicitly stated that "nothing" was learned. These findings may reflect a lack of transparency regarding learning objectives, the abstract wording of items, or a disconnection between methods taught (e.g., tandem reading) and their perceived value. The coach suggested that future efforts

should make learning goals and methods more explicit and meaningful, while also reconsidering the accessibility of the item phrasing for this age group.

Social Integration and Group Dynamics: Group participation (Item 14,  $M = 2.33$ ,  $SD = 0.65$ ) was among the more positively rated items, confirming the coach's observation that even previously disruptive students eventually contributed. However, feelings of comfort (Item 15,  $M = 3.0$ ,  $SD = 0.74$ ) and equal inclusion (Item 16,  $M = 2.58$ ,  $SD = 1.00$ ) were rated negatively. These scores mirror the lingering conflict climate and highlight a class composition consisting almost exclusively of boys, with only one girl. Two disruptive students left the group in mid-project, having significantly contributed to the class's dysfunctionality. The coach noted, "The group likely experienced the overall process as emotionally exhausting, even though there were signs of late-stage cooperation."

Motivation, Recommendation, and Student Voice: The item on recommending the project to others (Item 17) received a disappointing  $M = 2.75$  ( $SD = 1.06$ ). Contributing factors may include the play's length, its thematic ambiguity (shifting between bullying and debate), and the emotional toll of group conflicts. Suggestions for improvement (Item 18) were offered by all students. A quarter of the group recommended allowing students to choose the play from several options. Others wished for a different theme, stricter facilitation, or the opportunity to opt out entirely. One noted the need for "stricter supervision" to reduce perceived chaos. When asked to name a favourite moment (Item 19), six students responded that there was none. While some acknowledged positive aspects, this lack of positive recall underscores the difficulty students had in locating value in their own experience, which is further evidence of a classroom culture resistant to affirmation.

Additional comments (Item 20) ranged from playful and appreciative to critical and dismissive: One student noted that the project was "fun at times," but they would not participate again. Others requested more assertive leadership. The coach concluded that the fact that all students used the final comment section, despite earlier reluctance, may be seen as a sign that the project created a participatory space that students recognised and used.

### 3.3.5 Joint Evaluations of the Two Drama Coaches after Project Cycle 3 with the School Teachers

Following the completion of the third cycle of the participatory theatre project, the two university-based drama coaches engaged in a structured reflection process to evaluate the selection of the play and consider improvements for future implementations together with the two school teachers. The style of the collaboration and the relationship between school teachers and university drama coaches were not identified. Only the content and effort of the project were evaluated. The

chosen play, *Don't Call Me Ishmael*, presented several challenges in the school context. Although thematically relevant, the text proved to be partially inappropriate for the target group of 7th-grade students. The content was, at times, too complex, particularly in its linguistic and emotional subtleties. Moreover, some scenes included sexually explicit content that was considered problematic for this age group and the school environment. Additionally, the distribution of roles was highly uneven, with some characters having extensive monologues while others were assigned only one or two lines. This imbalance undermined the principle of equal participation, which is central to the pedagogical goals of the project. In light of these challenges, the coaches proposed revisiting the selection criteria for future theatre texts. Specifically, they recommend using scripts that meet the following conditions:

- at least 8-10 roles to ensure full group engagement;
- a balanced distribution of dialogue among participants;
- a central theme of bullying, which remains a core concern of the project.

As a potential resource, the Grips Theater in Berlin was highlighted for its repertoire of youth-focused, socially relevant plays. Additionally, the coaches suggested innovative strategies to increase relevance and student ownership:

- integrating this task into university seminars by asking students to research suitable plays;
- encouraging seminar participants to write short scenes themselves on the topic of bullying, which could provide nuanced perspectives and represent the multifaceted nature of bullying in episodic formats;
- developing scenes in collaboration with students in the school setting, thus fostering co-creation and authenticity; this process would be coordinated with a designated partner teacher as the main contact person.

