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Introduction and cross-cultural adaptation of Teachers' Media Didactica Questionnaire

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Abstract

The current study aimed to measure the validity and reliability of the three-factor questionnaire of media didactica of Persian language teachers. Two groups participated in the study: specialists in the fields related to media Didactica and high school teachers in Tehran. The group of experts was recruited by convenience sampling method, and a Cluster method was used to select teachers. The participants included 17 experts and 185 teachers. First, the three-factor media didactica questionnaire of Simmons (2017) was translated into Farsi, and in the next step, it was given to a group of experts to assess its validity, and after confirming its validity, it was given to teachers to assess its reliability. The results of confirmatory factor analysis showed that the model was compatible with three factors including media, media understanding and social development. Using Cronbach's alpha coefficient, it was found that the coefficient value of subscales ranged between 0.71 and 0.79. The results showed that the Persian media questionnaire was a valid instrument with good reliability and validity for measuring the media didactica of Persian language teachers.

Keywords: Media Didactica Questionnaire, Media Understanding, Teachers' Media Didactica Questionnaire

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1. Introduction

The rapid growth of information and communication technology in the last decade has urged the universal need for education and learning. It has also affected the field of education. The use of this technology has brought changes in educational approaches in the new era. The expansion of the content produced in virtual media and the necessity of using social media by users and being present in the media space has made using the media one of the requirements of the life of the people of the society (Khademnia et al., 2022) In other words, in the era of globalization and due to the expansion of communication and information technologies and the increase of media outputs, hot discussions have been raised regarding developing required skills and improving the level of awareness and education in regard of media (Amiri et al., 2019). Since all people in the society have access to their desired content due to the advancement of technology, it is better to have enough skills to be safe from the negative influence of new media and new vulnerabilities of cyber space and to participate as a person with skills in cyber space (Grizzle et al., 2014). Usually, when the consequences of inappropriate media, including moral and behavioral problems and social harms, are revealed, therapeutic ways are considered, while it is better to equip people with a more powerful tool called media competencies in the digital age (Foulger et al., 2021). In this case, when they are actively exposed to the media, they will correctly interpret the meaning of the messages they encounter and will have an adequate and comprehensive image of the media.

The progress and development of a society depends on its resources and successful human capital (Cortoni et al., 2015). In education, the role of human resources is important and the teacher is one of the most important factors in the growth and development of the quality and content of education, because human education is the result of a two-way interaction and the consequence of the teacher's action and the student's reaction (Tied, 2020). Considering the importance and place of education among the various institutions of the society, it can be acknowledged that it is the most effective institution in training and providing human resources, and the teacher as a trainer can play a sensitive and key role in this regard. A teacher can train efficient and creative human resources for the society, and as a result, provide the right context for the development of the society in all its dimensions (Amiri et al., 2019; Grizzel et al., 2014).

The Education Organization, plays an important role in increasing the general competencies of the country. Today, the concept of competencies has become much wider than the past, and in this field, education should not be left behind and cope with the media (Meeus et al., 2014). Teachers are the starting point of every educational transformation and they are able to change the face of the educational organization with the knowledge and skills they have acquired and turn the atmosphere of schools into an atmosphere of friendship, growth and development. By transferring cultural elements to the new generation and applying suitable methods for education, they provide the basis for the development of the personality of children and teenagers. Considering the importance and prominence and value of the role of teachers, training and providing this important element of education is the best and most beneficial type of investment (Amiri et al., 2019). In order to improve the media skills of people in the society based on Iranian-Islamic culture, programs should be developed so that the audience of these skills (teachers and trainers) can learn these skills and use them in their daily life. Hence, the audience of these types of competencies, who are teachers and instructors, can also learn them and benefit from them in their daily life. It is believed that it is possible to help the society to achieve its goals with predetermined plans and following the principles of media competence.

The concept of "educational-media" competences started to form and find its identity since 1981 and with the introduction of information and communication technology (Shamshirgaran et al., 2023). First, this concept was understood along with the use of computers and communication technology. With the increase of information technology applications in the social field, which was the real goal of media competencies, this concept took a new form (Tugtekin & Koc, 2020). "Media Didactica" is a term used to express the use of media tools in teaching-learning processes (Tiede & Grafe, 2019). In other words, the subject of "educational-media competences" is the educational competences that empower teachers in teaching students and promoting media competences in them, and enable teachers to use media competences in the education of their students in the following ways (Shamshirgaran et al., 2023):
First, combining media content with specific topics, such as art and music; second, using media in courses in promoting media skills, including research, analysis, and information presentation; and third**,** using the media in an interdisciplinary way, by implementing multi-thematic projects (Cortoni et al. ,2015; Meeus et al., 2014).

