Developing and Validating a Critical Pedagogy Questionnaire for ESP Teachers

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ABSTRACT

Critical pedagogy has gained significance by the development of educational ideals, seeking equality at different levels of society (Freire, 1973). It has found its way into ELT in recent years. Since ELT practices are coupled with methodology courses in which different methods of teaching and learning are explained, teachers have become familiar with different methods and techniques of teaching, enabling them to take advantage of various trends in education. But it seems that ESP has not benefitted that much from insights gained into critical pedagogy because some of the ESP professors are those whose academic studies are not in ELT. Since, in Iran, the fields of study, other than ELT, do not take full advantage of English methodology courses, they seem not to be aware of innovations in English teaching. Thus, the development of a CP questionnaire for ESP context seems necessary. This paper reports the steps that were taken in developing and validating a critical pedagogy questionnaire for ESP context. In order to validate the questionnaire, 123 respondents were asked to answer the items. Three main sources of evidence were drawn upon to support the credibility of the questionnaires: reliability, content and construct validity. Opinions from a group of experts and a pilot study guaranteed the content validity of the questionnaire, respectively. Furthermore, Principal Component Analysis was used to measure the construct validity of the questionnaire, which resulted in the items loading under five major subcomponents. The reliability coefficient was also calculated for all five subcomponents, using Cronbach's alpha. The results of the study showed that this questionnaire could be a valid and reliable instrument for examining the criticality of ESP teachers. The questionnaire may be used in studies aiming to examine whether Iranian ESP teachers' practices, in particular, are consistent with the principles of critical pedagogy. Furthermore, the extracted components can be useful guidelines

to increase the understanding of ESP practitioners of the principles of critical pedagogy.

INTRODUCTION

Language teaching has experienced the wax and wane of methods with the advent of Grammar Translation Method in 1900. Methods have replaced one another due to different reasons. In some cases, the theoretical foundations on which they were constructed were undermined. A good example is Chomsky's challenging behaviouristic and structuralistic views in favour of Transformational Grammar, which in turn replaced Audio Lingual Method with Cognitive methods such as the Silent Way. In some other cases, the methods were way beyond practicality (e.g. Suggestopedia), which brought them to a dead end. This swing of pendulum, to borrow Brown's (2007) term, ended in post-method era, when the uniqueness of methods was considered as a major factor deterring teachers from using a prefabricated fixed method in different classroom contexts (Kumaravadivelu, 2003).

A new trend which has been publicised by the scholars of the field calls for criticality on the part of language teachers. This trend rooted in the top-down criticism (Richards & Rodgers, 2001) set sails against the so-called methods used in the educational systems, in which power is disseminated from the policy makers to material developers and, finally, to the teachers. Therefore, teachers are deemed to be sheer implementers of what is dictated to them. However, nowadays, critical pedagogy (henceforth CP) is considered a practice that tries to emancipate both learners and teachers from the power relations prevalent in the society and educational system (Freire, 1973). Teachers are expected to be critical of their own teaching, educational system, syllabus and whatever relates to their experience of language teaching. As such, CP is assumed to facilitate the situation for individuals to share their own critical views about the educational context (Thousand *et al.*, 1999).

Like general language teaching, English for Specific Purposes (henceforth ESP) can be influenced by innovations in teaching and learning approaches such as CP. ESP, as one of the branches of English as a foreign or second language, is designed for a special group of people who aspire to work in a special context (Hutchison & Waters, 1987). In other words, ESP courses are developed to teach a specific area of technical English to people with different needs and objectives majoring in different fields. In the early seventies, many attempts were made to design courses of ESP (e.g. Swales, 1971; Pratt, 1973; Selinker & Trimble, 1976 Munby, 1978). ESP is generally based on the assumption that if language learners' needs could be accurately specified, then this identification can be used as the point of departure to decide on the content

of a language programme intended to address these needs (Munby, 1978). Such interpretations were widespread in the 1970s and 1980s when needs analysis in ESP contexts was becoming prevalent in language teaching.

Rodgers (1969) proposed that the nature of such courses be learner-centred because they target the needs of learners who try to learn English used in their specific fields. However, as Hutchinson and Waters (1991) pointed out, the concept of learner-centredness is to some extent misleading as it implies that the only individuals who are important in the learning process are learners. Hutchinson and Waters (1991) believed that learners together with teachers and all those who are somehow involved in teaching and learning are essential elements of an educational system, and thus it is wise to replace learner-centredness with learning-centredness.

Learning-centred approaches as such call for an individualistic view where all the individuals including teachers and students are conferred a sense of freedom to negotiate their needs with other stakeholders, which challenges the top-down procedures in education. In top-down criticism as proposed by Richards and Rodgers (2001), the policy makers and material developers dictate what is to be done by teachers and students. Using a critical view challenges such top-down procedures and consequently leads to a real learning-centred approach.

