Pakistan Social Sciences Review
www.pssr.org.pk

RESEARCH PAPER

Revitalizing Ancient Tales: Unleashing the Impact of Digital Storytelling on Self-Awareness and Transformation of Aspiring Teachers

[1]Nuzhat Saadia Qureshi*, [2]Dr. Muhammad Zafar Iqbal and [3]Dr. Amjad Islam Amjad

1. PhD Scholar, Department of Secondary Teacher Education, Allama Iqbal Open University, Islamabad, Pakistan
2. Assistant Professor, Department of Educational Planning, Policy Studies and Leadership Allama Iqbal Open University, Islamabad, Pakistan
3. Headmaster, School Education Department, Punjab, Pakistan

| ***Corresponding Author:** | saadiaqureshi55@gmail.com |

ABSTRACT

This study was conducted to explore the transformative potential of digital storytelling in reinterpreting ancient narratives for social-emotional learning (SEL) enhancement among aspiring teachers, specifically targeting self-awareness. We utilised a quasi-experimental research design in present quantitative study. The participants were 66 potential teachers, comprising both males and females, enrolled at the National University of Modern Languages (NUML) in Islamabad. The control group had 37 participants, whilst 29 were assigned to the experimental group. Data were collected via pre-test and post-test, and analysis using SPSS (version 26). The findings indicated that aspiring teachers displayed a modest disposition towards the self-awareness. The findings provide significant support for the research hypotheses, indicating that digital storytelling has a positive effect on the self-awareness of aspiring teachers. This method significantly improves the level of self-awareness among aspiring teachers. It is in line with the incorporation of SEL into teacher training programs. Based on the study findings, we suggest to deploy digital story-telling for enhancing SEL among aspiring teachers.

| **KEYWORDS** | Aspiring Teachers, Digital Storytelling, Self-Motivation, Social- Emotional Learning, Storytelling |

Introduction

In dynamic field of education, modern teachers encounter several challenges while incorporating technology in teaching methods for teaching students with diverse needs (Amjad et al., 2022). The practice of storytelling has long been respected and handed down across different cultures as a way to educate and foster community-building (Denborough, 2022). In the era of digital technology, there is an increasing need for more effective methods to acquire and retain knowledge.

The use of storytelling as an educational method has demonstrated potential in effectively involving students and enhancing their understanding (Amjad et al., 2022a). The emergence of technology, namely the widespread use of online learning platforms and multimedia technologies, has fundamentally transformed the availability, interaction, and personalization of education, addressing the distinct requirements of each student. Within this particular framework, Social Emotional Learning (SEL) is acknowledged as a fundamental aspect of education, as it improves students' understanding and management of their emotions, while also fostering self-awareness (Qureshi & Iqbal, 2023).

Contemporary teachers have the responsibility not just to teach information but also to exemplify and advocate for social-emotional learning (SEL) components, playing a crucial part in the emotional growth of pupils (Amjad et al., 2023). Efficient cooperation among teachers, peers, and parents is crucial in cultivating a vibrant educational atmosphere. However, teachers frequently struggle with the task of effectively incorporating technology into their teaching methods.

This study investigates the use of digital storytelling as a means to improve the self-awareness development of aspiring teachers, promote diversity, and nurture emotional intelligence (Amjad et al., 2023a). Previous research suggests that digital storytelling has a beneficial impact on aspiring teachers' attitudes and emotional intelligence, thereby facilitating the development of self-awareness (Quah & Ng, 2022). The project aims to explore the potential of digital storytelling in preparing future aspiring teachers to promote self-awareness in their students. This research tries to bridge the gap between technology, storytelling, self-awareness component of SEL and social-emotional intelligence in education.

This study examines the influence of digital storytelling on the self-awareness of aspiring future teachers. Teacher education prioritizes SEL, which focus on self-awareness. Nevertheless, the incorporation of SEL into conventional educational structures is still constrained. Digital storytelling, due to its ability to elicit emotional involvement and encourage analytical contemplation, presents itself as a promising method for promoting SEL. Amjad et al. (2020) demonstrates that it can help teacher education programs provide SEL training and improve self-awareness and relational skills.

In modern day education, there is a growing trend towards using digital storytelling to enhance self-awareness in aspiring teachers. However, there is a noticeable lack of studies regarding its impact on aspiring teachers. This study seeks to fill this gap in information by assessing whether digital storytelling can effectively increase self-awareness and its determinants in individuals who aspire to become teachers.

The core of self-awareness is in its ability to enable individuals to understand and regulate their emotions, foster positive interpersonal connections, and demonstrate prudent decision-making. Hence, it is crucial that teacher training programs integrate self-awareness to provide future teachers with the essential skills and understanding required to establish supportive and inclusive learning environments. Through the utilization of a secure and supportive platform, digital storytelling enables aspiring teachers to participate in profound self-reflection, ponder their principles and convictions, navigate their emotional terrain, and foster empathy towards others. This study investigates the potential of digital storytelling to enhance the social-emotional development of aspiring teachers by improving their self-awareness.