These evaluations underscore the importance of critical text selection and collaborative content development in ensuring that future theatre projects are both age-appropriate and pedagogically effective. The aim of moving forward is to create inclusive, relatable, and dramaturgically balanced theatre experiences that empower all students to participate meaningfully.

### 3.3.6 Evaluation of the Collaboration between University Drama Coaches and the School Teachers by the University Project Leadership

Despite prior arrangements, the two assigned teachers from the school did not attend the theatre rehearsals as agreed. As a result, the university-based drama coaches were left solely responsible for supervising and guiding the students throughout the rehearsal process. Given this unexpected organisational gap, I personally made repeated visits to the rehearsals to provide additional support and ensure a stable working environment.

When the time came for the final performance, support from the school remained limited. The performance was shown only to a small audience composed of selected students and teachers, as chosen by the students themselves. Unfortunately, no effort was made by the school to formally invite parents to attend the performance. This lack of institutional engagement significantly limited the reach and celebratory character of the final presentation and stands in contrast to the intended goals of visibility and community inclusion.

To summarise, the design principles from Cycles 1 and 2 were carried over into Cycle 3. Here, too, it was confirmed that the timing of the project (90 minutes) tended to inhibit learning and project development. Theatre work therefore requires more flexibility in terms of time and less time pressure. On the other hand, the third cycle also showed that ritualised processes gave the participants security, a comfortable atmosphere and structure. In Cycle 3, the evaluation with the pupils revealed another point: A selection of plays on the subject of bullying should be made available so that the pupils can choose their own play.

## 4.0 Conclusion

This concluding section provides a comprehensive synthesis of the key findings derived from the Reading Theatre Project and critically re-engages with the central research questions through the analytical lens of Design-Based Research (DBR). Anchored in insights from three iterative implementation cycles and situated within established theoretical frameworks, it explores the dynamics of stakeholder collaboration, the emergence of meta-organisational feedback, and the progressive development of the Reading Theatre model. By aligning empirical evidence with the broader discourse on inclusive pedagogy and participatory design, the section formulates practical implications and recommendations for the future implementation of theatre-based literacy interventions in diverse educational contexts.

#### 4.1 Discussion of the Evaluation Results in Relation to the Research Questions

RQ1: How can various stakeholders collaborate effectively in a theatre-based literacy project?

In Cycle 1, collaboration between university coaches and youth workers was exemplary, marked by shared planning, flexible role distribution, and mutual trust. In contrast, Cycle 2 exposed challenges when the designated school teacher had not been included in the initial planning, resulting in persistent tension, unclear expectations, and ultimately a breakdown in communication. These case situations (best and worst case) underscore that participatory design must be underpinned by trust, co-ownership, and ongoing dialogue.

The Reading Theatre Project demonstrates that effective collaboration depends on clearly negotiated roles, transparent communication, and mutual respect. As Malmberg (2020) notes, DBR success hinges on co-construction and joint decision-making. Dube and Dannecker (2021) emphasise the importance of structured, interdisciplinary cooperation. In Cycles 2 and 3, co-design was not possible between university coaches and drama/language teachers.

Within the theatre project, students actively engaged in peer feedback, collaboratively adapted scenes based on group input, and demonstrated agency by inviting guests to their performances. These interactions illustrate how Design-Based Research (DBR) can function as a vehicle for empowerment and inclusion, provided that the institutional context enables such participatory practices (Novais dos Santos & Nonato, 2025). Moreover, incorporating students' voices plays a critical role in refining the project iteratively from one cycle to the next.

RQ2: What types of feedback have emerged at the meta-organisational level of the project?

Feedback at the meta-level primarily addressed role clarity, responsibility sharing, and long-term structural integration. In Cycle 1, structured planning meetings and inclusive communication built strong collaborative foundations. In Cycles 2 and 3, the lack of institutional anchoring and fluctuating staff involvement revealed the fragility of cooperation when organisational responsibilities remain ambiguous.