In ESP courses the needs of the learners are of great significance. It can be related to critical views in language teaching, where the individuals' views and beliefs are pivotal in decision making about the educational system. A key principle in CP is paying attention to learners' needs. The type of needs analysis proposed by proponents of CP is different from the traditional needs analysis typical of ESP courses today in which requirements of learners are presented in textbooks by material developers. The kind of needs analysis that is in accordance with the principles of CP calls for criticality of teachers and students. In other words, teachers should not merely teach what they receive from material developers but they should try to localise the textbooks according to their immediate context of teaching. On the other hand, students should be empowered to critically read the textbooks presented to them, and to have the opportunity to make informed decisions about what and how to learn. Thus, it is wise to see if the new trends in English language teaching such as CP are applied in ESP courses as well.

Considering critical pedagogy seems to be necessary for ESP teachers as globalisation has opened new job and trading experiences for learners and this may lead to increasing proliferation of the ESP texts. If teachers are not aware of the ideology hidden in the texts, they will not be able to prevent students from absorbing those new views. In other words, the material developers tend to inject their cultural and ideological views into the

books they write. The teachers in other countries, as consumers of these materials, should adopt a critical view and clarify the ideological beliefs concealed in the texts. This makes the development of CP questionnaire for ESP contexts necessary. The aim of this study is to develop a questionnaire for critical pedagogy and validate it in ESP context.

REVIEW OF LITERATURE

Critical Pedagogy

English Language Teaching (ELT), which is clearly an international phenomenon, brings about many life chances such as opportunities for economic success and social status for learners. In philosophy, ELT suffers from a kind of imbalance, willing to over-concentrate on linguistic theory and forget about educational theory (Pennycook, 1990b). Most ELT practitioners suppose that knowledge, like language, is natural and consists of a set of facts so that it can be taught with no problem and since knowledge in not separable from education, transmitting these facts is referred to as educating individuals. This view is what made various figures such as Pennycook (1990a), Ivanic (1990) and Apple (1982) to start critiquing ELT as being one-dimensional in that it is dedicated to transmitting some predetermined facts and ideas to passive learners. In this regard, ELT is void of any element of personal or social transformation (Pennycook, 1990a). Freire (1973) is the other figure whose critiques against the so-called 'banking model of education' paved the way for

the entrance of CP in the field of ELT. The banking model is typical of behaviourism, a school of thought still dominant in most institutes and universities. The banking model is a traditional model of education in which teachers are believed to be the only possessors of true knowledge. They impose their ideas and beliefs on students; therefore, critical thinking has no role in such classrooms. Within this model, students are assumed to be void of any useful knowledge and are, therefore, passive receivers of knowledge. Students are to memorise basic facts and prepackaged knowledge. However, Freire (1968) believed that students should not be seen as empty "accounts" to be filled in by teachers. He argues that in this model, there is no place for critical consciousness and students are not allowed to think for themselves (Freire, 1973). Lack of critical and social awareness, critical thinking and creativity in education makes some scholars such as Freire (1968) and Shor (1992) speak of a new tradition i.e. CP in the field of education, in general, and ELT, in particular.

CP, as an approach to language teaching and learning, is mostly concerned with transforming power relations that bring about the oppression of people (Kincheloe, 2005). CP seeks to educate all people regardless of their gender, class, race etc. Through CP students learn to think critically and develop a critical consciousness that allows them to uncover the realities that improve their life conditions and build a just and equitable society (Freire, 1973).

In other words, the conventional power relationships in society are challenged by teachers and students to bring equality and impartiality to the teaching context, so that the differences in social classes, genders and race are minimised, if not neutralised.

CP has its roots in the critical theory typical of the Frankfurt School (Pinar & Bowers, 1992). The scholars of the Frankfurt school of thought are supporters of Marxists whose principal figure, Karl Marx, spoke of the everlasting conflict between the oppressed and the oppressors. Emerging from the heart of critical theory, the concept of CP is mostly related to the works of scholars such as Freire (1973), Giroux (1994), Shor (1992), Mclaren (1998) and Kincheloe (2008). According to Shor (1992), there should be a reciprocal relationship between teachers and students. The responsibility of a critical teacher is to elicit what students know, speak, experience and feel in order to create a "critical paradigm" that respects the experiences and languages of students (Shor, 1992). Kincheloe (2005) stated that both teachers and students who bring their experiences to the classroom are responsible for providing "texts and their themes". As Giroux (1994) pointed out, students should be active participants who, together with the teachers, modify the curriculum when necessary.

Besides the aforementioned critiques against the passivity of students in ELT classrooms, there is another critique directed towards ELT by critical pedagogues. ELT is widening the notion of linguistic imperialism by transferring cultural norms and English ideology through the texts used for teaching to foreigners. In order to surmount this problem, CP attempts to respect local culture and ideology and replace them with the imported culture. Thus, localisation seems to play a crucial role in attempts to bring justice to the classroom context and build up a democratic environment for the learners.

Background of ESP

While many scholars and researchers have defined ESP, one of the most straight-forward definitions is the one given by Hutchinson and Waters (1987). They identified ESP as an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning. The English that is taught in such classes is thus related to a special group of people who aim to work in a special context.

