



Predicting Teacher Engagement through Culturally Responsive Teaching: A Mixed-Methods Study in the Marrakech ELT Context

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Abstract

Researchers in this study conducted a linear regression analysis to discover the predictive relationship between culturally responsive teaching (CRT) and teacher engagement (TE) among English as a Foreign Language (EFL) teachers in the Marrakech directorate, Morocco. This study used an exploratory sequential mixed-methods design, in which the researchers first conducted in-depth interviews with 12 EFL teachers to develop CRT and TE scales that were culturally relevant to the context. The researchers then used these scales to collect quantitative data from a sample of 105 secondary school EFL teachers. The research shows a positive, statistically significant correlation between CRT and TE, and linear regression results indicate that CRT explains approximately 10% of the variance in TE, suggesting that implementing culturally responsive teaching practices is indeed associated with students' learning experiences and higher teacher engagement. Researchers believe that to maximize the potential of teacher engagement and professional satisfaction, CRT principles must be embedded in both pre-service and in-service professional development. The study also offers policy implications and recommendations for future research in multicultural English Language Teaching.

1. INTRODUCTION

The number of disengaged teachers has increased rapidly in recent years, and these statistics will affect student welfare and the quality of education provided by schools. Research shows multiple reasons why teacher engagement is decreasing, including, but not limited to: limited professional development opportunities for teachers, increased stress due to the ongoing evolution and growth in demands placed on educational systems, and very limited resources available to educators that support their work. Collectively, these factors tend to demotivate teachers and lead to higher turnover (Hughes, 2012).

The introduction of novel approaches, such as Culturally Responsive Teaching (CRT), into efforts to address poor engagement and retention of effective teachers in schools is part of the necessary work to improve teacher performance. CRT creates an environment where all students are valued and respected, acknowledging and appreciating their various cultural backgrounds and experiences (Nguyen et al., 2019). Students' cultural identities encompass beliefs, values, traditions, languages, and behaviours that shape how they behave in and interact with their communities (Nasir et al., 2014). Culturally responsive teaching acknowledges and values the importance of cultural diversity within the classroom and to a student's ability to

gain knowledge, access the appropriate educational paths, and learn to be a whole and well-adjusted individual in their community. Although there is a need for more in-depth insights, there also appears to be a growing body of evidence that teacher engagement can be positively affected through the implementation of CRT.

Byrd (2016) states that acknowledging a student's cultural identity enables more effective learning and fosters a community-like environment conducive to improved student achievement. Additionally, Floyd (2010) found that adapting teachers' pedagogy to reflect students' backgrounds will inspire and acknowledge their knowledge, abilities, and efforts. Students' cultural identity impacts all aspects of education, including curricular development, teacher training, and classroom management. The goal of this study is to investigate how teachers connect with their students' cultural identity and how that connection influences how teachers incorporate their students' cultural identity into their teaching practices. The research showed that incorporating students' cultural identity into teaching and learning materials would lead to higher student motivation, academic success, and student participation in the learning process (Altugan, 2015). Furthermore, teachers have the opportunity to build stronger relationships with their students to understand their cultures better, deepen their cultural awareness, and implement culturally responsive pedagogy to promote diversity and inclusion. Researchers believe that doing so makes teachers more passionate and dedicated to helping students achieve their fullest potential and overall well-being.

2. LITERATURE REVIEW

2.1. Culturally Responsive Teaching

To support academic success and create pathways for success rooted in culture, educators must recognize, honor, and value students' diverse cultural backgrounds. Culturally responsive teaching enables educators to connect with students through their experiences and values (Li, 2013). Building relationships across many cultures within the education system will show students how to build positive relationships while in school and will also provide them with the skills necessary to develop successful connections. Research has shown that as educators introduce cultural backgrounds into their curriculum, students become more involved and perform at higher academic levels (Christenson et al., 2012).

Studies have also found that incorporating students' identities into the learning process will increase student engagement in learning activities. Garcia and Ortiz (2006) conducted a study to determine the impact of culturally responsive teaching on student engagement and academic performance. Their research found that by using strategies that support students' cultural backgrounds, the teacher increased students' motivation to succeed, improved their performance, and fostered a positive classroom climate. Garcia and Ortiz (2006) suggested using transversal approaches in which ESL instructors collaborate to integrate students' cultural responses into their curricula and align their ESL instruction with non-ESL curricula to provide students with a more cohesive, integrated learning experience.

Ladson-Billings emphasizes the need to integrate socialization to improve educational participation. Their research supports the notion that educators who incorporate students' cultural backgrounds into their pedagogy can foster cohesiveness and connectedness among students (Ladson-Billings, 2000). Hence, this integration promotes greater engagement and interest in the learning process.

Although blending language education with cultural heritage has many documented benefits, we still need to understand the implications of integrating the learners' native culture

and beliefs into their EFL instruction. Gao's research (2021) focused on Chinese students' learning of English and how they negotiate personal identity in EFL classes where traditional Chinese culture and values were strongly represented. Gao's paper is written from the perspective of a Chinese college classroom and outlines how Chinese students addressed their linguistic beliefs and developed their cultural identities through their English Learning. A review of Gao's work through attitude surveys, interviews of EFL instructors, and classroom observation revealed that students gained new knowledge through the opportunities to tell their stories collectively to the world in English. However, Gao also highlighted issues of conflicting ideologies and the development of a complex personal identity that emerged from the infusion of Chinese cultural identity into the instructional practices of EFL instructors (Gao, 2021).

