



Instrument Development of Design Thinking Test for Graphic Design Students

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ABSTRACT

Objective: Design thinking is one of the methods used to carry out the design process. So, in solving this design problem, design students, especially Graphic Design students, should carry out the stages of design thinking for the work design process. The measurement of design thinking ability is a written exam to get a standardized assessment. This Research aims to describe the development of a design thinking test instrument for graphic design students. **Method:** The design thinking test instrument consists of 30 multiple-choice questions. After the questions were completed, five experts validated the question. The results of content validation to five experts were analyzed using the Content Validity Ratio. The question was then tested on 30 Unesa Graphic Design students. The results of each question item were tested for validity through the Rasch model with the STATA Program and ConQuest. **Results:** To test the reliability of the instrument using Cronbach Alpha. The result is CVR scoring between 0.500 and 1.000, and the alpha Reliability value exceeds 0.881. The results of the total item correlation test vary from -0.0391 to 0.465, while the INFIT MNSQ value of the Rasch model starts with a value of 0.500 to 1.300. **Novelty:** It is concluded that the written test assessment instrument is empirically valid, so the design thinking skills assessment instrument is feasible to use.

INTRODUCTION

The field of graphic design is broad; students are taught various types of projects, including advertising, publication, and visual communication, as well as the development of signage, displays, and typography. This diverse field requires designers to explore knowledge about different cultures in a project, so it takes creativity in the problem-solving abilities of graphic designers (Altan & Tan, 2021; Chang et al., 2022; Guaman-Quintanilla et al., 2023; Saris, 2020).

The novice graphic designers tend to immediately construct visual ideas when given a problem without further thinking about the goal. The role of design as problem-solving is closely tied to the designer's ability in the design thinking process (Balakrishnan, 2022; Calavia et al., 2021; Dell'Era et al., 2020; Lin et al., 2020). The design thinking process is a problem-solving method that emphasizes user focus. Through problem-solving, designers discover appropriate solutions and resolutions for their challenges. As a form of creative problem-solving, design thinking delves into inspiration, guiding the development of creative and original solutions to meet user needs (Dell'Era et al., 2020). Design Thinking may enhance collaborative problem-solving by promoting trust between participants, potentially increasing intrinsic motivation and, consequently, the quality of solutions generated. This effect warrants further investigation through empirical studies to establish causal relationships and

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