

Research Article

Dimensions of Teachers' Culturally Responsive Pedagogy in Multicultural Elementary Classrooms: An Exploratory Sequential Study in American Samoa

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Abstract

This study examined elementary teachers' implementation of culturally responsive pedagogy in multicultural schools in the Territory of American Samoa using an exploratory sequential mixed-methods design. Qualitative findings informed the development of a 56-item instrument measuring seven dimensions: Cultural Awareness, Cultural Integration, Linguistic Responsiveness, Inclusive Climate, Student Cultural Expression, Community-Informed Instruction, and Instructional Adaptability. Exploratory factor analysis supported the seven-factor structure ($KMO = .907$; Bartlett's $\chi^2(1540) = 18073$, $*p < .001$), while reliability analysis demonstrated acceptable to excellent internal consistency (Cronbach's $\alpha = .791-.961$; McDonald's $\omega = .918-.964$). Descriptive results indicated a high overall level of culturally responsive pedagogy practices ($M = 4.33$), with Inclusive Climate receiving the highest rating and Community-Informed Instruction the lowest. Gender differences were generally not significant, except for Community-Informed Instruction, whereas public school teachers reported significantly higher scores in Cultural Integration, Linguistic Responsiveness, Instructional Adaptability, and the overall scale. Overall, the findings provide initial evidence that culturally responsive pedagogy in multicultural elementary classrooms is characterized by seven interrelated dimensions.

Keywords: culturally responsive pedagogy, multicultural classrooms, elementary teachers, exploratory sequential design, American Samoa

1. Introduction

Culturally responsive pedagogy has been widely recognized as a critical approach for addressing learner diversity and promoting equitable learning opportunities in multicultural classrooms. In elementary island contexts, where linguistic plurality, indigenous identities, and sociocultural traditions intersect within geographically situated communities, teachers are expected to adapt instruction in ways that affirm learners' cultural backgrounds while ensuring academic rigor. In the Territory of American Samoa, elementary classrooms are shaped by the presence of Samoan cultural traditions, English-medium schooling, multilingual realities, and community-based ways of learning. These conditions make culturally responsive pedagogy especially relevant, as teachers are required to respond not only to curriculum expectations but also to learners' cultural, linguistic, and community experiences. Recent scholarship has emphasized that culturally responsive pedagogy is not a single strategy but a multidimensional set of beliefs, practices, and instructional decisions enacted by teachers in response to learners' lived realities (Bostwick, 2025; Ogoto, 2024). However, despite policy commitments to inclusive and equitable education aligned with Sustainable Development Goal 4 (UNESCO, 2021), there remains limited empirical clarity on how these pedagogical dimensions are manifested in everyday classroom practice, particularly in multicultural elementary island schools.

Empirical evidence points to persistent gaps between policy intentions and classroom realities in culturally and linguistically diverse educational settings. Studies in indigenous and multilingual contexts show that teachers continue to encounter challenges in aligning classroom practices with learners' cultural and linguistic backgrounds. Eduardo and Gabriel (2021) reported that in selected indigenous communities, only 62% of school-age children completed elementary education, while 38% were either irregular attendees or at risk of dropping out.

Similarly, studies on mother tongue-based multilingual education revealed that only 54% of observed classrooms demonstrated constructive alignment between language policy and actual instructional practice (Gempeso & Mendez, 2021). Balbuena et al. (2025) further found that among 25 teachers handling indigenous learners, 16 relied predominantly on dominant languages during instruction despite the presence of local mother tongues. These findings are not used to generalize the condition of American Samoa, but they illustrate a broader issue also relevant to island and multicultural classrooms: culturally responsive intentions do not always translate into clearly articulated and consistently enacted pedagogical practices. Thus, there remains a need for context-sensitive frameworks that identify how teachers actually understand and implement culturally responsive pedagogy in specific classroom settings.

International studies echo similar concerns while offering insights into the complexity of culturally responsive pedagogy. Franco et al. (2024), using a large-scale assessment of classroom practices, found that only 47% of teachers demonstrated high levels of culturally responsive instructional alignment, even in culturally diverse school systems. Guzelergene et al. (2025) identified classroom management as a critical yet underexamined dimension, noting that in their

sample of 312 teachers, culturally responsive management practices accounted for 31% of the variance in positive learner engagement. Research in elementary literacy contexts showed that culturally sustaining practices improved reading engagement scores by 18% among minoritized learners when compared with traditional instruction (Dunham & Oti, 2025). Mixed-methods studies further demonstrated that culturally responsive teaching combined with identity affirmation resulted in measurable gains in learner motivation and achievement, with effect sizes ranging from 0.32 to 0.48 across diverse settings (Zeng et al., 2025). Despite these advances, Petri et al. (2025) noted that most international studies focused on secondary or urban contexts, leaving elementary island classrooms underrepresented in empirical literature.

Failure to address these gaps carries significant educational and social consequences. When culturally responsive pedagogy is inadequately understood or inconsistently applied, learners from indigenous and multicultural backgrounds may experience disengagement, language marginalization, and limited classroom participation. Longitudinal evidence suggests that culturally misaligned instruction contributes to absenteeism rates exceeding 20% in marginalized communities and increases the likelihood of early school leaving by a ratio of 1.6:1 compared to culturally affirming environments (Van Genugten & De Ruyter, 2024). In multicultural island contexts, such concerns are especially important because schooling is closely connected to language, identity, family life, and community expectations. Without systematic identification of pedagogical dimensions responsive to these realities, schools may continue to rely on broad descriptions of culturally responsive pedagogy without clear empirical guidance on how such practices are enacted in classrooms.

