Research Article

Perspectives on Critical Pedagogy and Materials Development: Psychometric Properties of a Critical Pedagogy-based Materials Development Scale

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ABSTRACT

As a transformative approach, Critical Pedagogy (CP) explores the dialogic relationship between teaching and learning. As steps toward materializing the tenets of Critical Pedagogy (CP), the present study aimed at obtaining pieces of evidence for identifying instructors' and teachers' perspectives on a newly developed Critical Pedagogy (CP) based materials development scale in an EFL context to assess the validity and reliability of the newly developed scale. In doing so, 356 EFL instructors and teachers from different educational contexts in Iran were selected through availability sampling. To determine the validity and reliability of the scale, a quantitative study using a survey-correlational design was employed. The instrument used for data collection was the scale already developed for Critical Pedagogy (CP)-based materials development in a previously conducted study by the same researchers of the present study. To analyze the data, SPSS and AMOS 26 were employed using Exploratory and Confirmatory factor analysis, along with Cronbach's Alpha test. The outcomes provided evidence that supported the validity and reliability of the developed scale. It was concluded that the already-constructed scale based on Critical Pedagogy (CP) tenets could be applied to the EFL materials. The outcomes can be beneficial by notifying the EFL teachers, materials developers, and researchers that education is a two-way process in which teachers and learners cooperate with each other to create efficient educational contexts. This scale is the representative of the macro-level of society and micro-level of classroom language skills leading to social transformation.

Introduction

Critical Pedagogy (CP) is theoretically the product of the Marxist and neo-Marxist theory and the representation of the Critical Theory of the Frankfurt School. This School sought to interpret Marxism and its philosophy to develop a theory of

the relationships between economics, psychology and culture using the theoretical framework of Marxism. CP emphasizes critical awareness and helps learners become aware of the characteristics of the features of human institutions, relationships, knowledge, and education. Its primary goal is to address and counteract the institutional and ideological hegemony of certain groups over others. (Gruenewald, 2003).

Since its inception, CP has impacted curriculum reforms theoretically and practically. The advocates believe that a CP-oriented approach creates dynamic conditions by combining elements of different schools and offering an approach to human life that intertwines the past, future, and present. Indeed, the 21 century has been characterized by the widespread influence of these perspectives in various areas of English Language Teaching (ELT), encompassing diverse aspects of curricula such as content, management, and assessment (Wei, 2018)

Instructional materials, curricula, and syllabuses are entirely related to the concept of CP and are inevitable parts of many educational systems. The CP-based materials, built upon the principles of CP, aim to educate all students from diverse backgrounds in terms of culture, ethnicity, color, religion, and social class (Lie, 2000). In the existing literature, there are various aspects of CP-based educational curricula, including linguistic diversity, intercultural awareness, lack of discrimination and prejudice in education, and the provision of diverse educational facilities for all learners from different cultures, races, colors, and social classes (Valdez, 2020).

Considering the aforementioned points, and particularly given that some CP-based English Language Teaching (ELT) changes have recently been supported to address issues experienced by EFL learners and teachers (Wei, 2018), it is expected that developing a CP-oriented scale for materials development will contribute to beneficial and constructive transformations in Iran's current educational system. In this case, Widodo et al. (2017) believed that educational developments in Asia should enable teachers to "recontextualize" the way they teach to take learners' needs, wishes, and interests into consideration. Nevertheless, after a thorough examination of the current body of literature and using field observations, the researchers found that Iran's ELT system of education has not been formulated and responsive to CP-based changes and transformations (Barjesteh et al., 2013). In this system language skills are paramount and, as Pennycook (1999) argued, these commercially published EFL materials do not reflect the values, beliefs, and realities of local contexts. In support of this stance, Zohrabi et al. (2019) have evidenced the prevalence of a rigid system of EFL teaching and learning in Iran. Within this system, some predetermined English materials are taught with restricted scope for the expression of teachers' and learners' perspectives, roles, participation, and contributions in the educational process. This alone, as highlighted by (Giroux, 2010), has the potential that deprives learners and teachers of responsibility, creativity, and activity in the process of language learning. Furthermore, the diverse learning needs of the new generation have been neglected in today's global village. Accordingly, the researchers have observed that students and teachers in their own teaching contexts demonstrate negative feelings and attitudes towards the current EFL materials.

It is explicitly argued that CP principles should be incorporated into curriculum development if EFL material developers and stakeholders in the EFL context intend to make the current ELT system more congruent with the latest social, cultural, and political developments (Kohnke, 2019). In this way, EFL learners will be better prepared for living in today's global village, aligning with the global educational orientation (Sadeghi, 2010). This necessity is deeply felt in Iran as a multi-ethnic and multicultural country including Persians, Kurds, Lurs, Arabs, Baluchs, etc. with different social classes. In this case, CP-based English language teaching materials provide all these groups with an equal opportunity to enhance their language proficiency while sharing innovative perspectives (McLaren, 2016).

