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Designing and Validating a Comprehensive Questionnaire to Assess Online Interaction Learning Model

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Abstract

The Online Interaction Learning Model was founded on constructivist learning theory. It is an input-process-output model based on moderating variables, the inputs, which includes all of the characteristics of the courses, the instructors, EFL learners, and the technology. Due to the fact that the studies considering the pivotal role of the Online Interaction Learning Model are scarce in number, this study was conducted to validate a newly-designed questionnaire via exploratory and confirmatory factor analyses. Two hundred fifty-nine Iranian university and higher education institutes EFL learners were asked to participate. The newly-developed questionnaire consisted of 35 items measuring the five constructs of the Online Interaction Learning Model (Course materials, Instructor performance, Learning practices, Student-to-student interaction, and Access to technology). The results from EFA, CFA, and reliability analyses revealed that the new questionnaire is a valid and reliable instrument measuring Online Interaction Learning Model. Moreover, there was a significant positive correlation between each component of the Online Interaction Learning Model and EFL learners' GPA as well as between the total Online Interaction Learning Model and student academic achievement. Male and female EFL learners' scores on the online interaction learning model were quite different from each other.

Keywords: confirmatory factor analysis; constructivist learning theory; exploratory factor analysis; online Interaction Learning Model; reliability; validity.

1. Introduction

The internet, nowadays, has prepared the ground for interaction in many modalities. The higher and richer the form of communication, the more limitations are placed upon individuality. Roughly all forms of mediated educational interaction are now strengthened, and if one ameliorates the utilization of the web to increase classroom-based education, the internet supports them all. The online interaction learning model, developed by Benbunan-Fich, Hiltz, and Harasim (2005) was based on constructivist learning theory. In preparing a model of online learning, Benbunan-Fich et al. (2005) coalesced Fosnot and Perry's (2005) opinions and built a model that encompassed inputs, processes, and outputs. The inputs were the characteristics of courses, instructors, EFL learners, and technology.

Interaction has been a significant and critical component of the educational process and context (Anderson, Rourke, Garrison, & Archer, 2001). Yet, the term itself is utilized in

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numerous ways to describe various types of interactions between different actors and objects related to teaching and learning. It has been demonstrated that online courses with high levels of student-to-student interaction have a tremendously positive effect on learning. As a case in point, it is believed that student-to-student interaction is pivotal to building community in an online setting, which promotes creative and nourishing learning, and assists students to develop problem-solving and critical thinking skills (Kolloff, 2019).

In one study it was depicted that students who had high levels of interaction with other peers stated high levels of fulfillment and learning (Swan, 2020). Students in an online course with a plethora of interactions attained far higher scores than students in the same online course with only no interaction (Beaudoin, 2020). Interaction has an influence on student accomplishment and satisfaction, as mirrored by test performance and scores (Roblyer & Ekhaml, 2019). The online interaction learning model, developed by Benbunan-Fich et al. (2005) was founded on constructivist learning theory. "Principally, constructivism means that as people experience something novel, they compare this experience to internalized knowledge constructs based on previous experiences, and then amend their constructs accordingly" (Benbunan-Fich et al. 2005. p.21). Vygotsky was a pioneer in social constructivism and his work has been invigorated in online learning theories as scholars consider learning processes that comprise social contexts such as collaborative learning (Alavi & Dufner, 2005).

Vygotsky well defined the zone of proximal development; when a child could be directed to learn through interactions that pushed the child to just beyond his boundaries of knowledge and then aid the child to construct knowledge through interacting with a teacher, with other children, and with the content. Alavi (1994) used collaborative learning to online learning experiences based on the theory that cognitive developments and learning were social activities. Benbunan-Fich et al. (2005) believed that constructivism was the best educational elucidation to online learning due to the fact that how well it reinforced the collaborative learning format. Fosnot and Perry (2005) described constructivism as being applicable to education by postulating some distinctive practices. They believe that in constructivism, the learning outcome is not the result of development, but it is development. Also, they maintained that disequilibrium, which is a component of constructivism, facilitates learning and reflective abstraction is the driving force of learning. The last typical practice proposed by Fosnot and Perry (2005) is that dialogue within a community engenders further thinking (p. 34).