Promoting introspection

Employing digital storytelling is an effective method to foster self-awareness in aspiring teachers. Through the act of constructing personal narratives, teachers acquire a deeper understanding of how their values, beliefs, and biases impact their teaching methods.

Nurturing Empathy

The use of digital storytelling is crucial in fostering empathy, particularly among aspiring teachers. By composing stories that illuminate the experiences and views of

others, individuals are able to develop a more profound comprehension of their pupils and coworkers, cultivating empathy and compassion.

Establishing an Educational Community

Digital storytelling serves as a catalyst for fostering a robust feeling of community among aspiring teachers. Promoting the sharing of digital narratives cultivates a secure and nurturing educational setting where students may exchange personal experiences and varied viewpoints, so augmenting their sense of inclusion and cooperation.

Encourage the development of creative thinking and innovation

The use of digital storytelling acts as a catalyst for inspiring the creativity and ingenuity of aspiring teachers. By employing multimedia technologies, individuals can improve their creative and technological skills while also discovering new methods to attract and captivate students.

The educational benefits of digital storytelling

Multiple researches have emphasized the educational advantages of integrating digital storytelling into instructional methods. Digital storytelling enables teachers to acquire content knowledge and promotes the development of advanced cognitive skills, including critical thinking, creative thinking, and reflective thinking. Proficiency in these abilities is crucial for teachers as they negotiate the procedures of comprehending, integrating, and appraising knowledge from many sources (Amjad et al., 2021; Sadik, 2008). Saritepeci's (2021) study revealed that professors thoroughly analyzed the content of their digital narratives. Through the creation of digital stories, users actively choose narratives that focus on plot, characters, theme, and moral values (Amjad et al., 2022b). This process helps them better understand cultural, social, and historical settings, thereby expanding their understanding of the topic.

Improving Understanding of Teaching Methods

Using digital storytelling as an educational method enhances aspiring teachers' comprehension of pedagogy and provides them with the ability to deliver captivating content to their students, hence presenting new ideas (Robin, 2008). Moreover, it has been observed that digital storytelling facilitates the understanding of abstract or conceptual topics. Utilizing digital storytelling in teaching techniques, teachers find it beneficial to involve students in narrative discourse.

Promoting the development of social-emotional skills

In conclusion, the incorporation of digital storytelling aids in the improvement of self-awareness among future aspiring teachers. This technique enables them to enhance their social-emotional development, therefore establishing inclusive and supportive learning environments for children and maturing into skilled and empathetic teachers.

Literature Review

Storytelling

The utilization of storytelling as an instructional methodology has been widely recognized as an essential practice throughout the entirety of human history. In recent times, its significance has expanded to include the domain of e-Learning (Neal, 2001). During this era of digital advancements, storytelling has experienced a significant transformation, resulting in the emergence of digital storytelling. This modern style of storytelling is a contemporary adaptation of the traditional practice of oral storytelling.

This novel methodology enables anyone of almost any skill level to create personal narratives using readily available equipment and software (Allred et al., 1998).   The author's storylines are skillfully interwoven, seamlessly integrating static or dynamic visuals, music, and sound, all while being enhanced by their creative and innovative approach.

Utilizing digital storytelling to improve pedagogical competence

Utilizing digital storytelling as an instructional method enhances the pedagogical competency of teachers. Teachers have the authority to use digital stories into their classes in order to convey knowledge to their students (Amjad et al., 2023b). This novel strategy can function as an anticipated stimulus, adeptly captivating students' focus when presenting novel ideas (Robin, 2008). Moreover, it is argued that this approach significantly enhances the understanding of complex or theoretical material. Utilizing digital storytelling in education frequently leads to a notable increase in student participation during conversations focused on narratives (Tabbasam et al., 2023).

The Seven Elements of Digital Storytelling

1. **Point of View–** what is the perspective of the author?

2. **A Dramatic Question –** a question that will be answered by the end of the story.

3. **Emotional Content –** serious issues that speak to us in a personal and powerful way.

4. **The Gift of your Voice –** a way to personalize the story to help the audience understand the context.

5. **The Power of the Soundtrack –** music or other sounds that support the storyline.

6. **Economy –** simply put, using just enough content to tell the story without overloading the viewer with too much information.

7. **Pacing –** related to Economy, but specifically deals with how slowly or quickly the story progresses.

