



Designing and validating an assessment inventory for online language teacher education accountability

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Abstract

Education accountability and its building components has been the focal point and yet a convoluted issue. The current study aims to give a comprehensive account of indicators of education accountability in e-learning. To this end, this two-phase study was conducted on Iranian English as Foreign Language context. The first phase was qualitative in nature and aimed at identifying the indicators through conversation analysis of stored interviews with 9 distinguished English as foreign language teachers who hold online EFL teacher training courses in three different language centers in Tehran, Iran. Open coding and thematic analysis via Nvivo software on the interviews made the building blocks of the second phase of this study which was designing and validating a questionnaire for assessing educational accountability in e-learning. The researcher-made questionnaire was subject to reliability and validity issues. Therefore, the researcher-made questionnaire was piloted with 122 EFL teachers. The results of factor analysis indicated that factors loaded on accountability to teaching profession, to society, to student teacher, to teacher educators, to leadership, and to learning outcomes. The results also indicated that the present questionnaire enjoys sound and acceptable psychometric properties. The results have significant implications for teaching practitioners.

Keywords Educational accountability · E-learning · Language teacher education · Education accountability questionnaire

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1 Introduction

In the history of education development, accountability has been thought of as a key factor in fulfilling the goals. To intercept accountability to go awry, radical changes in education systems would be advocated to live up to the fundamental promises that they have made (Gottlieb, 2020; Mohamadi & Malekshahi, 2018). In the context of global constant changes, education is supposed to be in alignment with all alterations and the achievement outcomes of education have been spotlighted (Wyatt-Smith & Adie, 2018). Moving to era of technology has imposed other policies and requirements on both governments and education systems which produce insatiable appetites for achievements. In this regard teacher education would be in charge of latching high quality and high equity in the discourse of education with society and learners' desires since in the education pyramid teachers as well as the teacher educators are accountable to manipulate the principles of the systems and to pursue the success (Nikmard & Zenouzagh, 2020). Simultaneously, all governments, ministries of education, employers and researchers have been stipulated for the promotion of constitutional skills like creativity and innovation, critical thinking and problem-solving, collaboration and teamwork, autonomy and flexibility, and lifelong learning (Zenouzagh, 2019). However, the ability to engage with digital technologies is rooted in the deepest layer of these skills. This ability requires a command of the digital literacies which are inextricable issues in the processes of using the technologies effectively and could be defined as crucial skills and knowledge needed to interpret, control, share, and create meaning through varied digital communication channels (Pegrum et al., 2018).

Overwhelmed with the massive increase in technology improvement influencing and reshaping the learners' demands and expectations, education systems have proposed programs integrated with technology or merely e-learning /distance-learning /on-line learning programs. In this respect, European Commission/EACEA/Eurydice (2019) emphasized that student teachers had to develop digital competences. Similarly, Palacios Hidalgo et al. (2020) notified that it is the responsibility of teacher training programs to establish a setting for improving student teachers' digital competences. However, no significant attempt has considered the accountability of teacher education in digital era. To assess teacher education, Jones et al. (2012) mentioned some particular features like flexibility and sound judgments as accountability criterion. Only a few studies have been carried out to estimate how properly the teacher education systems work (Al-Issa, 2017; Klemenz et al., 2019) and few studies have clarified the accountability in teacher education (Deluca, 2012; Soleimani, 2020; Wyatt-Smith & Adie, 2018; Zarei et al., 2019). Moreover, accountability research trend in teacher education has been directed to identifying the components of accountability. For example, Fundamental accountability assumptions leading to teacher education improvement were identified by Tamir (2020) in a self-inquiry attempt. In that inquiry developing more learning opportunities for student teachers as well as adhering to coherent program were the essential responsibilities of teacher educational

systems. Likewise, Maroy and Pons (2019) proposed a model to represent the accountability principles of any educational systems in which evaluation the outcomes and processes was at the heart. Cochran-Smith et al. (2009) and Ludlow et al. (2010) referred to a conceptual accountability framework which assessment and measurements were its pillar. Cochran-Smith et al., (2018) proposed a complex multifaceted framework for teacher education accountability which demonstrated eight broad accountability dimensions. Worth mentioning, what exist in literature talks more about accountability in teacher education not language teacher education accountability. Reviewing literature, Soleimani (2020) represented the necessity of manipulating investigations in respect to various accountability dimensions in language teacher education.

This study aims to tackle the mentioned lacunae and by designing and validating a questionnaire built up from theoretical concepts obtained from literature and to the point interviews intends to bridge the gap. Consequently, the validated questionnaire can assist administrators and language teacher systems to assess the function and practicality of their educational programs. Additionally, by determining the indicators of accountability in online language teacher education, it is envisaged to empower the researchers, teacher education systems, educators and teachers to recognize the rigorous fundamental issues which lead ‘teacher education’ to perform well and be accountable.

2 Literature review

The word accountability has been defined variously based on the context it would be used. Initially it was thought as a social institution which was rooted in the English-speaking cultural world (Bovens, 2007b). Accountability has been defined as a ‘dynamic social relationship through which civil society seeks to control and challenge the state’ (Smyth, 2007, p. 28). For some accountability could mean ‘holding people answerable for their decisions and actions’ (Hall & Knox, 2009). As Lindberg (2013) suggested that the definition of accountability in any specific context should consist of the following elements:

1. A person or a system responsible to provide an account
2. Categories or duties subject to accountability
3. People or organizations who are supposed to receive the account
4. The authority of the head to make the responsible agent to provide sufficient clarifications about their decisions.
5. The power of the head to punish the responsible agent in case of their failure in providing satisfactory clarifications about their decisions.

Some other studies like Bovens (2007a) and Maroy and Pons (2019) have proposed that the answers to some specific questions are considered to reveal fundamental information crucial in constructing a satisfactory definition of ‘accountability’. They referred to the following questions as the most commonly accepted ones:

1. Who is accountable? Who should render accounts?
2. To whom (which forum) is the account to be rendered?
3. What is the relation (or the type of obligation) between the actor and the forum?

Identification of various types of accountability would be prerequisite for any investigation about accountability in a specific context (Bovens, 2007a; Maroy & Pons, 2019). For instance, Bovens (2007a) attempted to represent different accountability types. As noted below, he categorized them into four unions based on their common nature and proposed a comprehensive list of various kinds of accountability.

1. Based on the nature of the forum
 - Political accountability
 - Legal accountability
 - Administrative accountability
 - Professional accountability
 - Social accountability
2. Based on the nature of the actor
 - Corporate accountability
 - Hierarchical accountability
 - Collective accountability
 - Individual accountability
3. Based on the nature of the conduct
 - Financial accountability
 - Procedural accountability
 - Product accountability
4. Based on the nature of the obligation
 - Vertical accountability
 - Diagonal accountability
 - Horizontal accountability

2.1 Accountability in teacher education

Accountability in teacher education could be explicated as the establishment of quality assurance systems that ensure high-quality programs to which all candidates have access. Lack of comprehensive consensus about the teacher education policies that cover technical and political considerations as well as the required preparations and qualifications which could lead to effectiveness and maximizing teacher learning opportunities has been remained the potential deficiency of teacher education (Darling-Hammond, 2020). To enhance the teacher education accountability the teacher education policies require to include effective incentives for recruiting and retaining teachers. Moreover, teacher assessment strategies, performance -based accreditation strategies and investments in the professional development school partnerships that

would capable the teacher education to implement appropriate ways to connect theory and practice.

Widely accepted (Barbana et al., 2020), accountability in education would be based on one specific instrument such as a large-scale assessment which could be differed in accordance with the context. The accountability policies in education have been investigated through four different movements as identified by Maroy and Pons (2019). In their opinion considering the various typological approaches to accountability policies could be the fundamental movement. The next movement would be the clarification and analysis of the nature of education systems in which the policies are applied. Evaluation of the possible effects of accountability policies on academic performances would be the center of activities in the third movement and the last movement would be the analysis of the implementation of accountability policies and devices.