Collectively, these studies support the claim that applying a student's cultural identity when teaching enhances not only academic performance and engagement but also boosts their sense of self-worth. Generally, research has demonstrated that integrating cultural identity in the classroom results in positive outcomes for both students and teachers, as it fosters interactive student-teacher rapport and increases students' academic success and classroom engagement. Thus, the question arises: Can this integration be applied to promote EFL teachers' engagement? In other words, will a teacher be more engaged when he/she integrates a student's cultural heritage into the teaching/learning process? This study will include a measurement of the latent variable of teacher engagement, assuming that a CRT approach will increase teachers' engagement by integrating their students' cultural heritage. Before conducting this study, it is necessary to review the research on teacher engagement as a latent construct.

2.2. Teacher Engagement

Teacher engagement is one aspect of commitment, participation, and enthusiasm for the teaching profession. Gay (2013) describes teacher engagement as the combination of cognitive and behavioural commitment on the part of teachers to their profession and students. Additionally, in a culturally sensitive environment, teacher involvement represents how teachers use, acknowledge, and demonstrate their students' culture in the delivery of instructional content. Furthermore, teacher involvement includes using this asset to develop an instructional plan that values the student's beliefs, traditions, and culture while providing a safe and supportive learning environment (Wah & Nasri, 2019).

Teacher involvement is investigated in various forms in educational research. The emotional aspect of involvement emphasizes the importance of teachers' enthusiasm, energy, and commitment when working with their students (Duncan & Elkins, 2010). The cognitive aspect examines how teachers draw on students' cultural backgrounds when developing instructional strategies and materials (Kincheloe, 2008). Both perspectives include the use of one's professional development through experience, skills, and knowledge. Each perspective addresses the actions and practices of teachers as they create culturally relevant integration in their classrooms, such as selecting resources, adapting instructional techniques, and supporting positive rapport with their students (Yuan, 2017).

In order to assess the impact of teacher engagement on student learning using culturally responsive teaching as a framework, it is necessary to understand what teacher engagement means. Understanding the relationship between teacher engagement and culturally responsive teaching reveals a way that teacher training programs can offer alternative or complementary pathways for preparing pre-service and in-service teachers for fluctuations in teaching. In addition, researching culturally responsive teaching gives insight into what contributes to

creating higher levels of teacher and student engagement, and ultimately leads to improving academic achievement, student motivation, and well-being. (Tucker et al., 2005).

The study attempts to enhance the understanding of culturally responsive teaching in terms of its impact on EFL teachers' engagement with students in the Marrakech directorate, Morocco. This study will assist in identifying strategies and interventions to promote teacher engagement. This will contribute to creating and maintaining a stronger, more supportive, and inclusive environment for students of diverse backgrounds. The next section will examine the connection between culturally responsive teaching and teacher engagement in the EFL context in Marrakech.

2.3. The Moroccan EFL Context: Cultural Dynamics and Textbook Limitations

Culturally Responsive Teaching (CRT) has been primarily studied in Western contexts while the application of CRT principles within North African EFL contexts like Morocco reveals some unique challenges and contexts. In Morocco, the EFL classroom serves as a confluence of the complex interplay between a number of factors of local Moroccan identity (Amazigh/Arab), French colonialism, and the growing popularity of the English language. The growing body of literature indicates that while Moroccan policy documents highlight the importance of intercultural competence, teachers' access to actual tools to provide that competence is often inadequate.

In their analysis of the two most popular Moroccan EFL textbooks, "Window on the World" and "Ticket to English," Astaifi and El Allame (2024) concluded that while some aspects of local culture are included in these books, many of the cultural elements are either focused primarily on the Anglophone cultural model, or they present culture too superficially to provide any meaningful enhancement of student's intercultural awareness. Boustar (2025) argues similarly, stating that while students have a clear preference for interactions with Anglophone cultures, the "old" status of the texts contributes to a gap between students' engagement with their text and their actual engagement with the Anglophone cultures. The result, according to Elghazali (2022), is that Moroccan teachers face additional burdens because of the lack of appropriate instructional materials available to them for developing their students' Cultural Intelligence, or (CQ), and therefore are placed entirely at the mercy of their own active engagement and pedagogical adaptation. As a result, in the Moroccan context, CRT functions as both an instructional strategy and a compensatory tool for teachers to facilitate seamless bridging between the Moroccan source culture and the English target culture, and to support teacher motivation to engage in teaching their students English. The process of actively bridging local and target cultures will serve as a motivational force for teachers' engagement with their work.

3. METHODOLOGY

3.1. Research Question

Starting from this point, a research question emerges: Can culturally responsive teaching practices that reflect and promote students' cultural identity boost teachers' engagement?

3.2. Research Hypothesis

This research was conducted after formulating the following hypothesis:
Alternative Hypothesis (H1): Through the embedding of students' cultural identity in culturally responsive teaching practices (CRT), we can predict teachers' engagement (TE).

3.3. Research Design

The researchers used an exploratory sequential mixed-method research design to conduct this study. The first part of the study consists of the qualitative section to adapt culturally responsive teaching and teacher engagement scales using convenience-based semi-structured interviews. The second part of the study, the quantitative section, was conducted to confirm or deny the alternative hypothesis. As argued by Creswell (2017), social science research often investigates topics that cannot be understood well enough with only one research method. Therefore, the researchers needed to employ exploratory sequential mixed methods in that qualitative research will occur before any quantitative measures are taken. By conducting qualitative research first, it allows the researchers to further define their research questions. Another benefit of conducting qualitative research first is that it allows the extraction of themes and insights, which can help inform the creation of quantitative measures, thus increasing both the validity and reliability of the survey instruments (Creswell, 2017).

3.4. Population

For the qualitative study, 12 EFL practitioners from the directorate of Marrakech participated in conducting convenience semi-structured interviews.