As Euler (2017) argues, feedback must not only assess outcomes but also scrutinise implementation contexts. The coaches' reports and leadership reflections confirmed that institutional conditions, such as staff availability, scheduling consistency, and administrative engagement, played a decisive role in shaping collaboration quality. Formalised reflection loops, as used in Cycle 3, helped identify systemic barriers and supported responsive adjustments to project delivery. In future projects, formative evaluation with all stakeholders of the Reading Theatre Project should be emphasised (see Fig. 1).

RQ3: How can the maturity levels of the Reading Theatre learning model be assessed and further developed?

The model's maturity is evidenced by its increasing capacity to respond flexibly to diverse settings while retaining its core principles. Cycle 1 demonstrated a high degree of responsiveness, with students showing marked gains in reading fluency, confidence, and group cohesion. Cycle 2, despite personnel challenges, confirmed the model's adaptability in formal school contexts, though outcomes were tempered by teacher resistance. In Cycle 3, critical feedback about content relevance and group dynamics prompted important refinements: adjusting instructional strategies, rethinking play selection, and embedding clearer reflective components. These iterative improvements align with Malmberg's (2020) emphasis on refining design principles through repeated application and evaluation. The coaches' joint reflection also supported Euler's (2017) view that design maturity depends on empirical grounding, contextual fit, and transferability.

The findings support DBR literature that highlights the dual goals of practical innovation and theoretical advancement (McKenney & Reeves, 2019; Bakker, 2019). The Reading Theatre Project has consistently shown that inclusive, theatre-based literacy development can be meaningfully co-designed with students, university teachers, and community partners. The positive experiences in Cycle 1 mirror Booth and Ainscow's (2017) concept of inclusive cultures grounded in participation, while the tensions in Cycles 2 and 3 affirm Koenig's (2022) call to challenge rigid institutional structures.

Student feedback across cycles stressed the importance of content relevance, emotional safety, and visibility. The limited engagement with the play *Don't Call Me Ishmael* in Cycle 3, for instance, revealed how age-inappropriate material can inhibit motivation and learning. Meanwhile, the creative freedom and peer feedback in Cycle 1 illustrated how theatre can affirm student voices and foster agency. These experiences resonate with Cummins' (2001) emphasis on identity-affirming pedagogy and Paris and Alim's (2017) advocacy for culturally sustaining practices.

## 4.2 Project Limitations

Despite the promising outcomes of the Reading Theatre Project, several limitations emerged that warrant careful consideration in future implementations.

First, institutional commitment varied significantly across cycles. In Cycle 2 and parts of Cycle 3, inconsistent staff engagement and frequent changes in responsibilities limited the continuity and depth of collaboration. These inconsistencies highlight the importance of securing clear administrative support and ensuring the consistent presence of a committed teacher throughout the project cycle.

Second, the selection and relevance of the theatrical content proved to be a significant constraint. In Cycle 3, students found the play too long, thematically abstract, or ageinappropriate. These issues reduced motivation and hindered the achievement of learning outcomes. This underscores the necessity of choosing plays that are both developmentally suitable and emotionally resonant for the intended age group.

Third, while evaluation elements such as self-assessment and discussion exercises were integrated into the project, they were sometimes introduced too late or lacked adequate scaffolding. As a result, their potential to foster metacognitive growth and emotional insight was not fully realised. More structured and timely integration of reflective practices is essential for maximising their educational value.

Fourth, classroom dynamics and emotional climate posed challenges, especially in Cycle 3, Class B. Persistent peer conflicts, limited adult mediation, and a culture resistant to affirmation undermined group cohesion. These findings point to the need for consistent emotional support for teachers and students to ensure a safe and inclusive learning environment.

Lastly, the scalability and transferability of the Reading Theatre model remain limited at this stage. Although the project has shown success in specific contexts, broader implementation across diverse school environments is necessary to assess the model's generalisability and further refine its design principles. Together, these limitations reflect the complex realities of educational innovation and reinforce the need for flexible, responsive, and context-sensitive approaches when implementing participatory theatre projects in schools.