Most teacher education programs grounded on two conceptions of 'knowledge for' and 'knowledge in practice' while the third conception, 'knowledge of practice', has been widely put aside. It is highly advocated that these conceptions are not contradictory and candidates in teaching should learn them all. However, learning these conceptions and their nature are open to questions, critiques and deliberations. Teacher learning could be leveraged through teacher students and educators' collaborative participation in inquiry (Ghamoushi & Mohamadi Zenouzagh, 2020). An ideal teacher education program would be built on the base of inquiry in which every member's backgrounds, viewpoints, opinions and expertise are treated and valued alike (Wyatt-Smith & Adie, 2018).

In considering the nature of accountability, great emphasis has been on the initial teacher education in particular in this regard how teacher candidates learned to teach, how their attitudes changed over time, what the knowledge base for effective teaching was, and what social and organizational contexts supported their learning or as a whole the process have been on the center of attention. However, all these considerations render various perspectives of educational accountability. Education researchers suggested a program-specific accountability model with four components that could be applicable to teacher education programs (Cochran-Smith et al., 2009; Ludlow et al., 2010). This model consisted of a conceptual framework, the involvement of faculty and relevant stakeholders, measurements and assessments and the last component is the integration of the results of the measures and assessments into a comprehensive data system which is connected to other databases. They claimed that a powerful accountability system could be established on the ground of local measures in response to the demands of external evaluators and auditors simultaneously stay flexible enough to address the program objectives.

Cochran-Smith et al. (2018) claimed that there were various significant perspectives of accountability which should be taken into consideration in any accountability framework. Their attempt promulgated that these indispensable aspects included firstly the idea of obligation distinguishing accountability from a sense of individual responsibility. The nest aspect would be the question of agency dealing with issues related to jurisdiction, control and autonomy. The notion of substance could be the other aspect of accountability which was supposed to consider the primary purpose of the entity. The values and the question

of mechanism or how an accountability scheme would be expected to perform to reveal the desired outcomes were assumed the other fundamental aspects of accountability. Affected by the multiple layers of accountability Cochran-Smith et al., (2018) announced a complex multifaceted framework for teacher education accountability which consisted of eight dimensions. As they highlighted that these dimensions were inextricably interwoven with one another and none of them could be understood without unraveling the rest. Cochran-Smith et al., (2018) proposed various dimensions for teacher education as:

- *Values*: which represent the principles, ideas, ideologies about teacher education in society
- *Purpose*: demonstrates the desired aims and objectives that should be achieved
- *concepts*: refer to those fundamental definitions and concepts about teaching, learning as well as learning to teach
- *Diagnostic*: represents how teacher education is rhetorically constructed as a problem.
- *Prognostic*: represents how the solution to the problem is rhetorically constructed.
- *Control*: informs that who is in charge of how teacher education is held accountable.
- *Content*: identifies what teacher education is accountable for and how it is measured.
- *Consequences*: present the intended and unintended results, effects, and implications.

Cochran-Smith et al.(2018) claimed that the accountability framework including the eight dimensions could be best applied to all disciplines particularly teacher education.

Living in the era of accountability has influenced greatly the teacher education. Several studies have been carried out to reveal some insights about the accountability through varied perspectives and different contexts. Debates about the teacher education principles and policies have been emerged as a result of desire to provide the most effective preparation opportunities (Darling-Hammond, 2020; Ludlow et al., 2010).

The importance of accountability in teacher education was highlighted in a study done by DeLuca in 2012. He developed a framework for the purpose of assessing the education and preparing teachers to be competent in assessment-driven instruction. Stensaker and Harvey (2011) claimed that the following characteristics had to be observed so that a system could be assessed as accountable: (p. 15).

1. Being considered as relevant by major principals
2. Consisting of sound and fair judgments about performances
3. Being flexible to accept feedback and negotiation
4. Initiating trust

Clarifying the components of teacher education has been attracted some particular studies like Ronfeldt and Reininger (2012); McDonald et al. (2013); Darling-Hammond (2006), and Tamir, (2020). They claimed that providing a vivid picture of a desired teaching and including a vigorous surveillance with professional coursework would be considered as effective components in teacher education which could render satisfactory outcomes from teacher education. By appealing to value-added measures Plecki et al. (2012) conducted a research to clarify the elements that could improve teacher education program accountability. The findings of their attempt revealed the necessity of facing the internal accountability as well as the external accountability of teacher education. They believed that any teacher education should be responsible to face particular challenges like:

1. Recruiting those candidates that meet state and regional labor market needs
2. Designing program content and related field experiences that produce candidates who are well prepared to start their own teaching career
3. Helping to place graduates in subject areas, grade levels, and schools where they are most needed, and helping to provide induction support
4. Engaging in partnerships with districts and schools in the design and delivery of high-quality professional learning in the initial years, as well as ongoing professional learning throughout a teacher's career.(p. 319)

Moreover, they asserted that considering the characteristics and teaching practices of student teachers along with analyzing the preparation programs would be the evidence of the teacher education accountability. Within this vein, Lewis and Young (2013) resonated that the accountability of teacher education had intertwined with political policies and decision making.

To steer teacher education to be in alignment with the social and educational development, a reform in teacher education would be inevitable. Cochran-Smith et al.,(2017) carried out an investigation about the approaches to reform teacher education accountability. They examined teacher education accountability through the dimensions of policy, political, and professional developments. They proposed that teacher education accountability should be rooted in intelligent professional responsibility for students' learning consisting of democratic knowledge and skills, strong equity, and genuine collaboration with multiple stakeholders. They demonstrated that democratic accountability in teacher education would be a potential requirement for upcoming teacher education. Moreover, in another study done by Rowe and Skourdombis (2019) a reform in initial teacher education with the purpose of improving the quality of programs was introduced in a way that implementation of that delivers increased accountability of educators, teachers, schools and universities (Mockler, 2017). Through a self-study inquiry, Tamir (2020) demonstrated some fundamental assumptions leading to improve teacher education accountability. He claimed that having a high level of coherence across program components, promoting a sense of a coherent professional learning community among students, improving learning opportunities for student teachers, having a passion and systematic approach to apply advantageous

opinions were assumed to be some of the notions that could develop both internal and external teacher education accountability.

In another study done by Klemenz et al. (2019) clarification of the effects of learning opportunities on the development of student teachers' general pedagogical knowledge and identification of the involvement of the effects in the processes of curriculum planning would be assumed as the responsibilities of the teacher education systems. Similarly, Spalding et al. (2010) had accentuated that teacher educators should be responsible to be considerate about student teachers' needs and abilities and simultaneously they should influence student teachers' beliefs, practices and knowledge in a promoting way. Solbrekke and Sugrue (2014) delineated that teacher education must talk vividly about its purposes, professional responsibilities and comprehension of prospective teachers' needs therefor; in this respect the administrators would play a convoluted role. In a study set out by Rosenblatt (2017) the school administrators' accountability was estimated by a validated a scale to divulge the significance.

2.2 Present study

Although accountability has been a watchword in teacher education and piles of studies have been done to talk about it through varied dimensions, not a particular attempt has been set out to provide the fundamental principles, components and indicators of teacher education. To this end, the present study aims to introduce the teacher education indicators that could be applicable in almost all educational settings.

