CHATBOT USABILITY SCALE: ADAPTATION TO TURKISH AND VALIDATION/RELIABILITY ANALYSIS

By

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ABSTRACT

The aim of this study is to adapt the 15-item Chatbot Usability Scale to the Turkish language and culture and evaluate the validity and reliability of the scale in the Turkish language and culture after the adaptation process. The necessary permissions were obtained, and the process was initiated. Proficient translators in both cultures were selected to ensure linguistic equivalence, and they carried out the translation process proficiently in both languages. The scale was translated back to its original language to enhance its suitability, and linguistic equivalence was ensured. The sample for the study included 406 students from eight different undergraduate and associate degree programs at a state university. Following the item analysis, the Cronbach's Alpha coefficient of the scale was found to be 0.935. Exploratory and confirmatory factor analyses were applied and it was found that the scale had a two-factor structure for Turkish university students. As a result of this study, the Chatbot Usability Scale has been adapted to the Turkish language and culture. As a suggestion, the generalizability of the scale can be increased by applying it to individuals from different age groups, genders, educational levels, and occupational groups and evaluating the test-retest reliability of the scale in future studies.

Keywords: Chatbot, Usability Scale, Artificial Intelligence, Turkish Adaptation, Validation Analysis, Reliability Analysis, Turkish Language.

INTRODUCTION

Chatbots have become one of the most popular artificial intelligence applications in recent years (Gilson et al., 2022). They can be defined as mimicry programs that provide accurate responses to text or audio-based questions, thus effectively improving user satisfaction (Balaji, 2019; Kane, 2016; Nilsson, 2018). Consequently, the importance and areas of use for chatbots are expanding (Başkaya & Karacan, 2022).

This paper has objectives related to SDG

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In educational settings, chatbots are utilized for teaching and learning purposes (Hidayat & Nugroho, 2022). Several studies have demonstrated the effectiveness of chatbots in delivering learning content to students through online platforms (Chen et al., 2020). Additionally, educators can offer students an engaging learning experience through the use of chatbots (Wu et al., 2020). Chatbots also provide advantages such as answering student questions, delivering personalized learning opportunities, and allowing access to learning materials from anywhere at any time (Hidayat & Nugroho, 2022; Hiremath et al., 2018; Hu & Bentler, 1999). Wartman and Combs (2018) have emphasized the significance of incorporating artificial intelligence applications in

Appendix:

Original Version	Turkish Version
1. The chatbot function was easily detectable	1. Sohbet robotunun işlevi kolayca algılanabiliyor.
2. It was easy to find the chatbot.	2. Sohbet robotunu bulmak kolaydı.
3. Communicating with the chatbot was clear.	3. Sohbet robotu ile iletişim anlaşılırdı.
4. I was immediately made aware of what information the chatbot can give me.	4. Sohbet robotunun bana hangi bilgileri verebileceği konusunda hemen haberdar oldum.
5. The interaction with the chatbot felt like an ongoing conversation.	5. Sohbet robotunun etkileşimi akıcı bir konuşma gibiydi.
6. The chatbot was able to keep track of context.14	6. Sohbet robotu, bağlamı/durumu takip edebildi.
7. The chatbot was able to make references to the website or service when appropriate.	7. Sohbet robotu, istenildiğinde web sitesine veya hizmete referans verebildi.
8. The chatbot could handle situations in which the line of conversation was not clear.	8. Sohbet robotu, konuşmanın net olmadığı durumların üstesinden gelebildi.
9. The chatbot's responses were easy to understand	9. Sohbet robotunun yanıtlarının anlaşılması kolaydı.
10. I find that the chatbot understands what I want and helps me achieve my goal.	10. Sohbet robotu ne istediğimi anladığını ve hedefime ulaşmama yardımcı olduğunu görüyorum.
11. The chatbot gives me the appropriate amount of information.	11. Sohbet robotu bana uygun miktarda bilgi veriyor.
12. The chatbot only gives me the information I need.	12. Sohbet robotu bana sadece ihtiyacım olan bilgiyi veriyor.
13. I feel like the chatbot's responses were accurate.	13. Sohbet robotunun yanıtlarının doğru olduğunu düşünüyorum.
14. I believe the chatbot informs me of any possible privacy issues.	14. Sohbet robotunun olası gizlilik sorunları hakkında beni bilgilendirdiğine inanıyorum.
15. My waiting time for a response from the chatbot was short	15. Sohbet robotundan yanıt bekleme sürem kısaydı.

ABOUT THE AUTHORS

Mehmet YAVUZ graduated from Fırat University, Faculty of Technical Education, Department of Computer Education in 2009. From 2018 to 2022, he pursued his Doctoral studies in Computer and Instructional Technologies Education at Atatürk University. Between 2011 and 2021, he taught at various institutions affiliated with the Ministry of National Education. Presently, he serves as a Lecturer at Bingöl University's Distance Education and Research Center, where his areas of research interest are Digital Transformation, Distance Education, İnstructional Design, and Artificial İntelligence.

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