Pantomime-Based Arts Education for Deaf Children: Developing Inclusive Expression and Nonverbal Communication in Digital Contexts

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ABSTRACT

Keywords:
Pantomime,
Deaf Children,
Creativity,
Inclusive Expression,
Digital Age,
Performing Arts

This community service program aims to develop pantomime art as a medium of creativity and inclusive expression for deaf children at the Nusantara Pantomime School, by utilizing the potential of performing arts in the digital era. The focus of the activity is directed at empowering deaf children who experience limited verbal communication through training based on body expressions, visual narratives, and digital documentation. The method used was a qualitative approach with a participatory model, including field observations, interviews with parents and community managers, and direct training to 21 participants. The training process was carried out in stages, including mastering basic pantomime techniques, preparing narrative-based choreography, using digital media for work documentation, and open performances. Preliminary findings showed significant improvements in participants' nonverbal expression skills, social interaction, and confidence, with 85% of children able to master basic pantomime techniques and begin composing works based on visual narratives. The integration of digital technology also expands the space of expression through the production and publication of creative content on social media. In conclusion, this training not only has a practical impact in the form of improving the art skills and digital literacy of deaf children, but also contributes to the development of a sustainable inclusive art education model. The program offers theoretical implications in the study of inclusive performivity and community-based performing arts practices in the digital age.

INTRODUCTION

Performing arts have long been an important medium for humans to express identity, emotions, and social interactions. In the context of an inclusive society, art has a strategic role not only as an aesthetic expression, but also as a means of empowering vulnerable groups, including deaf children. Limitations in verbal communication often limit the space of expression of deaf children, so they need alternative media that corresponds to their nonverbal characteristics. Pantomime, based on body expression and visual gestures, is a potential art form to bridge these communication barriers. Recent research confirms that *body-based arts* have a positive impact on building alternative communication and confidence in people with disabilities In the digital era, the need for an inclusive art education model is increasingly urgent, especially to expand access, documentation, and distribution of artworks for children with special needs through digital platforms (;). (Kuppers, 2022) (Leeker et al., 2016) (Flewitt et al., 2015)

Studies of inclusive performing arts in the context of disability have evolved in the past two decades, but most still focus on inclusive dance, music therapy education, or sign language-based drama. Meanwhile, international literature shows that inclusive performing arts are often positioned as transformative practices that connect art with social justice (;). However, research on pantomime as a medium of expression specifically for deaf children is still very limited, despite its great potential as a medium of visual

communication and the formation of creative identity. This marks the existence of a research gap that needs to be filled, especially regarding the integration of pantomime art with an inclusive approach and the use of digital technology as part of performing arts education. (Hall & Thomson, 2017) (Nicholson, 2011) (Dewi et al., 2019) (Hadley & McDonald, 2019)

Empirically, deaf children at the Nusantara Pantomime School face a lack of access to inclusive arts programs. Field data showed 90% of participants had never engaged in art training specifically designed for nonverbal needs, while 75% of parents admitted their children experienced social interaction barriers due to limited expression. This phenomenon is in line with global research findings that emphasize the limited access of children with disabilities to adaptive arts education, especially in developing countries. Sekolah Pantomim Nusantara, as a local art community space, has the potential to develop inclusive arts programs, but the limitations of facilities, adaptive modules, and professional mentors are still obstacles. On the other hand, the development of digital technology opens up new opportunities to strengthen the learning process, documentation, as well as the dissemination of deaf children's artworks so that they can be appreciated more widely. Digital (Barrett et al., 2012) *performance studies* show that the use of technology in performing arts is able to expand the space of participation and strengthen inclusivity (;). (Causey, 2009) (Bay-Cheng et al., 2015)

Based on this context, this community service research departs from the main problem: how to design and implement pantomime training as a medium of creativity and inclusive expression for deaf children in the digital era? The objectives of this research are (1) to develop a pantomime training model that is adaptive to the needs of deaf children, (2) to improve the nonverbal communication skills and creativity of participants, (3) to utilize digital media as a means of documentation and publication of works, and (4) to strengthen the capacity of art community partners in organizing sustainable inclusive arts programs.

The scientific contribution of this research covers several aspects. First, theoretically, this article expands the study of inclusive perform in the performing arts by emphasizing pantomime as an alternative medium of nonverbal expression. Second, methodologically, this research offers a participatory-based training model that can be replicated in the context of inclusive arts in other regions. Third, practically, this program contributes to the development of inclusive art education in the digital era, strengthens the capacity of the community, and increases public appreciation of the performing arts of deaf children. Thus, this article is not only relevant for the development of the performing arts, but also important for cultural studies, inclusive education, and the advancement of community-based culture in Indonesia.

