EDUCATIONAL DRAMA AND ITS EFFICACY ON SOCIAL, EMOTIONAL, AND INTERCULTURAL COMPETENCIES AMONG PRIMARY SCHOOL STUDENTS: A QUASI-EXPERIMENTAL STUDY

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Abstract

This empirical study, conducted at an American International school in Malaysia, examined the efficacy of online educational drama in fostering social, emotional, and intercultural (SEI) learning among 26 international students aged 8-12 at the primary level. Utilizing a mixed-methods convergent intervention design, it combined a pretest-post-test quasi-experimental approach with structured observations. Students were divided into two age groups (8-10 and 10-12) and further split into control and experimental groups. The experimental group was subjected to a 12-week online drama program, incorporating Information and Communication Technology (ICT) tools, drama techniques, and Social and Emotional Learning (SEL) activities, whereas the control group continued their drama lessons in regular classrooms. It was anticipated at the

beginning of the study that there would be no significant difference of learning efficacy in the SEI dimensions between the two groups. Post-intervention observations and analysis, however, revealed varied impacts of the intervention on SEI competencies. Younger students showed improvements in self-awareness, social awareness, and relationship skills, whereas older students exhibited mixed results in these areas, along with a decline in intercultural competencies. Observational data indicated high engagement levels despite technical challenges and distractions. Overall, the intervention was engaging but produced mixed outcomes on SEI competencies between ages, with notable technical difficulties affecting the experience. These findings suggest the need for ICT training for both students and teachers, the use of online drama as an engaging educational tool, and the integration of intercultural learning into SEL curricula.

Keywords: educational drama, online learning, socio-emotional and intercultural development

Introduction

Informed by Dewey and Addams, a school curriculum that emphasizes social and emotional learning (SEL) is deemed vital for the holistic development of learners, as acknowledged by leading educational organizations like CASEL (Elias et al., 1997; CASEL, 2020). SEL nurtures competencies crucial for navigating diverse environments, including intercultural communication (ICC) (Kozina, 2020; Durlak et al., 2022). The shift to virtual learning necessitates innovative approaches, with online educational drama emerging as a potential solution (Gatsakou et al., 2022; Tan et al., 2022). However, challenges persist, including self-regulation, online-offline relationship balance, and teacher training (Kamei & Harriott, 2021). Thus, addressing communication in this new context is crucial. Furthermore, advancements in information and communication technology (ICT) present both opportunities and challenges for online learning (Rawal & Deardorff, 2021). The study proposes leveraging educational drama to develop social, emotional, and intercultural (SEI) competencies in virtual settings, building on established frameworks and techniques (Deardorff, 2006; Weissberg et al., 2015; Hall et al., 2021; Piriyaphokanont & Sriswasdi, 2022).

Previous attempts to implement educational drama interventions for SEL within a multicultural environment were curtailed by challenges exacerbated by the shift to online delivery during the COVID-19 pandemic. Limited guidance and technical difficulties hindered effectiveness, highlighting the need for comprehensive research to validate and optimize such interventions (Kumar, 2019; Robbie & Warren, 2021). These problems initiated an inquiry into the use of online educational

drama to promote SEI learning supported by a literature review of global, regional, and local studies. However, there is a gap in studies addressing the participants' specific intercultural needs and how the competencies influence each other.

Durlak et al. (2022) suggest that future research should encompass diverse cultural contexts and determine the most effective program components within these environments. Rodríguez-Izquierdo (2018) thinks things should be taken further by suggesting that SEL practices be integrated into ICC learning and vice-versa. Such directions are reflected in efforts such as Erasmus+'s HAND in HAND, which evaluates SEI competencies (Kozina, 2020). These developments pave the way for research into novel program implementation techniques, such as online educational drama for SEI learning within the context of an American school in Malaysia.

Research is being conducted to explore these relationships, but none satisfy the contextual challenges posed by this study's research questions. Sajnani et al. (2020), Kumar (2019), and Mehrotra et al. (2020) suggest more experimentation with different online drama techniques in differing contexts to develop SEI competencies; however, they also focus on different populations or aspects of SEI learning, such as communication skills in higher education, or SEL in primary students outside the multicultural context. Tan et al. (2022) come closest to the demographics of the current study by evaluating drama techniques for SEL learning with virtual reality technology; however, their study focused on promoting skills in teenagers within a specific Singapore school as opposed to primary students in an American school in Malaysia. Given the gaps in

existing research, this current inquiry into SEI learning and educational drama may contribute to the field by identifying challenges and opportunities associated with practicing online educational drama for SEI learning, examining the impact of this process on SEI competencies, and assessing its overall effectiveness.