Furthermore, as the existing literature indicates, while a number of studies (e.g., Abdollahzadeh & Haddad Narafshan, 2016; Adel et al., 2019; Akbarpour & Sahragard, 2016; Aliakbari & Allahmoradi, 2012; Aliakbari & Azimi Amoli, 2014; Aliakbari & Sadeghdaghighi, 2013; Alvandi

et al., 2015; Birjandi & Bagherkazemi, 2010; Davari et al., 2012; Shangarffam & Rahnama Roud Poshti, 2011; Rashidi & Safari, 2011; Ataei & Moradi, 2016; Barjesteh et al., 2015; Biria et al., 2017) have touched CP from different perspectives, there remains a noticeable absence of a comprehensive, valid, and reliable CP-based scale for materials development in the EFL context of Iran. In fact, the previous studies have mostly addressed CP principles at a theoretical level (Adel et al., 2019). More specifically, there are a limited number of research works (e.g., Rashidi & Safari, 2011; Rahimi et al., 2015; Barjesteh et al., 2015; Biria et al., 2017) that focus on developing models that offer practical, valid, and applied insights into CP in the EFL context of Iran. In this research scarcity, the researchers decided to examine the psychometric properties of an already developed scale. Due to the limitations of the previous study, the validation of the scale was deferred to the current study. To this end, the following research questions were formulated:

RQ1- What is the validity of the already created CP-based materials development scale?

RQ2- How reliable is the already created CP-based materials development scale?

Literature Review
Theoretical framework

This study was based on the theoretical framework of CP. When Freire (1993) initially developed CP, it was introduced as a praxis-based educational movement influenced by passion and principle aiming to help students learn freedom-consciousness, become aware of authoritarian preferences, and can relate knowledge to power (Giroux, 2010). Thus, CP refers to an educational philosophy that aims to eliminate oppression and suffering by reducing social inequities (Brosio, 2000) to empower individuals and bring about social transformation (Capper, 1993). Critical theorists in the realm of education prefer to strive for positive and social changes to establish a democratic and equitable society (White et al., 2014).

The prominent philosopher in CP, Freire (1970), differentiates between the traditional banking model and the problem-posing model. The former refers to an educational system in which teachers possess the knowledge and transmit it to the learners. Conversely, the problem-posing education is centered on cognitive process, rather than conveying information. The act of cognition is achieved through critical dialogues. In order to make this process significant, the learners need to pose problems based on their interests. The focus of CP, as outlined by Freire (1970), is on cultivating critical consciousness. Moreover, freedom is equated with identifying a system of oppressive connections in the world and understanding one's role within that system. In CP, it is essential to foster critical consciousness among the members of the oppressed group regarding their situation.

Another concept that is within the scope of CP is literacy. For Freire (1970), the concept of illiteracy encompasses more than just the lack of reading and writing skills; it also includes feelings of powerlessness and dependency. He recommends addressing this problem in an adult literacy campaign and proposes dialogue as a strategy. Freire (1970) argues that literacy education is a primary form of cultural intervention and should establish a linkage between spoken discourse and the alteration of reality. He goes on to say that in addition to reforming the thoughts, beliefs, and habits, there exists a necessity to transform the institutions, ideologies, and relationships responsible for generating oppressed ideologists. Freire (1970) highlights social injustice and the restructuring of unequal, undemocratic, or institutionalized oppression and social mechanisms as the fundamental concerns of CP.

Related studies

The limited number of related studies provided insights for the researchers to identify the under-researched areas of the topic. Consequently, the researchers conducted the study to bridge the research gap.

Drawing from Richard's (2001, as cited in Rashidi & Safari, 2011) model and considering materials as the core teaching aids in language-learning programs, Rashidi and Safari (2011) attempted to offer a model for ELT materials development based on the major principles of CP. The principles of the model were organized through a thorough consideration of essential factors in materials development, such as program,

teacher, learner, content, and pedagogical factors. The primary objective of the model was to assist learners in enhancing their proficiency in second language while developing a sense of critical consciousness of issues of social structures in the global context.

Also, Rahimi et al. (2015) attempted to propose innovative ideas for material designers based on the premises of CP. This was accomplished by reviewing the existing literature on CP. The suggested concepts were pertinent to the selection and ordering aspect of material design within the framework of CP principles. The study was founded on key concepts like problem-posing education (Freire, 1993), generative themes, and concentric circles. Moreover, the concepts of immediacy and comparison were put forward as useful tools for choosing and organizing critical materials.

Barjesteh et al. (2015) developed a model utilizing Crawford's (1978) CP principles in their analysis of ELT materials, emphasizing the value of including CP tenets. The model introduced 22 CP principles to 47 Iranian EFL university students to make them aware of the social problems by connecting knowledge to their actual life circumstances.