Investigating Dynamic Spatial Teaching (DST)

Dynamic Spatial Teaching (DST) is an instructional strategy that improves understanding of the environment and helps in visualizing and accurately recounting events in a sequential order. Digital storytelling involves a range of communication materials, including written content, pictures, music, animated visuals, movies, personal stories, audio recordings, and interactive features, all coming together to form a captivating narrative. The elements comprising digital storytelling include viewpoint, stimulating investigation, compelling material, vocal narration, effectiveness, tempo, and accompanying audio.

The Utilization of Digital Media to Convey Narratives and Engage Learners within an Educational Setting

Digital storytelling is an innovative instructional approach that effectively captivates students, promoting significant and impactful learning experiences while also improving self-awareness.

Comprehending Social-Emotional Learning

The SEL encompasses the cognitive and behavioral processes of understanding and regulating emotions, setting and attaining constructive objectives, displaying empathy towards others, cultivating healthy interpersonal connections, and exercising responsible decision-making in one's interactions with the external environment. The SEL is the capacity to watch and interpret human behaviors, adjust one's own conduct accordingly, and proficiently regulate emotions in various social situations. It involves gaining understanding of oneself and others and incorporates essential elements such as self-awareness, social awareness, self-control, relationship management, and responsible decision-making, allowing individuals to participate effectively with the world.

Self-Awareness for Aspiring Teachers

Teacher education has increasingly acknowledged the importance of SEL in recent years.   In order to boost their professional development, aspiring teachers must build self-awareness. This quality will enable them to utilize successful teaching practices and foster positive interactions with their pupils. To summarize, digital storytelling is a powerful teaching method used to enhance the self-awareness of future aspiring teachers. By employing this approach, teachers not only improve the self-awareness of their students, creating favorable learning environments, but also boost their own efficacy and empathy as teachers.

Hypothesis

H_1: The mean score of aspiring teachers' self-awareness is significantly different when they are taught using digital storytelling compared to the traditional technique. This difference indicates a transformative impact.

Material and Methods

This study is guided by the postivistic approach to evaluate how digital storytelling affects the SEL of future teachers. The foundation of this study is the assumption that SEL can be accurately assessed and impacted without a fixed philosophical position, incorporating both qualitative and quantitative information. A quasi-experimental design is used, where an experimental group is exposed to digital narrative interventions, while a control group is used for comparison.   Convenience sampling is employed to choose participants from a group of individuals hoping to become teachers. These participants are required to fill out questionnaires before and after the intervention, as well as participate in digital storytelling projects.   Statistical software is employed to examine quantitative data, and qualitative insights are obtained through thematic analysis of interviews. The study seeks to elucidate the efficacy of digital storytelling in augmenting the self-awareness of aspiring teachers.

Research Philosophy

A research philosophy provides researchers with a framework for conducting data collection, analysis, and interpretation (Saunders et al., 2012). When developing a research plan, it is essential for a researcher to fully understand and embrace their philosophical beliefs. The choice of a research philosophy/strategy is contingent upon epistemological, ontological, and methodological considerations. This study was guided by the Positivistic research philosophy.

Research Design

This experimental investigation utilised the non-equivalent control group design, which is a type of quasi-experimental methodology. The researcher selected intact classes from the B.Ed. 4-year programmed. Both groups undergo a pre-test, receive treatment,

and then undergo a post-test (Gay, 1990). The literature demonstrates that this research strategy is highly appropriate when intact groups are utilised (Creswell, 2013, 2015; Daunic et al., 2021; Denzin & Lincoln, 2011; Guler et al., 2015). The non-equivalent control group design, as described by Fourer et al. (1990), is illustrated below.

N   O   X   O

N   O   O

Where

N   stands for   non-equivalent

O1   stands for   pre-test

O2   stands for   posttest

X   stands for   treatment to the experimental group

Participants

According to data from The Higher Education Commission of Pakistan (HEC), there are two official universities in Islamabad that provide four-year B.Ed. programs. This study specifically focuses on persons who are currently enrolled in 4-year B.Ed. programs with the goal of becoming teachers. The study specifically targets public sector universities located in the Islamabad Capital Territory (ICT). The sample comprises 440 aspiring teachers who are currently enrolled in these particular programs, reflecting the entire population of individuals in these programs who aspire to become instructors within the field of ICT.

Table 1
Population of the study

Sr No	Description
01	The total number of 426 aspiring teachers enrolled for B.Ed. 4-year in university No. 1. Three hundred thirty-eight (338) in the morning, 75 in the afternoon and 13 in bridging, thus totaling up to 426 aspiring teachers.
02	A total number of 14 aspiring teachers enrolled for B.Ed. 4 year in university no2.

The study utilized cluster sampling to randomly choose 66 students from nine semesters of a four-year B.Ed. program in Islamabad Capital Territory (ICT). The researchers specifically examined the educational psychology courses completed by aspiring instructors throughout the course of all nine semesters. Cluster random sampling is a cost-effective and efficient technique suitable for big populations that are spread out over a wide geographic area. To prevent bias, it is crucial to verify that the chosen clusters are indeed representative. Thoroughly thinking about the study topic and objectives is essential when selecting the suitable sample method to provide precise and dependable results.