Research Aims and Questions

This study aims to enhance understanding of the role of online educational drama in SEI learning. It seeks to build on existing research by assessing the effects of such interventions on SEI learning, identifying the associated challenges and opportunities, and evaluating the strategies employed. In pursuit of these aims, the following research questions were developed:

1. Does online educational drama contribute to developing learners' SEI competencies?

2. What challenges and opportunities are presented by online educational drama for developing these competencies?

3. How effectively do students use intervention strategies to develop SEI competencies?

Conceptual Framework

The main aim of this study was was to assess the effectiveness of online educational drama techniques to enhance these competencies while exploring the associated challenges and opportunities. Figure 1 depicts the

study's conceptual framework, a synthesized model based on CASEL's model of SEL (CASEL, 2020), Deardorf's model of ICC (Deardoff, 2006), Heathcote & Bolton's theories on Drama in Education (Heathcote & Bolton, 1994), Boal's Forum Theatre (Boal, 1979), and the model of Experiential Learning Cycle within the Community of Inquiry for online learning (Hall et al., 2021). The model suggests that experiential learning within the community of inquiry, educational drama activities coupled with socio-emotional activities employing an intercultural lens exert certain impacts on SEI competencies. Furthermore, it is an expression of the intervention implemented on the dependent variable of SEI competencies using the independent variable of online educational drama.
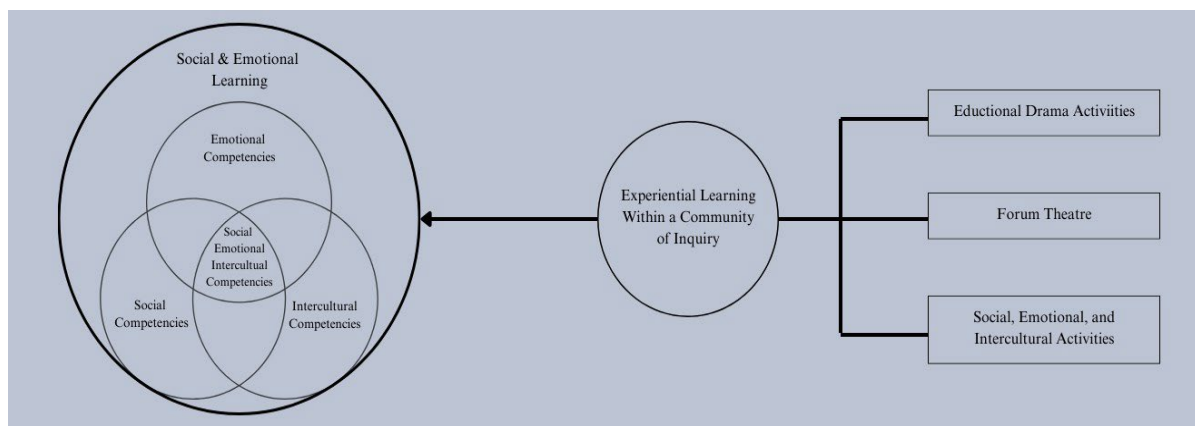

Figure 1

Expression Pathway Of Socio-Emotional And Intercultural Competencies Through Educational Drama in an Online Environment

Research Methodology

The study employed a mixed-methods approach, focusing on a diverse group of students in an international school in Malaysia. The approach employed the convergent intervention design integrating quantitative pretest-post-test analysis with qualitative observational checklists (Creswell, 2021). A quasi-experimental pretest/post-test design assessed the intervention's impact on SEI competencies. Thematic coding on qualitative observations, when converged with quantitative results, allowed for an in-depth evaluation of the intervention strategies used.

Data collection involved administering a pretest and post-test questionnaire to both control and experimental groups. This questionnaire was adapted from the Erasmus+'s HAND in HAND project, assessing scales specific to the measured competencies defined as *Self-Awareness, Self-Management, Social Awareness, Relationship Skills*, and *Intercultural Competence* (Roczen et al., 2020). Within these scales, subscales further specified learning outcomes such as *positive identity from confidence* for the *Self-Awareness* subscale or *Critical Consciousness* for the *Egalaterianism* subscale (Roczen et al., 2020). Questions comprised a 4-point or 5-point Likert scale generated from questions stems such as "To what extent do you agree with the statement?", "How well does this statement describe me?" and "How often is the following true?" (Roczen et al., 2020).

Responses to the 4-point and 5-point scales were normalized to a percentage for statistical analysis. Statistical analysis, including mean comparisons, *t*-tests, and correlation analysis, was conducted using SPSS

(Cohen et al., 2017; Rogers & Revesz, 2019). Qualitative data was analyzed using ATLAS.ti software.

Participants were primary students from an American International School in Malaysia. 26 students were randomly divided into control and experimental groups according to age and Grade level. The study focused on students aged 8 to 12, representing grades 3 to 6, ensuring diversity in age and grade levels (Bhardwaj, 2019). Experimental and control groups were split within these age and grade levels as groups A (grades 3 & 4) and B (grades 5 & 6).

The intervention spanned three phases: introduction, preparation, and practice. Utilizing Zoom and various educational tools, students engaged in team-building activities, roleplays, and conflict-resolution exercises over 12 weekly sessions. Each phase was tailored to the experimental groups' specific needs and developmental levels, with content adapted from Harmony's established SEL curricula (Yoder, 2022; Morrison et al., 2019).

Two observers conducted structured observations during intervention sessions using a predefined thematic framework. Data collected through field notes were analyzed thematically using ATLAS.ti software. The Thematic analysis focused on identifying challenges, opportunities, and behavioral patterns related to SEI competencies during the intervention (Creswell, 2021; Cohen et al., 2017). This methodology addressed qualitative and quantitative outcomes to fully evaluate and give insights into the online educational drama's effectiveness in promoting SEL competencies. However, limitations include sample size, lack of

quantifiable instruments, funding constraints, and the researcher's relative inexperience in experimental research (Müller et al., 2020).

Ethical research practices were employed to protect all parties, including before, during and after the intervention. Ethical considerations included obtaining informed consent, ensuring participant anonymity, and providing support services during the intervention to address potential distress (Cohen et al., 2017; Kellehear, 2020).