Before conducting the research, all participants were asked to give their consent as a way to validate their formal inclusion in the study. The participants were diverse in terms of gender and included both males and females, all of whom were English Language teachers in either middle or high school settings and aged between 25 and 45 years old. Each interviewee provided input on the purpose of the research and remained anonymous throughout the study using participant numbering from T1 to T12 in order to maintain the confidentiality of individuals.

For the survey, the convenience sample consisted of 105 participants from the Marrakech directorate in Morocco. 35.2% of the sample population comprised practitioners aged between 31 and 40. 29.5% of the participants have been practicing for a period that ranges from 16 to 20 years. 60% of the participants were male practitioners. 54.3% work in urban areas, and 54.3% teach in high schools. 68.6% of these practitioners use ministry-approved EFL textbooks and supplement them by designing their own materials at the same time.

Table 1 *Demographic Characteristics of the Survey Participants*

		N	%
Age	20 to 30	19	18.1%
	31 to 40	37	35.2%
	41 to 50	37	35.2%
	51 to 60	11	10.5%
	61 or more	1	1.0%
Gender	Male	63	60.0%
	Female	42	40.0%
School environment	Urban	57	54.3%
	Suburban	25	23.8%
	Rural	23	21.9%
Years of experience	1 to 5	16	15.2%
	6 to 10	21	20.0%
	11 to 15	20	19.0%
	16 to 20	31	29.5%
	21 or more	17	16.2%

Level	Middle school	48	45.7%
	High school	57	54.3%
Materials	I use ministry-approved EFL textbooks	20	19.0%
	I design my own materials.	13	12.4%
	Both	72	68.6%
Total		105	100.0

Note. 105 teachers participated from the Marrakech directorate, Morocco.

3.5.Data Collection Tools

3.5.1. Survey

This paper uses a questionnaire as its main data collection instrument, and it was developed in accordance with the research objectives and hypothesis. The data collection instrument employed in this study was a carefully selected pair of research scales. This pair serves as a structured tool for gathering pertinent participant information, ensuring a systematic data acquisition approach.

The first scale is adapted from Rhodes' work on validating a culturally responsive teaching survey (Rhodes, 2017), the purpose of which is to pinpoint the extent to which teachers' practices are culturally responsive. The scale contains four constructs: Establishing Inclusion, Developing Attitude, Enhancing Meaning, and Engendering Competence. There are a total of eight items covering all four constructs, as selected and adapted from the original sixteen items, according to the qualitative findings to be consistent with the attitudes of Moroccan ELT practitioners as well as the research objectives. Each item has been given a rating on a five-point Likert-type scale as follows: Never, Sometimes, About half the time, Most of the time, Always.

The second scale was created based on a previously validated study about teacher engagement (Klassen et al., 2013). The scale consists of four areas that look into how teachers engage emotionally, cognitively, socially with their colleagues and students. The previous 16 questions were shortened to 11 questions based on the qualitative findings. The questions were designed specifically to provide as much detail as possible on the main areas of interest for the study, and it was possible to provide clear directions and logical order for the participants included in the survey to ensure that the participants understood how to complete the survey correctly. To check the accuracy and fit of the acquired data, the questionnaire underwent a rigorous pre-testing phase, where feedback from a pilot group was solicited and incorporated into the final version, and a test of reliability was conducted.

3.5.2. Convenience Semi-Structured Interviews

Because of the considerable number of items that resulted from the combination of the CRT and TE scales, the researchers concluded that it is imperative to adapt the CRT and TE surveys to the research context and objectives by conducting convenience semi-structured interviews with experts in the concerned domain (Teachers of English as a Foreign Language). The ease of access to the participants and proximity to the researchers explain the selection of this sampling method. Also, face-to-face interviews would provide the researchers with more in-depth ideas about the interviewees' responses. 12 EFL practitioners participated, and semi-structured interview guides were used to gather their perception of culturally responsive teaching as a prominent educational approach to boost teacher engagement. The interview was also intended to investigate the opinions of the participants regarding the probable correlation

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between CRT and TE. Given that the participants were established Teachers of English as a foreign language, the interviews were conducted exclusively in English. Subsequently, the interviewees gave their permission to record the interview sessions. The interviews were conducted individually and in-person.

A two-fold recording approach was used during this process to prevent data loss. The interviews lasted for a total of 5 hours, 17 minutes, and 45 seconds. The interviewees' responses were recorded and transcribed using the Google Docs transcription feature; after that, they were thematically coded and analyzed using NVivo 12.

To guarantee a satisfactory level of qualitative data reliability, a Pearson Correlation test was conducted to check the semantic similarity between interviewees' responses. In addition, a fellow researcher and EFL high school teacher was called to provide more insights in the form of a confirmatory coding process on the same data set, and eventually check the inter-rater reliability rate.

A cluster analysis was conducted to validate word similarity based on Pearson's Correlation Test between the responses of the 12 interviewees. The Analysis revealed satisfactory rates that range between 0.76561 and 0.829297, and an optimal level of reliability was revealed through the Kappa inter-rater reliability test, gravitating around 100% agreement.

The rationale behind adapting an exploratory sequential mixed methods approach is for the qualitative data to inform the quantitative step, and to make the adopted surveys more accessible and convenient to the sample by reducing the number of items in a way that is justified by the perceptions of the interviewees. In order to corroborate the adapted scales, the researchers opted for a quantitative step, a survey was developed to confirm the internal cohesion between the items.

After transcription, data were coded to identify recurring words, phrases, and themes. The coding process generated themes that were reviewed to ensure their convergence with the study objectives and constructs upon which the quantitative scales were designed.

The Items/Themes verification process led to the decision to use the theme of "Manifestations of CRT." This theme includes three nodes which are: "Inducing Competence," "Promoting Inclusion," and "Promoting Learning." To accomplish an adequate alignment, three factors from the qualitative findings were matched with Rhodes' original CRT scale (Rhodes, 2017). The three factors that were kept are: Establishing Inclusion, Enhancing Meaning, and Engendering Competence which included eight items and modifications to ensure alignment with the research objectives (See Table 2).