With the emergence of the critical movements in teaching and learning, all emphasising a great change in the role that teachers play in the process of student learning, many scholars of the field have started to talk about the teachers' role in classrooms. Since the focus of this study is on ESP teachers, some of the views on the ESP teacher's role are presented here.

Robinson (1991) believed that the term "ESP practitioner" is used to refer to ESP teachers since they have a variety of simultaneous roles—researchers, course designers, material writers, testers,

along with being classroom teachers. He emphasised that ESP practitioners should be trained in such a way that they become able to describe language, to teach language and to design language courses. Moreover, Robinson (1991) stated that ESP practitioners, unlike EGP (English for General Purposes) teachers, need some technical knowledge related to the specific courses they teach.

Flowerdew and Peacock (2001) contended that the role of ESP teachers was not the same all around the world. Their roles vary based on the type of course, syllabus and the part of world ESP courses are taught in. In Robinson's (1991) eye, ESP was said to follow a pluralistic view since many approaches are simultaneously being followed around the world today.

According to Richards and Rodgers (2001), ESP teachers should not present the same activities in different ESP classes. In other words, since different ESP classes are not the same in terms of students' needs, fields of study and consequently, purpose of learning, teachers should provide different classes with a variety of tasks and teaching activities suitable for the related learning context.

Critical Perspectives on ESP

The early days of ESP focused more on the linguistic features that were used in university textbooks. However, Hyland (2007) maintained that social awareness, an important issue in CP, should also be considered in teaching ESP courses. He believed that the role of the ideologies hidden in the ESP texts should be examined critically so that their negative effects are neutralised. Thus, in teaching such courses, one should consider the social inequalities and the beliefs that are explicitly or implicitly conveyed through the texts. Hyland (2000) mentioned that "recent studies have turned to examine the ideological impact of expert discourses, the social distribution of valued literacies, access to prestigious genres, and the ways control of specialized discourses are related to status and credibility". Phillipson (1992) argued that marketing language that is somehow the basis for ESP courses would both threaten the local cultures and publicise the sociopolitical elites of the West. What Philipson asserted highlights the importance of localisation, one of the crucial principles of CP, which calls for the incorporation of immediate student and teacher cultures and beliefs into ESP textbooks. Pennycook (1997) also maintained that ESP teachers should not fully subscribe to the global demands of business and should try to challenge the language used in the texts and try to surface the inequalities found in the business and texts reflecting them. Elsewhere, Benesch (2001) claimed that the unjust power relations in the materials and books presented to the students should be reconsidered. The role of the teacher and student is therefore to change the power relations hidden in the materials rather than asking for mere conformity.

Benesch (2001) stated that the development of the critical theory and critical approaches to pedagogy posed some

challenges for ESP courses. She challenged the role of traditional needs analysis, which underlies ESP courses. In traditional needs analysis, the areas that are helpful to the students are found; however, critical needs analysis is said to be different, where the students and teachers are supposed to be aware of the unequal power relations found in the texts. Therefore, in this type of needs analysis, the students and teachers should adopt a critical view to modify the text so that their own ideological and sociocultural views are incorporated in the materials. Current ESP courses are thus criticised for asking the learners and teachers to conform to the concepts presented in the ESP books rather than providing a context for students and teachers to critically examine the book content.

Masters (1998) believed that although the focus of ESP courses was to be on the specific discourse, it had changed towards a comprehensive teaching of English, which is both for special and general purposes. Therefore, ESP is going to continue the dominance of English in the world. Masters (1998) argued that while the main purpose of ESP was to help students access better job opportunities, it might prove counterproductive by maintaining the imbalance in the power relationships by injecting the dominance of one culture or language over those of other nations. This implies that ESP courses should consider students' and teachers' immediate educational context, and in so doing, a critical approach to teaching may prove helpful.

In the context of Iran, there are very few studies investigating the effect of CP on ESP courses. The study conducted by Alibakhshi and Padiz (2011) is an example of such research movements. Through a qualitative study, they attempted to critically view ESP teaching and testing in Iran. They found that teaching and testing ESP in Iran do not reflect innovations in teaching and learning. Therefore, they offered some suggestions to improve ESP teaching and testing.

Considering the effective role that CP can play in teaching and learning practices, it seems that there is a need to increase the number of studies conducted in the field. Because of the dearth of studies investigating the permeation of CP in ESP courses, the present researchers tried to develop a CP questionnaire aimed at determining whether ESP professors in Iranian universities incorporated principles of CP in their classrooms.

Despite the theoretical works on ESP history and development and the role of ESP teachers, to the best of the researchers' knowledge, there is no recent work on the incorporation of principles of critical pedagogy in teaching ESP. Thus, this study was an attempt to develop and validate a CP questionnaire for ESP teachers.

METHODOLOGY

Participants

The data were collected from four groups of participants: 10 expert judges whose judgments established the content validity of the questionnaires, four professors

as preliminary respondents, 35 ESP teachers who filled the questionnaires for the purpose of a pilot study and 123 ESP teachers who answered the final version of the questionnaire.