Research Findings

This section is presented in three parts: the quantitative part with tables representing paired *t*-tests between control/experimental conditions for groups A and B; the Qualitative part with results of the thematic coding; and finally, an integration part of quantitative and qualitative represented in a joint display.

Part 1: Quantitative Analysis and Findings

The quantitative data analysis conducted using SPSS revealed significant findings regarding the effects of the intervention on Social and Emotional Intercultural (SEI) competencies for both Group A and Group B. A general description of intervention issues is presented below.

For Group A, the intervention seemed to stabilize or improve certain SEI competencies, such as *Self-Awareness*, *Self-Management*, and *Relationship Skills*. However, there were declines in some areas, particularly in the *Intercultural Competence* scale, indicating mixed impacts. Inferential statistics showed higher impact sizes in the

experimental group, suggesting that the intervention played a part in developing or mitigating certain competencies. Technical difficulties were noted to have a significant impact, leading to distress and disengagement among participants. Overall, the data suggested that the intervention had a variable impact on SEI competencies, with some areas showing improvement or stabilization while others experienced declines.

For Group B, the intervention had a more mixed impact on SEI competencies, with both increases and declines observed in different scales and subscales. While there were improvements or stability in some areas, like *Self-Awareness* and *Social Awareness*, there were also declines in others, particularly in *Relationship Skills* and *Intercultural Competence*. Technical difficulties were also present in Group B but to a lesser extent than in Group A, still impacting engagement and causing disengagement and distress among participants. Inferential statistics showed minimal impact from the intervention, with mostly weak relationships between tests and insignificant results in many cases. Overall, the data suggested a varied intervention influence on SEI competencies in Group B, with both positive and negative effects observed.

The integration of quantitative and qualitative findings provided further insights into the impact of the intervention on SEI competencies. It highlighted the convergence and divergence between the two data types, indicating where findings aligned and differed. For example, both groups showed *high engagement* during the intervention, but *technical difficulties* negatively impacted engagement and performance differently in each group. The integration helped provide a comprehensive understanding of

the intervention's effects, considering both quantitative outcomes and qualitative observations of participant behavior and experiences.

Results from Statistical Analysis

All descriptive and inferential analysis was conducted using SPSS software. Each scale and subscale underwent paired and unpaired t-tests, revealing descriptive and inferential statistical results between tests and groups. What follows is a summary of the results of that analysis.

Table 1

Paired t-tests between pretest and post-test for Group A control and experimental conditions.

Summary of Group A

Group A	Scale	Subscale	M Δ	SD	t	p (t-value)	r	p (r-value)
		Self- Awareness	-6.21	16.38	1.00	0.35	0.11	0.82
		Observation	-2.45	22.28	0.29	0.78	0.00	0.99
	Self-Awareness	*Description*	-9.79	26.44	0.98	0.36	-0.08	0.87
		Acceptance	-2.50	28.61	0.23	0.82	-0.04	0.93
		Awareness	-2.29	17.83	0.34	0.75	-0.17	0.71
Control	Self-Management	*Emotional Problems*	5.10	12.00	-1.13	0.30	0.54	0.21
	Social Awareness	*Perspective Taking*	-4.08	11.53	0.94	0.39	0.56	0.19
	Relationship Skills	*Caring*	-4.76	11.97	1.05	0.33	0.58	0.17
	Intercultural Competence	*Attitude Towards Immigrants*	-1.19	7.10	0.44	0.67	0.77	0.04
		Egalitarianism	4.29	13.97	-0.81	0.45	0.72	0.07
	Classroom Climate	*Attitude towards Intervention*	-10.71	16.44	1.72	0.14	0.27	0.56
		Self- Awareness	-1.19	7.10	0.44	0.67	0.44	0.32
		Observation	-10.61	16.80	1.67	0.15	0.74	0.06
	Self-Awareness	*Description*	-4.08	9.46	1.14	0.30	0.49	0.26
		Acceptance	3.21	13.44	-0.63	0.55	0.30	0.51
		Awareness	-2.86	11.31	0.67	0.53	0.45	0.31
Experiment	Self-Management	*Emotional Problems*	2.55	8.43	-0.80	0.45	0.66	0.10
	Social Awareness	*Perspective Taking*	-2.85	10.56	0.72	0.50	0.53	0.22
	Relationship Skills	*Caring*	-2.38	11.61	0.54	0.61	0.76	0.05
	Intercultural Competence	*Attitude Towards Immigrants*	-4.76	8.13	1.55	0.17	0.79	0.03
		Egalitarianism	-6.43	18.64	0.91	0.40	0.14	0.76
	Classroom Climate	*Attitude towards Intervention*	-3.69	6.84	1.43	0.20	0.80	0.03

Table 1 shows how SEI competency scores declined from the pretest to the post-test for Group A's control and experimental groups. This table presents a comprehensive dataset including mean changes ($M\Delta$), standard deviations (SD), and statistical significance (t-values and r-values)

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between tests for both conditions. The data shows a general decline in SEI competencies across the board; however, except for the *Intercultural Competence* scale, the decline was generally less severe in the experimental group.