Research Tool

The study employed the 2012 KM TOM SEL scale to evaluate the socio-emotional learning of aspiring teachers. This included self-reported evaluations of adult conduct, social engagements, and emotional welfare (Dusenbury et al., 2019). This scale assesses individuals' self-awareness (Lawson, 2019). It was used as a pre-test and post-test for

both experimental and control groups during model lesson plans in formal institutions in Islamabad Capital Territory.   During the pilot phase, a group of 32 aspiring teachers were selected to test the 52-item measure. The purpose of this test was to assess the participants' understanding and suitability of the measure, thereby assuring the validity and reliability of the instrument for the study. The study ensured internal validity by carefully controlling for any confounding variables. Additionally, external validity was addressed by employing random sampling and assigning participants, thus mitigating the hazards associated with low external validity. These experts authenticate the document.

The document was sent to three language experts for terms of grammar, language structure/format/style, and spelling check. The tool was reviewed after getting language experts' opinions, and changes were made to the opinions of language experts. After language experts, the instrument was sent to educational, psychologist, and technology experts to check the Content Validity of the tool. Content validation ensures that the instrument measures what it is supposed to measure. The scale was validated due to socio-emotional differences. Panelists examined each item critically and rated it against three categories. Relevant, Subject to be modified and irrelevant. CVR (Content Validity Ratio) proposed by Lawshe (1975) was calculated for each item using the formula (Barnett et al., 2022).

$$CVR = \frac{n_e - (N/2)}{N/2}$$

Where **ne** is the number of experts rated the item as relevant, and N indicates the total number of experts. According to Gilbert and Prion (2016), if CVR = 1, then the item will be supposed to be relevant. .7 to .79 needs modification, and < .7 is irrelevant. The arrangement of items in the instrument and the point scale was carefully established and went through the test's validity and reliability. The resultant CVI was 0.954. This proves the reliability and validity of the instrument; hence, the data collected with the instrument's help can be deemed valid and authentic. To ensure the content validity, CVI and CVR were collected.

Control of threats to internal validity

Reliability of Instruments

The reliability of the test, which measures accuracy and consistency of measurement, was evaluated using a pilot test involving 32 aspiring instructors. The instrument's reliability was assessed using participant responses, employing the Spearman-Brown prophecy model, with Cronbach's alpha value being 0.962 (Campbell et al., 2008).

Instructional Method

Both the control and experimental groups were provided with the "Introduction to Educational Psychology" session in the first week. The control group was given a lecture, whereas the experimental group participated in a focused session that provided a brief explanation of the importance of educational psychology. This session specifically highlighted the function of digital storytelling in improving the acquisition of knowledge, the development of self-awareness, and the engagement of students.

The teacher candidates collaborated in small groups to produce succinct digital narratives using different tools, and the efficacy of each narrative was assessed based on

its communication, engagement, and utilization of digital storytelling. The objective of this strategy was to combine digital storytelling and self-awareness, emphasizing the educational advantages of this method.

On June 7, 2023, both groups finished the post-test, and the self-awareness scores of potential instructors were evaluated using the pre-test and post-test outcomes. The t-test yielded a statistically significant result at a significance level of 0.05, taking into account the mean and standard deviation values.

Evaluation of Test Validity - Internal and External

The internal and external validity of the experimental design were evaluated based on Salkind's (2010) criteria, with a specific emphasis on the experimental designs proposed by Campbell and Stanley. Internal validity assesses the degree to which independent variables have an impact on observed outcomes, whereas external validity focuses on the generalizability of findings to additional samples and the wider population.   Each experimental design inherently raises questions about validity, encompassing both internal and external validity (Best & Kahn, 2006; Cameron, 2009; Creswell, 2013).

Ethical principles and values

Quasi-experiments are commonly used in the fields of social sciences and education, especially when it is not possible to randomly assign study participants to different treatment conditions.   Certain scholars make a distinction between natural experiments and "quasi-experiments." In the context of scientific study, natural experiments involve assignments that happen spontaneously and independently, without any interference from the researchers. On the other hand, quasi-experiments involve assignments that are intentionally made by the researchers themselves. Quasi-experiments examine the effects of treatments on outcomes and units without using random assignment. They are often preferred in research situations because they are more practical. These designs use aspects of both experimental and non-experimental procedures, employing both measured and controlled variables to assure both internal and external validity. The study involved evaluating potential instructors using KM TOM's 2012 SEL assessment. Ethical approval was acquired for the investigation.