Table 2 *Thematic Analysis and Adaptation of the Culturally Responsive Teaching (CRT) Scale*

<i>Generated codes</i>	<i>Maintained original factors (Rhodes, 2017)</i>
Promoting Learning	Enhancing Meaning
Inducing Competence	Engendering Competence
Promoting Inclusion	Establishing Inclusion

Note. Original scale factors adapted from Rhodes (2017).

The theme that would serve the adaptation process of the TE scale was identified as: "Manifestations of TE". This theme comprised the following nodes: "Professional Commitment," "Social Commitment," and "Necessary Traits." In order to align Klassen's TE scale (Klassen et al., 2013) with the findings of the thematic analysis, three factors were retained: "Social Engagement," "Emotional Engagement," and "Cognitive Engagement;"

comprising a total of 11 items that were maintained and modified to guarantee an optimal degree of comprehension and resonance with the Moroccan ELT practitioners (See Table 3).

Table 3 Thematic Analysis and Adaptation of the Teacher Engagement (TE) Scale

<i>Generated codes</i>	<i>Maintained original factors (Klassen et al., 2013)</i>
Professional Commitment	Cognitive Engagement
Social Commitment	Social Engagement
Necessary Traits	Emotional Engagement

Note. Original scale factors adapted from Klassen et al. (2013).

3.6. Pre-Treatment of Survey Data

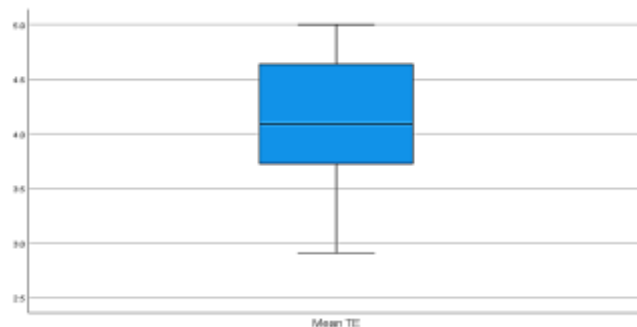
3.6.1. Data Computation

In order to facilitate subsequent inferential statistical analyses, data computation was performed so that all the items representing a particular variable were computed into a single value. Items 7 to 14 were computed based on the mean to make up the CRT variable, and items 15 to 25 were also computed to make up the TE variable. This was performed using SPSS Software 21st version using the ‘Compute Variables’ feature.

3.6.2. Data Cleaning

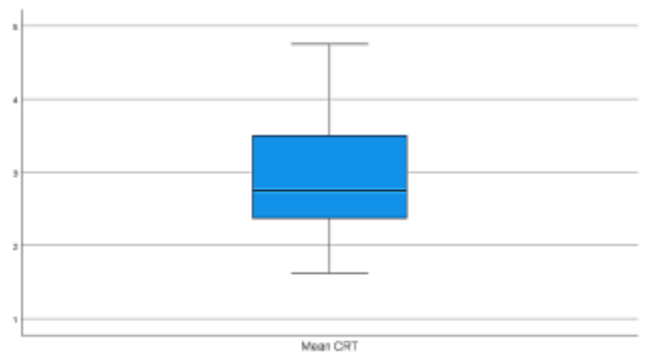
Boxplots for Mean TE and Mean CRT (Figures 1 & 2) were inspected to identify potential outliers. No data points were observed outside the whiskers (defined at $1.5 \times IQR$). Therefore, no outliers were detected for either variable.

Figure 1 : Boxplot of Mean TE Scores.



Note. The boxplot displays the distribution of TE scores. No outliers were observed.

Figure 2 : Boxplot of Mean CRT



Note. The boxplot displays the distribution of CRT scores. No outliers were observed.

3.6.3. Validity and Reliability

The survey items were reviewed for relevance, clarity, and cultural appropriateness by two ELT supervisors and three senior ELT colleagues with substantial experience in English language teaching. Based on their feedback, minor modifications were made to improve item wording and contextual suitability. This expert review helped ensure the content validity of the instrument.

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The first set of questions aims to collect the demographic information of the participants to be better equipped with a clear description of the sample. The items devoted to this section are primarily 1, 2, 3, 4, 5, and 6. The first scale is that of (CRT), or Culturally Responsive Teaching, and it contains 8 items, from item 7 to item 14. The second scale is (TE), or Teacher Engagement, which contains 11 items, from item 15 to item 25. The researchers conducted a Cronbach's alpha test to confirm the reliability of the data collection instrument. The test yielded satisfactory results: $\alpha = \text{CRT} = 0.789$, $\text{TE} = 0.849$.

Table 4 Internal Consistency Reliability Coefficients for Study Scales

Scale	Items	α
Culturally Responsive Teaching (CRT)	8	0.789
Teacher Engagement (TE)	11	0.849

Note. CRT = Culturally Responsive Teaching; TE = Teacher Engagement. α represents Cronbach's alpha.

4. RESULTS .

4.1.The Survey

The descriptive statistics show that the mean of the CRT scale is (**M= 2.9607 / SD = 0.73140**) and the TE scale is (**M= 4.1195 / SD= 0.57996**) knowing that the points are clustered to the means which makes the current value more accurate. (See Table 5)

Table 5 Descriptive Statistics for Research Variables

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Mean CRT	105	1.63	4.75	2.9607	.73140
Mean TE	105	2.91	5.00	4.1195	.57996
Valid N (listwise)	105				

Note. SD = Standard Deviation. Minimum and Maximum values represent the averaged Likert scale scores (1–5).