In building a model of online learning, Benbunan-Fich et al. (2005) incorporated Fosnot and Perry's (2005) ideas and created a model that was made up of inputs, processes, and outputs. The inputs were the features of courses, instructors, EFL learners, and technology. The processes encompassed both individual and collaborative learning and unified interactivity and perceived social presence, sense of community, and media richness.

As shown in Figure 1, the variables in this model are interconnected and no variable comprehensively or excessively influences the whole scheme. The learning processes might influence all outcome variables contingent on the instructional design, pedagogies utilized by teachers, student features, the technology used, and the content being studied.

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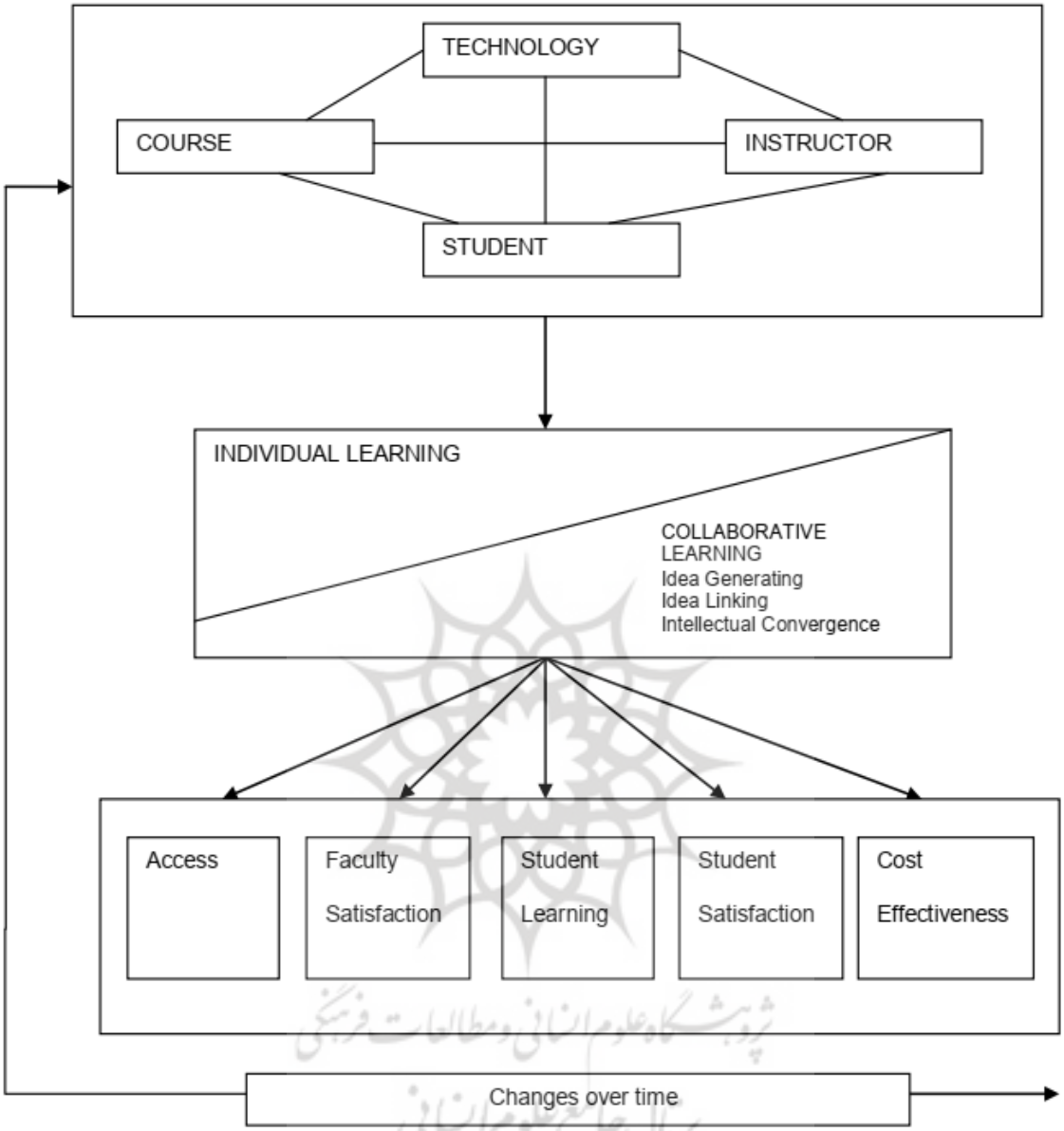