2. Review of the Related Literature

Extensive research has been conducted in the field of media training capabilities of teachers in the United States and Germany, and the result of some of them is the presentation of models that were explained by Tulodziecki and Grafe (2012) in five areas for teachers: (1) using the media in an appropriate and targeted way; (2) understanding the sensitivity of the concept of media for the socialization of children and adolescents; (3) analysis and evaluation of media content related to teaching-learning activities; (4) carrying out tasks, assignments and lesson projects through educational media; and (5) organizing and providing media tools and needs in schools. Tulodziecki and Grafe (2012) also gave examples of standards to explain each of the aspects of competence that a teacher can acquire in the field of media competences and proposed the basis of his criteria according to the model called Modeling and Measuring Pedagogical Media Competencies of Pre-Service Teachers (M^3K) in three areas: (a) use of media for supporting teaching-learning processes; (b), realization of educational tasks related to media, and (c) development of media educational concepts in school.

Also, Blömeke (2007) proposed five areas of educational-media competence with the following characteristics: (1) educational-media competency; the ability to use media and information technology in teaching-learning situations in a reflective way and its development. (2) Media training competency; ability to cover media-related issues based on educational principles prevailing in the school. (3) Socialization skills in the field of media; the ability to pay attention to the constructiveness of lateral learning in media educational practices. (4) Merit of reforming schools in the field of media; the ability to design innovative conditions for educational activities. (5) Media self-competence; appropriate ability and individual creative and responsible action in the field of media and information technology (Tied, 2020).

Several definitions and approaches of media competence have been presented. In all the described approaches, the term media competence means knowledge, skills, attitude or common individual patterns (Erdem & ERİŞTİ, 2018; Khademnia, et al., 2023, Meuse et al. 2014; Simons, et al., 2017; Siregar et al., 2020). Also, in all approaches, human beings are assumed to be potential and ready to act, in the sense that human beings have the ability and readiness to act in the field of media and can improve their individual competencies (Tied 2020; Tolodzicki & Grafe, 2012). Many investigations have been conducted on the media competence of

teachers, including the ones conducted by Ajam and Yagoubi (2019), Sharifi and Saraji (2020), Siregar et al. (2020), Simons et al. (2017), Meeus et al. (2014), and Grafe and Breiter (2014).

For example, Ajam and Yagoubi (2019), conducted a research investigating the relationship between the level of teachers' media competences and the development of critical thinking in them. The results of this research indicated that the high level of media competence of teachers associated with to the level of development of critical thinking in them and vice versa. Sharifi and Saraji (2020) also carried out a research on the dimensions of teaching media and information skills in the formal education system of Iran. The purpose of this research was to investigate the dimensions of media and information skills training in the official and general education system of the country in order to improve the level of media and information skills. The results showed that these dimensions included: (1) methods of education, (2) levels of education, (3) separation of media, (4) determination of the target community, and (5) content of education. In this research, the target community was the teachers and trainers of the education organization. Based on the findings, determining these dimensions played an important role in improving the level of media and information skills of the target community.

Moreover, Siregar et al. (2020) admitted the vital and effective role of the required and appropriate competencies of the 21st century of teachers in the education process. In their research, they presented five necessary characteristics for teachers' competencies: (1) regulating the process of learning growth and paying attention to outputs instead of focusing on content teaching, (2) facilitation and inspiration for learners, (3) promoting the habit of discussion and conversation in order to promote communicative learning, (4) creating and maintaining a good classroom atmosphere, and (5) grouping to develop communication skills. Further, Simons et al. (2017) compiled a questionnaire in five stages. In this research, they emphasized that effective and efficient media education requires that teachers have sufficient media skills. The results of their study showed that the questionnaire had high reliability and validity. Also, the results of factor revealed that media-educational competencies were significant on three factors: teachers' use of media, teachers' understanding of media, and teachers' media participation.