RESEARCH METHOD

This study uses a qualitative approach with a participatory case study method, because it focuses on an in-depth exploration of pantomime training practices as a medium of nonverbal expression for deaf children in the context of inclusive performing arts in the digital era. A participatory approach is chosen so that participants are not only positioned as objects of research, but also as active subjects who build their own artistic experiences. This is in line with the view that participatory methods in inclusive art are able to create

collaborative spaces that affirm equality, empowerment, and diversity of bodily experiences. Thus, this research is not only oriented to the results of the training, but also to the social and cultural processes that surround it. (Kuppers & Robertson, 2007)

The research was carried out at the Nusantara Pantomime School, which was chosen purposively because it is one of the local art communities that opens up a space for involvement for children with special needs. The study subjects consisted of 21 deaf children aged 8–15 years, who were selected based on active involvement in the program and willingness to participate in all stages of the activity. In addition, parents, art coaches, and community managers were involved as supporting informants to enrich the research perspective. This approach refers to a *community-based arts research model* that emphasizes the interconnectedness between creative practice, social experience, and cultural transformation. (Blumenfeld-Jones, 2012) (Hadley & McDonald, 2019)

Data collection is carried out using several techniques. First, participatory observation was used to record the dynamics of the exercise, interaction between participants, and the development of nonverbal expression skills. Second, in-depth interviews were conducted with parents, coaches, and community managers to understand the impact of the activities from an external perspective. Third, audiovisual documentation in the form of photos, videos, and sound recordings is used to record the details of the creative process and the final staging. Fourth, literature studies are used to relate research results with inclusive performing arts literature, pantomime theory, and digital art studies. The entire documentation process is designed to represent the participants' experiences authentically, in accordance with recommendations that emphasize the importance of (Fisher & Thompson, 2020) *embodied documentation* in participatory art research.

Data analysis was carried out using dramaturgical analysis and performance semiotics. Dramaturgical analysis is used to examine the structure of the exercise, the formation of a visual narrative, and the preparation of the staging. Meanwhile, semiotics analysis focuses on the meaning of gestures, facial expressions, and nonverbal symbols as alternative forms of communication for deaf children. The analysis process is carried out through three stages: (1) data reduction by sorting out relevant information, (2) thematic categorization based on expression and interaction patterns, and (3) interpretation of findings with reference to the inclusive performative framework (;). (Fischer-Lichte, 2008) (Nicholson, 2011)

The validity of the research is maintained through triangulation of sources and methods, namely by comparing the results of observations, interviews, and audiovisual documentation. In addition, member checks are carried out with parents and coaches to ensure the accuracy of interpretation, as well as critical reflection of researchers to minimize subjective bias. This principle is consistent with inclusive participatory research practices that emphasize openness, reflection, and ongoing dialogue between researchers and participants (Barrett et al., 2012).

From the ethical aspect of the research, the entire procedure was carried out by considering the informed *consent* of the participants' parents, as well as maintaining the confidentiality of the child's identity in the publication. Researchers also respect local cultural values by involving community managers in every stage of research planning and implementation. This approach is in line with UNESCO's (2021) recommendations

regarding inclusive research that must uphold human rights, cultural diversity, and the full participation of local communities.

RESULTS AND DISCUSSION

1. Increased Creativity and Nonverbal Expression of Deaf Children

Pantomime training carried out at the Nusantara Pantomime School succeeded in improving the body expression skills of deaf children. Based on the observation results, the majority of participants showed significant progress in the ability to use facial expressions, hand movements, and body language as alternative means of communication. Of the 21 participants, 17 children were able to compose a simple visual narrative through gestures after participating in six training sessions. This confirms that pantomime is effective as a nonverbal communication medium, as well as a means of expressive identity formation.