Developing the Questionnaire

The researchers started to develop the CP questionnaire by first reviewing the literature related to the concepts of CP and ESP. Based on the literature reviews and the interviews with 10 ELT teachers, all of whom had the experience of teaching ESP courses, the original item pool was developed. The first draft of the questionnaire consisted of 75 items. A group of experts consisting of 10 TEFL teachers were asked to review and comment on the items. Considering the experts' comments, the number of items was reduced to 46 after several revisions. The next step was a pilot study that again resulted in the elimination and re-wording of some of the items. This time the items were reduced to 40. One hundred and twenty-three respondents were asked to answer this 40-item questionnaire by selecting between five choices (*completely agree to completely disagree*) that best described their views about teaching and education. To assure that the data collection procedure yielded accurate data (Shohamy *et al.*, 1989), reliability was established as well. To calculate reliability, Cronbach's alpha index was used. Factor analysis was also performed to decide on the construct validity of the questionnaire.

RESULTS AND DISCUSSION

In order to provide evidence for the validity of the questionnaire, three main pieces of information are presented below. First, an expert group was asked to confirm the pertinence of the items to critical pedagogy. Then the reliability of the questionnaire was estimated using Cronbach's alpha and its construct validity was calculated using Principal Component Analysis.

Item-Relatedness

A group of expert TEFL teachers were asked to determine whether the items included in the first draft of the questionnaire developed by the researchers were suitable for measuring critical pedagogy. Before preparing the questionnaire items, the researcher asked a group of experts to express their opinions about the main areas to be covered. The expert group included 10 TEFL professors, all of whom had the experience of teaching ESP courses. After the preparation of the first draft of the questionnaire, expert judges were asked to peruse the 75-item questionnaire to judge its content validity. The researchers decided to eliminate those items which attained under 70% agreement and keep those with 70% agreement or higher. Some of the items achieved low consensus because of their wordiness, which were either excluded or revised. Dornyei (2003) points out that questionnaire items should be terse and should rarely be more than 20 words. The expert group also pinpointed the repetitive items. For example, it was recognised that two of the items were the same, as reported below:

- *In my class, students' viewpoints are highlighted.*
- *I pay attention to my students' views and try to appreciate them.*

Therefore, the researchers decided to omit the second item. Some of the items were rephrased as they were double-barrelled. A double-barrelled item asks two questions simultaneously in one item while it needs only a single answer. The original phrasing of one of the items in the questionnaire was, *'I elicit students' opinions about the curriculum and my method of teaching'*. This item asks for two things, curriculum and teacher's method of teaching. Therefore, it is not clear if the respondents agree with one of them and disagree with the other. Even if the respondents provide an answer, it is not known which part of the item they are considering. Thus this item was revised to *'I elicit students' opinions about the curriculum'*. A number of items were removed since they were unrelated to the realm of CP, according to the judges. As an example, an item (*I try to work collaboratively with subject matter teachers*) was omitted due to its being distant from the main principles of CP. After the first revision, the items were reduced to 46.

Then the questionnaire was piloted in two phases. First, four ESP teachers were asked to answer the remaining 46 items. Regarding Dornyei's (2003) suggestion, the researchers were present while these four participants were answering the items so that they could recognise the potential problems faced while answering. Some of the items were modified in this phase. For example, an item read, "*I believe that education is a political action*" was changed to "*I consider political issues as an effective factor in organising the materials in my classes.*"

Subsequently, 35 ESP teachers were asked to fill out the questionnaire and answer an open-ended item which asked for their comments about the questionnaire and its items. The respondents' comments in this phase reduced the number of items to 40. This 40-item questionnaire was discussed again with the expert group and was then finalised.

Reliability

One hundred and twenty-three participants answered this 40-item questionnaire. The reliability of the questionnaire was measured using Cronbach's alpha (r=0.835). Checking the table for the contribution of each item to reliability showed that the deletion of Items 24 and 34 had increased the reliability by 0.3, which was quite a high figure. Surprisingly enough, these two items were shown to be highly related to two other items in the correlation matrix table showing the relationship between the items, which made the researchers delete these two items.

TABLE 1
Reliability of CP Questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.835	.842	40

TABLE 2
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q 24	41.18	22.085	.711	.573	.864
Q 34	41.47	21.337	.746	.692	.879

TABLE 3
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.67
Bartlett's Test of Sphericity	Sig.	.000

TABLE 4
Reliability of CP Questionnaire

Component		1	2	3	4	5
Dimension 0	1	1.000	.160	-.079	.147	.182
	2	.160	1.000	-.031	.134	.066
	3	-.079	-.031	1.000	.004	.001
	4	.147	.134	.004	1.000	.055
	5	.182	.066	.001	.055	1.000