Despite the fact that developing the quality of teacher education has been recently on the center of attention, language teacher education has not been appealing yet and more and more practices are required to be done to investigate the nature of language teacher education. To highlight the significance of accountability in language learning education Soleimani (2020) by reviewing the related literature on accountability came to the conclusion that every specific system should consider accountability from various dimensions like accountability in relation to language planning, language policies and educational standards. The study done by Zarei et al., (2019) investigated the education accountability in language institutes and schools. A qualitative study was done by Al-Issa (2017) investigated language teachers' perceptions about the qualities of second language teacher education. Moreover, the study declared the implications of professional qualities of teacher education for achieving accountability. The results of his study revealed a complex nature of the quality of second language teacher education which was basically grounded on social justice. By appealing to the obtained data, the study introduced the fundamental categories consisting of multiple sub categories representing the common demanded qualities of second language teacher education and it emphasized on empowering any teacher education with those elements to be qualified and accountable. However, it is obvious that there is not a significant study in literature to talk about the components of accountability in language teacher education, therefore the present study aims to meet the required demands.

Undoubtedly, the emergence of digital technology aligns with the power of internet have revolutionized all aspects of humans' life which learning and teaching would not be exceptional but would be benefited more. Education in digital age requires some basic reforms as well as particular infrastructures. The European Commission/EACEA/Eurydice (2019) accentuated the significance of digital competence in current digital era. Digital competence could involve various components such as:

1. Evaluating data, information and digital content
2. Collaborating through digital technologies
3. Managing digital identity
4. Developing digital content
5. Programming/coding
6. Protecting personal data and privacy
7. Protecting health and well-being
8. Identifying digital competence gaps

European Commission/EACEA/Eurydice (2019) insisted on the development of teacher-specific digital competences before entry to the profession. In this regard all learners, teachers and teacher educators should have a satisfactory level of digital competence. In a similar vein, a theoretical study done by Palacios Hidalgo et al. (2020) aimed at rendering the key concepts of digital and media competences and they asserted that in spite of the fundamental roles of these competences in present digital age not satisfactory attention have been paid to them in teacher training centers. Therefore, it would be the potential purpose of the current study to investigate the needed components and qualities for teacher education particularly language teacher education in digital atmosphere. Since today the desire to participate in online courses is increasing, the more practice will be required to qualify the learning and teaching agents.

While, a great number of studies such as Darling-Hammond (2006); Deluca (2012) and Cooper and Owen (2007) making effort to consider the significance of accountability from different perspectives, there have been some attempts (e.g. Massy, 2011; Middlehurst, 2011; Zarei et al., 2019) which demonstrate the problematic and limitation of the nature of accountability in different contexts. Messner (2009) claimed that the potential restrictions in accountability nature prohibited the expected demands of accountability to be totally achieved. The controversial issues about the essence of teacher education accountability have been expanded and they include more dimensions such as the test-based accountability. While some studies (e.g. Fuhrman, 1999; Penfield & Lee, 2010) appeal to test-based educational accountability policies, other like Won Han (2018) claimed that test-based accountability policies would discourage well-educated candidates from entering the teaching profession and these policies would perform as an obstacle for educational systems to attract the skillful teacher candidates.

In nutshell, the utmost desire in any teacher education system is to produce satisfactory outcomes in accordance with the established standards and purposes.

To achieve this goal the systems should be accountable in respect to multiple dimensions. To enrich the literature, the present study aimed at considering the online language teacher education accountability from various perspectives so that the identification of the accountability indicators would be possible and the teacher education, student teachers as well as the learners will be benefited by the outcomes.

3 Method

The present research was carried out in two phases applying an exploratory sequential mixed method design. Accordingly, to fulfill the desired goals for each phase different steps were taken within each aspect which all are presented in the upcoming sections.

3.1 Participants

Two groups were participated in this study. The first group consisted of 9 male and female distinguished EFL teacher educators and administrators who hold online EFL teacher training courses in three different language centers in Tehran, Iran (Table 1).

122 participants participated in the second phase of the study. The participants included 25 EFL educators holding either PhD or MA in English Teaching, English Translation or English literature and they were teaching at different language training centers and universities, 77 EFL teachers having MA or BA in English and 20 student teachers (Table 2).

Table 1 Demographic information of the first group participants

Participants	Age	Degree	Teaching Experience	Female percentage	Male percentage	Mean age	SD
1	41	PhD In English	18 years	55.6	44.4	42.78	4.438
2	45	PhD in English	16 years				
3	38	PhD in English	13 years				
4	40	PhD in English	15 years				
5	49	MA in English	18 years				
6	37	PhD in English	11 years				
7	45	MA in English	16 years				
8	41	MA in English	14 years				
9	49	MA in English	17 years				

Table 2 Demographic information of the second group of participants

Participants	Number	Male	Female	Age range	Mean	SD
Educators	25	16 (64%)	9 (36%)	42–52	45.80	2.739
Teachers	71	27 (38%)	44 (62%)	32–47	37.72	3.810
student teachers	20	8 (40%)	12 (60%)	24–26	24.90	0.968

3.2 Materials and instruments

In respect to the first section of the current study 4 different questions were used to collect the data through an interview and a five-Likert self-reported questionnaire (Appendix Table 9) including 79 items which was designed by the researcher was used for the purpose of data collection in the second part of the study.

3.3 Procedure

Primarily, the researcher read deeply the all related literature on various aspects of accountability with the purpose of exploring the untouched issues in the era of teacher education. Consequently, developing a framework representing the indicators of online language teacher education accountability aroused to be worth to work on due to the fact that the emergent and prevalent use of internet has greatly influenced all aspects of our life specifically the education. At the heart of any education system is teacher education which can directly affect the success of the organization. Apparently, investigating the accountability of teacher education systems will help to assess their function and it will help to improve the quality of teacher education. In this domain, language teacher education is significantly as effective as the other teacher education systems that need to be assessed and improved constantly. In this respect, the present study tried to develop a questionnaire which can be used to identify whether the systems do what they are supposed to. The questionnaire determined various aspects of online language teacher education accountability. To conduct the study, based on Creswell (2014) an exploratory sequential mixed methods design was chosen to better understand the nature of the issue thoroughly.

The study was set out into two stages. The first phase which was qualitative in nature was carried out through an interview with 9 participants. Four research questions were conducted at this stage and to figure out the answers to these questions an open-ended interview in accordance with the supposed questions was hold. The interviews were recorded, transcribed. By appealing to Nvivo software the transcriptions were coded and thematically organized.

To enhance the dependability of the processes of analysis, the recommended procedures by Creswell (2007, 2014) were followed. In this regard, after transcribing the interviews, the researcher checked the transcripts twice to evade mistakes. Moreover, transcripts were checked by two other researchers to determine the accuracy of the findings. Being confident about the accuracy of the transcripts, researcher

developed a codebook which was checked and revised several times. Additionally, cross-checking of codes (Creswell, 2014) was used by multiple experts and the results revealed a strong inter coder agreement. The codes were categorized by the themes which there were a consensus on their relevance and appropriateness. To check the validity of the qualitative process and to rule out the validity threats, ‘member validation’, ‘constant comparison’, and ‘negative evidence’ were appealed to (Richards, 2003).

Inspired by the results of the first phase, the researcher developed a five-Likert self-report questionnaire. The questionnaire was revised and improved gradually by consulting to a panel of experts and acquiring considerable information from the literature. The final draft of questionnaire was checked by three scholars and they all confirmed that the questionnaire had achieved construct validity. 122 participants incorporated in the second stage and filled the questionnaire. Finally, by appealing to SPSS version 22 the collected data was analyzed.

4 Results

As mentioned formerly, the current study was carried out into two stages. The first phase was qualitative in nature which aimed at identifying the indicators through conversation analysis of stored interviews. The results made the building blocks of the second phase of this study which was designing and validating a questionnaire for assessing educational accountability in e-learning. Subject to reliability and validity issues, the evolving questionnaire was piloted and the results of factor analysis were indicated in subsequent sections.