Action research by Kohnke (2019) delved into the issue of CP principles, highlighting the importance of addressing localized topics and allowing learners to exercise autonomy over the topics. He believed that English for Academic Purposes (EAP) materials were not culturally and personally relevant in Hong Kong. The findings indicated that by incorporating CP principles, second language learners can create ELT materials that reflect their personal significance, potentially leading to social reforms in Hong Kong.

The importance of instructional materials led Biria et al. (2017) to develop a framework for ELT materials designers, based on the main aspects of CP. The framework provided a range of suggestions for EFL teachers and local material developers (Rashidi &Safari, 2011) to create ELT materials based on the tenets of CP. The research study introduced 11 principles tailored to students' daily experiences.

Ajideh and Panahi (2016) focused on the significance of the issue by examining how well Iranian middle and high school ETL textbooks address intercultural subjects. They collected and analyzed qualitative data. The results showed lack of adequate communicative materials in the textbooks, leading the writers to propose that developers should customize the materials to better suit the learners' needs, interests, and expectations.

The gap in the literature

Studies on CP and materials development have yielded a wealth of information, although the majority of them have considered the theoretical aspects of CP. The researchers in this study observed that the previous studies featured CP-based materials models and scales, but they did not provide detailed information about the psychometric aspects of their models. The existing literature on CP-based scales has primarily focused on theory rather than on practicality, validity, and reliability. Addressing this gap, and drawing on studies like Medlock (2018), Akbarpour and Sahragard (2016), Rashidi and Safari, (2011), Barjesteh et al.(2015), Biria et al. (2017), and Rahimi et al.(2015), which elucidated the main pedagogic principles of CP and proposed CP-based scales, frameworks, and even tables and diagrams, the current study sought to validate an already-developed CP-based materials development scale designed for EFL materials developers, learners, teachers, and language policymakers.

Method
Design

To achieve the defined objectives of the research, a correlational survey analysis method was employed. In this method, the relationship between variables is examined without any interference. Specifically, Factor Analysis and Cronbach's Alpha test, the main areas of interest, are based on correlational design principles.

Participants

The participants recruited for this study consisted of 356 (225 female and 131 male) EFL instructors who were experienced in teaching EFL in different educational contexts, such as state and Azad universities, private institutes, and public schools in different cities of Iran, including Shiraz,

Tehran, Isfahan, Yazd, and Ahvaz. Their teaching experience ranged from 5 to 20 years in both university and educational levels. The participants possessed B.A., M.A., and Ph.D. in Teaching English as Foreign Language (TEFL) and English literature. Their age range was between 30-55 years old. Beyond the general inclusion criteria, the participants needed to have prior education and experience in TEFL to meet the specific inclusion criteria. Since school and university closures during Covid 19 pandemic made it impossible for the researchers to have access to random sampling, the participants were selected through availability sampling.

Moreover, at the outset of the study, the sampling procedure was conducted by observing the research ethics. The participants were ensured about the confidentiality of their personal information, voluntary participation, procedures and benefits of the study, and their rights as participants. They were also informed of their crucial role in the outcomes of the study and were given the option to take time to decide on their participation.

Instrument
The CP-based materials development scale

Since this study aimed at validating an already-developed scale, the only instrument was a scale that had already been developed for CP-based EFL materials in a previous study conducted by the same researchers. As indicated in Appendix A, the already developed scale consisted of six categories with some sub-categories (items). On the whole, the first version of the developed scale consisted of 50 items to which the respondents answered in a five-

point Likert range from 1=strongly disagree to 5=strongly agree. A total of 50 items were utilized to assess six categories (12 items for defining CP-based objectives, 24 items for developing CP-based content, 4 items for encouraging CP-based teaching methods, 4 items for encouraging CP-based evaluation procedures, 3 items for defining CP-based roles for teachers, and 3 items for defining CP-based roles for students).

Procedures

After taking ethical considerations into account, the researchers distributed the link to the Google Form of the developed scaleto 356 EFL instructors through WhatsApp and Telegram. Then, the collected data were analyzed using SPSS and AMOS 26 for the analysis of the statistical data and evaluating the scale via a visual diagram. The construct validity of the instrument was evaluated using EFA and CFA. Additionally, the internal consistency of the scale was examined through Cronbach's Alpha test.

Results and Discussion
Results

To examine the construct validity of the developed scale and also to address the first research question focusing on the validity of the already created CP-based materials development scale, EFA available in SPSS 26 was employed. Before running EFA, Bartlett's (1951) Sphericity and Kaiser-Meyer-Olkin (KMO) (Kaiser, 1970) tests were used to assess the relationship among variables and to check the adequacy of content sampling. Table 1 demonstrates the results of Bartlett's Sphericity and KMO tests.