Ensuring the Protection of Participants from Anticipated Hazards

The examination of ethical concerns in experimental research, as investigated by Creswell (2015), Miyazaki and Taylor (2008), Taylor et al. (2006), and Eyisi (2016), primarily revolves with guaranteeing the well-being and dignity of participants. The researcher prioritized the welfare and dignified treatment of the aspiring teachers throughout the duration of the investigation.

Data Collection

The study utilized an experimental methodology and collected data through pre-test and post-test assessments. The study utilized a pre-test-post-test non-equivalent control group design to investigate and collect data. This design achieves group equivalency by identifying shared characteristics between the two groups prior to the experiment, using pre-tests to measure the dependent variable before any treatment, and post-tests to evaluate it after the intervention.

Aspiring teachers submitted quantitative data using a seven-point semantic rating system.   Questionnaires were sent to participants, and the researcher personally

collected the data. Questionnaires were provided to participants together with informed consent letters and study objectives. Out of the 68 questionnaires that were handed out, 66 were collected, leading to a response rate of 97%. Iarossi (2006) suggests use self-administered surveys with response rates that reach 80%, so surpassing the recommended threshold.

Data Interpretation

We utilised statistical measures such as mean, standard deviation (SD), paired sample t-test, and independent-sample t-test. The findings are substantiated by the literature (Merrell et al., 2008; Miller & Chapman, 2001; Usakli, 2018).

Examine the Concept of Generalization.

This study showcases the capacity of digital storytelling to augment the social-emotional growth of aspiring teachers. Integrating digital storytelling into teacher preparation programs can enhance the self-awareness of aspiring teachers, leading to improved student results. Nevertheless, it is crucial to acknowledge that this study exclusively focused on a specific cohort of potential teachers inside a particular setting, rendering it difficult to extrapolate the results to a wider demographic. Additional research is required to ascertain the enduring effects of digital storytelling on self-awareness and investigate its suitability in diverse educational environments.

Results and Discussion

Researchers conducted exploratory and extensive investigations to evaluate the influence of digital storytelling on the self-awareness development of aspiring teachers. The study included 66 individuals aspiring to become academics from NUML Islamabad. The 2012 KM TOM SEL assessment instrument was utilized for data collection.

Quantitative research entailed the calculation of descriptive statistics, such as means, standard deviations, variable percentages, Cronbach's alphas, t-tests, p-values, and Cohen's d. Reliability assessments were conducted to examine the degree of internal consistency.
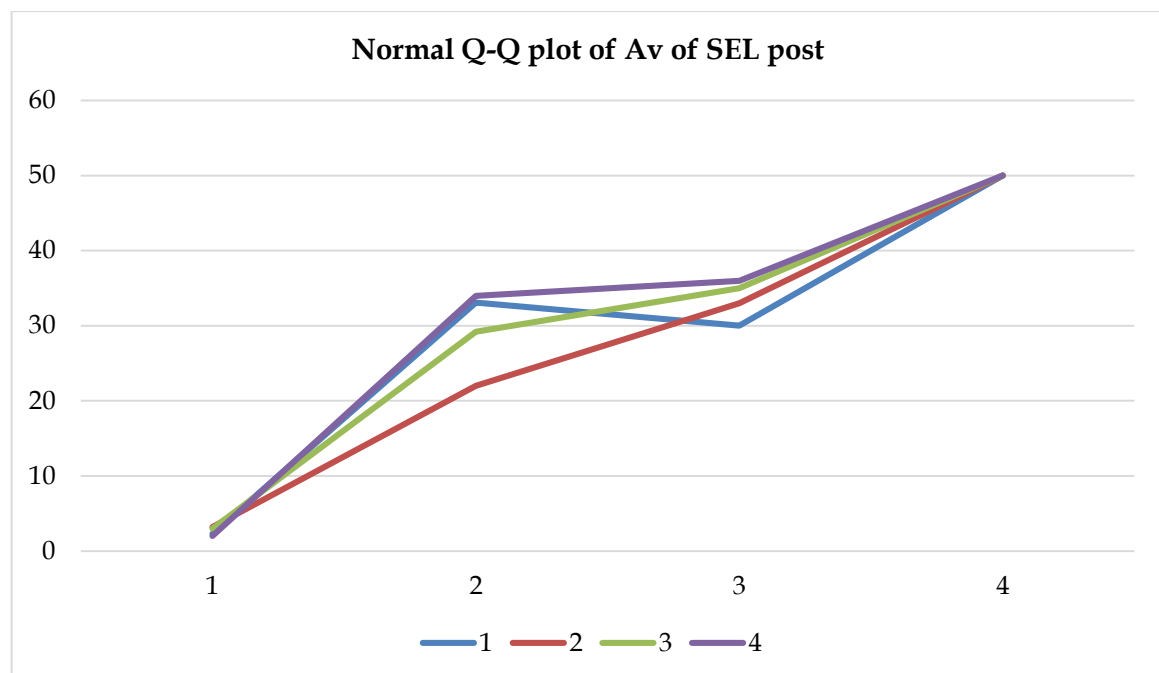