4.1 Identification of indicators of educational teacher accountability in e-learning

The purpose of the study in the first stage was supposed to be qualitative in nature. To obtain the required data the following research questions were introduced:

1. To what extent do EFL educators are familiar with ‘accountability’ in teacher education?
2. What does accountability refer to in online language teacher education?
3. What factors would affect the accountability of online language teacher education ?
4. To what extent can surveillance influence the accountability of online language teacher education?

To provide the answers for the mentioned research questions, the interviews were arranged with four open ended questions in line with the mentioned ones. The interviews were recorded, transcribed and then coded. Table 2 represents the themes which were selected based on the whole collected data. The first theme was called ‘Responsible to’ which refers to those people/systems that teacher education

Table 3 The themes and codes

Name	Sources	References
.Responsible To	0	0
Teacher educators	6	10
Language learners	4	1
responsible towards student teachers	7	14
towards teacher education system	6	8
towards teaching profession	3	3
towards society	4	3
.Perceptions	0	0
Meaning	9	12
The role of surveillance	7	8
Effective factors	5	8

is supposed to observe their requirements. The second theme represents the participants' *Perceptions* about accountability in online teacher education which includes clarification of their attitudes towards the meaning and the nature of accountability, the potential effective factors and the possible role of surveillance. Table 3 demonstrates the summary of the results of the thematic analysis:

Considering the outcome of the analysis, we can claim that almost all the participants were knowledgeable enough about the nature and the meaning of accountability in language teacher education. We can refer to participant 2 as he claimed:

Participant 2:

'ok, it would be really comprehensive, I think all language teacher education systems have to be responsible to specific issues, people and factors and on line courses would have to add more duties and considerations regarding the role of technology. This type of education is responsible or should be responsible to student teachers...'

or as the other person mentioned:

'Accountability would refer to all aspects of responsibility, which can be towards people, situations or organizations...'

Therefore, regarding the first research question of this phase, it would be safe to assert that the participated educators in this study had the prerequisite information about teacher education accountability. Similarly, in response to the second question, we can say that the participants were aware of the fundamental accountability considerations in online language teacher education and they modified some of the basic issues those systems should be accountable for such as:

Participant 9:

'the ideal and normal online educational system, is responsible or requires to be familiar enough with new technologies (i.e. computer, the internet, online apps, websites, and so on) as well as being smart and quick enough dealing

with the possible problems or inadequacies at the time of online performance since the trainees/students are well-informed with new technologies these days...'

In their ideas the accountability in online language teacher education refers to the responsibility of the system to provide any requirements in respect to technology and e-learning, moreover the teacher education should be updated, be capable to solve the digital problems happen during the online classes.

To answer the third question as Table 3 represents, some of the participants claimed that lack of control or face-to-face contact with student teachers would prove some obstacles for teacher education to fulfill their desired goals. Government policies and financial issues are the other effective factors mentioned by participants as one said:

Participant 2:

'I think , the government policies in respect to language planning , language teaching would directly affect the online language teacher education accountability. moreover, financial issues and social expectations are the other influential factors...'

Moreover participant 3 asserted that:

'Student teachers' motivation, talents and capabilities could be the other factors which would affect the accountability...'

As represented in Table 3, almost all the participants acknowledged that through ongoing observation and surveillance the quality of the courses will be improved and they believed that it would help the teacher education and educators be cautious about their strength and weak points. As one of the participants mentioned:

Participant 1:

'I think the surveillance and monitoring system is a must and necessary activity that must be carried out by the authorities, and also the supervisors, the managers of the system in order that the teachers and educators should stick to their duties and responsibilities in teaching....'

we can conclude that the participants had a sound sense of accountability of online language teacher education. They believed that the teacher education must be responsible to language educators, student teachers, language learners, society and even teacher education profession. They asserted that accountability in online teacher education would follow similar features of the face-to-face system but add some other factors related to digital learning and environment.

4.2 Validating the assessment inventory on teacher education accountability in e-learning

Since the main purpose of the present study is identification of the accountability elements in online language teacher education, inspired by the results of the primary stage as well as the knowledge provided by reading the literature,

Table 4 Cronbach's alpha of the seven components of the questionnaire and the total items

	Teaching profession	Society	Student teachers	Teacher educators	Learning outcomes	Educational leadership	Students	Total
Cronbach's Alpha	0.50	0.85	0.64	0.73	0.34	0.87	0.90	0.73
N of Items	14	6	31	13	5	4	7	79

Table 5 KMO and bartlett's test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy		0.435
Bartlett's Test of Sphericity	Approx. Chi-Square	6006.939
	df	3081
	Sig	0.000

the researcher developed a five-Likert questionnaire which was supposed to best meet the purpose of the study (Creswell, 2014). Predominantly, the questionnaire signified the crucial perspectives which elaborate on the indicators of the accountability in the supposed setting. The questionnaire consists of seven sections each of which points to specific domain of accountability, As a whole there are 79 items in the questionnaire (Appendix Table 9). The following research questions were constructed for this stage:

1. Is the questionnaire on e-learning accountability of language teacher education reliable and valid?
2. What are the e-learning accountability indicators in language teacher education?

The reliability and validity of the designed questionnaire was estimated in order to be confident to administer the questionnaire and apply it in various contexts.

4.2.1 Cronbach alpha reliability of each individual component and the whole questionnaire

The Cronbach Alpha reliability index of each component and also the whole questionnaire was estimated as the index of reliability for the designed questionnaire. As shown in Table 4, except for the teaching profession and learning outcome components whose reliability are 0.50 and 0.34 and not very high, the other components as well as the total questionnaire had acceptable reliability indices of above 0.64. Consequently, the questionnaire could be considered as enjoying almost acceptable reliability since most components and more importantly, the total questionnaire indicated good reliability indices.

4.2.2 Factor analysis

Principal axis factor analysis with varimax rotation was used in order to investigate the underlying constructs of the 79 items of the Questionnaire. As it is depicted in Table 5, KMO degree of 0.43 is lower than 0.60; it could be asserted that the sample size was not sufficient for the purpose of the study. However, the probability associated with Bartlett's Test is significant (less than 0.05) and correlations between variables are all zero. In accordance to the mentioned estimations, it would be satisfactory to claim that the use of factor analysis is allowed.

A factor analysis was conducted to seek the underlying constructs of the 79 items of the questionnaire. Hence, the questionnaire had 7 sections; it was decided to extract the 7 factors using the principal axis factor method and varimax rotation. Table 6 represents the factor loadings of the 79 items under the extracted factors.

Table 6 shows the total variance explained which is devoted to indicating the way variance is shared among the components. As announced by Hinton et al. (2014), a factor is considered as having enough variability in the data set and representing a single variable if its eigenvalue is at least 1. In case, there is an eigenvalue less than this amount, it means that the variable cannot be regarded as so. Therefore, it can be concluded that all the components of the teacher education accountability in the e-learning questionnaire are useful according to their eigenvalues reported for the seven components (i.e. 6.70 for teaching profession, 5.67 for society, 5.44 for student teachers, 3.90 for teacher educators, 3.19 for learning outcome, 2.97 for educational leadership, and 2.87 for students).

Figure 1 below is a visual image representing the point at which the eigenvalues almost stop fluctuating. In such scree plots, factors up to the so-called point are the significant ones whereas the rest are not (Hinton et al., 2014). Therefore, the seven components of the questionnaire are all considered as having significant eigenvalues which is a further confirmation for the results of Table 6 above.

Table 7 is then represented to illustrate the item loadings on the seven different factors included in the present questionnaire. The loading of 0.3 or higher for variable involvement is introduced as significant with a case as Hinton et al. (2014) explained. Therefore, values reported in Table 7 below shows that there are nine items loaded above 0.3 on the first component, eight items on the second, 12 on the third, 11 on the fourth, ten on the fifth, seven on the sixth, and seven on the seventh component. Moreover, the other 15 items did not reach 0.3 level and therefore were deleted.