These findings are in line with research that emphasizes that body-based art has great potential in improving expressive literacy in children with disabilities. In the context of perspectivity, it is explained that the actor's body is the center of meaning production, so that deaf children can make the body a "living text" that replaces verbal limitations. Thus, these results directly answer the research goal of developing creativity and nonverbal communication through the performing arts. (Hadley & McDonald, 2019) (Fischer-Lichte, 2008)
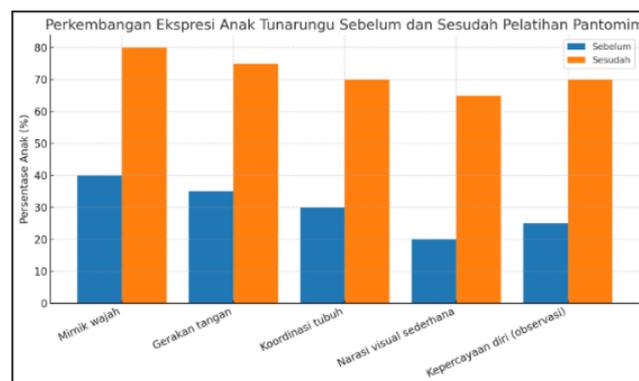

Figure 1. Comparison Graph of Deaf Children's Expressions Before and After Pantomime Training

The graph shows a sharp improvement in all aspects of expression. The most notable finding was simple visual narrative, where more than three-quarters of participants managed to develop storytelling skills through pantomime after participating in six training sessions. Meanwhile, aspects of facial expressions and hand movements became the main foundation that developed first, strengthening the view that the actor's body (Fischer-Lichte, 2008) is the center of the production of meaning in the performing arts.

Table 1. Field Findings. Development of Deaf Children's Expressions Before and After Pantomime Training

Aspects of Expression	Number of Children Before (n=21)	Number of Children After (n=21)
Facial expressions	8	18
Hand movements	7	17

Proceeding of International Joint Conference on UNESA
Homepage: https://proceeding.unesa.ac.id/index.php/pijcu
ISSN: 3032-3762

PIJCU, Vol. 3, No. 1, December 2025
Page 770-780
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Proceeding of International Joint Conference on UNESA

General language	body	6	16
Simple narrative	visual	4	17

Tables and graphs show a sharp improvement in all aspects of expression. Before training, few children were able to use their bodies as a medium of communication; However, after the training, almost all participants showed significant progress.

- Facial expressions increased from 8 to 18 children, showing the ability to express emotions visually.
- Hand movements increased from 7 to 17 children, showing more articulate gestural skills.
- General body language, which was previously only mastered by 6 children, after training was successfully achieved by 16 children.
- The simple visual narrative is the most notable achievement: from just 4 children before the training, it increases to 17 children after the program.

These results show that pantomime is effective as a nonverbal communication medium and a means of forming the expressive identity of deaf children. Fischer-Lichte asserts that the actor's body is the center of the production of meaning, so that the body of a deaf child can be understood as *a living text* (Fischer-Lichte, 2008) that replaces verbal limitations.

2. Inclusive Dynamics in the Training Process

This training also produces inclusive social dynamics. The interaction between coaches, participants, and parents creates a safe *space* for deaf children to express themselves without stigma. Interviews with parents show that 75% of them see an increase in children's confidence, especially in interacting with the surrounding environment. This participatory process is in line with the concept of *community performance* (Kuppers & Robertson, 2007) , which emphasizes the importance of collaboration in creating an equal art space for all groups.

Critically, the success of this inclusion comes not only from the training methods, but also from the local socio-cultural context that has a strong tradition of performing arts. The presence of the Pantomime Nusantara school as a community space allows inclusive practices to take place more organically. This reinforces the argument that community art can serve as a medium of social transformation and a space of resistance to marginalization. (Fisher & Thompson, 2020)

In addition to increased expression, training also results in an inclusive social impact. The interaction between coaches, participants, and parents creates a safe *space* for deaf children to express themselves without stigma. Interviews with parents showed the following results:

Table 2. Parents' Responses to the Impact of Pantomime Training

Parent Response Categories	Percentage (%)
Increased children's confidence	75
Children are more courageous to interact in the environment	15
Not seeing significant changes	10

Figure 2. Pie Chart of Parents' Responses to the Impact of Pantomime Training

Interpretation of the data shows that three-quarters of parents (75%) rate their child to have increased self-confidence, while 15% rate their child to be more courageous in interacting with social environments. Only 10% have not seen significant changes.