In addition, Meuse et al. (2014) conducted a research on reference framework for educational-media competencies of students, teachers and student teachers. The

results of this research indicated that for the target group of teachers, the levels of educational-media competencies included: (1) Teaching-learning level, (2) Professional development level, and (3) Social development level. Also, a total of 138 learning objectives were specified for all levels of educational-media competencies. Besides, Grafe and Breiter (2014) performed a research focusing on modeling and measuring media-educational competencies of student teachers. Using a semi-structured interview the resulting conceptual model emphasized on three dimensions: (1) using media for teaching-learning, (2) education in the field of media, (3) designing media technology to improve schools. The results showed that the educational-media competencies of the teachers could influence the students' ability to understand and evaluate the media as well as their critical thinking in analyzing the media.

As it can be seen from the above investigations, dimensions such as teachers' media competences, teachers' understanding of the role of educational competences, media competences and teachers' media-educational competences have been studied. However, no research has not been done to evaluate the reliability and validity of teachers' media-educational competences questionnaire in Persian language. This research attempted to fill this gap by addressing the following research question:

- Is the Persian translation of three-factor teachers' Media Didactica questionnaire valid and reliable?

3. Methodology

The current research adopted a correlational research approach. In the current research, the researcher translated, localized and examined the psychometric properties of the "Media-Educational Competencies" questionnaire. The population included both male and female Persian speaking experts (n=15) and secondary school teachers (n=185) who had more than 15 years of teaching experience and had Bachelor's and Master's degrees in various academic fields, including mathematics, history, literature, psychology, and physics in Tehran. The method of conducting the study included three steps: (1) Questionnaire translation, (2) Checking the validity of the questionnaire, and (3) Checking the reliability of the questionnaire. The "media-educational competencies" questionnaire of teachers was developed by Simmons (2017) and includes 12 items and three dimensions (media use, media understanding, and media participation). Subjects selected the statements in the questionnaire based

on a Likert scale from 1 (completely disagree) to 4 (completely agree). The original version of the questionnaire was received from the research group that had implemented a large project in the field of media competencies in education (Antwerp University of Social Sciences) through correspondence. The original English version of the questionnaire was translated into Persian according to the translation protocol after obtaining permission from the main author. For this purpose, two translators, whose mother tongue was Persian and had sufficient experience and mastery in translating English texts, translated the English version of the questionnaire. Also, these two translators were asked to prepare a list of possible alternative translations for some of the words, phrases and sentences in the questionnaire, if necessary (See Appendix).

At this stage, the conceptual equivalence of the words, phrases and sentences in the questionnaire was emphasized. Then each of the translators expressed their opinion about the words, phrases and sentences in the questionnaire. These translators commented on the quality of the translation for each word, phrase and sentence in the Persian version of the questionnaire. At this stage, the meaning of translation quality was such things as: the desirability of expressions and sentences in terms of clarity (use of simple and understandable words), the use of common language, (avoiding the use of technical, specialized and artificial words), conceptual uniformity (in understanding the conceptual content of the version) and the overall quality of the translation. After the first stage, in the second and third stages, the validation features of the measurement instruments were scrutinized, which are mentioned below. To check the psychometric properties of the research measurement instruments, the following two steps were taken:

Validity check

The validity check included determining the content validity and face validity of the questionnaire. Generally, content validity is carried out at the time of questionnaire design in order to determine how well the items are able to measure the desired characteristic. In this research, because the content validity was measured in the original language (using media 3 items a =>.708, understanding media 6 items a =>.789, contributing medially 3 items a =>.633) it was considered sufficient. In the case of formal validity, the items were measured in terms of their apparent similarity with the research subject, which was decided based on the consensus of the experts. Therefore, this was determined based on the judgment of experts in the fields of

communication and media sciences, curriculum planning, educational technology and psychology. The experts included: Experts included five professors in the field of media management and communication sciences, five professors in curriculum planning, one professors in educational technology, two people in psychology, and also four professors.

Reliability Check

The third step involved checking the reliability of the questionnaire. At this stage, in order to measure the reliability of the instrument, the link of the online version of the questionnaire was sent to 185 middle school teachers. Sampling method which was employed was convenience technique and the criteria for entering the study were teachers working in secondary courses in Tehran in 2019-2020, and the criteria for leaving the study was the failure of the participants to answer a significant number of questions in the questionnaire. The respondents were assured that their information would remain confidential.