As illustrated through the factor analysis run to find out the underlying constructs of teacher accountability in e-learning, the final questionnaire can be considered as involving the following seven components and the related items:

Factor one, teacher profession, accounted for 8.48% of the total variance and included nine items (i.e., 54, 55, 56, 57, 58, 59, 60, 61, and 62).

Factor two, called society, accounted for 7.18% of the total variance and involved the eight items of 47, 73, 74, 75, 76, 77, 78, and 79.

Factor three, student teachers, accounted for 6.88% of the total variance and included only 12 items (i.e., 1, 2, 3, 4, 5, 6, 7, 8, 10, 23, 38, and 44).

Table 6 Total variance explained

Component	Initial Eigenvalues		Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	Total	% of Variance	Total	% of Variance	Total	% of Variance
1	6.70	8.48	6.70	8.48	6.16	7.80
2	5.67	7.18	5.67	7.18	5.65	7.15
3	5.44	6.88	5.44	6.88	4.63	5.86
4	3.90	4.93	3.90	4.93	4.18	5.29
5	3.19	4.03	3.19	4.03	3.57	4.52
6	2.97	3.76	2.97	3.76	3.35	4.24
7	2.87	3.64	2.87	3.64	3.20	4.05
		8.48		8.48		7.80
		15.67		15.67		14.95
		22.55		22.55		20.82
		27.49		27.49		26.12
		31.53		31.53		30.64
		35.29		35.29		34.88
		38.93		38.93		38.93

Extraction Method: Principal Component Analysis

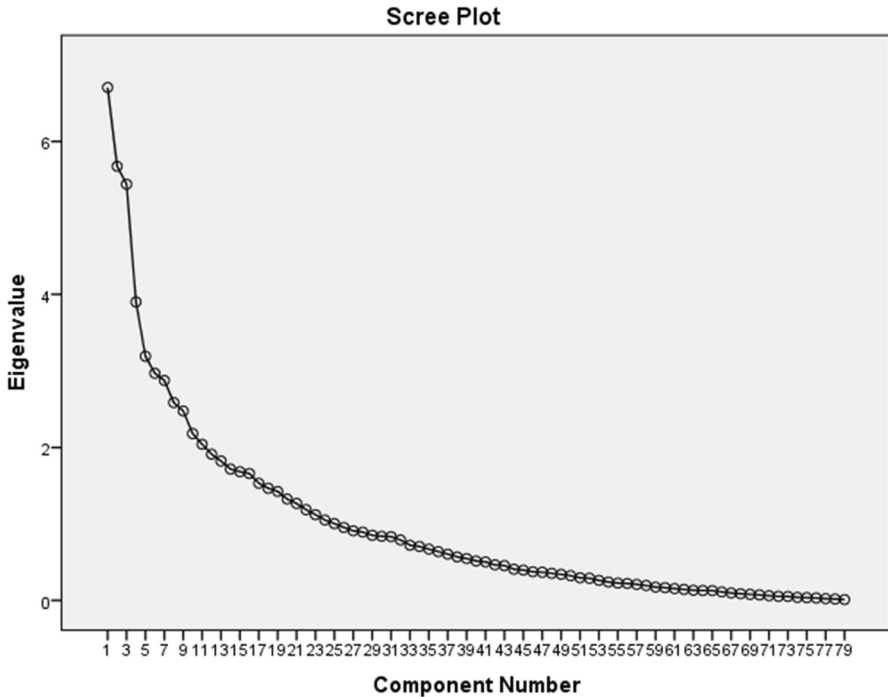


Fig. 1 Scree Plot of the Eigenvalues and the Items of the Questionnaire

Factor four, named teacher educators, accounted for 4.93% of the total variance and included the following 11 items: 11, 16, 17, 18, 24, 28, 34, 35, 36, 48, and 65.

Factor five, learning outcomes, accounted for 4.03% of the total variance and included the ten items of 14, 19, 21, 30, 42, 46, 50, 51, 53, and 68).

Factor six, educational leadership, accounted for 3.78% of the total variance and involved only seven items (i.e., 15, 25, 26, 27, 39, 40, and 41).

Lastly, factor seven, named students, accounted for 3.64% of the total variance and included the only seven items of 20, 31, 32, 33, 37, 52, and 70. Besides, the other 15 items of 9, 12, 13, 22, 29, 43, 45, 49, 63, 64, 66, 67, 69, 71, and 72 were found to be problematic, and therefore, they were omitted from the scale because of their lower than 0.3 loading value.

The points to be mentioned are first, the questionnaire is still testing the model initially proposed since it was proved that all the seven factors have some items in the scale even after omission of the 15 mentioned items and second, there are some items with negative loading which means that these factors are related in an opposite direction with the variable and do not have any effect on the strength the variable has towards the factor. Lastly, it is also worth mentioning that the reliability index of the model was again checked after deleting the 15 so-called item,

Table 7 Results from a factor analysis of the items in the teacher accountability in e-learning questionnaire

	Component						
	Teaching profession	Society	Student teachers	Teacher educators	Learning outcome	Educational leadership	Students
Q54	0.492				-0.448		
Q55	0.410						
Q56	0.421						
Q57	0.922						
Q58	0.948						
Q59	0.832						
Q60	0.871						
Q61	0.845						
Q62	0.854						
Q47		0.374					
Q73		0.442					
Q74		0.808					
Q75		0.870					
Q76		0.910					
Q77		0.864					
Q78		0.893					
Q79		0.892					
Q1			0.590				
Q2			0.634				
Q3			0.649				
Q4			0.558				
Q5			0.784				
Q6			0.582				
Q7			0.522				
Q8			0.475				-0.395
Q10			-0.408				
Q23			0.353				
Q38			0.476				
Q44			0.480	-0.384			
Q11				0.582	0.342		
Q16				-0.369		-0.347	
Q17				-0.396			
Q18				0.544	0.306		
Q24				0.532			
Q28				0.513			
Q34				0.489			-0.408
Q35				0.583			-0.341
Q36				0.569			
Q48				0.303			

Table 7 (continued)

	Component						
	Teaching profes- sion	Society	Student teach- ers	Teacher educa- tors	Learning out- come	Educa- tional leadership	Students
Q65				0.329			
Q14				0.439	0.442	-0.313	
Q19					0.612		
Q21					0.609		
Q30					-0.412		
Q42					0.357		
Q46					0.469		-0.354
Q50					0.464	0.402	
Q51		-0.324			0.343		
Q53					-0.332		
Q68					0.366		
Q15						-0.373	
Q25						0.446	
Q26						0.577	
Q27						0.713	
Q39						0.648	
Q40						0.433	
Q41						0.394	
Q20							0.380
Q31							0.439
Q32						-0.312	0.587
Q33							0.658
Q37							0.322
Q52							-0.414
Q70							0.312

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 8 iterations

the Cronbach's Alpha for which was 0.69, meaning that the scale has still had an acceptable reliability index.

Additionally, in order to identify the accountability indicators in respect to the mentioned dimensions, the obtained results were analyzed by using SPSS version 22. It is reasonable to restate that the malfunctioning items had been extracted and they were not considered (Table 8).

As Table 8 represents, items 4 & 7(100%) are highly accepted as the responsibility of online language teacher education towards teaching profession.