### 4.3 Research Limitations

In addition to the practical challenges of implementation, the research component of the Reading Theatre Project also faced a number of methodological limitations that must be acknowledged.

**Limited Generalisability (Barab & Squire, 2004):** Given the small sample sizes in each cycle, especially in Cycle 1 with only nine participants and in Cycle 3 with two groups of twelve students, the findings cannot be generalised to broader populations without caution. The diverse school settings and highly context-specific conditions mean that each cycle reflected a unique constellation of variables, limiting the transferability of results without further replication. Still, since various environments exist, it is possible to identify which design principles apply across multiple situations.

**Incomplete or Missing Data:** Several data sets were incomplete or limited in their evaluability. For instance, not all participants completed the final questionnaire, and open-ended survey items were often left blank or only minimally answered. In Cycles 2 and 3, this limited the

depth of qualitative insight that could be derived from student voices, making it difficult to triangulate perspectives across stakeholder groups.

**Observer and Facilitator Bias (Barab & Squire, 2004):** The reflections of university drama coaches and project leaders were an important source of qualitative data. However, these observations are inherently subjective and may be influenced by personal expectations, relational dynamics, or institutional affiliations. While such reflections offer rich narrative insight, they must be interpreted in light of potential bias.

**Lack of Longitudinal Data (Barab & Squire, 2004):** The study did not include a follow-up phase to evaluate long-term impacts on literacy, motivation, or social-emotional development. Without longitudinal data, it remains unclear whether observed improvements, such as increased reading fluency or group cohesion, were sustained beyond the project's duration.

**Limited External Validation (Goldstein, 2011):** Most evaluations were conducted internally by university-affiliated researchers and facilitators. Independent evaluation by external parties could help strengthen the validity and credibility of findings, particularly in future cycles aimed at wider implementation.

Reflecting on the overall quality of this study, it becomes evident that the Reading Theatre Project represents a robust and insightful contribution to the field of inclusive literacy education through Design-Based Research (DBR). While it does not claim universal generalisability, it succeeds in deeply exploring how creative, collaborative, and literacy-oriented interventions can be developed and tested in authentic educational settings.

The strength of the study lies in its iterative design, responsiveness to real-world conditions, and commitment to inclusivity. Through three research cycles, the project generated valuable practical knowledge about the roles of different stakeholders, the importance of content selection, and the impact of group dynamics on learning outcomes. By documenting not only the successes but also the tensions and limitations, such as inconsistent institutional support and challenges in reflective implementation, the study remained honest, transparent, and grounded. The inclusion of interviews with individual students and teachers or group interviews before, during, and after the project could have led to more insights from the schools' perspective.

Moreover, this study demonstrates strong theoretical alignment, drawing on relevant educational research to inform both its design and its analysis. Its contribution is particularly notable in showing how DBR can be used not just as a method for innovation but also as a tool for fostering institutional learning and mutual professional development.

In summary, despite its contextual and methodological limitations, this study offers a practice-oriented and conceptually rich example of how Design-Based Research (DBR) can – and at times cannot – serve as a

bridge between educational research and inclusive classroom transformation through collaborative, arts-based literacy interventions. Addressing these limitations in future iterations will be essential for strengthening the empirical foundation of the Reading Theatre model and advancing its development as a scalable and sustainable educational innovation.

#### 4.4 Outlook for Future Theatre Projects with DBR

To enhance the impact of the Reading Theatre Project, future cycles should prioritise several key improvements.

First, shared ownership must be established from the outset. All stakeholder groups, including teachers, university drama coaches, school administrators, and students, should be actively involved in the early planning and goal-setting phases (McKenney et al., 2022). The positive outcomes of Cycle 1 underscore how early engagement fosters trust, commitment, and alignment, whereas its absence in later cycles contributed to disconnection and diminished cohesion.

Second, content selection should be optimised. Scripts need to feature shorter, age-appropriate scenes with balanced roles and thematically relevant content. Co-developing scenes with students could further enhance motivation, identification, and inclusivity.