According to descriptive statistics, the experimental group showed a moderate decline or stabilization in scores, such as the *Relationship Skills* or *Social Awareness* scales, compared to the control group. For instance, *Relationship Skills* displayed a less pronounced decline in the experimental group ($M\Delta$ = -2.38, SD = 11.61) versus the control group ($M\Delta$ = -4.76, SD = 11.97). Moreover, an improvement in the *Acceptance* subscale for the experimental group illustrates a positive change ($M\Delta$ = 3.21, SD = 13.44) compared to the control ($M\Delta$ = -2.29, SD = 28.61), contrasting with declines in other areas. On the other hand, the experimental group's scores in *Intercultural Competence* declined more than those in the control group. For instance, the *Egalitarianism* subscale demonstrated greater declines for the experimental group ($M\Delta$ = -6.43, SD = 18.64) than the control group ($M\Delta$ = 4.29, SD = 13.97), suggesting the intervention may have had an unintended effect in these areas, indicating a complex influence on participants' perspectives on equality.

Inferential statistics such as t & r values assess the significance of score changes and the strength of correlations between pre and post-tests. They suggest that the intervention impacted these scores as mitigating, positive, and negative influences. For instance, t-tests suggest greater statistical differences in some scales and subscales, such as results for the *Observation* subscale in the experimental group (t = 1.67, p = 0.78) and the control (Control: t = 0.29, p = 0.78). Meanwhile, r-values generally suggest stronger correlations in the experimental group for changes over

time. For instance, the results of correlational statistics for the experiment group in the *Relationship Skills* scale ($r = 0.76$; $p = 0.05$) show a stronger relationship between tests than the control ($r = 0.58$, $p = 0.17$).

However, it's crucial to approach these statistical findings with caution. Many of the observed changes did not meet the standard threshold for statistical significance ($p < 0.05$), implying that while the intervention revealed certain trends, they might not be statistically significant across the board. That is to say, for Group A, there were no significant differences between the experimental and the control group in all aspects of comparison, either at the scale or subscale level indicated in Table 1.

Overall, the intervention appears to have played a differential role in influencing SEI competencies within the experimental group of Group A. While it helped to mitigate the overall decline in competencies or even improve them in specific areas, its impact was not uniformly positive across all scales.

Table 2

Paired t-tests between pretest and post-test for Group B control and experimental conditions

Summary of Group B

Group B	Scale	Subscale	M Δ	SD	t	p (t-value)	r	p (r-value)
		Self- Awareness	0.00	19.19	0.00	1.00	0.14	0.78
		Observation	5.24	16.99	-0.75	0.48	0.09	0.87
	Self-Awareness	*Description*	8.57	14.79	-1.42	0.21	0.20	0.70
		Accept w/o judgment	5.55	29.34	-0.46	0.66	-0.70	0.12
		Awareness	0.67	17.24	-0.09	0.93	-0.81	0.05
Control	Self-Management	*Emotional Problems*	0.59	24.27	-0.06	0.95	0.15	0.77
	Social Awareness	*Perspective Taking*	-12.38	32.16	0.94	0.39	-0.30	0.56
	Relationship Skills	*Caring*	1.39	14.98	-0.23	0.83	0.41	0.42
	Intercultural Competence	*Attitude Towards Immigrants*	5.56	9.00	-1.51	0.19	0.77	0.07
		Egalitarianism	0.00	35.36	0.00	1.00	-0.51	0.31
	Classroom Climate	*Attitude towards Intervention*	6.95	19.48	-0.87	0.42	-0.41	0.43
		Self- Awareness	1.19	31.52	-0.10	0.92	-0.65	0.11
		Observation	0.00	31.25	0.00	1.00	-0.33	0.47
	Self-Awareness	*Description*	2.04	28.98	-0.19	0.86	-0.13	0.77
		Accept w/o judgment	0.64	29.95	-0.06	0.96	-0.71	0.08
		Act w/Awareness	3.71	20.99	-0.47	0.66	-0.26	0.57
Experiment	Self-Management	*Emotional Problems*	2.55	17.94	-0.38	0.72	-0.11	0.81
	Social Awareness	*Perspective Taking*	-2.04	17.43	0.31	0.77	-0.27	0.56
	Relationship Skills	*Caring*	-1.99	16.01	0.33	0.75	0.21	0.64
	Intercultural Competence	*Attitude Towards Immigrants*	-4.17	11.28	0.98	0.37	0.21	0.65
		Egalitarianism	-18.75	20.41	2.43	0.05	0.49	0.26
	Classroom Climate	*Attitude towards Intervention*	5.96	21.09	-0.75	0.48	-0.67	0.10

Table 2 shows that analysis of Group B reveals a much more mixed review of the intervention on SEI competencies. The table reveals both increases and decreases in mean scores and standard deviations from pretest to post-test across various scales and subscales for both groups. For example, while both groups exhibited improvements or maintained stability in *Self-Awareness*, the dispersion of scores varied widely, as seen in the *Description* subscale with mean differences and standard deviations (Control: *MΔ* = 8.57, *SD* = 14.79; Experiment: *MΔ* = 2.04, *SD* = 28.98). This indicates non-uniform changes across the board. In certain areas, each group demonstrated strengths over the other. For example, the experimental group showed relative improvements in *Self-Management* (*MΔ* = 2.55, SD = 17.94) compared to the control group (*MΔ* = 0.59, *SD* = 24.27), whereas the control group saw better outcomes in *Relationship Skills* (*MΔ* = 1.39, *SD* = 14.98) versus the experimental group (*MΔ* = -1.99, *SD* = 16.01). However, these changes were characterized by considerable variability, reflecting inconsistent development across competencies.