Table 8 The result of the questionnaire on e-learning accountability indicators of language teacher education

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1
Accountability to 'teaching profession'					
1. Teacher education must establish clear goals and targets	70.5%	26.2%	3.3%	0	0
2. Teacher education must provide a coherent curriculum	73.8%	20.5%	5.7%	0	0
3. Teacher education must clarify the curriculum standards	50.8%	40.2%	9.0%	0	0
4. Teacher education must be aware of the latest ELT development	79.5%	20.5%	0	0	0
5. Teacher education must constitute an effective source of change	66.4%	13.1%	18.9%	1.6%	0
6. Teacher education must characterize both learning and teaching skills and processes	32.8%	36.9%	3.3.5	0	0
7. Teacher education must develop metacognition, collaboration and critical thinking skills	54.1%	45.9%	0	0	0
8. Teacher education must design and implement programs to integrate theory and practice	73.8%	23%	3.3%	0	0
10. Teacher education must use the evaluation of graduates' performances to judge the quality of the courses	7.4%	34.4%	41%	15.6%	1.6%
11. Teacher education must apply the rules of face to face classes to on line courses	32%	43.4%	15.6%	7.4%	1.6%
14. Teacher education must enhance the quality of teaching and learning through on going surveillance and assessment	47.5%	25.4%	23.8%	3.3%	0
Accountability to 'society'					
15. Teacher education is responsible to motivate low socioeconomic groups of society to educate	49.2%	40.2%	10.7%	0	0
16. Teacher education is responsible to abolish the discrimination against teachers on the basis of race, gender, and religion	73.8%	22.1%	4.1%	0	0
17. Teacher education is responsible to overcome the inequalities, violence and injustice in Education	87.75	10.7%	1.6%	0	0

Table 8 (continued)

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1	
18. Teacher education is responsible to meet the moral standards, needs and cultural issues of the society	37.7%	29.5%	18.9%	13.9%	0	67.2%
19. Teacher education is responsible to trace the impact of its efforts in society	46.7%	40.2%	13.1%	0	0	86.9%
20. Teacher education is responsible to improve the quality of education in accordance with the changes in social needs	82%	18%	0	0	0	100%
Accountability to 'student teachers'						
21. It's teacher education duty to provide graduates an accepted license	32.8%	19.7%	29.5%	18%	0	52.5%
23. It's teacher education duty to make progress in student teachers' language proficiency	11.5%	16.4%	41.8%	25.4%	4.9%	27.9%
24. It's teacher education duty to include psychology and philosophy to make students teachers understand beyond their discipline	17.2%	15.6%	36.1%	27%	4.1%	32.8%
25. It's teacher education duty to develop student teachers' critical thinking skill	28.7%	38.5%	23.8%	9%	0	67.2%
26. It's teacher education duty to develop student teachers' innovative thinking skill	30.3%	33.6%	27%	9%	0	63.9%
27. It's teacher education duty to develop student teachers' interpersonal skills	49.2%	28.7%	20.5%	1.6%	0	77.9%
28. It's teacher education duty to develop student teachers' intrapersonal skills	47.5%	35.2%	17.2%	0	0	82.7%
30. It's teacher education duty to provide the opportunity for student teachers to learn through reflection on practice and learning of the exemplary of expert teachers	40.2%	35.2%	24.6%	0	0	75.4%
31. It's teacher education duty to consider student teachers as co-constructors and generators of knowledge.(knowledge of practice)	14.8%	19.7%	42.6%	23%	0	34.5%
32. It's teacher education duty to get student teachers collaboratively participate in systematic inquiries	3.3%	34.4%	36.9%	25.4%	0	37.7%

Table 8 (continued)

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1	
33. It's teacher education duty to empower student teachers' affection and cognition	3.3%	30.3%	37.7%	28.7%	0	33.6%
34. It's teacher education duty to empower student teachers' academic knowledge	74.6%	25.4%	0	0	0	100%
35. It's teacher education duty to empower student teachers' professional knowledge	77%	23%	0	0	0	100%
36. It's teacher education duty to provide the student teachers with what they need to learn effectively	81.1%	18.9%	0	0	0	100%
37. Teacher education is responsible for candidates' achievements	15.6%	23.8%	42.6%	17.2%	0.8%	39.4%
38. Teacher education must monitor graduates' performances in their own classes and provide helpful feedback	15.6%	35.2%	39.3%	9.8%	0	50.8%
39. Teacher education must provide student teachers with access to counseling services and programs when they need	62.3%	23.8%	13.9%	0	0	86.1%
40. Teacher education must use standards-based performance assessments to assess trainees' Accomplishments	68%	21.3%	10.7%	0	0	89.3%
41. Teacher education must encourage the student teachers to do their best	82%	18%	0	0	0	100%
42. Teacher education must recruit the well-educated student teachers	86.1%	13.9%	0	0	0	100%
44. Teacher education must develop student teachers' ability to manage the online environment	77.9%	22.1%	0	0	0	100%
46. Teacher education must confirm student teachers' ability to manage and share digital content and materials for teaching and learning	90.2%	9.8%	0	0	0	100%
47. Teacher education must confirm student teachers' ability to search, adapt and create digital content for learning and teaching	70.5%	22.1%	7.4%	0	0	92.6%
48. Teacher education must confirm student teachers' ability to search, access, and manage information	77.9%	18.9%	3.3%	0	0	96.7%

Table 8 (continued)

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1	
50. Teacher education must confirm student teachers' ability to protect their own data and devices for personal and professional use	27.9%	24.6%	37.7%	9.8%	0	52.5%
Accountability to 'teacher educators'						
51. Teacher education is responsible to use active pedagogies making teacher educators engage more dynamically with individual and groups of students	33.6%	36.1%	27%	3.3%	0	69.7%
52. Teacher education is responsible to observe the classes to figure out the teacher educators' problems and the needs	63.1%	33.6%	3.3%	0	0	96.7%
53. Teacher education is responsible to develop the teacher educators' ability to manage the on line teaching environment	13.9%	17.2%	27%	30.3%	11.5%	21.1%
54. Teacher education is responsible to confirm the teacher educators' ability to teach on line	16.4%	34.4%	40.2%	5.7%	3.3%	50.8%
55. Teacher education is responsible to confirm the educators' ability to manage and share digital content and materials for teaching and learning	31.1%	41%	26.2%	1.6%	0	72.1%
56. Teacher education is responsible to confirm the educators' ability to search, adapt and create digital content for learning and teaching	45.9%	32.8%	19.7%	1.6%	0	78.7%
57. Teacher education is responsible to confirm the educators' ability to search, access, and manage information	74.6%	23%	2.5%	0	0	97.6%
58. Teacher education is responsible to confirm the educator' ability to use/create or customize test templates in on line environment	73.8%	23%	3.3%	0	0	96.8%
59. Teacher education is responsible to confirm the educators' ability to provide feedback to trainees with emails, using track changes in texts, notes, etc	74.6%	22.1%	3.3%	0	0	96.7%
60. Teacher education is responsible to confirm the educators' ability to participate in on line discussions	75.4%	21.3%	3.3%	0	0	96.7%

Table 8 (continued)

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1	
61. Teacher education is responsible to confirm the educators' ability to protect their own data and devices for personal and professional use	72.1%	23%	4.9%	0	0	95.1%
62. Teacher education is responsible to satisfy the educators both financially and academically	72.1%	23%	4.9%	0	0	95.1%
Accountability to 'learning outcome'						
65. Teacher education is responsible for the increase of demoralization among the student teachers	0.8%	30.3%	61.5%	7.4%	0	31.1%
68. Teacher education is responsible to investigate the solutions for the constructed problems	59%	20.5%	20.5%	0	0	79.5%
Accountability to 'educational leadership'						
70. Teacher education is responsible to meet the needs of current educational leadership types	30.3%	17.2%	47.5%	4.9%	0	47.5%
Accountability to 'students'						
73. Teacher education is responsible for students' achievements	74.6%	9%	16.4%	0	0	83.6%
74. Teacher education is responsible to consider students' values, interests, emotions, needs and culture	80.3%	10.7%	9%	0	0	91%
75. Teacher education is responsible to consider students' capabilities, intelligences and talents	81.1%	10.7%	8.2%	0	0	91.8%
76. Teacher education is responsible to provide the prerequisites to improve students' critical thinking, social, emotional and language skills	86.9%	7.4%	5.7%	0	0	94.3%
77. Teacher education is responsible to maximize the learning opportunities for students	88.5%	8.2%	3.3%	0	0	96.7%
78. Teacher education is responsible to improve all aspects of students' competence as well as digital competence	90.2%	6.6%	3.3%	0	0	96.8%

Table 8 (continued)

	Strongly agree	Agree 4	Neither agree nor disagree	Disagree 2	Strongly disagree 1
79. Teacher education is responsible to provide the students with the latest ELT development	5 89.3%	3 7.4%	3 3.3%	0	0 96.7%

Considering accountability to society, the items 16(95.9%), 17(98.45%), and 20(100%) are the basic responsibility of online language teacher education.