Figure 1: Normal Q-Q Plot of Self-Awareness (post)

The diagram depicts a positively skewed normal distribution curve, with the highest points being 2 and 3, respectively. In addition to this, the graph that was used to show the observed data demonstrated a distinct upward trend that ended in the highest number that was recorded in the table. This was indicated in the graph that was used to illustrate the observed data.
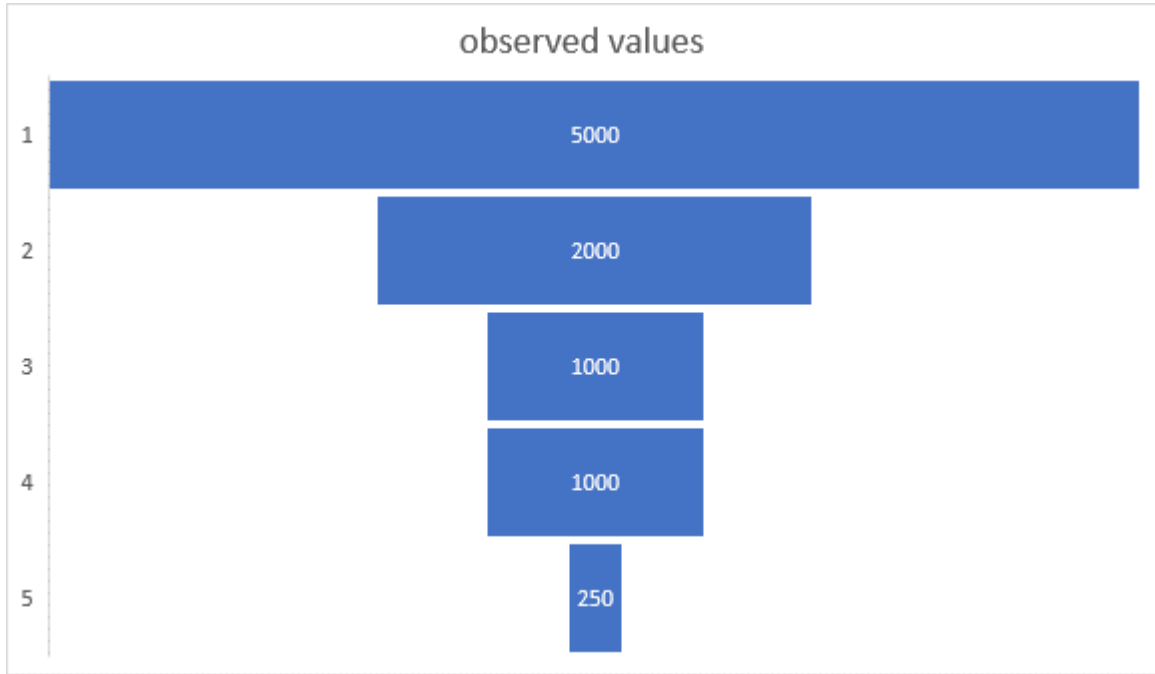

Figure 2: Boxplot of Self-Awareness (post)

Analysis of Self-Awareness (Post) using Boxplots

The boxplot illustrating post-intervention self-awareness reveals a distinct outlier, with a nearly straight-line path from the lowest to the highest data point on the graph. The extraordinary value of 6.50 is the maximum score in the dataset, surpassing the graphical depiction.

Statistical hypothesis testing and the categorization of data

In order to assess the hypothesis, the researcher performed a paired sample t-test, using a significance level of α = .001. The results were classified into distinct categories, distinguishing between the experimental and control groups.

Table 2
Effect Of Digital Storytelling On Aspiring Teachers' Social Emotional Learning In Experimental Group

Variable	groups	Test	N	M	SD	*df*	*T*	*P*	*D*
Self-Awareness	Exp	Posttest	29	6.2483	.21317	28	33.053	.000	8.555521
Self-Awareness	Cont		36	3.0000	.49281	35	35.626		

Significant difference in the mean score of aspiring teachers' Self-Awareness taught through Digital Storytelling and Traditional Methods.

Statistical Observations

The experimental group had significant enhancements in self-awareness compared to the control group, as indicated by a substantial effect size of 11.261922. Furthermore, a significant disparity was observed in the mean scores of aspiring teachers who received instruction using digital storytelling compared to those who were taught using traditional methods.

Conclusion

This study highlights the significance of digital storytelling in improving self-awareness among future teachers. Digital storytelling fosters introspection and compassion, cultivating pupils' capacity to comprehend varied viewpoints and sentiments. Additionally, it provides teachers with vital skills in self-management and relationship management. The results endorse the incorporation of digital storytelling into teacher education programs as a means to augment the self-awareness of future teachers. Subsequent investigations should prioritize examining the enduring effects of digital storytelling on self-awareness and its long-term implications for teachers' professional trajectories.