Figure 1. Online interaction learning model

2. Literature Review

It is astonishingly problematic to find a clear and accurate explanation of this multilayered concept in the education literature. In widespread culture, the use of this term to describe everything from toasters to video games to holiday resorts further confuses precise definition. Wagner (2001) defined interaction as "reciprocal events that need at least two objects and two actions. Interactions happen once these objects and events reciprocally impact one another" (p. 8). Interaction serves various purposes in educational contexts. Sims (1999, p. 17) itemizes these functions as permitting for learner control, "facilitating program adaptation based on learner input, allowing numerous forms of participation and communication, and helping

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meaningful learning". Furthermore, interactivity is vital to making the learning communities advocated by Lipman (1991), Wenger, McDermott, & Snyder, (2002), and other influential educational philosophers who focus on the critical role of community in learning. Finally, the value of another person's viewpoint, typically obtained through interaction, is a crucial learning constituent in constructivist learning theories (Shank, 1993), and in encouraging mindfulness in learners (Visser, 2000).

Interaction has always been appreciated in distance education. Holmberg (1981) claims for the dominance of individualized interaction between student and instructor. Holmberg also familiarizes us with the notion of simulated interaction, defining the writing style suitable for autonomous study models of distance education, and that he refers to as "guided didactic interaction." Garrison and Shale (1990) describe all forms of education – consisting of one brought at a distance – as fundamentally interactions between content, EFL learners, and teachers. Laurillard (1997) constructs a conversational model of learning in which interaction between EFL learners and teachers plays a crucial role. Laurillard (1997) refers to interaction as the major module of the educational process that ensues when EFL learners alter the passive information transferred to them from another and construct it into knowledge with particular personal application and worth (Esposito, 2003). Bates (1991) argues that interactivity ought to be the chief principle for choosing media in the educational context. Therefore, there is an extended history of study and acknowledgment of the important role of interaction in espousing and even explaining education. Dhawan (2020) also contends that in the interactive learning setting, students attend live lectures, have real-time interactions with lectures, and can get feedback directly, hence acknowledging the significant role of interaction in education. The internet provides the ground for interaction in many modalities. The higher and richer the form of communication, the more limitations are placed upon individuality. Approximately all forms of mediated educational interaction are now reinforced, and as long as one enhances the utilization of the web to augment classroom-based education, the internet supports them all. Interaction can also be defined in terms of the performers contributing to the interaction. Christenson and Menzel first deliberated the three most common types of interaction in distance education – "student-student; student-teacher and student-content" (Christenson & Menzel, 1998, p. 18). These interactions were extended by Anderson et al. (2001) to comprise teacher-teacher, teacher-content, and content-content interaction. Figure 2 illustrates six types of educational interaction.