In respect to accountability to student teachers, items 34, 35, 36, 41, 42, 44, & 46 receive 100% agreement which make them as the indispensable elements of accountability of systems.

According to Table 8, items 52(96. %), 57(97.6%), 58(96.8%), 59(96. %), and 60(96.7%) are accepted as the indicators of accountability of online language teacher education to teacher educators. Item 68(79.5%) is the only accountability indicator to ‘learning outcome’. Item 70(47.5%) with the minimum percentage among all items is the single accountability indicator to ‘educational leadership’. With respect to accountability to students, items 77(96.7%), 78(96.8%), and 79(96.7%) are considered as the indicators of online language teaching education.

5 Discussion

The present study was an effort to design and validate a measurement instrument for online language teacher education accountability. Having considered the related literature, the researcher managed to reduce the theoretical constructs regarding online language teacher education accountability. Accountability to language teaching profession, teacher educators, student teachers, society, learning outcomes, educational leadership, and students were the emerged constructs. Since the same concepts were proposed in interviews, they all were utilized as the underpinning structure for developing the questionnaire. Administering the questionnaire to 122 participants including language teacher educators, language teachers, and student teachers and analyzing the results, it was indicated that the Cronbach’s alpha reliability index was above 0.64 representing acceptable internal consistency of the instrument. The results of the factor analysis demonstrated that the questionnaire beard no irrelevant construct. However, 15 items didn’t reach the accepted value level (0.3) and they were removed from the questionnaire. Satisfactorily, this deletion hasn’t changed the reliability index of the questionnaire and it remained acceptable (0.69).

Living in the age of accountability affected by digital dominance, make all disciplines particularly teacher education be cautious about all requirements in digital area European (Commission/EACEA/Eurydice, 2019; Palacios Hidalgo et al., 2020). As in present time the number of online teacher training classes is increasing, it would be essential to assess the function of these systems and investigate whether they could meet the core purpose of education or not. Accordingly, in alignment with desires of having a high-quality educational setting, developing various accountability assessment instruments has been the center of attention within the last decade (Rahmatollahi & Zenouzagh, 2021).

Considering the importance of improving the accountability behavior in higher education, Doğan and Aypay (2016) designed and validated a 39-item scale representing financial accountability, academic accountability, administrative accountability, responsibility, transparency, and responsiveness. However, this study differs from the present one regarding the scope and nature.

In another study a two-dimensional scale was developed by Rosenblatt (2017) pointing to accountability of school administrators and teachers. In this scale internal and external factors of accountability such as acting by professional ethical principles and being responsible for students' achievements were considered. Despite having similar tendencies, this research has fundamental differences with the current study in respect to nature, domain and objectives.

The other study worth mentioning is the one done by Karataş et al. (2020) which aimed to establish a 54-item school counselor accountability. Their instrument consisted of four different subcategories of preventive, supportive, developmental, and remedial services. However, considering the nature of the study, setting, and the ones who should be accountable, there is not an agreement with the current practice.

Recently, Rahmatollahi and Zenouzagh (2021) conducted a study which aimed to assess teachers' accountability via a validated self-reported questionnaire. The questionnaire included 29 items which were categorized into five subgroups of accountability to parents, to school leadership, to society, to profession, and to students. Though the study concerned designing and validating an assessment instrument similar to the current attempt, the nature, domain and the ones who are supposed to be accountable are different.

As it is obvious from the sample studies mentioned above and in literature review section, it is safe to claim that no study has been carried out to consider the online language teacher education accountability, since online setting is the variable which hasn't been concerned. Accordingly, this study designed and validated an assessment inventory including seven different dimensions to observe the missing setting.

The first component of the questionnaire, as 'accountability to profession', makes language teacher educations establish particular goal, standards, and coherent curriculum. Moreover, being updated, integrating theory and practice, developing metacognition skills, and applying the rules of face-to face classes are considered the other responsibilities.

Fundamentally, the second component (i.e. accountability to society) requires language teacher educations to abolish the discrimination against teachers on the basis of race, gender, and religion. It emphasized that teacher education must improve the quality of education align with social needs. Similarly, Cochran-Smith et al., (2017) asserted that teacher education is responsible to keep up with the social changes and Lewis and Young (2013) claimed that teacher education accountability is a social political phenomenon.

'Accountability to student teachers' is the third component of this questionnaire. It dedicates multiple responsibilities to language teacher education like providing an acceptable license, making progress in student teachers' language proficiency and pedagogical knowledge, developing student teachers' digital competence and so forth. In the same vein, Plecki et al. (2012) believed that it was teacher education responsibility to prepare well the student teachers and provide the needed support for them.

The fourth component is 'accountability to teacher educators. Developing teacher educators' ability to manage online teaching environment and assessing the teaching processes are the major responsibilities in this respect. Language teacher educations are responsible to meet the educators' financial and academic needs.

The other component pertains to responsibility to ‘learning outcome’ which particularly signifies that teacher education is responsible for student teachers’ demotivation and demoralization, hence, teacher education is responsible to figure out the reasons and to take the necessary actions to solve the problems. The same assumptions were advocated by a study done by Plecki et al. (2012).

The sixth component refers to accountability to educational leadership. In this regard, the principles of dominant educational leadership should be highlighted. Additionally, the needs of educational leadership should be investigated and observed.

The last critical component in questionnaire talks about accountability to ‘students. Since language learners are the most benefited ones from teacher education practices, their achievements, values, interests, capabilities, and skills should be considered by language teacher education. Teacher education is responsible to enhance learning opportunities and by ongoing assessment and evaluation of teaching and learning processes provide any necessary prerequisite for learners’ improvement. Similarly, Cochran-Smith et al.(2017) demonstrated that teacher education is responsible for students’ learning and improving their democratic knowledge and skills.

Ultimately, relying on the achieved results, it is demonstrated that the remained items after factor analysis which received the highest percentage (Table 8) in comparison to other items in the same category, are considered as the indicators of accountability of online language teacher education in current study setting. Since the literature on accountability faces a dearth of significant study pointing directly at clarification of the elements of accountability in on line teacher education, the present study is carried out to design a validated instrument and provide valuable insights which could answers all deficiencies in this regard.

6 Conclusion

On line language teacher education success is a multifaceted construct affected by varied principles and settings that need to be considered and evaluated. In this regard, it is vital to signify the desired responsibilities of on line language teacher education which observing them leads to achieve the outmost success. Accordingly, ongoing assessment and evaluation make the strength and deficiencies of the systems visible that can be either improved or removed. In this respect, validated instruments are required to identify to what extent the systems do what they are supposed to. The current study makes an effort to develop a questionnaire consisting of 79 items across seven constructs namely accountability to teaching profession, teacher educators, society, student teachers, learning outcomes, educational leadership, and students which were scored on a five-Likert scale ranging from 1 to 5 indicating the degree the statement was considered true for online language teacher education.