In response to these conditions, this study was conducted to identify and empirically articulate the dimensions of teachers' culturally responsive pedagogy practices in multicultural elementary island classrooms in the Territory of American Samoa. This study contributes to the discourse on culturally responsive pedagogy by situating teacher practices within the specific realities of multicultural elementary island classrooms and by employing an exploratory sequential approach to dimension identification. Through this design, the research offers an empirically grounded and context-sensitive account of teachers' practices that may inform teacher education, instructional leadership, and future research on culturally responsive pedagogy in island and multicultural school settings.

2. Materials and Methods

2.1. Research Design

This study employed an exploratory sequential mixed methods design following the framework proposed by Gempes and Obenza (2025) to identify and evaluate the dimensions of teachers' culturally responsive pedagogy practices in multicultural elementary island classrooms. The design was appropriate because the study first required an in-depth exploration of teachers' lived experiences before developing and examining a quantitative measurement tool. This sequence allowed the qualitative findings to serve as the basis for generating the initial dimensions and survey items, consistent with the purpose of construct

development in exploratory sequential studies (Creswell & Creswell, 2023; Ivankova et al., 2006).

The qualitative phase explored how elementary teachers implemented culturally responsive pedagogy in classrooms characterized by cultural and linguistic diversity. The themes generated from this phase were then translated into measurable indicators for the quantitative phase. The quantitative phase examined the underlying factor structure and reliability of the developed checklist. Integration occurred during instrument development and interpretation, where the qualitative themes guided item construction and the quantitative results examined the structural coherence of the identified dimensions (Fetters et al., 2013; Creswell & Inoue, 2024).

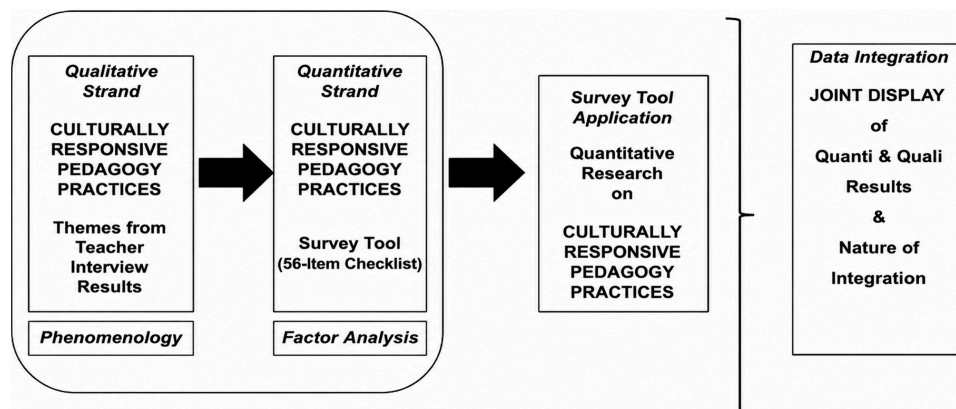


Figure 1. Conceptual Design of Exploratory Sequential Mixed Methods Design

2.2. Respondents and Sampling Procedure

The respondents of the study were elementary teachers from multicultural elementary school contexts in the Territory of American Samoa. They were selected because of their direct experience in implementing classroom practices responsive to learners' cultural backgrounds, linguistic needs, and community-based experiences. In the qualitative phase, purposive sampling was used to select teacher-participants who could provide detailed accounts of their experiences in implementing culturally responsive pedagogy. The selection focused on participants with direct classroom experience in multicultural island settings. Their responses served as the basis for identifying recurring practices and generating the initial dimensions of culturally responsive pedagogy. In the quantitative phase, a larger group of elementary teachers participated in the survey administration. The quantitative respondents were included to examine whether the dimensions generated from the qualitative phase demonstrated structural consistency and reliability. This progression from a smaller qualitative group to a larger quantitative group followed the building function of exploratory sequential mixed-methods research, where qualitative findings inform the development of a quantitative instrument (Creswell & Creswell, 2023; Fetters et al., 2013).

2.3. Research Instruments

Two research instruments were used in the study. For the qualitative phase, a semi-structured interview guide was used to elicit teachers' lived

experiences in implementing culturally responsive pedagogy in multicultural elementary island classrooms. The guide focused on teachers' instructional practices, language-related adjustments, classroom interactions, cultural integration, community connections, and adaptive strategies. This allowed participants to describe their experiences while maintaining alignment with the research questions. For the quantitative phase, a researcher-developed checklist was constructed based on the themes generated from the qualitative findings. The final checklist consisted of 56 items organized around seven dimensions: Cultural Awareness, Cultural Integration, Linguistic Responsiveness, Inclusive Climate, Student Cultural Expression, Community-Informed Instruction, and Instructional Adaptability. The checklist used a five-point Likert scale ranging from Strongly Agree to Strongly Disagree. The instrument was subjected to exploratory factor analysis and reliability analysis to examine its structure and internal consistency.