4. Findings

Because no changes were made in the original content of the questionnaire, it was considered that the content validity of the original version was sufficient: using media 3 items a =>.708, understanding media 6 items a =>.789, contributing medially 3 items a =>.633) In order to measure face validity of the Persian questionnaire, each item underwent the following procedures: (1) transparency (the fluency and comprehensibility of the translated words and concepts), (2) suitability (the degree of ability to reflect the features of the desired content and appropriateness with the cultural conditions of the society), and (3) modification and amendment The procedures were performed by the experts. Experts included five professors in the field of media management and communication sciences, five professors in curriculum planning, one professors in educational technology, two people in psychology, and also four professors to decide whether the translated questionnaire could measure the media educational competencies or not. By examining the results of the expert opinion, it was found that only one comment was given regarding inappropriateness in questions 1, 9, 10, 11 and 12, and this showed that more than 90% of the comments confirmed that the items were appropriate and partially appropriate.

The next step was to carry out the modifications. After making corrections, the final version was sent back to five experts and received final approval. Finally, based

on the experts' opinion it was decided that the translated version was suitable for evaluating media-educational competence (See Appendices A and B).

In order to check the reliability of the questionnaire, the translated version was given to 30 teachers by using convenience sampling method. After collecting the data, Cronbach's alpha statistical method was used to determine the reliability of the instrument. Cronbach's alpha value was equal to 0.79 and this value was close to the reliability level expressed in the original version, which was 0.77. In order to perform factor analysis, it was first necessary to check the possibility of factor analysis by KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) and Bartlett's tests. KMO and Bartlett's test were performed to check the adequacy of the sample, and the KMO index was calculated as 0.85 and the significance of Bartlett's test ($\chi 2=762.310$, $P<0.01$) indicated the adequacy of the selected sample size in this study.

The descriptive statistics of the research variables of the sub-scales of educational-media competencies of teachers by gender (male and female) are presented in Table 1.

Table 1.

Descriptive characteristics of the subscales of media-educational competencies of teachers

standard deviation	Mean	maximum	minimal	Number	gender	subscales
1.51	4.59	10	3	100	Female	**Use of media**
1.74	5.24	11	3	85	male	
1.65	4.89	11	3	185	Total	
3.28	10.68	20	6	100	Female	**Media perception**
3.53	11.09	18	6	85	male	
3.39	10.87	20	6	185	Total	
2.15	6.34	12	3	100	Female	**Social Development**
2.22	6.62	11	3	85	male	
2.18	6.47	12	3	185	Total	
5.86	21.61	40	12	100	Female	**total score Educational-media competences**
6.36	22.96	36	12	85	male	
6.11	22.23	40	12	185	Total	

As the results of the above table show, the mean and standard deviation of the total score of educational-media competencies for women were 21.61, 5.86 and for men 22.96, 6.36 respectively.

Investigating the factor structure of teachers' educational-media competencies

The fitness of the model of the factor structure of teachers' media-educational competencies was investigated using research data with LISREL 8.7 software (Jorskak and Sorbonne, 2003). The model included a three-factor model with 12 questions loaded on the three factors of media use, media understanding, and social development. Descriptive indicators of the teachers' media-educational competencies scale by items are presented in Table 2.

Table 2.

Descriptive statistics of teachers' educational-media competence scale by items

Kurtosis	Skewness	Cronbach's alpha(in case of item deletion)	Variance (in case of item deletion)	Mean (in case of item deletion)	standard deviation	Mean	Question
.705	.834	.851	32.71	20.51	.712	1.71	Question 1
.600	.787	.850	32.83	20.60	.655	1.63	Question 2
1.276	1.200	.848	32.45	20.69	.691	1.54	Question 3
-.642	.478	.846	31.57	20.38	.786	1.84	Question 4
-.744	.347	.848	31.40	20.23	.837	1.99	Question 5
-.509	.421	.840	30.78	20.28	.798	1.94	Question 6
-.575	.667	.841	30.68	20.45	.827	1.77	Question 7
1.134	1.265	.859	33.73	20.70	.715	1.52	Question 8
-.359	.850	.859	32.31	20.45	.908	1.77	Question 9
-.786	.386	.846	30.40	20.10	.938	2.12	Question 10
-1.004	-.035	.856	31.45	19.82	.969	2.41	Question 11
-.590	.466	.851	31.85	20.29	.831	1.93	Question 12

As the results of Table 2 show, the mean of questions is between 1.52 and 2.44, and the skewness and elongation indices do not exceed 3 and -3, which show the normality of the data. Cronbach's alpha was obtained for the components of media use 0.73, perception 0.79, and social development 0.71. Also, Cronbach's alpha for the entire scale of educational-media competencies of teachers was estimated to be 0.86.