Third, reflective practices should be integrated more explicitly and earlier in the process. Structured moments for reflection can support metacognitive growth and emotional insight, especially in socially diverse groups.

Fourth, greater curricular integration and project visibility are essential. Where schools embedded the project into formal curricula and promoted performances beyond the classroom, outcomes were more sustainable and visible, and students gained broader recognition in their school community. Engaging families, peers, and the wider school community can reinforce the value of creative student work.

Finally, scalable design principles should be developed and tested in diverse educational contexts. Core features, such as peer collaboration, iterative script development, inclusive casting, and feedback loops, should be systematically documented and adapted to suit varying settings, supporting broader dissemination and policy relevance.

In conclusion, the Reading Theatre Project demonstrates how Design-Based Research can drive inclusive, literacy-focused educational innovation. With continued refinement and stronger institutional alignment, it holds promise as a replicable and sustainable model for equitable, creativity-driven learning. After evaluating the first three cycles, the theatre-based reading intervention in inclusive learning settings (with and without students with special needs) should be based on the design principles of ritualised session structures, differentiated reading promotion, authentic performance goals, flexible time frames,

trusting cooperation between educators, and the selection of texts by the pupils. When implemented together, these create a safe, motivating, and inclusive learning environment.

#### 4.5 Broader Implications for DBR and Inclusive School Development

The Reading Theatre Project provides broader insights into the role of Design-Based Research (DBR) in inclusive education. DBR's iterative, participatory structure proved valuable for tailoring literacy interventions to student diversity. Inclusive practices, such as peer collaboration, co-creation, and reflective dialogue, were embedded in creative, arts-based formats like theatre. However, challenges such as staff turnover, limited institutional commitment, and time constraints highlight the need for stability and flexibility in school-based innovation.

Effective collaboration depends on early joint planning and clear role negotiation (McKenney et al., 2022). The success of Cycle 1 shows how mutual understanding fosters co-facilitation, whereas in Cycle 2, the absence of key staff in planning led to persistent misalignment. Regular reflection loops and shared decision-making structures, as implemented in Cycle 3, are essential to strengthen collaboration across different institutional logics.

For the Reading Theatre Project to scale, its design principles must be both robust and adaptable. Elements such as inclusive casting, iterative scripting, and student-led feedback should be refined and adapted to local conditions. The success of each cycle was shaped by specific contextual factors, such as demographics, school climate, and staff engagement, emphasising the importance of local customisation and facilitator training.

DBR can foster inclusion by validating student voices, particularly in culturally and linguistically diverse environments. Yet, sustainable impact requires institutional and policy support. Schools that embedded the project into their curricula and publicly acknowledged student performances saw higher engagement and social recognition. Conversely, weak institutional support limited reach and continuity. Long-term inclusion thus depends not only on pedagogical innovation but also on alignment with leadership, resources, and educational policy frameworks.

When teachers, school leaders, students, university teams, and researchers collaborate from the outset – grounded in trust, shared objectives, and creative dialogue – a Design-Based Research (DBR) project can evolve into a transformative model that effectively bridges educational research and inclusive classroom practice.

## Funding

This research was funded by the Potsdam Graduate School at the University of Potsdam. The author received grants for the years 2021 and 2022 (2021/Giera, 2022/Giera).

## Institutional Review Board Statement

This study was conducted in accordance with the ethical guidelines outlined by the University of Potsdam's ethics committee in accordance with the Declaration of Helsinki. Informed consent was obtained from all participants, and confidentiality was maintained throughout the study. Ethic Commission University of Potsdam (Link: <https://www.uni-potsdam.de/de/senat/kommissionen-des-senats/ek>), Approval Code: 54/2021 (Name: *Stopp Mobbing! Ein Theaterprojekt*, Responsibility: Prof. Dr. Winnie-Karen Giera), Approval Date: 5 October 2021.