Table 1.
The Results of Bartlett's and KMO tests

KMO measures of sampling adequacy	Bartlett's test of Sphericity	
0.72	Approx. Chi-square	3846.13
	df	986
	Sig.	0.0001

The data presented in Table 1 indicates that Bartlett's (1951) test of Sphericity is significant at the level of 0.0001. The KMO value of 0.72 suggests that the data are appropriate for EFA application (KMO is greater than 0.60 and

Bartlett's test of Sphericity is significant). Additionally, parallel analysis was utilized to determine the optimal number of factors (O'Connor, 2000). The results of parallel analysis are detailed in Table 2.

Table 2.
The Results of Parallel Analysis

Components	E.O	M.E.R	Decision
1	12.29	11.10	Accept
2	10.66	10.13	Accept
3	4.15	3.48	Accept
4	2.46	2.13	Accept
5	2.21	1.94	Accept
6	1.89	1.67	Accept
7	1.35	1.50	Reject
8	1.23	1.68	Reject

Note. E.O = the eigenvalues of original data. M.E.R = the mean eigenvalues of random data

The findings from parallel analysis indicate that 6 factors have eigenvalues greater than the mean eigenvalues derived from the random data. Therefore, it can be concluded that the optimal number of factors is 6. Then, a 6-factor solution using Principal Components Analysis (Pearson, 1901) with Varimax rotation (Kaiser, 1958) was applied to the data. A total of 8 items were excluded from the analysis due to inadequate factor loading (factor loading lower than 0.3 or loading over unwanted factors). The findings are outlined in Table 3.

Table 3.
The Results of Exploratory Factor Analysis

Components, and eigenvalues of related items								Factor loading					
1		2				3		4		5		6	
q1	0.49	q13	0.57	q25	**0.24**	q37	0.62	q41	0.62	q45	0.57	q48	0.50
q2	**0.02**	q14	0.48	q26	0.37	q38	0.58	q42	0.43	q46	0.64	q49	0.53
q3	0.63	q15	**0.22**	q27	0.41	q39	0.51	q43	0.54	q47	0.60	q50	0.64
q4	**0.17**	q16	0.36	q28	**0.21**	q40	0.37	q44	0.61				
q5	**0.13**	q17	**0.11**	q29	0.38								
q6	0.54	q18	0.62	q30	**0.17**								
q7	0.68	q19	0.71	q31	0.56								
q8	0.39	q20	0.52	q32	0.49								
q9	0.43	q21	0.46	q33	0.66								
q10	0.49	q22	0.51	q34	0.63								
q11	0.36	q23	0.44	q35	0.55								
q12	0.30	q24	0.49	q36	0.42								

Note. Factor loading: 1. Defining CP-based objectives, 2. Developing CP-based content, 3. Encouraging CP-based teaching methods, 4. Encouraging CP- based evaluation procedures, 5. Defining CP-based roles for teachers, 6. Defining CP-based roles for students
Extraction method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Table 3 indicates that items related to the first and second categories (defining CP-based objectives and developing CP-based content) have been set aside (item numbers: 2, 4, 5, 15, 17, 25, 28, and 30), while the remaining items have suitable factor loading on their corresponding factor. These 6 factors constitute 48 % of the total variance. The removed items from the first and second categories are as follows:

2. Promoting individual and group self-esteem and identity
4. Creating situations in which all voices, experiences and thinking lines are equally heard
5. Teaching students how to respond to cultural and social differences
15. Content should indicate different religions and ethnicities.
17. Content should not support hegemony of English or Persian language.

25. Content should be authentic and cover various aspects of life.
28. Content should invite learners to discussion and negotiation of meaning.
30. Content should intend to change learners' viewpoints.