Table 3.

Factor load and critical ratio of the questions of educational-media competences of teachers

Critical ratio	standardized factor (β) loading	Unstandardized factor (b) loading	questions
8/71**	0/64	0/46	Question 1
10/43**	0/74	0/49	Question 2
9/61**	0/69	0/48	Question 3
10/07**	0/69	0/55	Question 4
9/25**	0/65	0/54	Question 5
11/42**	0/76	0/61	Question 6
10/61**	0/72	0/60	Question 7
4/81**	0/37	0/34	Question 8
5/30**	0/40	0/38	Question 9
11/02**	0/80	0/75	Question 10
8/40**	0/63	0/61	Question 11
8/8**	0/61	0/51	Question 12

In order to check the factorial structure of the questionnaire, the maximum likelihood method was used to estimate the model and the following indicators were used to fit the model:

Chi-square ratio index on the degree of freedom (df/χ2), goodness-of-fit index (GFI), Adjusted Goodness of Fit Index (AGFI), comparative fit index (CFI), root mean square error of approximation (RMSEA) and Root Mean Square Residual (RMR).

Table 4.

The result of the indicators calculated for the confirmatory factor analysis of the scale of educational-media competencies of teachers

RMR	RMSEA	CFI	AGFI	GFI	χ2/df	df	Δ χ²	Model
0/038	0/074	0/96	0/87	0/91	2/02	51	103/04***	Before correction
0/027	0/045	0/98	0/91	0/94	1/33	50	68/79*	After correction

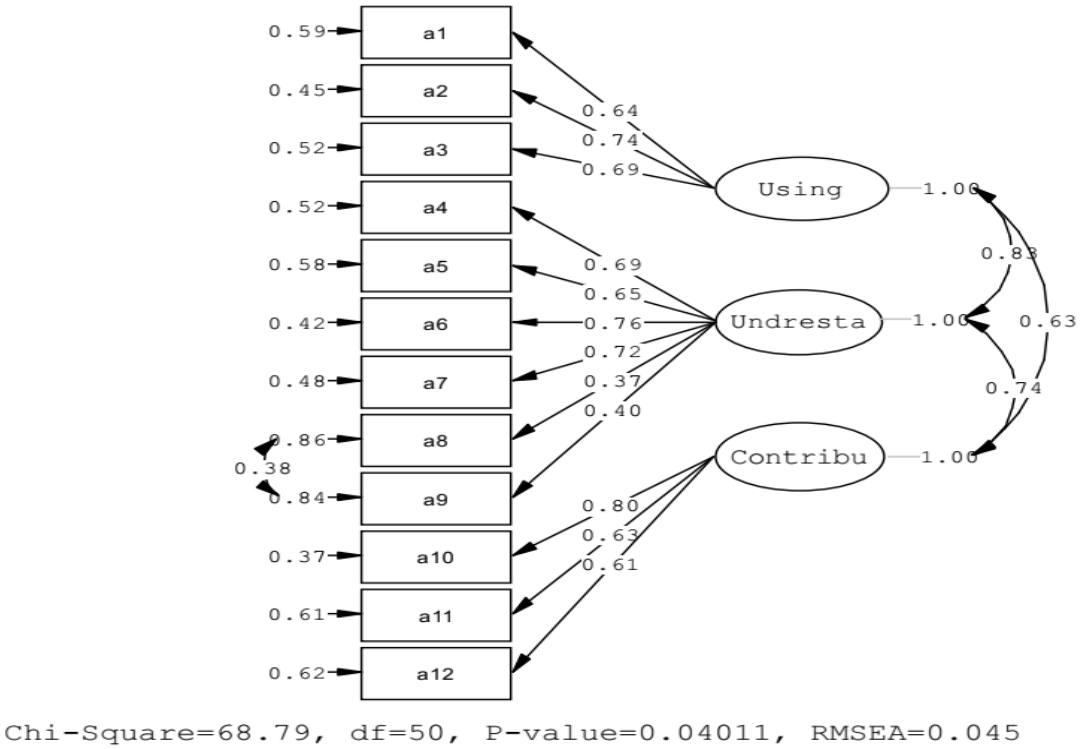
The examination of the fit of the investigated model indicated that the model of three independent factors with loading of 12 questions on three independent factors

under the headings: media use, media understanding and social development (media participation) was suitable. In other words, the research results supported the three-factor model.