4.2.Test of Normality

To determine the appropriate inferential tests, we assessed the normality of CRT and TE using the Kolmogorov-Smirnov and Shapiro-Wilk tests. For both variables, the normality tests produced p-values less than .05 (See Table 6), which indicates a statistically significant deviation from normality.

However, skewness and kurtosis values for both variables (CRT Skewness = 0.448, kurtosis = -0.623; TE Skewness = -0.126, kurtosis = -0.974) (See Table 7) were within commonly accepted thresholds (± 1 for Skewness, ± 2 for kurtosis), suggesting only mild departures from normality. Visual inspection of the histograms (Figures 3 and 4) showed approximately symmetric, bell-shaped distributions.

Given the sample size (N=105) and the relatively minor deviations from normality indicated by descriptive statistics and histograms, we proceeded with parametric and non-parametric tests, acknowledging the normality violation in the limitations section.

Table 6: Tests of Normality for CRT and TE Distributions

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Mean TE	.118	105	.001	.955	105	.001
Mean CRT	.144	105	.000	.961	105	.003

a. Lilliefors Significance Correction

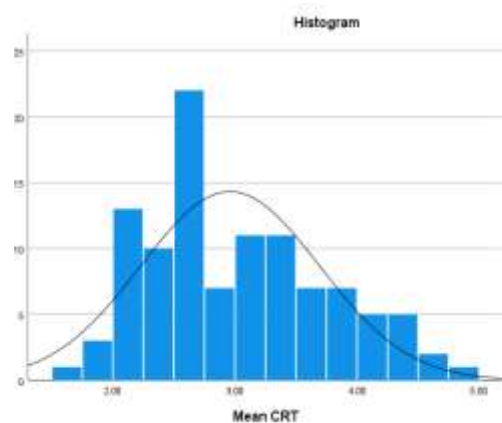
Note. *df* = degrees of freedom. A significance value of $p < .05$ indicates a deviation from the normal distribution.

Table 7 Skewness and Kurtosis Statistics

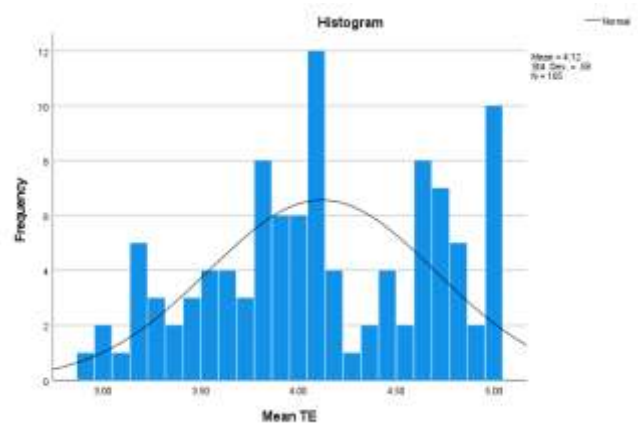
	Descriptive Statistics				
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Mean CRT	105	.448	.236	-.623	.467
Mean TE	105	-.126	.236	-.974	.467
Valid N (listwise)	105				

Note. Standard Error (*SE*) for Skewness = .236; *SE* for Kurtosis = .467.

Figure 3: Frequency Distribution of CRT Scores. Figure 4: Frequency Distribution of TE Scores



Note. The histogram shows an approximately symmetric, bell-shaped distribution for CRT scores, despite the Shapiro-Wilk test indicating a deviation from strict normality.



Note. The histogram shows the frequency of Teacher Engagement (TE) scores, with mild negative skew and an overall normal distribution.

4.3. Correlation

The Normality tests (Kolmogorov-Smirnov and Shapiro-Wilk) and the Skewness and Kurtosis test yielded results that led the researchers to investigate the correlation between the

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two variables using a “Pearson Correlation Test.” The outcome of this test was a P-value of 0.001 and a correlation coefficient of ($r = 0.312$) (See Table 8). A “Non-parametric Spearman Correlation Test” was also performed to validate the results from the Pearson test, and although it yielded slightly different P-values, the overall pattern and effect sizes were very similar to those from the Pearson test.

Table 8 *Pearson Correlation Matrix Between Culturally Responsive Teaching and Teacher Engagement*

		Mean CRT	Mean TE
Mean CRT	Pearson Correlation	1	.312**
	Sig. (2-tailed)		.001
	N	105	105
Mean TE	Pearson Correlation	.312**	1
	Sig. (2-tailed)	.001	
	N	105	105

** . Correlation is significant at the 0.01 level (2-tailed).

Note. $p < .01$ (2-tailed).

Table 9 *Spearman Rank-Order Correlation Matrix*

		Mean CRT	Mean TE
Spearman's rho	Mean CRT	1.000	.303**
	Correlation Coefficient		.002
	Sig. (2-tailed)	.	.002
Mean TE	Correlation Coefficient	.303**	1.000
	Sig. (2-tailed)	.002	.
	N	105	105

** . Correlation is significant at the 0.01 level (2-tailed).

Note. Spearman’s rho was calculated as a robustness check for the parametric Pearson correlation. $p < .01$ (2-tailed).

4.4. Linearity and Homoscedasticity Checks

The results from the ANOVA (see Table 10) demonstrate, through the p-value ($p=0.002$), that there is a statistically significant linear relationship between the average CRT and TE values whereas the p-value ($p=0.839$) indicates that there is no significant difference in the average CRT and TE from the linear trend. This indicates that the relationship between CRT and TE is primarily linear.