It can be inferred that 42 items were appropriate for analysis through higher-order CFA. Following this, the obtained 6-factor model was examined by higher-order CFA available in the AMOS 26 package. The results of CFA using Maximum Likelihood Estimation (MLE) method are depicted in Figure 1.
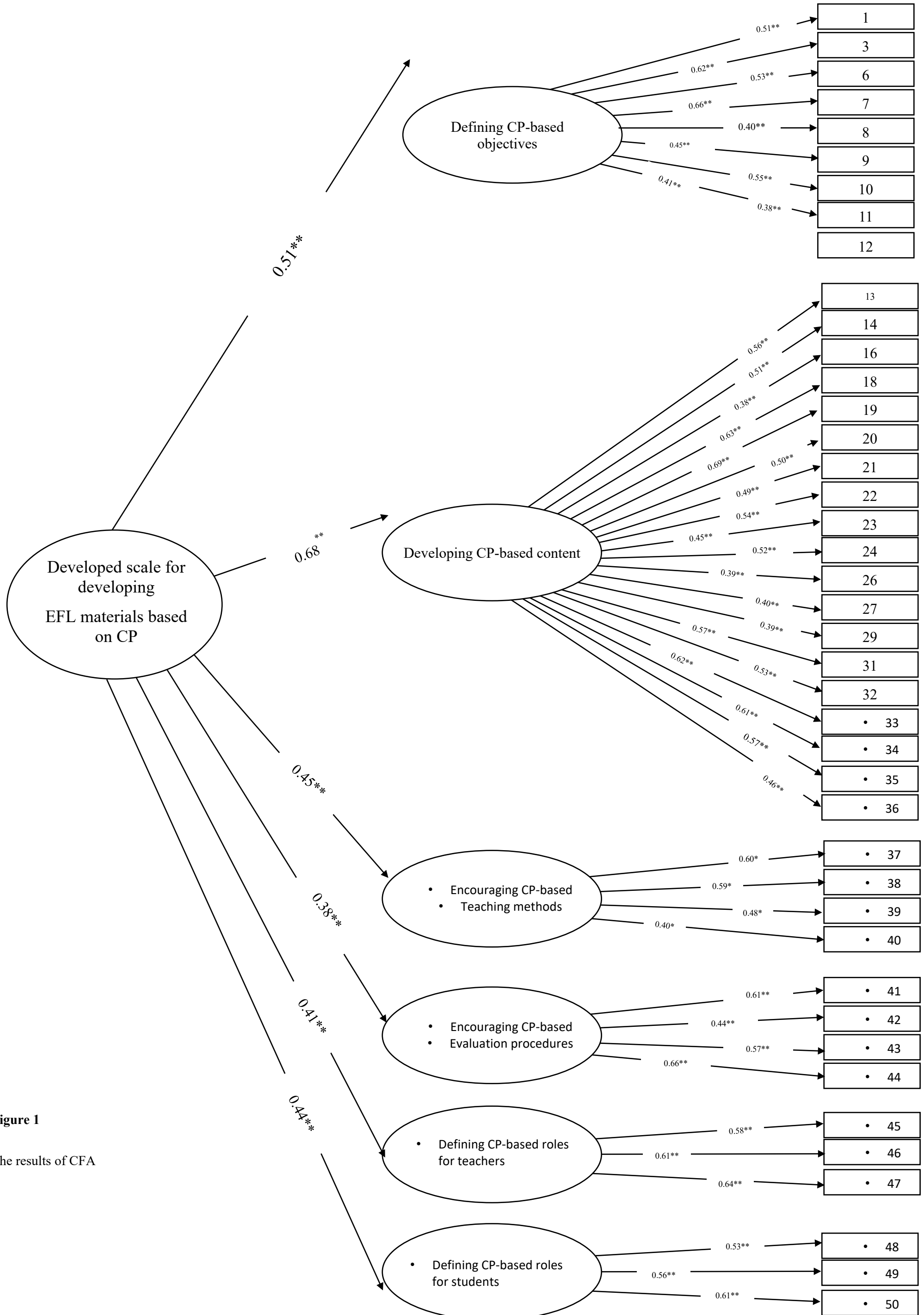
Figure 1

The results of CFA

Figure 1 illustrates items with factor loading that are statistically significant at the 0.01 level. The model's goodness of fit (Joreskog & Sorbom, 1993) was examined and the standard fit indices are presented in Table 4.

Table 4.
Fit Indices of the CFA of the Developed Scale

	X^2/df	TLI	CFI	GFI	AGFI	RMSEA	PCLOSE
Fit indices	1.47	0.92	0.90	0.95	0.92	0.05	0.11
Acceptable Fit indices	< 3	> 0.90	> 0.90	> 0.90	> 0.90	< 0.08	> 0.05

Based on Table 4, the developed scale has an acceptable fit index, which confirms the validity of the scale.

In order to answer the second research question addressing the reliability of the already created CP-based materials development scale, Cronbach's Alpha coefficient test was used and the results are documented in Table 5.

Table 5.
Cronbach's Alpha Coefficients for CP-Based Materials Development Scale

Categories in the CP-based materials development scale	Number of items	Alpha coefficients'
1,Defining CP-based objectives	9	0.83
2.Developing CP-based content	19	0.89
3.Encouraging CP-based teaching methods	4	0.67
4.Encouraging CP-based evaluation procedures	4	0.64
5.Defining CP-based roles for teachers	3	0.59
6.Defining CP-based roles for students	3	0.61
Total scale	42	0.93

Based on the data in Table 5, the scale designed for developing EFL materials based on the principles of CP, and its constituent categories and items, demonstrates satisfactory reliability. Upon reviewing the results displayed in Table 5, it is important to note that a range of 0.6 to 0.7 suggests a satisfactory level of reliability, whereas a higher range signifies a higher level. Nevertheless, an Alpha exceeding 0.95 may not necessarily be favorable, as it could indicate redundancy (Hulin et al., 2001). Concerning categories 3, 4, and 5 in Table 5, it must be noted that George and Mallery (2019) believe that Cronbach's Alpha is sensitive to the number of items. The Alpha level decreases as the number of items decreases, and vice versa. "It is common to find quite low Cronbach's Alpha (e.g., 0.5) value in fewer than 10 items" (p.101). Also, as mentioned by Cortina (1993), an Alpha less than 0.60 (for small number of items) is possible when there is an acceptable amount of associations between items.As indicated in Appendix B the definitive version of the scale was developed in 6 categories and 42 items. The reliability and the validity of the scale (psychometric properties) were jointly checked and the adequacy and accuracy of the procedures were examined in a quantitative research design. The results of the descriptive statistics analysis, specifically the mean and standard deviation are presented in Table 6.