Examining the fit indices of the model indicated that it enjoyed a relatively good fit with the data. If the chi-square is not statistically significant, it indicates that the fit is very appropriate. However, this index is often meaningful in samples larger than 100, and hence it is not a suitable index for measuring the fit of the model. If the ratio of chi-square to degrees of freedom is less than 3, it indicates a very good fit. If the CFI, AGFI, GFI indices are greater than 0.90 and the RMSEA and RMR indices are less than 0.05, it indicates a very good fit, and if it is less than 0.08, it means a good and suitable fit (West, et al.,1995). As a result, CFI, AGFI, and GFI indicated a very good fit. The RMSEA and RMR indices indicated a very favorable fit, and based on the chi-square ratio index on the degree of freedom, the fit was also satisfactory (Table 4 and Figure 1).

Figure 1.

The standard coefficients of the questions of teachers' educational-media competences on its subscales (after correction)



5. Discussion

One of the necessities of the information age is the need for a type of education that

prepares learners to face the challenges of life affected by the new media, which is unpredictable. Teaching media competencies is one of these important things. Indeed, teaching media competencies by introducing appropriate values and norms and models equips the audience to face the challenges of life that are being formed under the influence of new media. This will cause the automatic analysis mechanism to appear in the unconscious minds of the audience and protect them from media information invasion and they will take control of almost all messages. By being aware of how the media produces information, children and teenagers will be more protected against the media's onslaught. In addition, teachers who acquire media competence skills can become more effective information disseminators and bridge the gap between educational programs and social programs (Ajam & Yaqoubi, 2019; Saraji et al., 2018; Sharifi & Saraji, 2020).

Educational-media competencies of teachers include a set of teacher competencies that are a combination of knowledge, insight, skill and attitude. Special skills that enable teachers to use media in teaching-learning processes in the educational situation are illustrated in the three dimensions of media use, media understanding and media participation. Due to the fact that there was no standard questionnaire in Persian language to measure the media-educational competencies of teachers, the present questionnaire was translated and localized in order to collect the information needed for the research. By using the confirmatory factor analysis, it was found that the highest factor load belonged to question 10 (β=0.80) and the lowest factor load belonged to question 8 (β=0.37). Also, T values to check the significance of factor loadings indicated that the factor loading for all the questions of the media-educational competence questionnaire of teachers was meaningful and it can be claimed that all the questions had the necessary ability to measure the factors.

The way the questions of this research were placed on their factors is in line with the research of Simons (2017) which showed that media-educational competencies were significant on three factors: teachers' use of media, teachers' understanding of media, and teachers' media participation. The examination of the fit of the studied model also indicates that the model of three independent factors by loading 12 questions on three independent factors under the headings of media use, media understanding and social development (media participation) was suitable. In other words, the research results support the three-factor model. Considering the results of this research, it can be concluded that this questionnaire translated into

Persian had appropriate validity and reliability and the factors confirmed by factor analysis can measure the level of educational-media competencies of Persian language teachers.

6. Conclusion

The current study aimed to measure the validity and reliability of the three-factor questionnaire of media didactica of Persian language teachers. The results of confirmatory factor analysis showed that the model was compatible with three factors including media, media understanding and social development. According to the results of the present research, it can be said that the level of greater interest in using the media leads to a high level of media-educational competencies. The level of interest in using media can be influenced by beliefs, traditions and values that are built over time. Peterson and Dale (1998) call this type of media use by teachers to advance their work as "teacher culture". Therefore, the role of the teachers are emphasized because they are the main agent of education and training and the distinguished goals of education systems in different dimensions must finally be implemented by them. Hence, it can be concluded that even if teachers have enough knowledge and skills to use media-educational competencies, the level of interest or the positive attitude towards the use of media in accordance with the educational situation is the determining factor. Finally, some implications can be inferred: in order to raise the level of educational-media competences of teachers in the field of using media, it is desirable to provide more and up-to-date facilities to teachers and to provide the necessary training in this field. Besides, it is suggested to provide a dynamic platform such as holding scientific workshops or seminars with the aim of familiarizing and acquiring skills in order to improve the level of teachers' competences in terms of understanding the media. Also, opportunities to produce media content, write articles, produce videos and clips, or launch an educational channel on the subject of professional competencies should be provided, so that teachers can know the media capabilities in the field of job participation. Eventually, courses can be designed in the teacher training curriculum in Farhangian University so that the student teachers can acquire media-educational skills.