Extraction Method: Principal Component Analysis.
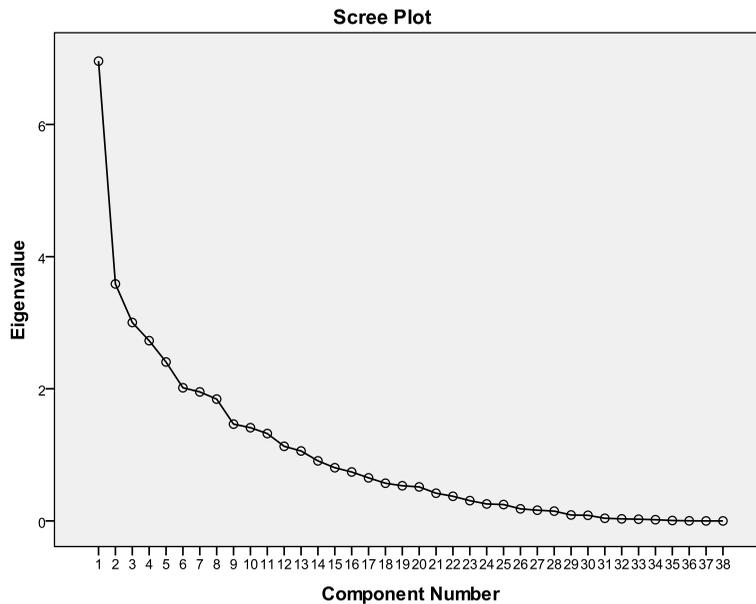Rotation Method: Oblimin with Kaiser Normalisation.

Fig.1: Scree plot for the components of CP questionnaire.

Construct Validity

The Principal Component Analysis was run in order to extract the underlying factors of the questionnaire. However, the first step to be taken before embarking on analysing the data with Principal Component Analysis was to recognise if the data were suitable for factor analysis. KMO (Kaiser Meyer Alkin, used to assess the suitability of data for factor analysis) and Barlett's test of sphericity were used in order to determine the appropriateness of the data. KMO for the questionnaire was measured to be 0.67, which is higher than 0.6 as the cut-point (Pallant, 2007) for this criterion. Moreover, Barlett's test of sphericity was shown to be significant at p≤0.05. These two pieces of evidence show that the data were suitable for factor analysis.

In order to see how many components should be extracted from the questionnaire, the Eigen values, scree plot and the parallel analysis table were checked. However, Eigen value checking (Keiser's criterion), which asks for the values above 1, is said to be strict and only applicable in cases where there are fewer than 30 variables and a large number of participants (Stevens, 2012). Thus, only the scree plot and parallel analysis table were used. The scree plot showed a break after the fifth component, which signified that five factors could be kept for the study.

Furthermore, Mont Carlo PCA for parallel analysis was used to compare the Eigen values produced with factor analysis with those produced by Mont Carlo PCA software. As long as the Eigen values for each component were larger than those produced by this software, they were kept in the analysis. Parallel analysis showed that keeping seven factors could be logical. In order to opt for either five or seven factors, a table of pattern matrix was checked. This table showed that most variables were loaded under the first five factors, with less than three variables under the rest of the components. This showed that five factors could be kept for analysing the data.

Therefore, the same procedure for Principal Component Analysis was used for maintaining five factors. First the table showing the correlation matrix was checked to see if Varmiax or Oblimin rotation was suitable for this study. As the correlation among the five components was low, similar solutions from Varimax and Oblimin rotation could be obtained (Pallant, 2007), thus Oblimin rotation was used here.

The results of the Principal Component Analysis indicated that five factors could be produced out of the questionnaire. The five components were named based on the shared concepts in the items loaded under each, and are duplicated below.

Factor 1 (Critical Thinking): 18, 6, 17, 32, 36, 40, 29, 4, 16, 8
Factor 2 (Curriculum): 39, 37, 1, 5, 14, 31, 35
Factor 3 (Learning-centeredness): 20, 21, 22, 7, 26, 23, 28
Factor 4 (Sociopolitical issues): 9, 10, 11, 12, 13, 38, 2
Factor 5 (Gender): 3, 25, 30

Item 24 and 34 were eliminated before embarking on rotating the variables. The reason was that these variables had a high relationship (around 0.7) with another item of the questionnaire. Pallant (2007) suggested that such items should be deleted so that the KMO index is increased to a more appropriate level. Moreover, these two items were reported to be problematic for the reliability of the total questionnaire. Therefore, these items were deleted from the variables on which the factor analysis was run. After rotating the components, some of the items were decided to be deleted. Item 27, 15, 33 and 19 were discarded to come up with a 34-item questionnaire. The justifications, which are provided here for the deletion of the items, were based on the output for the Principal Component Analysis. In other words, these items were eliminated from the study due to their problematic nature in the process of factor analysis. These justifications should not be construed as articles of faith, rather as the reasoning the researchers could propose for their elimination. The eliminated items and possible reasons for their problematic loadings are reproduced below.

Item 27: *If students argue against what is presented in the book, I will accept it.*

Although this item seems to check the level of critical thinking of the teacher, it is somehow vague for the respondents. Does it mean that the teacher will accept whatever arguments provided by students? Does it mean that only the sensible arguments are welcome? Since the *if clause* did not show

what kind of argument was meant, was is possible that wrong loading could have its root in imprecise wording? Moreover, the above-mentioned item was loaded under sociopolitical issues as well as critical thinking. As a conjecture, the item could be said to be related to material developers and the teacher's reaction towards them. As material developers are higher level stock-holders in the education system, this item can be said to be in one sense or another related to the sociopolitical issues. Since the item was loaded under two factors, the researchers decided to eliminate it from the questionnaire.