Table 6.

The Mean and Standard Deviation of the Scale for Developing EFL Materials Based on Critical Pedagogy and its Subscales

	Male		Female	
	$\bar{x}$	SD	$\bar{x}$	SD
1.Defining CP-based objectives	32.17	7.52	30.65	9.21
2.Developing CP-based content	61.42	11.27	58.20	10.34
3.Encouraging CP-based teaching methods	13.37	3.19	15.09	3.70
4.Encouraging CP-based evaluation procedures	14.31	4.12	13.06	4.08
5.Defining CP-based roles for teachers	11.26	4.11	10.83	4.00
6.Defining CP-based roles for students	12.02	3.59	14.19	4.48
Total scale	130.66	28.17	128.71	26.15

It is evident that the mean scores of the subscales and the overall mean score of the scale are almost identical for male and female participants.

Discussion

This study examines the psychometric properties of a CP-based materials development scale. The previous studies on CP and materials development primarily focused on the theoretical implications of CP, lacking substantial insights into the practical application of CP principles in educational settings.

The argument in this study is in accordance with what is done by Mostafazadeh et al. (2015), indicating that a transformation-based curriculum encompasses issues such as anti-racist pedagogy, diversity and multiculturalism (Azzahrawi, 2020), educational and social justice, variety in educational methods, diversity in assessment procedures, acceptance of diversity rather than equality, supporting minority languages, and promoting multi-cultural and inter-cultural communication (Marotta, 2014).

The findings of Aikman and Unterhalter (2007) also support the results of this study, emphasizing the importance of teaching and learning in an immune and anti-discriminatory context that is guided by democratic values and exploits economic, political, and cultural opportunities and values. As stated by the United Nations Educational, Scientific, and Cultural OrganizationUNESCO) in 2003, EFL curricula and teaching methods and strategies should not be based on stereotypes, racial discrimination, inequality of learning opportunities, etc. As a result, the educational stakeholders must provide an environment in which all groups of students, irrespective of their background are given the chance to pursue higher education and decide on their future professional path. This ideal approach to learning makes it possible to implement social transformation.

The survey results are also in consistent with the findings of Gollnick and Chinn (2013), who argued that EFL teachers should use different teaching methods to enhance learners' awareness of different cultures, and to foster respect for their own cultures. They also believed that EFL classes should accommodate learners from a variety of linguistic, social, and cultural backgrounds and use culturally-responsive methods to effectively guide the learners in their learning.

Likewise, the research findings from several relevant studies (e.g., Adams, 2005; Aikman & Unterhalter, 2007; Gollnick & Chinn, 2013; Subrahmanian, 2005; Unterhalter, 2007; Wilson, 2004) indicate that EFL materials ought to foster democratic perspectives and attitudes, cultural hegemony reduction, learners' knowledge development on different races and ethnicities, and groundwork for the education of minority groups. The rationale behind this argument is that being part of various minority groups should not hinder any learner from assessing learning opportunities. Through this medium, the promotion of justice, non-discrimination, absence of hegemony and marginalization, and equity will be facilitated (Mostafazadeh et al., 2015). Furthermore, students' creativity and criticality are stimulated, and their knowledge of races and ethnicities is broadened (Sadeghi, 2012). The view chosen by some researchers (e.g., Bic Ngo, 2010, as cited in Abdeli Soltan Ahmadi & Sadeghi, 2016) is that, if CP is

tried in the realm of ELT, the content of the curriculum has the potential to generate main shifts in the educational environments by considering the opinions and ideas of various cultures, social classes, races, and ethnicities regardless of individuals' group membership. This results in EFL learners capable of acting in local and global contexts.

As indicated by the current study, the initial step in the development of CP materials is to establish specific objectives. Subsequently, the content should be developed with CP principles in mind. Moreover, it is important to note that the normalization of teaching methods and evaluation procedures in developing EFL materials is worth considering. Finally, it is suggested that EFL materials be designed with CP-oriented roles for both teachers and learners. In this way, it is possible to ensure that the students from diverse major and minor groups can equally access academic and educational resources in various educational settings. Moreover, it provides a degree of assurance that the developed EFL materials can bring about significant changes in the educational system by considering the perspectives of various groups of learners regardless of their group membership.