References

Ajam, A. Yacoubi, A. (2019). Investigating the impact of teachers' media literacy with

their tendency towards critical thinking. *Quarterly Journal of Studies and Research in Behavioral Sciences*, *2(2)*, 60-79.

Amiri, J. Zabelizadeh, A. Karmi Nomiondi, M. (2019) Solutions to increase media and information literacy of teachers. *Media studies*. *3(2)*, 7-22

Blömeke, S. (2007). The impact of global tendencies on the German teacher education system. *Reforming Teaching Globally*. *3(14)*, 55-74.

Cortoni, I., LoPresti, V., & Cervelli P. (2015). Digital competence assessment: A proposal for operationalizing the critical dimension. *Journal of Media Literacy Education*. *7(1)*, 46-57.

Erdem C., ERİŞTİ, B. (2018). Paving the way for media literacy instruction in preservice teacher education: Prospective teachers' levels of media literacy skills. *International Journal of Instruction*. *11(4)*, 43-68.

Foulger, T., Graziano, K. J., Schmidt-Crawford, D. A., & Slykhuis, (2021). Teacher Educator Technology Competencies. *Journal of Technology and Teacher Education. 25(4)*, 413–48.

Grafe, S., Breiter, A. (2014). Modeling and Measuring Pedagogical Media Competencies of Pre-Service Teachers (M³K). *KoKoHs Working Papers, 2(4)*, 76.

Grizzle, A., Moore, P., Dezuanni. M., Asthana, S., Wilson, C., Banda, F., & Onumah, C. (2014). *Media and information literacy: Policy and strategy guidelines*. Unesco

Khademnia, R., Alavi Langardodi, K., Zandavanian, A., & Hemti, H. (2022). The relationship between media literacy and epistemological beliefs with the acceptance of technology by teachers in Yazd. *Journal of Information and Communication Technology in Educational Sciences. 3(51)*, 143-163.

Meeus. W., Van Ouytsel, J., Driesen, A., & T'Sas, J. (2014). Media didactica: A media literacy reference framework for learners, teachers and teacher educators.

Merz: Medien und Erziehung: Zweimonatschrift für audiovisuelle Kommunikation. *58(6)*, 41-9.

Peterson, K., & Deal, T. (1998). How leaders influence the culture of schools. Educational Leadership. *Journal of Educational Leadership, 56(1)*, 28-3**.**

Shamshirgaran, F., Musapour, N., Arabzadeh, M., & Afkari, F. (2023). Identifying the components of using educational-media skills by teachers in the era of Corona. *Journal of Information and Communication Technology in Educational*

Sciences 4(3), 29-50.

Sharifi. R., Saraji, Sh. (2020). The relationship between the level of media literacy and the reduction of social harms of using Instagram with an emphasis on the role of the police (case study): 18-30-year-old youth in Hamedan. *Scientific Quarterly Journal of Social Security Studies*. *3(5)*, 133-56.

Simons, M., Meeus, W., & T'Sas, J. (2017). Measuring media literacy for media education: Development of a questionnaire for teachers' competencies. *Journal of Media Literacy Education*. *9(1),* 99-115.

Siregar, R. A., Fauziati, E., & Marmanto, S. (2020). An Exploration on EFL Teachers' Perceptions of Effective 21st-Century Pedagogical Competencies. *Journal of English Education and Linguistics Studies. 7(1)*, 1-24.

Tiede, J., Grafe, S. (2019). The Integration of Media-Related Studies and Competencies into US and German Initial Teacher Education: A Cross-National Analysis of Contemporary Practices and Trends. *In Society for Information Technology & Teacher Education International Conference,* 1709-1717. Association for the Advancement of Computing in Education (AACE).

Tugtekin, E. B., & Koc, M. (2020). Understanding the relationship between new media literacy, communication skills, and democratic tendency: Model development and testing. *New media & society*, *22(10)*, 1922-1941.

Tulodziecki, G., Grafe, S. (2012). Approaches to learning with media and media literacy education–trends and current situation in Germany. *Journal of Media Literacy Education*. *4(1)*, 44-60.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), Structural equation modeling: Concepts, issues, and applications (pp. 56–75). Sage Publications, Inc.