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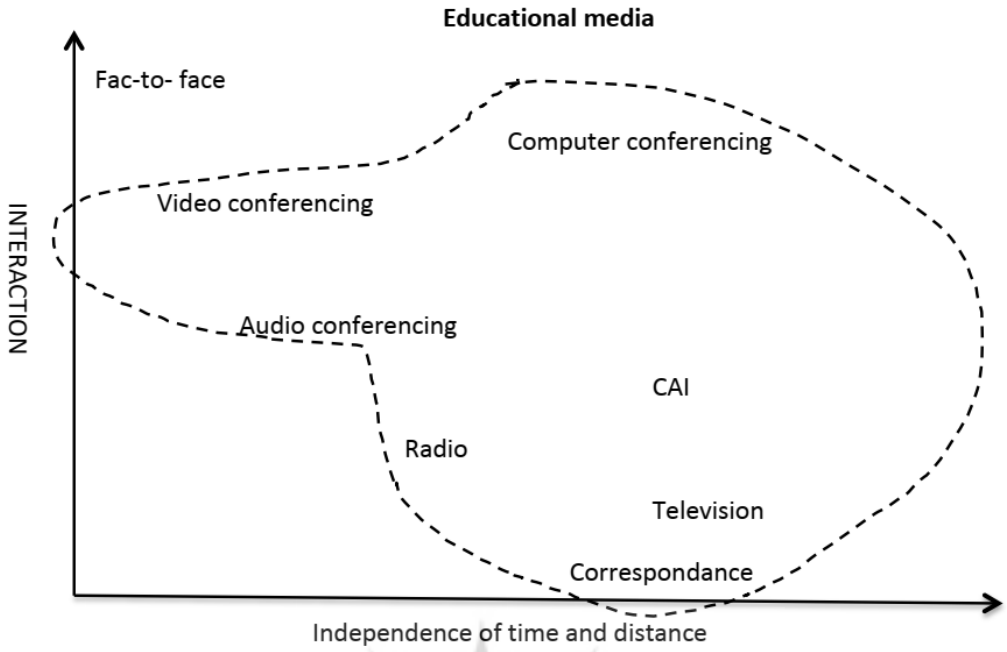

Figure 2. Types of educational interaction

Current and older education establishments have been well-defined by the techniques and tools planned to curb restrictions and use the affordances of previous media. Initial forms of distance education were built by means of text and the delayed forms of asynchronous communications provided by mail services. The internet now provides near-omnipresent access to a plethora of content that is larger than that provided in any other medium.

From earlier discussions, it can be taken as read that the internet affords a massive potential for education that normally includes virtually all the styles and means of delivery formerly utilized. It is also seen that the most significant factor of formal education includes interaction between and among multiple performers. Consequently, it can be concluded that various forms of student interaction can be replaced for each other, contingent upon "costs, content, learning objectives, convenience, technology used, and time availability". Adequate levels of profound and meaningful learning can be developed provided that one of the three forms of interaction is at very high levels (Anderson et al. 2001). The challenge for instructors and course developers working in an online learning context, hence, is to construct a learning environment that is simultaneously learner-¬centered, content-¬centered, community-centered, and assessment-centered.

There is no sole best form of online learning, nor is there a standard requirement that dictates the sort of interaction most encouraging to learning in all domains and with all learners. Rather, teachers must learn to advance their skills so that they can respond to both existing and up-and-coming student and curriculum requirements. Teachers can do this by developing a collection of online learning tasks and activities that are malleable to various contextual and student necessities.

A sense of community and social presence has been widely approved to be a factor in improving both the quality of learning and the motivation to study (Haythornthwaite & Andrews, 2011). In launching an online learning community, different kinds of interaction play an indispensable role. Berge (2002) believes that interaction cannot be observed only for its own sake, but in context with the methods and systems existing in the given condition. Hirumi (2002) identifies three levels of interaction: "the interaction of the learner with himself (level 1) or with human and non-human resources in the learning environment (level 2). The third level of interaction is a meta-level and describes the interaction of the learner with the e-learning strategy imposed". The second level is embraced the human interaction between EFL learners and of EFL learners with teachers, but also of the interaction of EFL learners with the content and interface of the learning environment. Second level interaction is the most noticeable one since it is related to the most observable parts of online learning if there is to be any interaction, but third level planning is just as significant, if not more so, as it is the level that is often abandoned when moving instruction online from old-fashioned enactments (Hirumi, 2002).