2.4. Data Collection and Analysis

Data collection was conducted in two sequential phases. In the qualitative phase, the researchers gathered data through interviews with selected elementary teachers. Before the interviews, the purpose of the study, the voluntary nature of participation, and the confidentiality of responses were explained to the participants. The responses were transcribed and analyzed to identify recurring meanings and patterns related to culturally responsive pedagogy practices. The qualitative data were analyzed through thematic analysis. The researchers examined the participants' responses, coded significant statements, clustered related ideas, and generated themes that reflected teachers' culturally responsive practices. The analysis produced seven essential themes: Cultural Awareness, Cultural Integration, Linguistic Responsiveness, Inclusive Climate, Student Cultural Expression, Community-Informed Instruction, and Instructional Adaptability.

The themes from the qualitative phase were used to develop the 56-item checklist for the quantitative phase. Survey data were analyzed using exploratory factor analysis to determine the underlying dimensions of the instrument. The suitability of the data for factor analysis was examined using the Kaiser–Meyer–Olkin measure and Bartlett's test of sphericity. Reliability was assessed using Cronbach's alpha and McDonald's omega. Descriptive statistics were also used to determine the level of culturally responsive pedagogy practices, while independent-samples t-tests were conducted to examine differences according to teacher grouping variables. The data used in the study consisted of interview responses and survey results obtained from the teacher-participants. Due to confidentiality considerations, raw interview transcripts and individual-level survey responses were not made publicly available. However, the summarized qualitative themes, factor structure, reliability results, descriptive statistics, and group comparison results are presented in the article.

2.5 Ethical Considerations

The study observed ethical standards in conducting research involving human participants. Permission to conduct the study was secured from the concerned authorities before data collection. The participants were informed about the purpose of the study, the procedures involved, and their rights as participants. Their participation was voluntary, and they were allowed to

withdraw from the study at any point without penalty. Informed consent was obtained before the conduct of interviews and survey administration. The researchers ensured that the participants' identities were protected by using codes instead of real names. No identifying information, such as names or school assignments, was included in the transcripts, datasets, or final report. The data were used only for the purposes of the study and were handled with confidentiality.

3. Results and Discussion

3.1. Factor Structure of the Culturally Responsive Pedagogy

The exploratory factor analysis results indicate that teachers' culturally responsive pedagogy practices in multicultural elementary classrooms in the Territory of American Samoa are best represented by a seven-factor structure, consisting of Cultural Awareness, Cultural Integration, Linguistic Responsiveness, Inclusive Climate, Student Cultural Expression, Community-Informed Instruction, and Instructional Adaptability. The statistical evidence supporting this dimensional structure is robust. All retained items demonstrated statistically significant factor loadings ($p < .001$), with z-values ranging from 4.10 to 22.56, confirming that each indicator contributes meaningfully to its respective latent construct. Factor loadings ranged from .410 to .742 for most factors, which falls within acceptable ranges for exploratory measurement development. In exploratory factor analysis, loadings of approximately .40 or higher are generally considered acceptable indicators of substantive relationships between observed variables and their underlying constructs, particularly when developing new measurement scales (Hair et al., 2019). Thus, the observed loading magnitudes provide empirical support that the retained items sufficiently represent the latent dimensions of culturally responsive pedagogy practices identified in the analysis.

Table 1. Factor Loadings

Factor	Indicator	Estimate	SE	Z	p
Factor 1	CW1	0.552	0.0321	17.19	<.001
	CW2	0.542	0.0293	18.50	<.001
	CW3	0.521	0.0299	17.46	<.001
	CW4	0.573	0.0363	15.78	<.001
	CW5	0.554	0.0329	16.84	<.001
	CW6	0.538	0.0330	16.32	<.001
	CW7	0.570	0.1390	4.10	<.001
	CW8	0.467	0.0331	14.11	<.001
	CW9	0.457	0.0365	12.54	<.001
	CW10	0.410	0.0348	11.77	<.001
Factor 2	CI1	0.499	0.0313	15.96	<.001
	CI2	0.511	0.0314	16.28	<.001
	CI3	0.485	0.0303	16.04	<.001
	CI4	0.585	0.0328	17.83	<.001
	CI5	0.602	0.0328	18.35	<.001
	CI6	0.666	0.0349	19.09	<.001