These findings confirm that the success of inclusion comes not only from training methods, but is also influenced by the local socio-cultural context. Sekolah Pantomim Nusantara as a community space with a strong tradition of performing arts allows inclusive practices to take place more organically. This strengthens the concept *of community performance* (Kuppers & Robertson, 2007) which emphasizes collaboration in creating an equal art space for all groups. In addition, these results also affirm the argument that community art can be a medium of social transformation as well as a space for resistance to marginalization. (Fisher & Thompson, 2020)

3. Digital Integration in Documentation and Publication

One of the important achievements of this program is the use of digital media in documenting and publishing the work of participants. Video documentation of the performance not only serves as an archive, but also a means to expand public access to appreciation through online platforms. These results are relevant to studies that highlight how digital media is expanding performance arts participation and democratizing access for minority groups. (Bay-Cheng et al., 2015)

However, the limitations of digital infrastructure at the local level are still a challenge. Not all parents have adequate digital tools or literacy to support this process. Therefore, the use of digital media in inclusive performing arts still requires a sustainable mentoring strategy, so as not to create new gaps.

Table 3. Field Findings – Digital Integration in Documentation and Publication

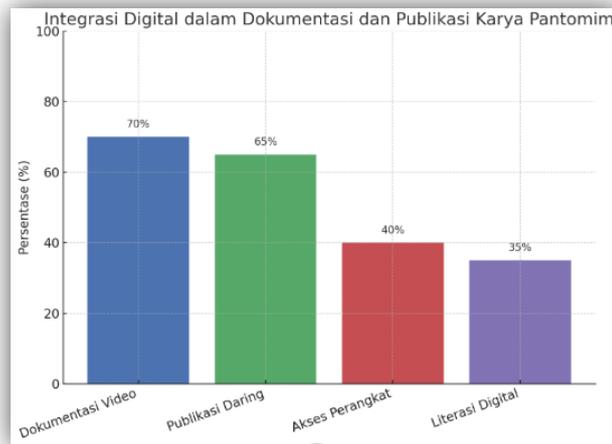| Digital Integration Aspects	Category	Percentage (%)
Utilization of staging video documentation	Optimal	70
Publication of works through online platforms	Optimal	65
Access to a parent's digital device	Limited	40
Digital literacy of parents	Limited	35

Figure 3. Digital Integration Graph in Documentation and Publication of Pantomime Works

The bar graph shows that the video documentation (70%) and online publications (65%) aspects are already doing well, signaling the success of the community in leveraging digital technology to expand access. In contrast, access to digital devices (40%) and parental digital literacy (35%) is still relatively low, indicating that there is a digital gap that needs to be addressed through literacy mentoring and training strategies.

These findings show a duality between progress and limitations in digital integration. On the one hand, digital media opens up great opportunities for deaf children to be recognized more widely in the art space. On the other hand, device limitations and digital literacy have the potential to create new barriers in inclusivity. Therefore, inclusive performing arts programs in the digital era need to focus not only on the artistic aspect, but also on strengthening the digital support ecosystem, both through the provision of facilities and the empowerment of parents and companions.

4. Theoretical and Practical Contributions

The results of this study contribute to two main aspects, namely theoretical and practical. First, theoretical contributions. This research expands the study of inclusive performing arts by placing pantomime as an alternative medium of art education for deaf children. Field findings showed that after six training sessions, the majority of participants were able to develop simple visual narratives through body expressions and facial expressions. Thus, pantomime serves not only as entertainment, but also as a medium of nonverbal expressive literacy that allows deaf children to build their communicative identities. Previously, the study of inclusive performing arts had more dominant emphasis on therapeutic music or inclusive dance (;). This research fills this gap by showing that body language in pantomime can function as an alternative text for communication and learning, in line with the concept of body performivity put forward by Fischer-Lichte. (Nicholson, 2011)   (Barrett et al., 2012)   (Fischer-Lichte, 2008)

Furthermore, these findings also support studies that emphasize that body-based art has great potential in improving the expressive literacy of children with disabilities. Thus, this research enriches the inclusive performing arts literature through the perspective of

pantomime as a pedagogical and communicative medium that has not been widely explored. (Hadley & McDonald, 2019)

Second, practical contributions. This research offers a participatory-based training model that has been proven effective in building inclusive social interactions. The dynamics of the training show that collaboration between coaches, participants, and parents creates a safe space that allows deaf children to express themselves without stigma. Field data shows that 75% of parents report an increase in their child's confidence after participating in the program. This is in line with the concept of community performance, which emphasizes the importance of collaboration in creating an equal and inclusive art space. (Kuppers & Robertson, 2007)

In addition, this program also contributes to the use of digital technology in documenting and publishing the works of deaf children. Although there are still limitations in digital infrastructure, video documentation of the performance has succeeded in expanding access to appreciation through online platforms. These findings support the view that digital media can expand performance participation while democratizing access for minority groups. (Bay-Cheng et al., 2015)