Numerous studies have worked on the main components of the online interaction learning model and have discovered some categories which are essential parts of any online interaction model. Endres, Chowdhury, and Frye (2009) have found the main categories of the online interaction learning model to be course materials, instructors' performance, and access to technology. All these components as well as the other components from the other research in the field have been considered to make the main constructs of the newly-developed questionnaire. Finally, the researcher of the present study drew the conclusion that five components of Learning practices, student–to–student interaction, course materials, instructors' performance, and access to technology are the main construct of the online interaction learning model and so ought to be included in developing the new questionnaire.

Considering all the previous literature in the field of online interactions, it seems obvious that no study has been conducted yet on the development of a reliable instrument to assess the online interaction learning model and the degree to which it can have an effect on the other variables. Hence, the present study has used this gap in the literature and focused on the development of a validated and reliable instrument to assess the online interaction model, hoping this instrument be helpful and beneficial for future researchers who tend to work in the field of online interaction learning model.

3. Method

3.1. Participants and Setting

Two hundred fifty-nine (259) Iranian university and higher education institutes EFL learners participated in this study (198 females and 61 males). They were 19 to 22 years old (M = 20.6, SD = 6.04). They were all BA EFL learners studying translation and English Teaching in Mashhad, Iran.

3.2. Instrumentation

To assess EFL learners' Online interaction learning, a questionnaire was designed. To do so, the existing theoretical frameworks of relevant constructs were analyzed. Some items of the instrument were reproduced from the Community of Inquiry Survey (Garrison, Anderson & Archer, 2000) with an alpha coefficient of .91 that demonstrates the internal reliability of the scale. Consequently, 35 items measuring the five aspects of the Online Interaction Learning Model (Course materials, Instructor performance, Learning practices, Student-to-student interaction, and Access to technology) were designed. The items are answered on a five-point scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*); for example, Online learning activities were relevant (course materials), The instructor for this course helped me to revise my thinking in a way that helped me to learn (instructors' performance), I could easily transfer what I learned in the online class to my real life (Learning practices), The system makes it easy for you to discuss questions with other EFL learners (student – to – student interaction) and Availability of supplemental online academic support was useful (access to technology) (See Appendix).

3.3. Procedures

Participants were asked to answer the Online Interaction Learning Model Questionnaire in an online format. In effect, in order to easily distribute and collect data, EFL learners were provided with the link of the questionnaire in Google Doc. By using an online survey, more EFL learners could get access to the questionnaire. They were also asked to mention demographic information such as gender, age, and educational level.

4. Results and Discussion

The first stage of the current study included a sequence of different steps to design and validate the Online Interaction Learning Model Questionnaire. When the items were written, a group of experts appraised the inclusiveness and lucidity of the items leading to a more polished version of the instrument. At that point, the questionnaire was employed to assess the Online Interaction Learning of the participants.

Table 1 presents descriptive statistics of EFL learners' Online Interaction Learning encompassing 5 components. Throughout this study, CM stands for Course Materials, IP for Instructor Performance, LP for Learning Practices, SSI for Student–to–student Interaction, and AT for Access to Technology.

As the Table shows, among the comprising factors of the Online Interaction Learning Model, IP (M=22.35, SD=5.69) has the highest mean followed by AT (M=20.79, SD=5.14), CM (M=19.59, SD=5.10), SSI (M=18.39, SD=5.05). LP (M=16.84, SD=5.94) receives the lowest mean score.

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Table 1.
Descriptive Statistics of the Comprising Factors of Online Interaction Learning Model

	N	Minimum	Maximum	Mean	Std. Deviation
CM	259	7.00	35.00	19.59	5.10
LP	259	6.00	30.00	16.48	5.94
IP	259	7.00	35.00	22.35	5.69
SSI	259	6.00	30.00	18.39	5.05
AT	259	7.00	30.00	20.79	5.14
Valid N (listwise)	259				

In order to assess the validity, exploratory factor analysis was conducted. Thus, in order to approve that the data set is fitting for factor analysis, the Kaiser- Meyer-Olkin (KMO) measure of Sampling Adequacy was performed. Kaiser (1958) and Alavi (1994) stated that the KMO value of above 0.6, as well as Barlett's Test of Sphericity value of below .05, are indicators of sample adequacy. As can be seen in Table 2, the KMO value is .828, and Bartlett's test is significant (p = .000), therefore the selected sample in this study was suitable for factor analysis.