	CI7	0.690	0.0379	18.22	<.001
	CI8	0.679	0.0378	17.95	<.001
	CI9	0.621	0.0342	18.18	<.001
	CI10	0.624	0.0389	16.02	<.001
	CI11	0.626	0.0389	16.09	<.001
Factor 3	LR1	0.558	0.0400	13.95	<.001
	LR2	0.616	0.0389	15.82	<.001
	LR3	0.529	0.0378	14.01	<.001
	LR4	0.557	0.0330	16.86	<.001
	LR5	0.592	0.0490	12.08	<.001
	LR6	0.610	0.0382	15.98	<.001
	LR7	0.637	0.0339	18.75	<.001
	LR8	0.631	0.0413	15.28	<.001
Factor 4	LR9	0.572	0.0392	14.59	<.001
	IC1	0.501	0.0296	16.92	<.001
	IC2	0.521	0.0261	19.92	<.001
	IC3	0.504	0.0250	20.11	<.001
	IC4	0.518	0.0241	21.50	<.001
	IC5	0.540	0.0269	20.09	<.001
	IC6	0.560	0.0256	21.84	<.001
	IC7	0.586	0.0279	21.01	<.001
Factor 5	IC8	0.454	0.0343	13.24	<.001
	SCE1	0.649	0.0349	18.59	<.001
	SCE2	0.647	0.0330	19.64	<.001
	SCE3	0.705	0.0373	18.90	<.001
	SCE4	0.704	0.0381	18.50	<.001
	SCE5	0.742	0.0415	17.88	<.001
Factor 6	SCE6	0.723	0.0402	17.97	<.001
	CH1	1.157	0.0535	21.60	<.001
	CH2	1.187	0.0534	22.24	<.001
	CH3	1.189	0.0527	22.56	<.001
	CH4	1.174	0.0529	22.19	<.001
	CH5	1.001	0.0566	17.68	<.001
Factor 7	CH6	0.815	0.0590	13.82	<.001
	IA1	0.502	0.0288	17.47	<.001
	IA2	0.507	0.0294	17.27	<.001
	IA3	0.569	0.0281	20.21	<.001
	IA4	0.592	0.0273	21.67	<.001
	IA5	0.604	0.0306	19.76	<.001
	IA6	0.532	0.0330	16.14	<.001

Among the extracted dimensions, Student Cultural Expression exhibited the strongest and most stable item loadings, ranging from .647 to .742, suggesting a highly coherent factor structure. Similarly, Cultural Integration, Linguistic Responsiveness, and Instructional Adaptability demonstrated

moderate to strong loadings, indicating that the items within these constructs consistently represent their respective pedagogical domains.

In contrast, Cultural Awareness and Inclusive Climate showed several loadings near the lower acceptable threshold, such as .410 and .454. While these loadings remain statistically acceptable in exploratory modeling, they indicate comparatively weaker item-construct relationships, suggesting that these domains may encompass broader or more heterogeneous manifestations of culturally responsive practice. From a measurement perspective, such variability is not uncommon during scale development and can inform future refinement during confirmatory validation stages (Hair et al., 2019).

3.2. Assumption Checks

The adequacy of the dataset for factor analysis is strongly supported by the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity. The KMO value of .907 indicates excellent sampling adequacy, suggesting that the intercorrelations among the variables are sufficiently strong to produce reliable factors. According to conventional guidelines in multivariate analysis, KMO values above .90 are considered outstanding, indicating that factor analysis is highly appropriate for the dataset. Complementing this result, Bartlett’s test of sphericity was statistically significant, $\chi^2(1540) = 18073$, $p < .001$, confirming that the correlation matrix differs significantly from an identity matrix and that the variables share sufficient common variance to justify factor extraction (Hair et al., 2019). Together, these statistics provide strong empirical justification for the factor analytic procedure employed in the study.

Table 2. Bartlett's Test of Sphericity

Test	χ^2	<i>df</i>	<i>p</i>
Bartlett's Test of Sphericity	18,073	1,540	< .001

Table 3. Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy

Measure	MSA
Overall KMO Measure of Sampling Adequacy	0.907

3.3. Scale Reliability Statistics

Reliability analysis further confirms the internal consistency of the identified dimensions. Cronbach’s alpha coefficients ranged from .791 to .961, while McDonald’s omega coefficients ranged from .918 to .964. These values substantially exceed the commonly accepted reliability threshold of .70, indicating that the items within each factor consistently measure the same underlying construct. High reliability coefficients suggest that the measurement instrument demonstrates strong internal coherence and that the scale can reliably capture teachers’ culturally responsive pedagogical practices. At the same time, several dimensions exhibited very high reliability values above .90, which may indicate the presence of highly similar or overlapping items within the same construct. Although such values confirm strong internal consistency, they also

suggest potential opportunities for scale refinement or item reduction in future confirmatory studies (Hair et al., 2019).

Table 4. Scale Reliability Statistics

Construct	Cronbach's α	McDonald's ω
Cultural Awareness	0.791	0.918
Cultural Integration	0.957	0.958
Linguistic Responsiveness	0.921	0.925
Inclusive Climate	0.961	0.964
Student Cultural Expression	0.946	0.947
Community-Informed Instruction	0.960	0.961
Instructional Adaptability	0.946	0.948

3.4. Descriptive Statistics for the Dimensions of Culturally Responsive Pedagogy

The descriptive statistics provide additional insights into teachers' perceived implementation of culturally responsive pedagogical practices. The overall grand mean of 4.33 (SD = 0.445) indicates that teachers generally reported high levels of culturally responsive teaching behaviors. Among the seven dimensions, Inclusive Climate obtained the highest mean ($M = 4.67$), followed by Instructional Adaptability ($M = 4.54$) and Cultural Awareness ($M = 4.53$). These results indicate that teachers most strongly perceive themselves as fostering inclusive classroom environments, adapting instructional practices to accommodate diverse learners, and maintaining awareness of students' cultural backgrounds. In contrast, Community-Informed Instruction recorded the lowest mean ($M = 3.53$) and the largest variability ($SD = 1.110$), suggesting that while teachers generally recognize culturally responsive teaching principles, the integration of community knowledge and local cultural contexts into instruction may be less consistently practiced across classrooms.