Table 10 *ANOVA Results for Linearity Testing*

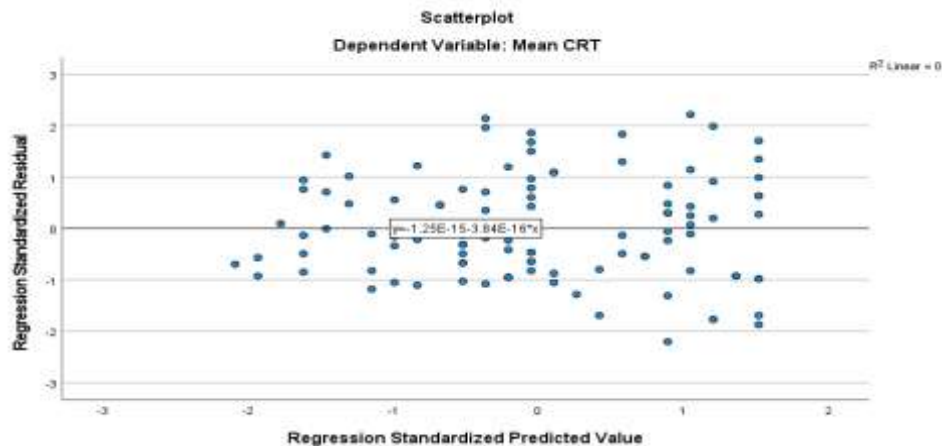
ANOVA Table	
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			Sum of Squares	df	Mean Square	F	Sig.
Mean TE * Mean CRT	Between Groups	(Combined)	8.647	24	.360	1.095	.369
		Linearity	3.400	1	3.400	10.330	.002
		Deviation from Linearity	5.246	23	.228	.693	.839
Within Groups			26.334	80	.329		
Total			34.980	104			

Note. The significance level of the Deviation from Linearity ($p = .839$) supports the assumption of a linear relationship.

The scatterplot of standardized residuals vs. standardized predicted values (Figure 5) indicates a random pattern and distribution of residuals about 0. No evidence exists for heteroscedasticity, thus meeting the assumption for homoscedasticity.

Figure 5 Scatterplot of Standardized Residuals Versus Standardized Predicted Values



Note. The random distribution of residuals around the zero line indicates that the assumption of homoscedasticity has been met.

4.5.Linear Regression

A linear regression analysis showed that the Mean CRT significantly predicts the Mean TE positively, indicated by the significant unstandardized coefficient B for Mean CRT = 0.247 (SE = 0.074, $t = 3.33$, $p = .001$) (See Table 13) or that the Mean TE will increase on average by 0.247 for every one unit increase in Mean CRT. The Standardized Coefficient Beta indicates a moderate effect size (0.312) (See Table 11). The intercept of the regression model is 3.388 (SE = 0.226, $t = 14.97$, $p < .001$), which represents the predicted value of Mean TE when Mean CRT = 0. Therefore, there is a statistically significant and meaningful linear relationship between Mean CRT and Mean TE.

Table 11 Model Summary for the Regression of CRT on TE

Model Summary ^b				
Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.312 ^a	.097	.088	.55372

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- a. Predictors: (Constant), Mean CRT
- b. Dependent Variable: Mean TE

Note. Predictors: (Constant), Mean CRT. Dependent Variable: Mean TE.

Table 12 ANOVA Results for the Regression Model
ANOVA^a

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.400	1	3.400	11.090	.001 ^b
	Residual	31.580	103	.307		
	Total	34.980	104			

- a. Dependent Variable: Mean TE
- b. Predictors: (Constant), Mean CRT

Note. The *F*-statistic indicates the regression model is statistically significant ($p < .001$).

Table 13 Regression Coefficients for Culturally Responsive Teaching as a Predictor of Teacher Engagement

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.388	.226		14.967	.000
	Mean CRT	.247	.074	.312	3.330	.001

- a. Dependent Variable: Mean TE

Note. *B* = unstandardized coefficient; *SE* = standard error; β = standardized coefficient. $p < .05$.

5. DISCUSSION

Teachers of English as a Foreign Language (EFL) form a vital foundation of the educational system in Morocco and help extend EFL instruction to middle school students. It is important to harvest the positive effects that teacher engagement has on student achievement; this has been shown in numerous studies in the literature. With respect to culturally responsive teaching practices, this study, using regression analysis, has established that their implementation enhances EFL teacher engagement. In other words, the results of this study supported the literature that emphasized the importance of valuing and recognizing students' cultures when developing EFL lesson plans, thereby increasing EFL teachers' commitment to and interest in EFL education (Gay, 2013; Ginsberg, 2005). Furthermore, the results are consistent with studies conducted in other parts of the world, including those by Byrd (2016) and Portes et al. (2018), which found that culturally responsive teaching approaches improve students' academic performance and teachers' engagement. The study will examine culturally responsive teaching by addressing the challenges and opportunities associated with the many cultures and languages in Morocco. The research also highlights the need for EFL teachers, teacher trainers, and teacher training institutions to create EFL classrooms that are as inclusive as possible of students from diverse backgrounds.

The qualitative study aimed to adapt the CRT and TE scales. The factors retained after the thematic analysis and coding process are “Establishing Inclusion”, “Enhancing Meaning”, and “Engendering Competence”, which accounted for a total of 8 items in the CRT scale.

T8 emphasized the need to revise the educational curriculum to better serve all students, especially those from local cultures, by incorporating cultural context. This practice is referred to as Culturally Responsive Teaching (CRT), in which teachers teach their students using inclusive methods. T8 stated that when teachers connect world events to local cultural experiences, it helps students feel connected and involved and provides adequate context for understanding and comprehending the learning materials (Salmona et al., 2015). CRT creates a deeper understanding of concepts by linking them to students’ real-life experiences and allows them to think critically about global issues through the lens of their own local experiences. Therefore, T8’s response is a good example of how a teacher can incorporate CRT into their curriculum development process by honoring their students’ cultural traditions through flexible, creative methods. This approach aids to enhance the overall quality of student learning.