Table 2.
KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.82
Bartlett's Test of Sphericity	Approx. Chi-Square	2771.42
	Df	185
	Sig.	.000

Total Variance Explained is utilized to regulate how many components to extract. Only components having an eigenvalue of 1 or more should be considered in the scale (Alavi, 1994 and Kaiser, 1958). According to the column of Initial Eigenvalues, the five components have eigenvalues above 1 (9.53, 6.53, 3.25, 7.41, 3.85) all of which explain a total of 68.37 percent of the variance.

Table 3.

Total Variance Explained.

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.53	45.17	45.17	9.03	45.17	45.17	4.28	21.44	21.44
2	6.53	7.63	52.81	1.52	7.63	52.81	3.88	19.40	40.85
3	3.25	5.51	59.73	3.24	3.21	41.22	1.59	15.31	50.14
4	7.41	9.57	49.18	6.59	8.61	55.69	4.19	18.52	36.74

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5	3.85	5.57	68.37	1.11	5.57	68.37	3.50	17.53	68.37

Extraction Method: Principal Component Analysis.

As can be seen in Table 3, the initial eigenvalues of all five extracted values are one or higher. The rotated component matrix showed that the most items load strongly (above 0.5) on the five components. Items 1 to 6 load on the first component (.78, .81, .53, .83, .88, .74), items 7 to 13 load on the second component (.78, .79, .78, .69, .53, .67, .64), items 14 to 21 load on the third component (.77, .71, .57, .59, .69, .49, .45, .55), items 22 to 28 load on the fourth component (.81, .53, .69, .74, .84, .59, .63) and items 29 to 35 load on the fifth component (.59, .67, .58, .74, .87, .81, .79).

The results of exploratory factor analysis illustrated that all 35 items load on their pertinent components (items 1 to 6: CM, items 7 to 13: IP, items 14 to 21: LP, items 22 to 28: SSI, and items 29 to 35: AT). In order to confirm the appropriateness of the questionnaire items, a confirmatory factor analysis via the LISREL 8.00 statistical package was run.

The model contained five factors: course materials (6 items), instructor performance (7 items), learning practice (8 items), student–to–student interaction (7 items), and access to technology (7 items). A number of indices were appraised to examine the model fit, consisting of the chi-square/df ratio (lower than 3 or 4), the normed fit index (NFI), the good fit index (GFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) of about .07 or .08 (Schreiber, Amaury, Stage, Barlow, & King, 2006). The $\chi 2$ value (1841.35), the df ratio (852), NFI (.99), and CFI (.97) all touched the acceptable fits. Therefore, the proposed model has a good fit with the experimental data.

The t-value of each item is shown in table 5. If the t-value (t); as long as $t > 2$ or $t < -2$, the result is believed to be statistically significant. As both indices reveal, all the items existing accepted factor loadings with t-values higher than 3 and β indices greater than 0.60. R2, as shown in Table 4, is an indicator of explanatory power, varying from 0 to 1 and higher values show a better explanatory power. The explanatory power results above 0.67, 0.33, and 0.19 are considered as large, moderate, and weak. (Rezaeian, Seyyedrezaei & Seyyedrezaei, 2020).

Table 4.

R-square (R2)

Subscales	R Square	R Square Adjusted
CM	0.34	0.36
LP	0.88	0.89
IP	0.22	0.23
SSI	0.58	0.56
AT	0.61	0.62

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Table 5.
Summary of the Standardized Loadings.