Based on the outcomes of this research study, it is presumed that promoting diversity in teaching and assessment methods for EFL learners is preferable to restricting them to some traditional and mainstream approaches and methods. Moreover, it is important to create space for learners' creativity, criticality, and individuality (Adriansen, 2010).

Considering CP as a postmodern approach, Pishghadam and Mirzaee (2008) maintained that postmodernism is practical in Iran at all levels of education and can be useful in developing EFL materials as a practical undertaking in education. Due to the fact that "top-down language policy" (Pishghadam & Mirzaee, 2008) and "centralized system" (Barjesteh, 2017) of education in Iran may hinder the implementation of CP in the development of EFL materials, the effort is worth it.

Conclusion and Implications

The present study sought to assess the psychometric properties of a previously developed scale based on feedback from EFL instructors. The results of EFA and CFA demonstrated that the newly-created scale showed satisfactory validity as evidenced by the obtained fit index. Moreover, it was revealed that the created scale for developing EFL materials had acceptable reliability.

This research study initiated the implementation of CP into EFL materials by developing a scale. This scale is expected to receive a high level of approval from the educational stakeholders, especially from the EFL material developers who are interested in developing critically-based materials. The CP-based materials development scale provides a comprehensive understanding of CP and its essential role in the materials development process. The developed scale in this study concentrates on nurturing creative and critical capabilities by creating materials that combine language proficiency with societal issues.

The created scale also presents guidelines for establishing a transformative educational system. The results could bebeneficial for both teachers and students in adopting CP philosophy. Throughout the educational process, teachers serve as facilitators and coordinators guiding learners to recognize the hidden ideology and power dynamics within EFL materials. Similarly, students are encouraged to actively participate in decision-making, collaborate in the creation of EFL materials, and engage in self-assessment. This scale challenges the idea that learners are mere recipients of knowledge.

Based on the findings of the study, it is evident that the development of EFL materials in line with CP principles requires the initial definitions of objectives. Moreover,the content of the materials ought to be developed in accordance with the CP principles. EFL materials should also be created to support the implementation of CP-based methods and evaluation procedures. Additionally, it is recommended that EFL materials be designed to ensure that the responsibilities of teachers and learners are in line with CP principles. In this way, learners from diverse major and minor groups can equally receive access to academic and educational

materials in different educational settings. The materials will also have the capacity to bring about basic changes in the educational system by acknowledging the perspectives of diverse learner groups, regardless of their group membership.

It can also be inferred that teaching and evaluation methods need to be varied, rather than restricting students to some old mainstream learning and assessment opportunities. To this end, teaching and evaluation methods need to be participatory and cooperative, taking into account the perspectives of various cultures, races, ethnicities and social classes. Indeed, teaching and assessment strategies can be tailored, adjusted and chosen through negotiation, conversation, and dialogue, incorporating exploratory teaching methods that involve the direct and active engagement of all learners.

The findings of the study have some implications for those who are interested in the implementation of CP into the development of EFT materials. The findings indicate the importance of participatory and cooperative teaching and evaluation methods. Besides, EFL materials developers need to be aware that disregarding the components of CP has certain negative consequences for language learners with different social, cultural, and linguistics backgrounds. In addition, it is important for material developers to realize that involving and integrating the voices and experiences of teachers and students in all aspects of materials development can greatly improve the quality of any educational program. Also, teacher trainers and individuals engaged in pre-service and in-service training programs should take steps to heighten teacher's awareness of the effect of CP on the cognitive development and language attainment of learners. It is essential for them to carefully select and hire EFL teachers who are committed to both theoretical and pedagogical aspects of CP.

To settle the conclusion, it is worth mentioning that materializing the tenets of CP requires a long-term dedication, and as stated by Crawford (1978) teachers play a crucial role in facilitating the incorporation of CP principles. They can develop classroom resources that are tailored to meet learners' requirements, needs, interests, wishes, and desires.

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Appendix A
The first version of the scale for CP-based materials development

Categories	Sub-categories(items)	Strongly disagree=1	Disagree=2	Neutral =3	Agree=4	Strongly agree=5
A. Defining CP-based objectives	1.Creating equal opportunities for all students to develop their fullest potential					
	2. Promoting individual and group self-esteem and identity					
	3. Encouraging critical thinking in students					
	4. Creating situations in which all voices, experiences and thinking lines are equally heard					
	5. Teaching students how to respond to cultural and social differences.					
	6. Encouraging human relations that emphasize diversities					
	7.Reducing prejudice and discrimination among students					
	8. Making shifts in the structure of educational environments					
	9. Improving and developing democratic attitudes and values					
	10. Promoting fair distribution of power					
	11.Avoiding marginalization in the process of materials development					
	12.Establishing educational equity					
B. Developing CP-based content	13. Content should generate fundamental shifts in educational setting.					
	14. Content should be reflective of voices of various cultures.					
	15. Content should indicate different religions and ethnicities.					