Item 15: *Gender difference affects my students' scores.*

Item 15 refers to the role of gender equality in critical pedagogy. Some teachers may be aware of the gender differences, hence, they may not apply this knowledge in their teaching. Moreover, this item seems to be a little deep when it is well focused. If the teacher is aware of the differences, and accordingly treats them differently, it might go against the equality proposed in critical pedagogy. In effect, gender differences should be eliminated and females and males treated equally. The other item deleted after PCA was Item 33.

Item 33: *I push students into answer by giving them some hints instead of providing them with the right answer.*

Although Item 33 seems to be related to growing critical thinking in students, it was not loaded under any of the factors.

The justification for the elimination of this item may be that merely providing students with hints does not mean that the teacher is critical. The hint providers might be more critical compared to those who provide their students with prepackaged knowledge, but the teacher may insist on his understanding of the course material or direct them to what he would like them to answer by providing them with special and directed hints. Item 19 was not loaded under any of the factors, although it was supposed to be related to sociopolitical components.

Item 19: *I consider classroom interactions to be helpful in improving the society.*

The reason may lie in the ambiguity of the words *interactions* and *improve.* Classroom interaction may be too broad a term, ranging from pedagogical to social interactions. Moreover, the phrase *improving the society* may not be that clear for the respondents as it may refer to educational, cultural or even social promotion.

Reliability of the Subscales

It is advised to apply reliability for different factors included in the questionnaire (Field, 2009). The reliability for each of the subscales is reported here. The reliability of *Critical Thinking* is 0.79 as calculated by Cronbach's alpha. However, for the rest of components, the mean inter-item correlation is used. The reason is that as Pallant (2007) suggested for the scales with fewer than 10 items, it was not possible to

come up with a decent reliability level, and thus mean inter-item correlation was used. Briggs and Cheek (1986, cited in Pallant, 2007) recommended an optimal range for the inter-item correlation of 0.2 to 0.4. The mean inter item correlation for Curriculum, Learning-centeredness, Sociopolitical Issues and Gender are 0.25, 0.32, 0.26 and 0.37, respectively.

Factors of the Questionnaire

As mentioned above, five factors were extracted out of the questionnaire (see Appendix B). In this part, the reason behind naming each factor is mentioned. Moreover, a brief discussion of each, together with their relationship with CP, is presented.

Factor 1: Critical thinking. This factor was decided to be named *critical thinking,* one of the basic principles of CP, as the items in this component focused mostly on the views and beliefs of students and teachers that help them to be critical of their own and others' activities. In other words, the items in this component show that teachers and students are not exasperated by one another's comments and views.

The items under this factor focused on appreciation of students' views and teachers' self-criticality as to how to improve their performance. For example, item 4 read, *"I welcome students' comments about the exam items they sit for in the following sessions"*, which asked for student viewpoints about assessment. They also consider enabling students and making them independent individuals. An

example is item 34 which read, *"I make my students to take responsibility for their learning"*. The agreement with these items can be a positive point showing that ESP teachers respect their students' viewpoints and are critical of themselves. Jones (2012) maintained that critical thinking emerged as a consequence of critical pedagogy and could help enable learners to see the world as it is. According to Burbules and Berk (1999), the aim of education generally is to increase critical thinking. Seigel (1988) also stressed that critical thinking was interrelated with the idea of rationality, and developing rationality was seen as a major aim of education. Therefore, the critical thinking component may be the most important element of critical pedagogy and as was observed, 10 out of 34 items were loaded under this factor (see page 18).

Factor 2: Curriculum. The second component was *Curriculum* as the seven items in this part were about the syllabus and materials used in the classroom. Two examples of the items loaded under this factor were:

14. *In designing ESP curriculum, I consider the needs of students.*
27. *I help students produce their own learning materials.*

As can be seen, these two items asked for the teachers' opinion of syllabus and materials to be used in the classroom principles of CP, in the way to eradicate the traditional views of education, are permeated into the practice of curriculum developers. Rashidi and Safari (2011) stated that, based on CP, the main factors

involved in materials development are the programme, teacher, learner, content and pedagogical factors. According to the principles of CP, materials used in classrooms in general and in ESP classrooms in particular, should have specific features such as being developed according to the needs of students, considering views of both students and teachers in their development, and not being imposed by material developers in a top-down fashion (Nunan, 1999).

Factor 3: Learning-centredness. This component is called *Learning-centredness* as the seven items in this component concentrated on how to adjust teaching for the students so that the pedagogy will be more fruitful. The examples for the items loaded under this factor were as follows:

18. *I use methods and techniques that are adapted to diverse learners.*
19. *I use varied strategies and methods to answer students' questions.*

These two items focused on the students' view and the way their differences should be considered.