Table 5. Descriptive Statistics for the Dimensions of Culturally Responsive Pedagogy

Dimensions	Mean	SD
CW1	4.52	0.672
CW2	4.54	0.630
CW3	4.57	0.627
CW4	4.47	0.738
CW5	4.49	0.682
CW6	4.50	0.677
CW7	4.65	2.370
CW8	4.50	0.652
CW9	4.53	0.696
CW10	4.52	0.652
Cultural Awareness	4.53	0.579
CI1	4.41	0.641
CI2	4.47	0.646

CI3	4.51	0.620
CI4	4.40	0.698
CI5	4.42	0.706
CI6	4.39	0.763
CI7	4.29	0.807
CI8	4.26	0.806
CI9	4.33	0.732
CI10	4.25	0.799
CI11	4.31	0.794
Cultural Integration	4.37	0.610
LR1	4.31	0.781
LR2	4.36	0.790
LR3	4.43	0.740
LR4	4.45	0.685
LR5	4.30	0.927
LR6	4.41	0.777
LR7	4.40	0.732
LR8	4.30	0.830
LR9	4.46	0.777
Linguistic Responsiveness	4.38	0.615
IC1	4.61	0.621
IC2	4.66	0.582
IC3	4.71	0.560
IC4	4.71	0.555
IC5	4.67	0.601
IC6	4.68	0.593
IC7	4.66	0.636
IC8	4.59	0.671
Inclusive Climate	4.67	0.532
SCE1	4.35	0.743
SCE2	4.32	0.717
SCE3	4.26	0.802
SCE4	4.32	0.810
SCE5	4.26	0.870
SCE6	4.25	0.855
Student Cultural Expression	4.29	0.710
CH1	3.45	1.229
CH2	3.36	1.241
CH3	3.43	1.233
CH4	3.45	1.229
CH5	3.69	1.199
CH6	3.81	1.167
Community-Informed Instruction	3.53	1.110
IA1	4.58	0.599
IA2	4.53	0.609
IA3	4.54	0.620
IA4	4.53	0.620
IA5	4.53	0.667
IA6	4.52	0.678
Instructional Adaptability	4.54	0.560
Grand Mean	4.33	0.445

The item-level descriptive results reinforce this pattern. Items under Inclusive Climate consistently recorded high mean scores with relatively low variability, indicating strong agreement among respondents that inclusive classroom practices are commonly implemented. Similarly, items measuring Instructional Adaptability showed consistently high means and relatively small standard deviations, suggesting that teachers widely report adjusting instructional strategies to meet diverse learner needs. In contrast, items associated with Community-Informed Instruction displayed noticeably larger standard deviations, indicating greater variability in teacher responses. This statistical pattern suggests that the extent to which teachers integrate community resources, local cultural knowledge, or family engagement into instructional practices differs considerably across respondents.

Among the seven dimensions, Inclusive Climate obtained the highest mean ($M = 4.67$), followed by Instructional Adaptability ($M = 4.54$) and Cultural Awareness ($M = 4.53$). The prominence of Inclusive Climate suggests that teachers prioritize relational and classroom management practices that promote respect, fairness, and emotional safety. This pattern is consistent with prior literature emphasizing that culturally responsive pedagogy often begins with relational foundations and the establishment of equitable classroom environments (Bostwick, 2025; Franco et al., 2024). In multicultural settings, inclusive relational practices are frequently described as the entry point for culturally responsive teaching, as they shape participation and classroom interaction norms (Dunham & Oti, 2025). The high mean for Inclusive Climate therefore reflects alignment with theoretical expectations that relational responsiveness is central to culturally grounded pedagogy.

Instructional Adaptability and Cultural Awareness also yielded relatively high means, suggesting that teachers perceive themselves as attentive to students' backgrounds and responsive to classroom dynamics. Sociocultural theory emphasizes that learning is mediated through interaction and contextual alignment (Eduardo & Gabriel, 2021; Petri et al., 2025). The elevated means for these dimensions suggest that teachers recognize the importance of adjusting instruction and maintaining awareness of learners' sociocultural contexts. In island classrooms where cultural traditions and multilingual realities shape student experiences, attentiveness to context may be perceived as an essential component of effective teaching (Van Genugten & De Ruyter, 2024).

In contrast, Community-Informed Instruction recorded the lowest mean ($M = 3.53$) and the largest variability ($SD = 1.110$). While the mean still falls above the neutral midpoint, the greater dispersion suggests uneven implementation across respondents. This pattern may indicate that integrating community knowledge, family input, and local cultural resources into formal instruction is less consistently practiced. Prior studies note that while culturally responsive pedagogy includes community engagement as a core component, its implementation often depends on contextual factors such as institutional support, time, and access to community networks (Balbuena et al., 2025; Eduardo & Gabriel, 2021). The variability observed in this dimension may therefore reflect differences in teachers' opportunities or confidence in engaging with community-based knowledge within structured curricular requirements.

The contrast between the high mean for Inclusive Climate and the lower mean for Community-Informed Instruction suggests that relational inclusivity within the classroom may be more readily enacted than structured integration of community resources. Findings on culturally responsive pedagogy indicate that while teachers often implement identity-affirming and relational practices, deeper community partnerships may require additional structural coordination (Guzelergene et al., 2025; Ogodo, 2024). The present findings align with this distinction, indicating relative strength in classroom-level relational practices and comparatively less consistency in extending instruction into community-linked domains.