Thus, practically this research can be used as a replication model for other art communities, especially in areas with limited access to formal education for children with special needs. This model emphasizes that performing arts, especially pantomime, can be a tool for social transformation as well as an inclusive alternative educational tool, in accordance with the idea of community art as a medium of empowerment and resistance to marginalization. (Fisher & Thompson, 2020)

5. Research Limitations

Although it gave positive results, this study has limitations. First, the relatively small number of participants makes generalizations of results still limited. Second, the limitation of digital infrastructure and accompanying capacity are obstacles in optimizing documentation and publication of works. Third, the short duration of the training has not allowed for an in-depth exploration of the development of more complex forms of pantomime performance. However, this limitation also opens up opportunities for further research to develop a more systematic, digital-based inclusive performing arts curriculum.

In addition to methodological limitations, the field findings also reveal a number of contextual barriers that need to be critically noted. For example, some participants showed high enthusiasm at the beginning of the session, but the consistency of attendance decreased at the 4th and 5th meetings due to external factors, such as distance from home to community location and limited family transportation. This condition has an impact on the continuity of training, so that the development of abilities is uneven among the participants.

In addition, observations in the field also showed that there was a variation in the initial skill level of the participants. Children who have previously been accustomed to artistic activities are more likely to absorb pantomime material compared to those who are participating in performing arts activities for the first time. This creates a progress gap, which indicates the need for differentiation of approaches in curriculum design. This view is reinforced by Wiles et al. (2011), who assert that art programs for children with

special needs require adaptive pedagogical strategies in order for inclusivity to be truly achieved. (Wiles, 2011)

In terms of mentoring, parental involvement is still very varied. Some parents are actively involved in the practice process, while others tend to be passive due to time constraints or art literacy. This unevenness of engagement has an impact on the expected effectiveness of participatory models.

Beyond the social aspect, technical limitations are also apparent in digital documentation. Although the work is successfully recorded, the quality of the recordings is often constrained by simple devices, unstable internet networks, and limited technical skills in media management. This reduces the potential for distribution and appreciation of works to the maximum. These limitations, although an obstacle, also open up new directions for advanced research. In particular, there is an opportunity to design a more systematic, digital-based inclusive performing arts curriculum , with an emphasis on sustainability, digital literacy training for companions, and collaboration strategies that are more adaptive to local socio-cultural conditions. With this approach, pantomime can continue to be developed as an innovative medium for deaf children's art education in the digital era.

CONCLUSION

Overall, the results of this study reinforce the idea that performing arts, especially pantomime, can be a strategic medium for inclusive education in the digital age. Pantomime not only serves as an aesthetic expression, but also as an alternative communication tool that strengthens the creativity, confidence, and social participation of deaf children. Digital integration expands the range of appreciation, although it needs assistance so as not to create new gaps. The contribution of this research lies in the intersection between performing arts, inclusive education, and digital transformation, which theoretically enriches the study of perform, and practically supports the advancement of community-based culture in Indonesia.

Pantomime training at the Nusantara Pantomime School has proven that body-based art can be a strategic medium for deaf children to develop creativity, nonverbal communication, and self-confidence. The findings of the study show that pantomime is not just a form of artistic expression, but also a transformative means that is able to bridge verbal limitations and strengthen children's social interactions. The integration of digital media in the process of documentation and publication of works expands the space of expression while connecting inclusive art practices with the broader cultural ecosystem in the digital age.

Theoretically, this study enriches the study of performing arts by placing pantomime as an alternative medium of communication within the framework of inclusive performativity, complementing literature that previously focused more on music or dance. From a methodological perspective, the application of the participatory model makes an important contribution to community-based art research, by affirming the principles of collaboration, empowerment, and equality. Practically, the results of this study present an inclusive art education model that can be replicated by other art communities in Indonesia, as well as support cultural preservation strategies through special needs-based performance innovations.

However, this study has limitations on the limited number of participants, limitations of digital infrastructure, and relatively short duration of training. These limitations also open up opportunities for further research development, for example by expanding the object of study to other groups with disabilities, integrating interdisciplinary approaches (such as immersive technology in the performing arts), or developing an inclusive performing arts curriculum that is more systematic and sustainable.

Thus, this study confirms that pantomime has strategic relevance not only as a performing arts practice, but also as a medium of education, social empowerment, and strengthening inclusive culture in the digital era.

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