Inferential statistics, such as *t* & *r* values, indicated generally weak associations and minimal statistical differences between pretest and post-test outcomes. For instance, the *Observation* subscale showed negligible differences in experimental (*t* = 0.00, *p* = 1.00; *r* = -0.33, *p* = 0.47) and control (*t* = -0.75, *p* = 0.48; *r* = 0.09, *p* = 0.87) groups. Furthermore, most observed changes did not reach statistical significance (*p* < 0.05), except for a notable decrease in the experimental group's *Egalitarianism* scale (*MΔ* = -18.75, *SD* = 20.41; *t* = 2.43, *p* = 0.05), suggesting a significant negative impact from the intervention. However, the significance of this finding is tempered by the correlational analysis (*r* = 0.49, *p* = 0.26), which indicates the possibility of random variance rather

than a direct effect of the intervention.

Overall, analysis indicates that the intervention's influence on SEI competencies was varied, with the experimental group seeing some maintenance or improvement in certain areas despite a possibly negative impact in others. The results also indicated that for Group B students, there were no significant differences in almost all aspects of SEI competencies between the online drama lessons and the normal classroom drama lessons.

Part 2: Qualitative Key Findings

All thematic coding was conducted using Atlas.ti. Themes are presented with references to the field notes conducted during the intervention. Group A was analyzed before the process was repeated for group B.

Figure 2 shows that thematic analysis of the field notes compiled during the structured participant observation revealed a blend of challenges and opportunities. Results of thematic coding reveal the themes of *high engagement* and *high student technical difficulty* occurring more than any other themes, giving way to other themes such as *disengagement* and *distress*.
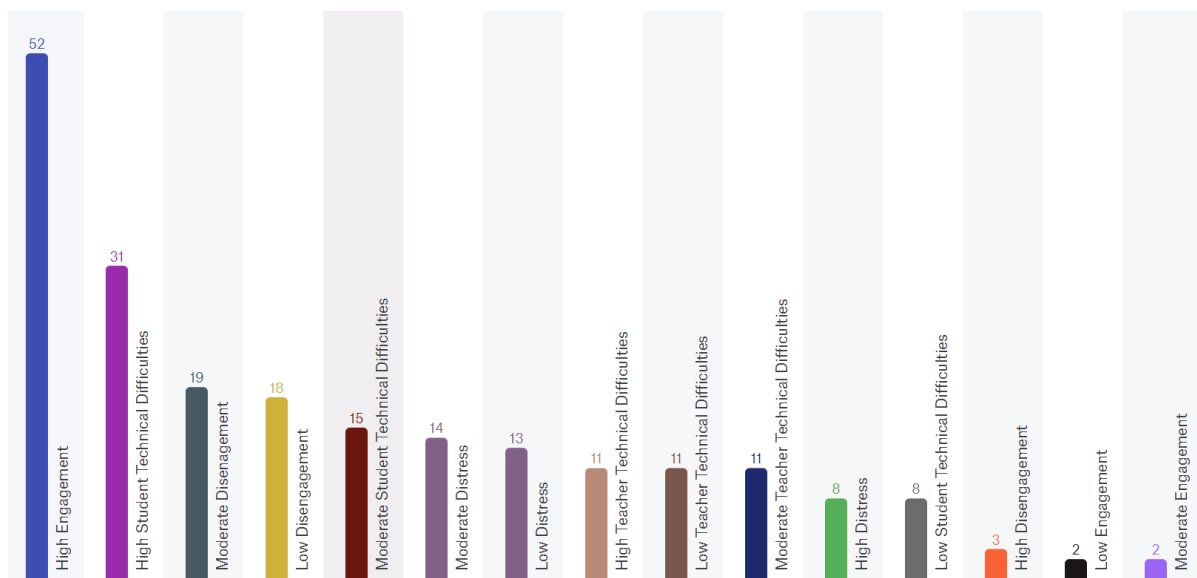
Figure 2

Thematic coding results on field notes from observations in Experiment Group A

The first theme is revealed through high occurrences of engagement during drama activities, such as story reading, roleplay during the STEP process, and the Forum Theatre performances. Active participation was observed during class discussions, and excitement was evident in "self-introductions" and ice-breaking exercises using ICT tools such as Padlet and Jamboard. This engagement was further demonstrated by the eagerness of students to assist each other with technical issues, which not only boosted their technical prowess but also fostered a sense of community and collaborative learning. Moreover, students freelyexpressed their thoughts and related personal experiences to class content, enriching the learning experience with diverse perspectives.

However, this engagement was often hampered by significant technical difficulties. Issues ranged from poor internet connectivity to problems with navigating educational platforms like Zoom and Google Classroom. These technical challenges consumed considerable class time, which could have been otherwise used for educational activities, and sometimes led to student distress and disengagement. For instance, in one instance, "the whole class time" was devoted to solving technical hiccups. For some, the frustration with technical barriers also led to moments of stress and anxiety, detracting from the educational experience. These were evidenced by students "turning off cameras" and requiring "time with the emotional support" provided during the intervention.