Recommendations

Based on the aforementioned findings and discussion, some recommendations for practical application and future investigation arise.

1. **Examining Long-Term Effects:** Subsequent scholarly investigations may explore the lasting implications of digital storytelling on the self-awareness of teachers over an extended duration. This proposal supports a long-term study that tracks aspiring teachers participating in self-awareness interventions focused on digital storytelling at different points in their educational path. This study can provide useful insights into the dynamics of self-awareness components, namely their development and long-term viability when teachers enter the field and gain classroom experience.

2. **Sustainability of Skills:** This study aims to obtain valuable insights into the long-term durability of the influence by examining the degree to which instructors persist in utilizing digital storytelling method and self-awareness in their teaching methods, as well as the potential effect of these methods on students over an extended period. This inquiry will yield a thorough comprehension of the progression of these abilities over the course of teachers' professional trajectories and their enduring impacts on student academic achievement.

References

Allred, K. D., Smith, T. W., & Moskowitz, D. S. (1998). Measures of perceived social support from friends and from family: Three validation studies. *American Journal of Community Psychology, 26*(1), 1-24.

Amjad, A. I., Habib, M., & Saeed, M. (2022). Effect of brain-based learning on students' mathematics performance at elementary level. *Pakistan Journal of Social Research*, *4*(03), 38-51. https://doi.org/10.52567/pjsr.v4i03.684

Amjad, A. I., Habib, M., Tabbasam, U., Alvi, G. F., Taseer, N. A., & Noreen, I. (2023a). The Impact of Brain-Based Learning on Students' Intrinsic Motivation to Learn and Perform in Mathematics: A Neuroscientific Study in School Psychology. *International Electronic Journal of Elementary Education*, *16*(1), 111-122.

Amjad, A. I., Iqbal, H., & Manzar-Abbas, S. S. (2020). Teachers' awareness about inclusive education in Punjab: A descriptive enquiry. *Journal of Inclusive Education*, *4*(1).161-178.

Amjad, A. I., Ishaque, M. M., & Rafique, M. U. (2023). Unravelling the psychological underpinnings of classroom dynamics: A study on teacher-student interaction. *Journal of Development and Social Sciences*, *4*(3), 239-250.

Amjad, A. I., Malik, M. A., & Tabassum, U. (2021). Ready to Accept? Investigating Pakistani School Teachers' Readiness for Inclusive Education. *Turkish Online Journal of Qualitative Inquiry*, *12*(9). 7440-7456

Amjad, A. I., Tabbasam, U., & Abbas, N. (2022b). The Effect of Brain-Based Learning on Students' Self-Efficacy to Learn and Perform Mathematics: Implication of Neuroscienceinto School Psychology. *Pakistan Languages and Humanities Review*, *6*(3), 683-695. https://doi.org/10.47205/plhr.2022(6-III)60

Amjad, A. I., Tabbasam, U., & Ara, N. (2022a). Neuroscientific Study on the Effect of Brain- Based Learning on Students' Intrinsic Motivation to Learn Mathematics. *Annals of Human and Social Sciences*, *3*(2), 728-742. https://doi.org/10.35484/ahss.2022(3-II)69

Amjad, A. I., Tabbasam, U., & Habib, M. H. (2023). Uncovering Teachers' Concerns and Multi- Dimensional Attitude Towards Inclusive Education: Who's Included and Who's Excluded. *Journal of Contemporary Trends and Issues in Education*, *3*(1), 1-22. https://doi.org/10.55628/jctie.v3i1.71

Barnett, L. M., Mazzoli, E., Bowe, S. J., Lander, N., & Salmon, J. (2022). Reliability and validityof the PL-C Quest, a scale designed to assess children's self-reported physical literacy. *Psychology of Sport and Exercise, 60,* 102164.

Best, J. W., & Kahn, J. V. (2006). Research in education. Pearson. *Contemporary Issues in Technology and Teacher Education, 12*(2), 127-149.

Cameron, R. (2009). A sequential mixed model research design: Design, analytical and display issues. *International Journal of Multiple Research Approaches, 3*(2), 140-152. https://doi.org/10.5172/mra.3.2.140

Campbell, J. L., Richards, S. H., Dickens, A., Greco, M., Narayanan, A., & Brearley, S. (2008). Assessing the professional performance of UK doctors: an evaluation of the

utility of the General Medical Council patient and colleague questionnaires. *BMJ Quality & Safety*, *17*(3), 187-193. https://doi.org/10.1136/qshc.2007.024679

Creswell, J. W. (2013). Research design: *Qualitative, Quantitative, and Mixed Methods Approaches.* Sage Publications.