“Adapting the curriculum to include topics that are relevant to the students’ cultural contexts is another manifestation of CRT. For example, when discussing global issues, I relate them to local events or concerns that resonate with the students.”
(T8’s response)

According to T12, it is essential for culturally responsive pedagogy to allow all students to express their thoughts and feelings using a range of media/modes. T12 saw that incorporating multimodality into the classroom allowed teachers to connect with students in a way that is deeper than through their cultural expression alone; it enabled the teacher to construct new meaning through that cultural expression and create a learning environment in which students are validated and valued as learners (Lin & Kinzer, 2003).

“Providing opportunities for students to express themselves in ways that are culturally meaningful to them, such as through music, art, or storytelling is a manifestation of CRT. This not only engages them but also validates their cultural expressions.” (T12’s response)

According to T11’s response, enthusiastic teachers create an enjoyable learning environment for their students. The teacher’s enthusiasm stems from a love of their subject matter and a passion for teaching, which motivates students to engage in the classroom. Teacher enthusiasm can inspire students to become involved in the learning process and to make deeper connections with the material (Patrick et al., 2000). When the connection between teacher and student is established through an enthusiastic exchange, both interactants benefit from a positive loop in which increased student engagement stimulates increased teacher enthusiasm, and vice versa, creating an engaging and dynamic learning environment for all stakeholders in the educational process.

“Engaged teachers often show a high level of enthusiasm in the classroom. Their passion for the subject matter and for teaching in general is contagious, encouraging students to participate and engage more deeply with the material.” (T11’s response)

In total, the TE scale has 11 items that consist of three factors, namely: the “Emotional Engagement,” “Cognitive Engagement,” and “Social Engagement” factors; while the interviewed EFL practitioners’ responses showed fewer significant nodes/themes related to the two factors that were deleted from both the original CRT Scale and TE scale: “Developing Attitude” and “Social Engagement with Colleagues” respectively. The researchers chose to

discard the last two factors, thus ensuring maximum cultural relevance, understanding, and alignment of the TE scale with the pedagogical methodologies and the professional context in which Moroccan ELT practitioners operate.

T4's response emphasizes the value of professional development, which gives a clearer definition of teacher engagement. Engaged educators demonstrate commitment to their own professional growth and a desire and determination to improve their instructional practices through continued participation in various types of professional development and through engagement with emerging trends and practices. Furthermore, as educators update and refine their skills, they also demonstrate their level of commitment to providing their students with high-quality educational experiences (Alshehry, 2014).

“Continuous professional development is another sign of teacher engagement. Engaged teachers seek out opportunities to learn new skills, attend workshops, and stay updated on the latest educational trends and methodologies.” (T4's response)

According to T2's response, teachers' commitment to the community can be viewed as an extension of teachers' commitment to their students' success. By participating in various school events, such as play productions, coaching sports teams, or sponsoring clubs, teachers demonstrate their commitment to the school and community they serve. Teachers' involvement in many different activities in the school increases their connections with students, creates a trusting and collaborative environment for teachers and students, and ultimately helps to create and foster a shared sense of belonging and vitality within the school community (Pianta et al., 2012).

“An engaged teacher is often seen actively participating in school events and activities outside of the classroom. Whether it's organizing a school play, coaching a sports team, or leading a club, these activities show a deep commitment to the school community.” (T2's response)

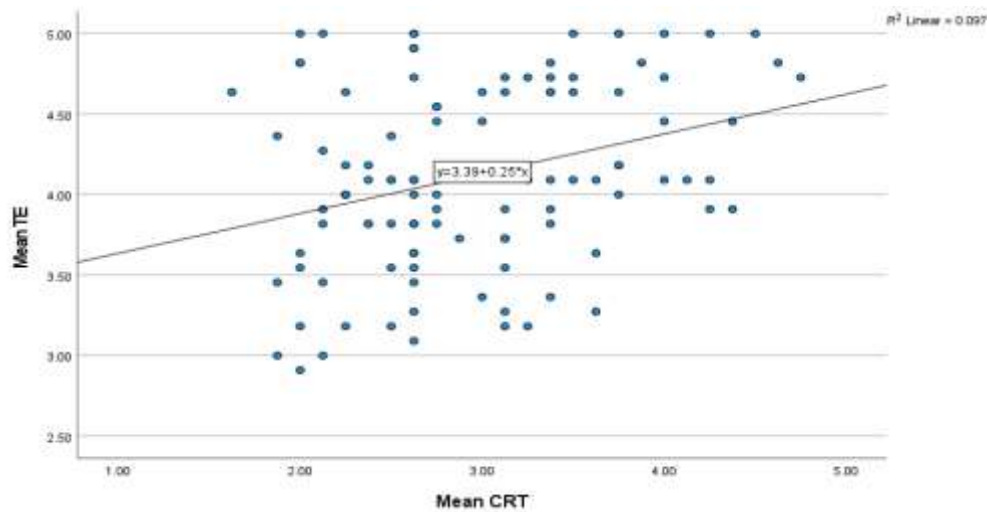
Regarding the survey, the CRT Mean among EFL practitioners falls within the value of “About half the time” (M=2.9607 / SD = 0.73140), indicating that these practitioners' teaching practices are culturally responsive about half the time. This calls for more efforts to promote culturally responsive practices to obtain more substantial results. On the other hand, the TE Mean among EFL practitioners falls within the “Somewhat agree” category (M = 4.1195 / SD = 0.57996), indicating that these practitioners partially agree that they are more engaged when their practices reflect their students' cultural identity.