Thematic analysis of the field notes compiled during the structured participant observation, shown in Figure 3, again revealed *High Engagement* as observed in Experiment Group A. However, this opportunity came at a cost, as thematic coding revealed a complex interchange of *disengagement* and *distress* from bouts of *Technical Difficulties*.
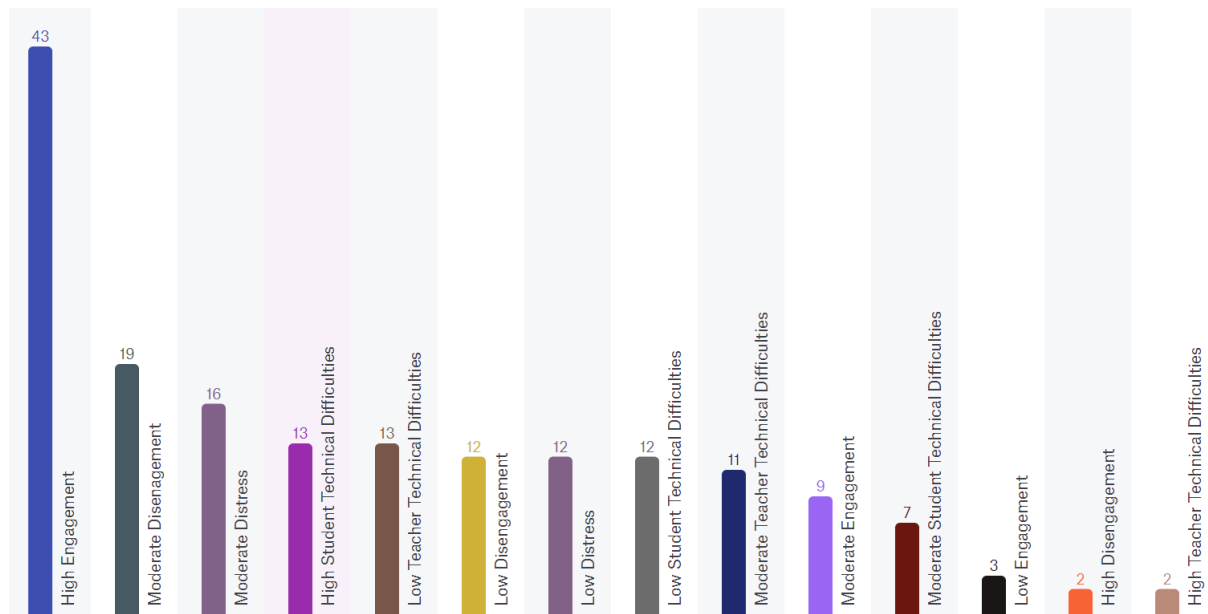
Figure 3

Thematic coding results on field notes from observations in Experiment Group B

High engagement was noted in Experiment Group B, similar to Group A, with a marked preference for interactive online and drama activities. Students showed a keen interest in activities like the "Iceberg Project on JamBoard" and were proactive in sharing personal values. Drama exercises captured their attention, with "reading different scenarios" and using the STEP process when "performing and trying solutions" during Forum Theatre performances. Sometimes, participation was observed after class, with students discussing scenarios and engaging with Google Classroom independently.

However, this heightened engagement became disengagement when lessons were interrupted by technical difficulties. For instance, there were instances with "25 minutes lost to class time" due to internet lags and

platform navigation challenges, which fostered distress, as seen in Jamboard mishaps and connectivity-induced stress. During these technological detractions, Students became distracted by digital features like "filters" and "chats" and, at times, diverted to unrelated online content, leading to moderate disengagement.

These technical problems were lower than in Group A but still significant, revealing a connection between technical troubles and classroom management challenges. Technical glitches hampered individual focus and impacted the class's overall dynamic, creating a feedback loop of disengagement and distress. These disruptions underscore the delicate balance between leveraging technology for engagement and the potential for disengagement and anxiety when technical issues arise.

Part 3: Integration of Quantitative and Qualitative Findings

The following joint display tables show the integration of qualitative and quantitative data. It makes inferences from the two data sets and evaluates the intervention on SEI competencies. The table compares themes and quotations from qualitative data sets with independent *t*-tests from the quasi-experimental intervention. Here, *MΔ* and *SDΔ* show differences between the control and experimental groups. Positive differences in the means show where the experimental group improved relative to the control, and negative differences in standard deviation show a tighter spread around the means. *t* & *p* values show the statistical significance of these differences. As a result of this integration, convergences, and divergences between the experimental conditions and

age groups allow for an in-depth analysis of the impact of the intervention, a report on observed challenges and opportunities, and an evaluation of the techniques used.

Table 3

Integration of quantitative and qualitative findings in a joint display of independent t-tests between condition statistical differences and thematic coding for Group A

Joint Display of Group A Findings

Scale	Subscale	M Δ	SD Δ	t	p	Themes	Quotations
	Self- Awareness	5.02	-9.27	0.74	0.47	Engagement	The students responded to the teacher's questions about self-consciousness and gave their full attention during the Sulwe story.
	Observation	-8.16	-5.48	-0.77	0.45	Technical Difficulties, Disengagement, Distress	Participants could not hear anything and showed distress when they could not act at the scene.
Self-Awareness	Description	5.71	-16.98	0.54	0.60	Engagement	High engagement, especially during the story and self-talk sharing
	Acceptance	5.71	-15.17	0.48	0.64	Engagement	They were very vocal about the relaxation techniques.
	Awareness	-0.57	-6.52	-0.07	0.94	Technical Difficulties, Disengagement, Distress	lost close to 25 minutes in class time.
Self-Management	Emotional Problems	-2.55	-3.57	-0.46	0.65	Technical Difficulties, Disengagement, Distress	In between classes, He put his hands on another student's neck.
Social Awareness	Perspective Taking	1.22	-0.97	0.21	0.84	Engagement	Although the class could not act out their ideas, they could point out ideas, such as taking turns to recycle and identifying how the actors were feeling.
Relationship Skills	Caring	2.38	-0.36	0.38	0.71	Engagement	Participants cared to include an actor's name (how his name was spelled in the document- how his name needed to be pronounced).
Intercultural Competence	Attitude Towards Immigrants	-3.57	1.03	-0.88	0.40	Technical Difficulties, Disengagement, Distress	Participants said that they had been on the receiving end of some rude behavior.
	Egalitarianism	-10.71	4.67	-1.22	0.25	Technical Difficulties, Disengagement, Distress	Muhiman requested to be moved to the control group because his friends were in the control group, which reminded him of COVID-19.
Classroom Climate	Attitude towards Intervention	7.02	-9.60	1.04	0.32	Engagement	The students enjoyed watching the performance and were interested in participating as the actors.