One of the factors that is of paramount importance in the realm of CP is to trust students and let them become independent individuals who can craft their own knowledge. This way, teachers can empower students to apply their knowledge in contexts out of classroom (Brown, 2007). This view also made the banking model of education prevalent in most institutes and universities under question. According to Kanpol (1998), critical pedagogy requires

teachers to understand that the teacher is no longer the only "authority" in the classroom; rather, teachers and students are expected to share knowledge and learn from each other.

Using different techniques to answer questions is a kind of creativity that is favoured by most teachers. As English may prove boring if taught mechanically, fun and creativity introduced by teachers may be important for providing a stress-free context to aid student learning. Moreover, a teacher who treats weak and excellent students differently and has different expectations from them is aware of the fact that not all students are the same, and in a real student-centred context, teaching should be based on students' abilities. That is why the items under this factor focused on the atmosphere of the class and on heeding the differences among students. Robinson (1991) believed that flexibility on the part of an ESP teacher and his ability to cope with different groups of students is one of the most important issues in ESP teaching.

Factor 4: Sociopolitical issues. Seven items were loaded under this factor, most of which shared socio-cultural and political issues. Social, cultural and political issues surrounding education need to be paid attention to according to critical pedagogues as these issues are not separated from education. Two examples of the items in this category were:

2. *In my class, language of the ESP books leads to a change in my students' culture.*

9. *Education helps broadening my students' views of reality.*

10. *I structure the course materials in a way that empowers individuals to make social changes.*

Item 2 considered the social aspect of learning while the two other examples (Items 9 and 10) related more to the political aspect of learning. According to Kincheloe (2008), students and teachers must pay attention to the politics that surrounds education and should be completely aware of them. They bring their own political notions into the classroom. He believed that even the way students are taught and what they are taught is politically influenced. Therefore, it can be concluded that sociopolitical issues remarkably influence the policies governing educational systems. Teachers and students are believed to bring with them their political view and social status, which may in turn affect their attitudes and behaviour in the classroom. The items under this factor examine if teachers see themselves as an authority, and are affected by the social and political issues governing the educational system.

Factor 5: Gender. The three items loaded under the gender component are all about student gender. Gender issues are but one of the principles of CP, arguing that male and female students should be equal in their learning opportunities and they both should have equal rights to speak and share ideas. Two examples for the items loaded under this factor were:

22. *To me male and female students are to the same extent respectable.*

26. *I assign the same practical tasks to males and females.*

These two examples asked if teachers treated male and female students similarly. Butler (1993) stated that based on CP, attempts should be made so that the differential opportunities provided for male and female students and the biased topics discussed in the class are reconsidered. Critical pedagogy is concerned with transforming power relations that bring about the oppression of people (Kincheloe, 2005). It seeks to educate all people regardless of their gender, class, race etc. According to McLaren (1998), critical pedagogy offers political, historical, cultural, economic and ethical guidelines for everyone in education who is interested in criticality. He maintains that as we are living in a society that is divided by race, gender and social class, the concepts reflected in the text, curriculum and teachers' ideologies are of great concerns for the scholars in this field.

CONCLUSION

Validation studies are considered as a main branch of research in TEFL as they are useful in providing the researchers with a valid and reliable scale for measuring different concepts. Due to lack of studies in Iran on CP in general and CP in ESP contexts in particular, this study was an attempt to validate a CP questionnaire in the Iranian ESP context. The questionnaire proved to be a highly reliable measure (r=0.835). The content validity of the questionnaire was confirmed by a panel of experts in the field, consisting of 10 TEFL professors about the overall questionnaire. Also, a pilot study was conducted on 35 ESP professors. In order to ensure the construct validity of the questionnaire, through Principal Component Analysis, five components were extracted. The researchers decided to name these five components on the basis of their relevance to the main tenets of CP. After extracting the components, reliability of each was measured, which showed acceptable indices. The components were as follows: critical thinking, curriculum, learner-centredness, sociopolitical issues and gender. The findings of the study are useful for those who are eager to ascertain the application of the five components found in this study in their institutes or universities where ESP is practised. Moreover, the results have implications for teacher trainers to include these components in their teaching. However, it is worth mentioning that further validation studies, perhaps with more participants and in other contexts, are necessary in order to come up with a completely valid scale for critical pedagogy in the ESP context.

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APPENDIX

A. 40-Item CP Questionnaire before Running Factor Analysis

<u>**Critical Pedagogy Questionnaire**</u>

Dear Professor,

The following questions are to determine the views of professors who are teaching ESP courses in Iranian universities. Kindly go through the questionnaire and answer the items based on how you teach ESP courses. For answering the questions, please check the cell which best describes your actions in the classroom. You may choose from *Strongly agree* to *Strongly disagree*. Please note that there is no right or wrong answer.