Overall, the descriptive statistics suggest that teachers in multicultural island classrooms in American Samoa report strong engagement in relational, adaptive, and awareness-based aspects of culturally responsive pedagogy. However, integration of community knowledge appears more variable. These patterns provide quantitative elaboration of the qualitative themes and highlight areas where culturally responsive practices may be more firmly established and where further development may be warranted.

3.5. Independent-Samples t-Test Results on Gender Differences in the Dimensions of Culturally Responsive Pedagogy

The independent-samples t-test examining gender differences revealed that most dimensions of culturally responsive pedagogy did not significantly differ between male and female teachers. Specifically, Cultural Awareness, Cultural Integration, Linguistic Responsiveness, Inclusive Climate, Student Cultural Expression, Instructional Adaptability, and the overall scale mean showed no statistically significant gender differences ($p > .05$). This finding suggests that male and female teachers generally report comparable levels of culturally responsive teaching practices across most pedagogical dimensions. However, a statistically significant difference was observed in Community-Informed Instruction, $t(297) = 2.498$, $p = .013$, with a small effect size ($d = 0.3606$). This indicates that female teachers reported slightly higher engagement in community-related pedagogical practices compared with male teachers. According to commonly used effect size benchmarks, this magnitude represents a small to moderate difference, indicating that although the difference is statistically significant, the practical magnitude of the difference remains relatively modest (Hair et al., 2019).

Table 6. Independent-Samples t-Test Results on Gender Differences in the Dimensions of Culturally Responsive Pedagogy

Dimension	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	SE Difference	Cohen's <i>d</i>
Cultural Awareness	-1.813	295	.071	-0.152	0.084	-0.264
Cultural Integration	0.683	295	.495	0.061	0.089	0.099
Linguistic Responsiveness	0.299	297	.765	0.027	0.089	0.043
Inclusive Climate	1.846	296	.066	0.141	0.077	0.267

Student Cultural Expression	0.342	296	.732	0.035	0.103	0.050
Community-Informed Instruction	2.498	297	.013	0.397	0.159	0.361
Instructional Adaptability	0.178	295	.859	0.015	0.081	0.026
Overall (Grand Mean)	1.173	287	.242	0.077	0.065	0.172

From a theoretical standpoint, this finding aligns with Culturally Responsive Pedagogy Theory, which conceptualizes culturally responsive teaching as grounded in professional knowledge, relational orientation, and contextual awareness rather than demographic characteristics of the teacher (Bostwick, 2025; Franco et al., 2024). The comparable levels reported across genders suggest that awareness of learners' cultural identities, linguistic needs, and classroom inclusion practices may be shaped more by shared professional responsibilities and contextual realities than by gender differences. In multicultural island contexts, where teachers navigate similar sociocultural and linguistic environments, pedagogical practices may converge regardless of gender.

The lack of gender differences in Linguistic Responsiveness and Inclusive Climate is also consistent with sociocultural perspectives emphasizing that teaching practices are shaped by interactional demands and community norms rather than individual attributes alone (Eduardo & Gabriel, 2021; Petri et al., 2025). In settings where multilingualism and relational classroom norms are common features of schooling, both male and female teachers may develop similar adaptive strategies to facilitate participation and comprehension. The findings therefore suggest that culturally responsive practices in these domains are embedded within the shared instructional context of the school environment.

However, a statistically significant difference emerged in Community-Informed Instruction, with female teachers reporting slightly higher engagement in community-related pedagogical practices. Although the effect size indicates that the magnitude of the difference is small to moderate, the result suggests some variation in the extent to which teachers report drawing from family and community resources. Prior literature indicates that engagement with families and community networks may be influenced by relational dynamics and patterns of communication within specific cultural contexts (Balbuena et al., 2025; Eduardo & Gabriel, 2021). The present finding may reflect differences in how teachers position themselves within community relationships, although the modest effect size suggests that the distinction should not be overstated. Importantly, the overall pattern indicates that gender does not appear to be a primary determinant of culturally responsive pedagogy practices within this sample. The statistically significant difference in Community-Informed Instruction, while notable, represents a relatively small practical difference. Consistent with pragmatic and sociocultural perspectives, the findings suggest that contextual, relational, and institutional factors may play a more substantial role in shaping culturally responsive practices than teacher gender alone.

3.6. Differences in the Dimensions of Culturally Responsive Pedagogy Between Private and Public School Teachers

The independent-samples t-test comparing private and public school teachers revealed several statistically significant differences across selected

dimensions. Public school teachers reported significantly higher scores in Cultural Integration, Linguistic Responsiveness, and Instructional Adaptability, as well as in the overall culturally responsive pedagogy scale. The effect sizes for these differences ranged from small to moderate ($d \approx .33$ to $.53$), indicating that while the differences are not large, they are meaningful from a practical perspective. In contrast, no statistically significant differences were found for Cultural Awareness, Inclusive Climate, Student Cultural Expression, or Community-Informed Instruction. These results suggest that while teachers across school types share similar perceptions regarding general cultural awareness and inclusive classroom climates, public school teachers may engage more frequently in instructional practices that actively integrate culture, language, and adaptive teaching strategies within classroom instruction.