Integrating the quantitative results between control and experimental groups with thematic analysis from participant observation, as shown in Table 3, reveals where findings converge and diverge in understanding the relationship between using online educational drama for SEI competencies.

Data converges when considering engagement in the intervention. Descriptive analysis suggests the intervention may foster Social and Emotional competencies reflected in positive differences between groups for scales and subscales such as *Self-Awareness* (*MΔ* = 5.02), *Description* (*MΔ* = 5.71), *Acceptance* (*MΔ* = 5.71), *Social Awareness* (*MΔ* = 1.22), *Relationship Skills* (*MΔ* = 2.38*, SD* = -0.36), and *Attitude toward Intervention* (*MΔ* = 7.02). Qualitatively, *high engagement* was evident in drama activities and class participation, aligning with the positive quantitative findings and signifying convergence around beneficial aspects such as community-building and mutual support among students during the intervention. However, the relationship between the intervention and relationship skills and social awareness diverges when inferred from the *t*-test results. Despite positive changes observed in descriptive analysis engagement, the *t*-tests indicate these changes are insignificant as observed differences did not reach statistical significance ($p < 0.05$), suggesting the intervention's limited role in influencing these outcomes.

The data also converges around the negative impacts of the intervention when considering *technical difficulties*. Quantitative measures indicated lower scores in scales and subscales such as *Observation* (*MΔ* = -8.16*, SD* = -5.48), *Self-Management* (*MΔ* = -2.55*, SD* = -3.57), and *Intercultural Competence*, suggesting negative impacts of the intervention. Qualitative reports suggest that technical difficulties disrupt the class,

leading to disengagement and distress among the participants. Integration of the results suggests that the technical problems may have had a tangible impact on students' ability to Manage Emotions.

Interestingly, as indicated by convergence and divergence in skills such as *Social Awareness* and *Relationship Skills*, showing stronger in-group cohesion, this cohesion, coupled with technical problems, disengagement, and distress, may have strengthened outgroup division on attitudes towards immigration and equal rights. Furthermore, the *Intercultural Competence* scale is the only one to become relatively more inconsistent when considering the standard deviation, such as the Egalitarianism subscale ($M\Delta$ = 10.71, SD = 4.67), suggesting that experimental participants diverged further from the mean score from the pretest to the post-test than the control group. These divergences suggest that while the intervention has potential, its quantitative effectiveness is complicated by technical difficulties.

Moreover, except for the *Intercultural Competence* scale, convergence occurs when descriptive statistics like standard deviation suggest that the experimental group's responses became relatively more consistent post-intervention, such as responses in *Self-Management* (SD = -3.57) or *Description* (SD = -16.98), hinting at the stabilizing effect across most scales and subscales. Qualitatively, engagement may influence this stabilization when considering engagement in group cohesion and active participation observed during the intervention. Higher *t*-values reflect the intervention's influence, although this influence must be cautiously interpreted due to the insignificance suggested by high *p*-values, indicating that differences could be due to chance.

In summary, the data converges on the positive and negative effects of the intervention manifested by *high engagement* and *technical challenges* reflected in positive and negative differences between groups. However, data diverges in representing the full scope of student engagement and community benefits, described in qualitative observations and descriptive analysis but not as clear during inferential analysis.

Table 4

Integration of quantitative and qualitative findings in a joint display of independent t-tests between condition mean differences and thematic coding for Group B

Joint Display of Group B Findings

Scale	Subscale	M Δ	SD Δ	t	p	Themes	Quotations
Self-Awareness	Self-Awareness	1.19	12.34	-0.08	0.94	Engagement	Students were eager to share their values and hobbies with the class.
	Observation	-5.24	14.26	0.37	0.72	Technical Difficulties, Disengagement, Distress.	Lost about 25 minutes of class time
	Description	-6.53	14.19	0.50	0.63	Technical Difficulties, Disengagement, Distress.	Most of the class was lost to technical problems. It was solved with 15 minutes left in class, resulting in a rushed production of the activity and miscommunication on how to solve the scenario.
	Acceptance	-4.92	0.61	0.30	0.77	Technical Difficulties, Disengagement, Distress.	The students also used the chat to discuss things unrelated to the lesson.
	Awareness	3.05	3.75	-0.28	0.78	Engagement	They were excited to share their ideas and were keen on being part of the acting.
Self-Management	Emotional Problems	1.96	-6.33	-0.17	0.87	Engagement	able to seek teachers' help with using Zoom and Google Classroom.
Social Awareness	Perspective Taking	10.34	-14.72	-0.74	0.48	Engagement	The class was active in discussing the STEP process.
Relationship Skills	Caring	-3.37	-14.72	0.39	0.70	Technical Difficulties, Disengagement, Distress.	Mostly disengaged while waiting for the scenario to start and using the Zoom chat to send funny messages to each other.
Intercultural Competence	Attitude Towards Immigrants	-9.72	1.03	1.70	0.12	Technical Difficulties, Disengagement, Distress.	There was a lot less participation today, perhaps due to the content.
	Egalitarianism	-18.75	2.28	1.19	0.26	Technical Difficulties, Disengagement, Distress.	There was distress when one student took over the Jamboard and put a gun on it.
Classroom Climate	Attitude towards Intervention	-0.99	-14.94	0.09	0.93	Technical Difficulties, Disengagement, Distress.	The participant showed distress with rapid breathing when working on his computer.