Observed Variable	Latent Variable	*t*-value	Observed Variable	Latent Variable	*t*-value
1	CM	28.45	23	SSI	19.26
2	CM	27.88	24	SSI	13.39
3	CM	24.12	25	SSI	19.85
4	CM	19.38	26	SSI	16.22
5	CM	38.23	27	SSI	18.30
6	CM	26.31	28	SSI	19.72
7	IP	37.91	29	AT	19.28
8	IP	42.85	30	AT	17.64
9	IP	71.00	31	AT	18.28
10	IP	29.52	32	AT	21.57
11	IP	28.63	33	AT	29.54
12	IP	37.95	34	AT	35.87
13	IP	36.65	35	AT	30.77
14	LP	29.98			
15	LP	23.21			
16	LP	28.85			
17	LP	27.58			
18	LP	27.55			
19	LP	26.98			
20	LP	31.65			
21	LP	33.25			
22	SSI	39.58			

Table 6 below illustrates the results of the convergent validity of the five-factor model which was assessed through the correlation between factors.

Table 6.
The Correlation Coefficients among Online Interaction Learning Model.

	CM	IP	LP	SSI	AT
CM	1.00	.74	.69	.68**	.71**
IP		1.00	.87	.91	.78
LP			1.00	.79	.81
SSI				1.00	.77
AT					1.00

**Correlation is significant at the level of 0.05

As the table shows, the model with the best fit verified inter-correlation between the scales in which IP and SSI have the highest correlation ($r=.91$, $p<0.05$). The reliability of the questionnaire found via Cronbach's alpha was .89. To examine the association between Online Interaction Learning Model and academic achievement (Grade Point Average), a Pearson

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product-moment correlation was run. Descriptive statistics of EFL learners' academic scores are as follows: minimum= 15, maximum= 19.42, mean= 17.46, and SD= 1.57.

The correlation coefficients between Online Interaction Learning Model and academic achievement (GPA) can be seen in Table 7. As shown, there is a significant positive correlation between each component of the Online Interaction Learning Model and student GPA as well as between the total Online Interaction Learning Model and student academic achievement.

Table 7.
The Correlation Coefficients Between Online Interaction Learning Model and its Components and GPA.

	CM	IP	LP	SSI	AT
GPA	.85*	.79**	.83**	.92**	.71

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

To see whether the online interaction learning model differs significantly between genders, an independent-samples t-test was utilized. Table 8 presents descriptive statistics of the online interaction learning model across males and females.

Table 8.
Descriptive Statistics of online interaction learning model across Male and Female EFL learners.

	Gender	N	Mean	Std. Deviation	Std. Error Mean
CM	1.00	61	18.19	6.30	.81
	2.00	198	19.99	6.80	.48
SSI	1.00	61	19.34	5.66	.88
	2.00	198	20.11	5.96	.68
IP	1.00	61	14.53	4.56	.58
	2.00	198	16.93	5.95	.42
LP	1.00	61	17.90	4.49	.57
	2.00	198	19.89	6.42	.45
AT	1.00	61	18.98	7.61	.74
	2.00	198	18.97	7.24	.23

As table 7 shows, male and female EFL learners' scores on the online interaction learning model are quite different from each other. Table 9 is the results of the independent-samples t-test among the participants of the two genders.

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Table 9.
Independent-Samples T-Test Presenting the Results of Gender Differences.

		tdf	Sig. (2-tailed)	Mean Difference	Std. Error Difference
CM	-2.85	256	.005	-2.80	.98
IP	-3.01	255	.003	-2.50	.82
LP	-3.39	256	.001	-2.99	.88
SSI	-3.52	256	.001	-2.89	.83
AT	-391	256	.002	-2.87	.84
OIM	-3.40	255	.001	-8.22	2.51

As the table reveals, there is a statistically significant difference between males and females on Online Interaction Learning Model and its components.

5. Conclusion

Famularsih (2020) asserts that online interactivity is a form of communication in an educational setting between students and their peers, students and lecturers, and students and the higher education institution, using innumerable technological tools to simplify teaching and learning. He also claims that online interactivity should follow a precise model, otherwise, no fruitful results can be obtained by both students and instructors (Famularsih, 2020). The online interaction learning model has been adapted by a vast number of researchers. However, no instrument has been designed and validated to assess it. That is why the present study aimed at designing a new instrument to assess the online interaction learning model. To attain the goals of the current research, the newly-developed instrument was administered to a sample of Iranian university and higher education institutes' EFL learners. The results of EFA, CFA, and reliability estimates verified the validity and reliability of the newly designed instrument.