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## Appendix

Translated questionnaire items for Cycle 1 (for participating children and youths in the theatre project)

- Item 1: I actively participated in the project.
- Item 2: The project was well structured overall.
- Item 3: The individual project sessions were well organized.
- Item 4: The duration of the project was appropriate.
- Item 5: I was able to follow the instructions well.
- Item 6: My questions were addressed well by the supervisors.
- Item 7: I received support when needed.
- Item 8: The content was interesting to me.
- Item 9: The project encouraged me to reflect on myself.
- Item 10: I gained a lot of content-related knowledge through the project.
- Item 11: I can give the following examples:
- Item 12: I learned many new methods through the project.
- Item 13: I can give the following examples:
- Item 14: I actively participated in group work.
- Item 15: I felt comfortable in the group work.
- Item 16: I felt like an equal member of the group.
- Item 17: I would recommend this project to other young people.

Slight changes in Cycle 2

- FBFB\_IT1 – I actively participated in the project.
- FBFB\_IT2 – The project was well structured overall.
- FBFB\_IT3 – The individual project sessions were well structured.
- FBFB\_IT4 – The project lasted too long overall.
- FBFB\_IT5 – The project was too short overall.
- FBFB\_IT6 – The length of the project was appropriate.
- FBFB\_IT7 – I was able to follow the instructions well.
- FBFB\_IT8 – My questions were addressed by the supervisors.
- FBFB\_IT9 – I received support when I needed it.
- FBFB\_IT10 – The project content was interesting to me.
- FBFB\_IT11 – The project made me reflect on myself, for example...
- FBFB\_IT12 – Through the project, I now know much more about the topic.
- FBFB\_IT13 – I learned many new methods through the project, for example ...
- FBFB\_IT14 – I actively participated in the group work.

- FBFB\_IT15 – I felt comfortable in the group work.
- FBFB\_IT16 – I felt like an equal member of the group.
- FBFB\_IT17 – I would recommend this project to other young people.

#### Slight changes in Cycle 3

- FBFB\_IT1 – I actively participated in the project.
- FBFB\_IT2 – The project was well structured overall.
- FBFB\_IT3 – The individual project sessions were well structured.
- FBFB\_IT4 – The project lasted too long overall.
- FBFB\_IT5 – The project was too short overall.
- FBFB\_IT6 – The length of the project was appropriate.
- FBFB\_IT7 – I was able to follow the instructions well.
- FBFB\_IT8 – My questions were addressed by the supervisors.
- FBFB\_IT9 – I received support when I needed it.
- FBFB\_IT10 – The project content was interesting to me.
- FBFB\_IT11 – The project made me reflect on myself, for example...
- FBFB\_IT12 – Through the project, I now know much more about the topic.
- FBFB\_IT13 – I learned many new methods through the project, for example ...
- FBFB\_IT14 – I actively participated in the group work.
- FBFB\_IT15 – I felt comfortable in the group work.
- FBFB\_IT16 – I felt like an equal member of the group.
- FBFB\_IT17 – I would recommend this project to other young people.
- FBFB\_IT18 – What was your best moment?
- FBFB\_IT19 – What is your wish for future projects?
- FBFB\_IT20 – Space for additional comments...

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**Journal Details** EDeR – Educational Design Research  
An International Journal for Design-Based Research in Education  
ISSN: 2511-0667  
[uhh.de/EDeR](http://uhh.de/EDeR)  
#EDeRJournal (our hashtag on social media services)

Published by

**Hamburg Center for University Teaching and Learning (HUL)**  
University of Hamburg  
Schlüterstraße 51  
20146 Hamburg  
Germany  
+49 40 42838-9640  
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[EDeR.HUL@uni-hamburg.de](mailto:EDeR.HUL@uni-hamburg.de)

[hul.uni-hamburg.de](http://hul.uni-hamburg.de)

In collaboration with

**Hamburg University Press**

Verlag der Staats- und Universitätsbibliothek Hamburg –

Landesbetrieb

Von-Melle-Park 3

20146 Hamburg

Germany

+49 40 42838 7146

[info.hup@sub.uni-hamburg.de](mailto:info.hup@sub.uni-hamburg.de)

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