Creswell, J. W. (2015). A concise introduction to mixed methods research. *Sage Publications.*

Daunic, A. P., Smith, S. W., Mooney, P., Karabenick, S. A., & Lindner, P. (2021). *Motivation and goal theory in professional psychology.* American Psychological Association.

Denborough, D. (2022). Fostering community economy through collective narrative practice: Imagining a new economic politics. *The International Journal of Narrative Therapy and Community Work*, (4), 50-53. https://doi.org/10.4320/APWD1487

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research.* Sage.

Dusenbury, L., Calin, S., Domitrovich, C., Mancini, K., & Weissberg, R. P. (2019). CASEL Guide: Effective Social and Emotional Learning Programs—Preschool and Elementary School Edition. *Collaborative for Academic, Social, and Emotional Learning (CASEL).*

Eyisi, D. (2016). The usefulness of qualitative and quantitative approaches and methods in researching problem-solving ability in science education curriculum. *Journal of Education and Practice, 7*(15), 91-100.

Fourer, R., Gay, R., & Hume, S. L. (1990). Numerical methods: *Design, Analysis, and Computer Implementation of Algorithms.* Prentice-Hall.

Gay, L. R. (1990). Educational research: *Competencies for analysis and application*. Prentice-Hall.

Gilbert, G. E., & Prion, S. (2016). Making sense of methods and measurement: Lawshe's content validity index. *Clinical Simulation in Nursing, 12*(12), 530-531. https://doi.org/10.1016/j.ecns.2016.08.002

Guler, O., Stough, C., & Mavondo, F. (2015). Dynamic capability, knowledge, learning, and performance within service organisations: A proposed model. *Journal of Business Research, 68*(3), 829-838.

Iarossi, G. (2006). The power of survey design: *A user's guide for managing surveys, interpreting results, and influencing respondents.* World Bank Publications. https://doi.org/10.1596/978-0-8213-6392-8

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel psychology, 28*(4), 563-575. https://doi.org/10.1111/j.1744-6570.1975.tb01393.x

Lawson, A. (2019). SEL in the classroom: Encouraging children's academic and social success. W. W. Norton & Company.

Merrell, K. W., Gueldner, B. A., Ross, S. W., & Isava, D. M. (2008). How effective are school bullying intervention programs? *A meta-analysis of intervention research. School psychology quarterly, 23*(1), 26. https://doi.org/10.1037/1045-3830.23.1.26

Miller, G. A., & Chapman, J. P. (2001). Misunderstanding analysis of covariance. *Journal of abnormal psychology, 110*(1), 40. https://doi.org/10.1037/0021-843X.110.1.40

Miyazaki, A. D., & Taylor, K. A. (2008). Researcher interaction biases and business ethics research: Respondent reactions to researcher characteristics. *Journal of Business Ethics, 81*, 779-795. https://doi.org/10.1007/s10551-007-9547-5

Neal, R. M. (2001). Annealed importance sampling. *Statistics and computing, 11*, 125-139. https://doi.org/10.1023/A:1008923215028

Quah, C. Y., & Ng, K. H. (2022). A systematic literature review on digital storytelling authoring tool in education: January 2010 to January 2020. *International Journal of Human–Computer Interaction*, *38*(9),   851-867. https://doi.org/10.1080/10447318.2021.1972608

Qureshi, N. S., & Iqbal, M. Z. (2023). Effect of Digital Storytelling on Prospective Teachers' Social Emotional Learning: An Experimental Study. *Annals of Human and Social Sciences*, *4*(3), 177-194

Robin, B. R. (2008). Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory Into Practice,47*(3),220-228.

Sadik, A. (2008). Digital storytelling: Capturing lives, creating community. *New Directions for Adult and Continuing Education, 2008*(120), 19-27.

Salkind,   N. J. (Ed.). (2010). *Encyclopedia of Research Design (Vol. 1).* Sage.https://doi.org/10.4135/9781412961288

Saritepeci, M. (2021). Students' and parents' opinions on the use of digital storytelling in science   education. *Technology, Knowledge and Learning*, *26*(1),193-213

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students.* Pearson Education Ltd., Harlow

Tabbasam, U., Amjad, A. I., Ahmed, T., & Qiang, X. (2023). Comparison of Self-Strength, Seeking Help and Happiness between Pakistani and Chinese Adolescents: A Positive Psychology Inquiry. *International Journal of Mental Health Promotion*, *25*(3). 389-402. https://doi.org/10.32604/ijmhp.2023.024130

Taylor, B., Sinha, G., & Ghoshal, T. (2006). *Research Methodology: A Guide to for Researchers in Management and Social Sciences*. PHI Learning Pvt. Ltd.

Usakli, H. (2018). Behavioral Tendencies of Single Parent Students. *Online Submission, 1*, 21-27. https://doi.org/10.26697/ijsa.2018.1-2.03.