Table 7. Differences in the Dimensions of Culturally Responsive Pedagogy Between Private and Public School Teachers

Dimension	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	SE Difference	Cohen's <i>d</i>
Cultural Awareness	-0.364	295	.716	-0.031	0.086	-0.054
Cultural Integration	-2.893	295	.004	-0.259	0.089	-0.429
Linguistic Responsiveness	-3.583	297	< .001	-0.318	0.089	-0.528
Inclusive Climate	-0.515	296	.607	-0.041	0.079	-0.076
Student Cultural Expression	-1.362	296	.174	-0.143	0.105	-0.202
Community-Informed Instruction	0.273	297	.785	0.045	0.164	0.040
Instructional Adaptability	-2.904	295	.004	-0.237	0.082	-0.428
Overall (Grand Mean)	-2.135	287	.034	-0.146	0.068	-0.330

The statistical results provide strong empirical evidence supporting the multidimensional nature of culturally responsive pedagogy practices among elementary teachers in American Samoa. The factor analysis confirms a stable seven-dimension structure, reliability analysis demonstrates strong internal consistency across constructs, descriptive statistics reveal generally high levels of culturally responsive teaching practices, and group comparison analyses indicate selective differences across gender and school type. Collectively, these findings provide important quantitative evidence that culturally responsive pedagogy in multicultural classrooms is not a singular teaching behavior but rather a complex construct consisting of multiple interrelated instructional, relational, and contextual dimensions (Hair et al., 2019).

The higher scores among public school teachers in Cultural Integration suggest more frequent incorporation of culturally familiar examples, local contexts, and community-relevant content within instruction. Prior literature emphasizes that culturally responsive pedagogy involves contextual alignment between curriculum and students' lived realities (Franco et al., 2024; Dunham & Oti, 2025). In settings where public schools may serve a broader or more socioeconomically diverse population, teachers may encounter greater variability in student backgrounds, potentially prompting stronger reliance on contextualized instruction. However, the data indicate difference in reported frequency rather than difference in principle, and the magnitude of the effect suggests moderate variation rather than a substantial divide.

Similarly, the higher scores in Linguistic Responsiveness among public school teachers may reflect greater engagement with multilingual instructional adjustments. Sociocultural perspectives highlight that language functions as a mediating tool in learning and that teachers in linguistically diverse classrooms often adapt communication practices to facilitate comprehension (Eduardo & Gabriel, 2021; Gempeso & Mendez, 2021). If public school classrooms include higher proportions of multilingual learners, such adaptations may be more frequently enacted. Nonetheless, because the study did not directly measure classroom composition, this interpretation remains bounded to the statistical pattern observed. Instructional Adaptability also showed significant differences favoring public school teachers. Literature on culturally responsive pedagogy suggests that adaptive teaching practices are closely tied to responsiveness to contextual demands and learner diversity (Bostwick, 2025; Ogodo, 2024). The findings may indicate that public school teachers perceive a greater need to modify instructional approaches in response to classroom dynamics. However, given the moderate effect sizes, the difference should be interpreted as a relative increase rather than a categorical distinction between school types.

In contrast, no significant differences were found in Cultural Awareness, Inclusive Climate, Student Cultural Expression, or Community-Informed Instruction. This suggests that foundational elements of culturally responsive pedagogy, such as recognizing students' cultural backgrounds and fostering respectful classroom environments, are similarly perceived across school types. These findings are consistent with literature indicating that relational and awareness-based aspects of culturally responsive teaching are broadly emphasized across educational settings (Franco et al., 2024; Guzelergene et al., 2025).

The lack of difference in Community-Informed Instruction further suggests that engagement with families and local knowledge may be shaped by broader cultural norms within the island context rather than by institutional classification alone. Consistent with Culturally Responsive Pedagogy Theory and Sociocultural Theory, the findings suggest that culturally responsive teaching in multicultural island classrooms in American Samoa operates as a constellation of interrelated practices rather than a single instructional behavior. The statistical evidence, therefore, supports the conceptualization of culturally responsive pedagogy as a structured yet context-sensitive construct within this setting.

3.7. Integrated Qualitative and Quantitative Findings

The integration of findings followed the building logic of the exploratory sequential design. The qualitative phase generated seven areas of culturally responsive pedagogy practice: Cultural Awareness, Cultural Integration, Linguistic Responsiveness, Inclusive Climate, Student Cultural Expression, Community-Informed Instruction, and Instructional Adaptability. These areas informed the development of the 56-item checklist used in the quantitative phase, consistent with exploratory sequential designs in which findings from the first phase guide the development of the second phase (Creswell & Creswell, 2023; Fetter et al., 2013). The quantitative results provided exploratory support for the seven dimensions derived from the qualitative phase. Exploratory factor analysis

retained the seven-factor structure, and all retained items showed statistically significant factor loadings. Reliability results also showed acceptable to very strong internal consistency across the dimensions. These findings suggest that the practices described by the teacher-participants could be organized into measurable dimensions. Since the instrument was examined through exploratory factor analysis, however, the structure should still be treated as preliminary and subject to further confirmatory testing.