Language teacher education development is a cyclical process which embraces teacher training improvement and teacher development and is affected by social facts and particular settings like e-learning. It is expected that the developed questionnaire assists firstly, the online language teacher education by providing the insights of the

responsibilities they should take. Secondly, since critical thinking and self-evaluation are advocated in teacher education, this self-reported questionnaire can help administrators and teacher educators to assess the systems and resolve the problems and improve the quality of systems. More importantly, although we are living in post method digital area, teacher education programs are not aware of their major responsibilities of providing all necessities and prerequisites for online courses. Therefore, it is hoped that this study clarifies the needed concepts and required domains that should be concerned.

However, the present study faces some limitations which are noteworthy to be concerned. Firstly, small sample size of the participants could be considered as one of the major limitations of this study which by having a larger sample size and conducting the study nationwide the results will be more reasonable. Additionally, the data collection procedure regarding the qualitative part could be improved by appealing to triangulation procedures. Lastly, it was not feasible to take into consideration the individual differences regarding their age, gender, occupation, experiences, and nationality. Therefore, it is highly recommended that further studies be carried on in respect to shedding light on the limitation of this study.

Appendix

Table 9 This questionnaire aims to identify the indicators of on line language teacher education accountability. In this respect, ‘teacher educator’ refers to those professionals who teach student teachers in on line classes and ‘teacher education’ refers to the on line procedures, systems and policies designed to train, teach and equip student teachers with all teaching necessities. Please read the sentences and choose the box that best represents your idea. Thank you very much for your cooperation. Name:. Gender:. Age:. Degree:. Job title/position:. Years of teaching experience:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
	5	4	3	2	1
1. Teacher education must establish clear goals and targets					
2. Teacher education must provide a coherent curriculum					
3. Teacher education must clarify the curriculum standards					
4. Teacher education must be aware of the latest ELT development					
5. Teacher education must constitute an effective source of change					
6. Teacher education must characterize both learning and teaching skills and processes					
7. Teacher education must develop meta-cognition, collaboration and critical thinking skills					

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
	5	4	3	2	1
8. Teacher education must design and implement programs to integrate theory and practice					
9. Teacher education must be responsible for the dropouts					
10. Teacher education must use the evaluation of graduates' performances to judge the quality of the courses					
11. Teacher education must apply the rules of face to face classes to on line courses					
12. Teacher education must be aware of digital developments and changes and must manage					
13. Teacher education should consider the alignment of teacher training from transition of knowledge to application of skills or manipulation of knowledge					
14. Teacher education must enhance the quality of teaching and learning through on going surveillance and assessment					
15. Teacher education is responsible to motivate low socioeconomic groups of society to Educate					
16. Teacher education is responsible to abolish the discrimination against teachers on the basis of race, gender, and religion					
17. Teacher education is responsible to overcome the inequalities, violence and injustice in Education					
18. Teacher education is responsible to meet the moral standards, needs and cultural issues of the society					
19. Teacher education is responsible to trace the impact of its efforts in society					
20. Teacher education is responsible to improve the quality of education in accordance with the changes in social needs					
21. It's teacher education duty to provide graduates an accepted license					
22. It's teacher education duty to consider candidates' language proficiency initially					
23. It's teacher education duty to make progress in student teachers' language proficiency					

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1
24. It's teacher education duty to include psychology and philosophy to make students teachers understand beyond their discipline					
25. It's teacher education duty to develop student teachers' critical thinking skill					
26. It's teacher education duty to develop student teachers' innovative thinking skill					
27. It's teacher education duty to develop student teachers' interpersonal skills					
28. It's teacher education duty to develop student teachers' intrapersonal skills					
29. It's teacher education duty to provide the student teachers with knowledge for practice:content knowledge, knowledge about learners, classroom management and assessment					
30. It's teacher education duty to provide the opportunity for student teachers to learn through reflection on practice and learning of the exemplary of expert teachers(Knowledge in practice)					
31. It's teacher education duty to consider student teachers as co-constructors and generators of knowledge. (knowledge of practice)					
32. It's teacher education duty to get student teachers collaboratively participate in systematic inquiries					
33. It's teacher education duty to empower student teachers' affection and cognition					
34. It's teacher education duty to empower student teachers' academic knowledge					
35. It's teacher education duty to empower student teachers' professional knowledge					
36. It's teacher education duty to provide the student teachers with what they need to learn effectively					
37. Teacher education is responsible for candidates' achievements					
38. Teacher education must monitor graduates' performances in their own classes and provide helpful feedback					

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1
39. Teacher education must provide student teachers with access to counseling services and programs when they need					
40. Teacher education must use standards-based performance assessments to assess trainees' Accomplishments					
41. Teacher education must encourage the student teachers to do their best					
42. Teacher education must recruit the well-educated student teachers					
43. Teacher education must consider the student teachers' digital skills primarily					
44. Teacher education must develop student teachers' ability to manage the on line environment					
45. Teacher education must confirm student teachers' ability to teach and learn on line					
46. Teacher education must confirm student teachers' ability to manage and share digital content and materials for teaching and learning					
47. Teacher education must confirm student teachers' ability to search, adapt and create digital content for learning and teaching					
48. Teacher education must confirm student teachers' ability to search, access, and manage Information					
49. Teacher education must confirm student teachers' ability to participate in on line discussions					
50. Teacher education must confirm student teachers' ability to protect their own data and devices for personal and professional use					
51. Teacher education is responsible to use active pedagogies making teacher educators engage more dynamically with individual and groups of students					
52. Teacher education is responsible to observe the classes to figure out the teacher educators' problems and the needs					
53. Teacher education is responsible to develop the teacher educators' ability to manage the on line teaching environment					

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1
54. Teacher education is responsible to confirm the teacher educators' ability to teach on line					
55. Teacher education is responsible to confirm the educators' ability to manage and share digital content and materials for teaching and learning					
56. Teacher education is responsible to confirm the educators' ability to search, adapt and create digital content for learning and teaching					
57. Teacher education is responsible to confirm the educators' ability to search, access, and manage information					
58. Teacher education is responsible to confirm the educator' ability to use/ create or customize test templates in on line environment					
59. Teacher education is responsible to confirm the educators' ability to provide feedback to trainees with emails, using track changes in texts, notes, etc					
60. Teacher education is responsible to confirm the educators' ability to participate in on line Discussions					
61. Teacher education is responsible to confirm the educators' ability to protect their own data and devices for personal and professional use					
62. Teacher education is responsible to satisfy the educators both financially and academically					
63. Teacher education is responsible to respect, motivate and support educators to improve					
64. Teacher education is responsible for its effect on student teachers' beliefs					
65. Teacher education is responsible for the increase of demoralization among the student teachers					
66. Teacher education is responsible for the stress and pressure of on line classes among student teachers					
67. Teacher education is responsible to diagnose their constructed problems					
68. Teacher education is responsible to investigate the solutions for the constructed problems					

	Strongly agree 5	Agree 4	Neither agree nor disagree 3	Disagree 2	Strongly disagree 1
69. Teacher education is responsible to collaborate with educational leadership to ensure academic success					
70. Teacher education is responsible to meet the needs of current educational leadership types					
71. Teacher education is responsible to be in alignment with educational leadership standards, policies and planning					
72. Teacher education is responsible to fulfill the educational leadership goals					
73. Teacher education is responsible for students' achievements					
74. Teacher education is responsible to consider students' values, interests, emotions, needs and culture					
75. Teacher education is responsible to consider students' capabilities, intelligences and talents					
76. Teacher education is responsible to provide the prerequisites to improve students' critical thinking, social, emotional and language skills					
77. Teacher education is responsible to maximize the learning opportunities for students					
78. Teacher education is responsible to improve all aspects of students' competence as well as digital competence					
79. Teacher education is responsible to provide the students with the latest ELT development					

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Ethics approval (research ethical issues were established and acknowledged in this research).

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