Appendix A
Media-educational Competencies Questionnaire

1. I can use media devices in a technical sense (e.g. computer, projector, tablets, smartphone, and interactive whiteboard).		
2. I can consciously choose between different media devices, based on their function (e.g. computer, smartphone or tablet, navigate through hyperlinks).		
3. I can purposefully use different sources of information and media devices (e.g. search for information using social network sites, the internet).		
4. I know that media represent information in a selective way and know how to interpret media messages (e.g. implicit versus explicit media language, the structure of a text/article/film/video/…)		
5. I know how media production and distribution works (e.g. from source to article, the filtering of news, the intersection between politics, media and democracy).		
6. I know how media content is tailored to the target audience (e.g. selection possibilities, personalized online offer through cookies, newspapers/television channels/websites and their target audience).		
7. I can evaluate media content taking into account various criteria (e.g. accuracy of information, comparison of information, appreciation of aesthetic aspects).		
8. I am aware of the effects of media (e.g. influence on purchasing behavior, undesired effects such as hate or addiction).		
9. I am aware of my own media behavior (e.g. copyright, illegal downloads, dangerous media behavior).		
10. I can create media content (e.g. write an article, create a photo or video document, set up a blog).		
11. I can communicate and present contents using media (e.g. structure and adapt a presentation, publish media content through an appropriate channel such as blogs, directories, YouTube).		
12. I can participate in the public debate through media (e.g. show commitment using (social) media, contact organizations by email, reader reactions or social media).		

Appendix B
Media-educational Competencies Questionnaire (Persian Translation)

سواد تربیتی- رسانه‌ای	همیشه	اغلب	بندرت	هرگز
۱. میزان استفاده از وسایل و دستگاه‌های رسانه‌ای (مانند رایانه، پروژکتور، تبلت، گوشی‌های هوشمند، تخته‌های هوشمند) به صورت ماهرانه				
۲. .میزان گزینش آگاهانه از بین دستگاه‌های مختلف رسانه‌ای بر اساس عملکردشان ، (به عنوان مثال: رایانه، گوشی هوشمند یا تبلت، برقراری پیوند بین صفحات اینترنتی)				
۳. میزان بهره‌مندی به صورت کاملا هدفمند از منابع متفاوت اطلاعاتی (به عنوان مثال: جستجوی اطلاعات با استفاده از شبکه‌های اجتماعی و اینترنت)				
۴. میزان آگاهی از چگونگی تفسیر پیام‌های رسانه‌ای واین موضوع که رسانه‌ها اطلاعات را به صورت انتخابی ارائه می‌کنند (به عنوان مثال: زبان ضمنی و مستتر رسانه به جای زبان صریح، ساختار متن، مقاله، فیلم و ویدئو)				
۵. اطلاع وآگاهی از نحوه عمل وچگونگی توزیع رسانه‌ها (به عنوان مثال: رسانه‌ای کردن وفیلترکردن اخبار، آمیختگی بین سیاست‌و رسانه).				
۶. میزان دانش از چگونگی تنظیم محتوای رسانه متناسب با مخاطب (به عنوان مثال: انتخاب براساس امکانات مخاطب،شخصی سازی ازطریق کوکی‌ها، روزنامه‌ها، شبکه‌های تلویزیون، وبسایت‌ها).				
۷. میزان توانایی ارزیابی محتوای رسانه را با در نظرگرفتن معیارهای مختلف (به عنوان مثال: ارزیابی صحت اطلاعات، مقایسه اطلاعات، توجه به جنبه‌های زیبایی‌شناختی).				
۸. میزان آگاهی از تاثیرات رسانه (مانند: تاثیر بر رفتار خرید، اثرات نامطلوب مانند تنفر یا اعتیاد).				
۹. میزان آگاهی از رفتار رسانه‌ای خود (به عنوان مثال: حق چاپ، سرقت آثار، رفتاررسانه‌ای پرخطر).				
۱۰. میزان توانایی خلق محتوای رسانه‌ای (به عنوان مثال: نوشتن مقاله،خلق عکس ویا فیلم ویا راه‌اندازی وبلاگ).				
۱۱. میزان توانایی برقراری ارتباط و ارائه مطالب با استفاده از رسانه (به عنوان مثال: ساختاررسانه را به منظور ارائه تنظیم و متناسب سازم،از طریق یک مسیر مناسب مانند وبلاگ و یوتیوب رسانه را منتشر نمایم).				
۱۲. میزان مشارکت در بحث‌های عمومی از طریق رسانه (به عنوان مثال: استفاده از رسانه‌اجتماعی با رعایت تعهد،ارتباط با سازمان هااز طریق ایمیل، مشارکت از طریق رسانه‌های اجتماعی).				