The descriptive results added another layer to the qualitative findings by showing variation in the reported implementation of the dimensions. Inclusive Climate, Instructional Adaptability, and Cultural Awareness obtained the highest means, suggesting that teachers more consistently reported practices related to respectful classroom relationships, flexible instruction, and awareness of students' cultural backgrounds. Community-Informed Instruction obtained the lowest mean and the greatest variability, indicating that engagement with families, elders, and community knowledge was less consistently reported across respondents. The group comparisons further extended the qualitative findings by identifying differences not examined during the interview phase. Most gender differences were not significant, except in Community-Informed Instruction. Differences by school type were observed in Cultural Integration, Linguistic Responsiveness, Instructional Adaptability, and the overall scale. These results suggest that culturally responsive pedagogy in this context may be shaped by school conditions and instructional context, not only by individual teacher awareness.

This interpretation is consistent with views of culturally responsive pedagogy as a multidimensional and context-sensitive practice involving cultural recognition, language mediation, classroom relationships, and community engagement (Bostwick, 2025; Franco et al., 2024). It also aligns with sociocultural perspectives that frame learning and teaching as shaped by language, interaction, and community-based practices (Eduardo & Gabriel, 2021; Gempeso & Mendez, 2021; Petri et al., 2025; Van Genugten & De Ruyter, 2024). Overall, the integrated findings show that the qualitative phase identified the dimensions of culturally responsive pedagogy, while the quantitative phase provided exploratory evidence of their structure, reliability, and variation across dimensions and teacher groupings.

4. Conclusion

Based on the findings of the study, the following conclusions are drawn. First, elementary teachers in multicultural island classrooms in American Samoa describe culturally responsive pedagogy as a multidimensional practice encompassing cultural awareness, integration of local context, linguistic support, inclusive classroom climate, student cultural expression, community-informed instruction, and instructional adaptability. Second, the seven underlying dimensions derived from teachers' lived experiences are empirically supported through exploratory factor analysis. The statistical evidence suggests that culturally responsive pedagogy in this context is not a singular construct but consists of distinct yet related dimensions.

Third, the factor structure generated from the quantitative phase demonstrates acceptable to strong internal consistency. Reliability coefficients indicate that the measurement tool consistently captures the identified constructs among elementary teachers in multicultural settings. Fourth, quantitative findings generally support the qualitative themes and extend them by revealing variability in implementation across dimensions and teacher groupings. While teachers reported high levels of inclusive climate, instructional adaptability, and cultural awareness, community-informed instruction appeared less consistently practiced. Differences across school type suggest contextual influences on certain instructional dimensions. Generally, the study concludes that culturally responsive pedagogy among elementary teachers in multicultural island classrooms is empirically supported, internally consistent, and multidimensional in nature.

5. Recommendations

Based on the results of the study, teacher education and professional development programs may continue strengthening practices related to Cultural Integration, Linguistic Responsiveness, and Instructional Adaptability, particularly because differences were observed across school types. Since Community-Informed Instruction obtained the lowest mean and showed the greatest variability, schools may encourage more structured engagement with families, elders, and community members to support the integration of community knowledge into classroom instruction. Future studies may further examine the seven-factor structure through confirmatory factor analysis and test the 56-item measurement tool in other multicultural or island contexts. Further qualitative inquiry may also focus on Community-Informed Instruction to better understand the conditions that shape its varied implementation among teachers in American Samoa.

6. Limitations of the Study

This study has several limitations. First, the findings are limited to elementary teachers in multicultural elementary school contexts in the Territory of American Samoa. Thus, the results may not fully represent culturally responsive pedagogy practices in other educational levels or cultural settings. Second, the data were based on teachers' reported experiences and perceptions. Classroom observations and learner perspectives were not included, which could have provided additional evidence on how these practices are enacted in actual classroom interactions.

Third, although the 56-item checklist produced a seven-factor structure and showed strong reliability, the instrument was examined only through exploratory factor analysis. Further validation, particularly through confirmatory factor analysis and testing in other contexts, is still needed. Lastly, the group comparisons were limited to gender and school type. Other factors, such as teaching experience, grade level taught, language background, and professional development exposure, were not examined. These limitations indicate that the findings should be interpreted as context-specific and exploratory.

Supplementary Details

Supplementary Materials & Data availability statement (If Applicable):

The data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy and confidentiality restrictions, as they contain information that could compromise the anonymity of the research participants.

Author Contributions:

J.S.W., L.D.A., L.L.D., and S.M.M.; methodology, J.S.W. and S.M.M.; participant recruitment and data collection, L.D.A. and L.L.D.; transcript management and coding, L.D.A. and L.L.D.; data analysis and thematic interpretation, S.M.M.; supervision, J.S.W.; writing—original draft preparation, L.D.A., L.L.D., S.M.M., and J.S.W.; writing—review and editing, J.S.W. and S.M.M. All authors reviewed and approved the final manuscript and agreed to take responsibility for its content.

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Not applicable. The study was conducted in accordance with ethical standards for educational research. Necessary permissions were secured from the concerned educational authorities and participating schools prior to the conduct of the study.

Informed Consent Statement:

The study adhered to ethical standards in research involving human participants. Prior to data collection, participants were provided with a comprehensive informed consent form detailing the purpose of the study, procedures, potential risks and benefits, confidentiality measures, and their rights, including voluntary participation and the option to withdraw at any time without

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The authors declare no conflict of interest.

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The authors used Grammarly only for language editing. No AI tools were used in the data analysis or in generating the study's results. The authors reviewed and validated all content and take full responsibility for the article's accuracy, originality, and integrity.

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