NO	Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1	In designing ESP curriculum, I consider values and beliefs of students.					
2	In my class, language of the ESP books leads to a change in my students' culture.					
3	I consider male and female students to the same extent capable of learning ESP materials.					
4	I welcome students' comments about the exam items they sit for in the following sessions.					
5	I elicit students' opinions about the curriculum.					
6	I consider my students as thinking individuals whose beliefs are worth consideration.					
7	If students have problem with my method of teaching, I will revise it.					
8	I continually examine my practices to come up with some idea as to how to improve my performance to enhance students' learning.					
9	Education helps broadening my students' views of reality.					
10	I structure the course materials in a way that empowers individuals to make social changes.					
11	I consider political issues as an effective factor in organising the materials in my classes.					
12	I consider the values of different parts of society in my lectures in class.					
13	When necessary, I encourage my students to discuss social problems in the class.					
14	In designing ESP curriculum, I consider the needs of students.					
15	Gender difference affects my students' scores.					

16	I welcome students' comments regarding the way tests are administered.					
17	In my class, students' viewpoints are highlighted.					
18	I use meaningful tasks rather than memorisation while teaching.					
19	I consider classroom interactions to be helpful in improving the society.					
20	I use methods and techniques that are adapted to diverse learners.					
21	I use varied strategies and methods to answer students' questions.					
22	I have the same expectation from all weak and excellent students in learning ESP courses.					
23	I encourage my students to pose questions based on the content presented to them.					
24	I consider my students' interests as a factor in choosing my teaching methods.					
25	To me male and female students are to the same extent respectable.					
26	In my classes, students are encouraged to evaluate their own performance.					
27	If students argue against what is presented in the book, I will accept it.					
28	I encourage my students to solve problems raised and questions that are related to the course.					
29	I try to help students learn from each other.					
30	I assign the same practical tasks to males and females.					
31	I help students produce their own learning materials.					
32	I consider opposing views of students about the issues discussed in the class impartially.					
33	I push students to answer by giving them some hints instead of providing them with the right answer.					
34	Different criteria are used for evaluating each individual.					
35	I use the same fixed activities in different semesters in my ESP classes.					
36	If one of my students rejects what I say, I will ask for their reasoning.					
37	I choose materials based on their relationship to students' future profession and real-life context.					
38	I make my students aware of the political issues surrounding education.					
39	I operate the curriculum through pre-specified textbooks.					
40	I make my students to take responsibility for their learning.					

Please answer the following questions.

Gender: Male ◯   Female ◯   **Major:** …………….

Degree: M.A. ◯   Ph.D. ◯

Field of Teaching: Engineering ◯   Medicine ◯   Humanities ◯

Which university do you teach at? State ◯   Azad ◯   Private ◯

B. 34-Item CP Questionnaire

Critical Pedagogy Questionnaire

Dear Professor,

The following questions are to determine the views of professors who are teaching ESP courses in Iranian universities. Kindly go through the questionnaire and answer the items based on how you teach ESP courses. For answering the questions, please check the cell which best describes your actions in the classroom. You may choose from *Strongly agree* to *Strongly disagree*. Please note that there is no right or wrong answer.

NO	Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1	In designing ESP curriculum, I consider values and beliefs of students.					
2	In my class, language of the ESP books leads to a change in my students' culture.					
3	I consider male and female students to the same extent capable of learning ESP materials.					
4	I welcome students' comments about the exam items they sit for in the following sessions.					
5	I elicit students' opinions about the curriculum.					
6	I consider my students as thinking individuals whose beliefs are worth consideration.					
7	If students have a problem with my method of teaching, I will revise it.					
8	I continually examine my practices to come up with some idea as to how to improve my performance to enhance students' learning.					
9	Education helps broadening my students' views of reality.					
10	I structure the course materials in a way that empowers individuals to make social changes.					
11	I consider political issues as an effective factor in organising the materials in my classes					
12	I consider the values of different parts of society in my lectures in class.					
13	When necessary, I encourage my students to discuss social problems in the class.					
14	In designing ESP curriculum, I consider the needs of students.					
15	I welcome students' comments regarding the way tests are administered.					
16	In my class, students' viewpoints are highlighted.					
17	I use meaningful tasks rather than memorisation while teaching.					

18	I use methods and techniques that are adapted to diverse learners.					
19	I use varied strategies and methods to answer students' questions.					
20	I have the same expectation from all weak and excellent students in learning ESP courses.					
21	I encourage my students to pose questions based on the content presented to them.					
22	To me, male and female students are to the same extent respectable.					
23	In my classes, students are encouraged to evaluate their own performance.					
24	I encourage my students to solve problems raised and questions that are related to the course.					
25	I try to help students learn from each other.					
26	I assign the same practical tasks to males and females.					
27	I help students produce their own learning materials.					
28	I consider opposing views of students about the issues discussed in the class impartially.					
29	I use the same fixed activities in different semesters in my ESP classes.					
30	If one of students rejects what I say, I will ask for their reasoning.					
31	I choose the materials based on their relationship to students' future profession and real-life context.					
32	I make my students aware of the political issues surrounding education.					
33	I operate the curriculum through pre-specified textbooks.					
34	I make my students to take responsibility for their learning.					

Please answer the following questions.

Gender: Male ◯   Female ◯   **Major:** …………….

Degree: M.A. ◯   Ph.D. ◯

Field of Teaching: Engineering ◯   Medicine ◯   Humanities ◯

Which university do you teach at?   State ◯   Azad ◯   Private ◯