Numerous studies have investigated the main components of the online interaction learning model and have revealed some categories which are indispensable parts of any online interaction model. Endres et al. (2009) have discovered the main elements of the online interaction learning model to be course materials, instructors' performance, and access to technology. All these components as well as the other components from the other studies in the field have been taken into account to make the main constructs of the newly-developed questionnaire. Eventually, the researcher of the present study came to the conclusion that five components of Learning practices, student–to–student interaction, course materials, instructors' performance, and access to technology are the main construct of the online interaction learning model and so ought to be included in developing the new questionnaire.

Considering all the previous literature in the field of online interactions, it seems apparent that no study has been carried out on the development of a reliable instrument to assess the online interaction learning model. Hence, the present study has used the gap in the literature and concentrated on the development of a validated and reliable instrument to assess the online interaction model, on tenterhooks this instrument would be helpful and beneficial for future researchers who tend to work in the field of online interaction learning model.

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6. Conclusions

This study was conducted to validate a newly-designed questionnaire for measuring the online interaction learning model via exploratory and confirmatory factor analyses. The results from EFA, CFA, and reliability analyses depicted that the new questionnaire is a valid and reliable instrument measuring the online interaction learning model.

Given that the present study is the first endeavor in EFL literature which designed a specific instrument to measure the online interaction learning model. Accordingly, several suggestions for future research are made. Future studies can use random sampling techniques in sample selection. Another suggestion is that forthcoming investigators can practice different kinds of instruments above and beyond questionnaires for example; interviews, observations, and case studies allowing researchers to regulate possible interrelationships among the constructs.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Appendix

Online Interaction Learning Model Questionnaire

Gender: …… Age: …….. Education level: …….

Items	Strongly Disagree	Disagree	N/A	Agree	Strongly Agree
Course materials					
1. Print readings aided my learning in this course.					
2. Productive dialogs were engaging.					
3. Online learning activities were relevant.					
4. The system records your learning progress and performance.					
5. The system enables you to choose what you want to learn.					
6. Course activities piqued my curiosity.					
Instructor performance					
7. The instructor returned grades in a timely manner.					
8. The instructor provided ample feedback.					
9. The instructor for this course helped me to revise my thinking (for example, correct misunderstandings) in a way that helped me to learn.					
10. The instructor for this course clearly communicated important course goals (for example, provided documentation on course learning objectives).					
11. the instructor for this course was helpful in identifying areas of agreement and disagreement on course topics that assisted me to learn.					
12. the instructor for this course helped keep the participants on the task in a way that assisted me to learn.					
13. the instructor for this course provided explanatory feedback that assisted me to learn.					
Learning practices					
14. I can apply what I have learned in this course to my job.					
15. I could easily transfer what I learned in the online class to my real life.					
16. I liked the online nature of this course.					
17. I feel that my educational needs are not being met in this course.					
18. I feel that I am given ample opportunities to learn in this course.					

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19. I feel that this course results in only modest learning.					
20. The EFL learners received timely feedback in this course.					
21. The system enables you to control your learning progress.					
Student-to-student interaction					
22. Other EFL learners contributed to my learning in the course.					
23. I feel that EFL learners in this course care about each other.					
24. I feel connected to others in this course.					
25. I feel that I can rely on others in this course.					
26. I feel confident that others in this course will support me.					
27. The system makes it easy for you to share what you learn with the learning community.					
28. The system makes it easy for you to discuss questions with other EFL learners.					
Access to technology					
29. PDF books and other soft-version materials for this course arrived on time.					
30. Availability of Help Desk assistance was useful.					
31. Instructors' use of technology was acceptable.					
32. Availability of online tutoring was useful.					
33. Availability of supplemental online academic support was useful.					
34. Availability of information about technical skills required for the course was helpful.					
35. Availability of smartphone applications was of great help to me.					