Categories	Sub-categories(items)	Strongly disagree=1	Disagree=2	Neutral =3	Agree=4	Strongly agree=5
	16. Content should aim at building a multi-cultural identity in students.					
	17. Content should not support hegemony of languages.					
	18. Content should aim at increasing students' knowledge of both minor and major groups					
	19. Content should be jointly built by negotiation with all groups.					
	20. Content should generate a climate of knowledge					
	21. Content should cover different subject matters.					
	22. Content should aim at making learners creative thinkers					
	23. Content should enhance learners' communicative and interactive skills.					
	24. Content should call for different teaching approaches.					
	25. Content should be authentic and cover various aspects of life.					
	26. Content should not encourage hegemony.					
	27. content should aim at raising students' consciousness					
	28. Content should invite learners to discussion and negotiation of meaning.					
	29. Content should cover needs and interests of different groups of learners.					
	30. Content should intend to change learners' viewpoints					
	31. Content should equip learners with the necessary transformative views.					
	32. Content should empower learners to challenge different forms of oppression.					
	33. content should be reflective of both English and Persian cultural elements.					
	34. Content should aim at making learners critical thinkers.					

Categories	Sub-categories(items)	Strongly disagree=1	Disagree=2	Neutral =3	Agree=4	Strongly agree=5
	35. Content should not be biased against or toward a specific language.					
	36. Content should raise learners' attention toward social problems.					
C. Encouraging CP-based teaching methods	37. Using diverse teaching techniques					
	38.Using participatory teaching methods					
	39. Using inquiry-based teaching methods					
	40.Using eclectic teaching methods					
D. Encouraging CP-based evaluation procedures	41. Using mixed evaluation procedures					
	42. Using cooperative evaluation methods					
	43. Using diverse assessment methods					
	44.Using dynamic evaluation methods					
E. Defining CP-based roles for teachers	45. Teachers are coordinators in learning process.					
	46. Teachers should make learners aware of the hidden ideology and power.					
	47. Teachers are learning process facilitators.					
	48. Students are active decision makers.					
F. Defining CP-based roles for students	49. Students should have active participation in the EFL materials development.					
	50. Students should participate in assessment of their own performance.					

Appendix B
The definitive version of the scale for CP-based materials development

Categories	Sub-categories(items)	Strongly disagree=1	Disagree=2	Neutral =3	Agree=4	Strongly agree=5
A. Defining CP-based objectives	1.Creating equal opportunities for all students to develop their fullest potential					
	2. Encouraging critical thinking in students					
	3. Encouraging human relations that emphasize diversities					
	4.Reducing prejudice and discrimination among students					
	5. Making shifts in the structure of educational environments					
	6. Improving and developing democratic attitudes and values					
	7. Promoting fair distribution of power					
	8.Avoiding marginalization in the process of materials development					
	9.Establishing educational equity					
B. Developing CP-based content	10. Content should generate fundamental shifts in educational setting.					
	11. Content should be reflective of voices of various cultures.					
	12. Content should aim at building a multi-cultural identity in students.					
	13. Content should aim at increasing students' knowledge of both minor and major groups					
	14. Content should be jointly built by negotiation with all groups.					
	15. Content should generate a climate of knowledge					
	16. Content should cover different subject matters.					
	17. Making learners creative thinkers					
	18. Content should enhance learners' communicative and interactive skills.					

Categories	Sub-categories(items)	Strongly disagree=1	Disagree=2	Neutral =3	Agree=4	Strongly agree=5
	19. Content should call for different teaching approaches.					
	20. Content should not encourage hegemony.					
	21. content should aim at raising students' consciousness					
	22. Content should cover needs and interests of different groups of learners.					
	23. Content should equip learners with the necessary transformative views.					
	24. Content should empower learners to challenge different forms of oppression.					
	25. content should be reflective of both English and Persian cultural elements.					
	26. Content should aim at making learners critical thinkers.					
	27. Content should not be biased against or toward a specific language.					
	28. Content should raise learners' attention toward social problems.					
C. Encouraging CP-based teaching methods	29. Using diverse teaching techniques					
	30.Using participatory teaching methods					
	31. Using inquiry-based teaching methods					
	32.Using eclectic teaching methods					
D. Encouraging CP-based evaluation procedures	33. Using mixed evaluation procedures					
	34. Using cooperative evaluation methods					
	35. Using diverse assessment methods					
	36.Using dynamic evaluation methods					
E. Defining CP-based roles for teachers	37. Teachers are coordinators in learning process.					
	38. Teachers should make learners aware of the hidden ideology and power.					
	39. Teachers are learning process facilitators.					

Categories	Sub-categories(items)	Strongly disagree=1	Disagree=2	Neutral =3	Agree=4	Strongly agree=5
	40. Students are active decision makers.					
F. Defining CP-based roles for students	41. Students should have active participation in the EFL materials development.					
	42. Students should participate in assessment of their own performance.					