In order to prove the predictive relationship between culturally responsive teaching and teacher engagement, a normality test was conducted. As shown in Table 6, CRT and TE P-values < 0.05, meaning a statistically-proven deviation from normality. The Skewness and Kurtosis indicators of both scales, however, were within the commonly agreed-upon limits (See Table 7). This permitted the use of a Parametric Test: Pearson Correlation, and a non-parametric one: Spearman's rho, for a more robust check.

The researchers investigated the correlation between the two variables: CRT and TE. There is a statistically significant positive association between Mean CRT and Mean TE, as demonstrated by both parametric (Pearson) and non-parametric (Spearman) correlation analyses, as both are significant at the 0.01 level ($p < 0.01$). Linear regression analysis was performed to examine the influence of CRT on TE. According to the regression analysis, the F value was significant ($F = 13.018$, $p\text{-value} < 0.05$), indicating that the model was statistically significant. The regression model showed that the variable CRT explained $\approx 10\%$ of the variance of the variable TE. The following regression model is obtained: $TE = 3.39 + 0.25 x$

CRT (Figure 6). Thus, we cannot reject the alternative hypothesis; teacher engagement can, indeed, be predicted by culturally responsive teaching practices.

Figure 6 Scatterplot of TE by CRT With Regression Line



Note. The fitted regression line illustrates the positive linear relationship between the two variables. The regression equation is $TE = 3.39 + 0.25 \times CRT$ ($R^2 = .097$)

6. CONCLUSION

This research investigated how Moroccan EFL instructors engaged with their students and the relationship between students' cultural identity and the way instruction was delivered. The intent was to determine whether instructional engagement was positively correlated with the extent to which EFL instructors regard their students' culture. The majority of participants in this research indicated some familiarity with CRT, and thus used a partially CRT-based approach in their teaching practices.

Interviews with EFL teachers and surveys revealed that EFL instructors were more engaged with their students when they taught in a more culturally inclusive manner. The relationship between EFL instructors' engagement in culturally inclusive pedagogies has been established through predictive analysis techniques.

Much research supports the theory that CRT has a positive impact on student academic achievement and social development (Cummins et al., 2015), and thus supports the qualitative findings of this study, which demonstrate a clear relationship between a student's cultural identity and their success in school. Teachers in this study expressed a strong desire to use CRT techniques more actively to foster greater student engagement, and the findings corroborate those of Berlian and Huda (2022) and underscore the importance of incorporating CRT into both pre-service and in-service EFL teacher training.

7. Limitations

Although this research provides insight into the relationship between Culturally Responsive Teaching (CRT) pedagogy and Teacher Engagement (TE), the study has limitations that need to be considered. Firstly, the lack of an established operational definition for CRT raises questions regarding how EFL teachers implement it; consequently, there may be significant variability amongst teachers in terms of how they implement CRT and this could therefore impact the findings of the research. Previous research has indicated that teaching

materials, school community environment, and teacher experience would also have an influence on the results of this research.

Secondly, although parametric tests (Pearson correlation and Linear Regression) were used in the analysis of the data collected in this study, it should be noted that the data collected was not normally distributed (shapiro wilk test $p < .05$); therefore, caution should be taken when interpreting these statistical analyses though skewness and kurtosis results were within the acceptable range for parametric test analysis.

Thirdly, the research design of this study was cross-sectional, and the data was only collected once, therefore the results represent a predicted relationship between TE and CRT, rather than a causal one. Although CRT was identified as a moderate predictor of TE, the research design does not allow for the assumption of CRT directly leading to an increase in TE. It is also conceivable that EFL Teachers who naturally engage with their students are more likely to engage in CRT teaching practices.

Also, the researchers relied on convenience sampling to collect data in the qualitative component, and while using convenience sampling can provide insight into a population, there are limitations on the generalizability of the results due to not having a representative sample of the entire EFL teacher population in Morocco. Future studies may want to employ stratified or random sampling as well as longitudinal research designs to further explore causative effects of TE and CRT.

7.1. Implications and Recommendations

The study has potential implications for educators, education policymakers, and academics. It will enable teachers to develop classrooms that engage students more effectively by developing a more inclusive learning environment; thus, enhancing student engagement and performance. Through this research, teachers will have an opportunity to improve their practice as educators by using and applying what they learn from their students' cultures. By understanding and using their students' cultural identities, educators can modify their teaching practices and/or instructional materials to better meet students' needs. Additionally, educators will be better able to understand and address the need to integrate cultural identity before implementing these practices in the school curriculum, given that much educational research currently focuses on diversity and inclusion. In general, these findings will provide policymakers with an avenue to advocate for the use of culturally responsive practices within their broader framework. This will ensure that culturally responsive teaching practices are appropriately incorporated into schools' daily operations and create opportunities for individuals interested in becoming teachers to receive professional development in their use. Finally, teacher trainers must provide ongoing assessment and review of the curriculum and materials used to train teachers in light of this context and monitor teacher engagement levels during the training period and in-service professional development.

This study builds on the existing literature and adds to the body of knowledge on culturally responsive teaching and its ability to help students achieve academic success. However, this study also includes data demonstrating the value of CRT in enhancing Teacher Engagement with students. The most significant finding of this study was the confirmation of findings from the literature in the local context of the Marrakech directorate, Morocco; therefore, this paper provides further evidence of the positive influence of Cultural Responsive Teaching on Teacher Engagement. Future studies should continue to investigate these relationships and provide additional insight into how to implement CRT. This study provides

several examples of the various factors that influence Teacher Engagement and the development of Culturally Responsive Teaching, which should be considered in future studies. Also, it is important to examine the impact of geographical context, teaching resources, and learner age group on the effectiveness of CRT for TE development to determine the most effective approach for developing TE. Future studies in this area may provide a wealth of knowledge on the CRT and TE dynamics.

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