Integrating the quantitative results between Group B control and experimental groups with thematic analysis from participant observation, as shown in Table 4, reveals interesting differences where findings

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converge and diverge relative to Group A. Overall, data again converges positively and negatively in differences between the control and experimental groups. However, as Group A's *technical difficulties* contributed to a *lack of engagement* and *distress*, converging with lower differences between control and experimental groups, Group B's *lack* of *technical difficulties* contributed to more *disengagement* and *distress*, converging with negative differences between control and experimental groups.

Again, data converges when considering engagement in the intervention. Descriptive analysis suggests the intervention may foster social and emotional competencies reflected in positive differences between groups for scales and subscales such as *Self-Awareness (MΔ = 1.19), Awarness (MΔ = 3.05), Self-Management (MΔ = 1.96), and Social Awareness (MΔ = 10.34)*. Like group A, high engagement was evident in drama activities and class participation, aligning with the positive quantitative findings and signifying convergence around beneficial aspects such as community-building and mutual support among students during the intervention.

There are some noticeable differences in the convergence of qualitative and quantitative findings in Group B. The data also converges around the negative impacts of the intervention when considering technical difficulties. However, these seem to respond to the *lack* of *technical difficulties*. Qualitative reports suggest a more pronounced amount of activity and engagement with technical components unrelated to the activities in class. This disengagement with the class was due to chatting between participants, online search inquiries, and playfulness with online

components unrelated to the activities. Though this disengagement has fewer observed instances than Group A, the number of occurrences may be much more due to the hidden nature of chatting and online search inquiries. Furthermore, these instances resulted from teacher intervention with *student technical difficulties*, meaning that there was more play when students were forced to wait for class to resume after prolonged technical difficulties. This disengagement converges with descriptive analysis, which indicates lower scores in most scales and subscales.

Although there is convergence in descriptive analysis and observational recordings, with the exception of the *Intercultural Competence* scale, lower *t*-tests indicate divergence when considering that the intervention had a limited role. For instance, the highest *t* value is evidenced in *Description* ($t = 0.50$). Curiously, the only instance of convergence between inferential analysis and observed behavior was revealed in high *t*-values with negative differences between groups in the *Intercultural Competence* scale. For example, the *Egalitarianism* subscale saw a large decrease in the mean with a wider spread around that mean with larger statistical differences ($M\Delta = -18.75$, $SD = 2.28$; $t = 1.19$, $p = 0.28$). Although the *p*-values state these are statistically insignificant, when considering how *t*-tests between tests returned statistically significant high *t*-values, it becomes clear that the intervention did have some impact on the drop in scores in the experimental group. However, no observational evidence might explain this drop due to the intervention. Though there is no observational evidence, inferential evidence points to the intervention's direct involvement in decreasing *Intercultural Competence*.

In conclusion, integration finds convergence when considering how descriptive analysis indicates how the intervention benefits and hinders performance through a mixture of *high engagement* with the intervention and *disengagement* with *distress* brought on by occurrences of *technical difficulties*. However, when considering *t*-values, the data diverges due to the intervention's minimal role in the scores.

Discussions

As technology advances and global interconnectivity increases, integrating social, emotional, and intercultural learning into online environments becomes more crucial. This study continues this discourse by using creative educational drama techniques online to foster SEI development. It was driven by research questions aimed at analyzing the role of online educational drama on SEI competencies, observing the challenges and opportunities revealed during practice, and evaluating the strategies students employ.

A literature review was conducted to build a solid understanding of the current trends and theories in SEI learning, ICT, and educational drama. This review explored how these elements interplay and pinpointed existing research gaps informing the theoretical and conceptual frameworks that guided this study. Employing the mixed-methods convergent intervention design approach, the research delved into the intricate relationship between online educational drama techniques and SEI learning. The findings of this research offer valuable insights into the field of SEI learning applications. They lay the groundwork for future

research, highlighting the potential and challenges that must be addressed as investigations evolve.

The assessment reveals mixed impacts on SEI competencies, with Group A showing stabilization and some improvements, while Group B exhibits declines in several areas. Technical difficulties and engagement levels significantly influence outcomes, with Group A experiencing distress due to technical issues and Group B showing disengagement when such issues were absent.

The study suggests that while online educational drama can enhance certain SEI competencies, challenges like technical difficulties and engagement levels must be addressed. Practical implications include leveraging drama as engaging activities, early technology education for teachers and students, and explicit ICC learning integration. Theoretical implications highlight the need for more research on the relationship between SEI and ICC competencies and the development of cohesive curriculum models.

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