

PENGEMBANGAN TES MISKONSEPSI *TWO-TIER* PADA MATERI GETARAN, GELOMBANG, DAN BUNYI

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ABSTRAK

Penelitian ini mengembangkan alat evaluasi yaitu berupa tes miskonsepsi *two-tier* pada materi getaran, gelombang, dan bunyi. Tujuan penelitian ini untuk mendeskripsikan dan menjelaskan informasi yang diperlukan saat merancang tes miskonsepsi *two-tier*, serta menganalisis kevalidan tes miskonsepsi *two-tier*. Penelitian ini adalah jenis penelitian pengembangan. Model pengembangan yang digunakan adalah model 4D oleh Thiagarajan dengan langkah pengembangan yaitu *define, design, develop* dan *disseminate*. Namun, pada penelitian ini langkah pengembangan hanya dilaksanakan sampai tahap *develop* yaitu uji validitas oleh ahli. Subjek uji coba produk meliputi pengujian validitas melibatkan dua orang Ahli Pendidikan IPA. Data penelitian ini terdiri dari data kuantitatif dan data kualitatif. Instrumen pengumpulan data yang digunakan berupa studi literature, wawancara dan angket, seperti angket analisis kebutuhan guru. Analisis data dilakukan secara deskriptif. Hasil penelitian menunjukkan (1) informasi yang diperlukan saat merancang tes miskonsepsi terdiri dari: (a) studi dokumen; (b) wawancara. (2) Tes Miskonsepsi *Two-tier* memiliki kualifikasi sangat valid dengan skor 0,967 tergolong kriteria sangat valid. Berdasarkan data hasil penelitian, dapat disimpulkan tes miskonsepsi *two-tier* pada materi getaran, gelombang, dan bunyi memperoleh informasi awal saat merancang tes miskonsepsi yaitu (a) peserta didik mengalami miskonsepsi pada materi getaran, gelombang, dan bunyi; (b) belum tersedianya instrument khusus untuk mendeteksi miskonsepsi dan memiliki kualifikasi sangat valid sehingga dapat dilanjutkan ketahap selanjutnya. Hasil pada uji validitas menunjukkan bahwa instrument yang dikembangkan sangat valid dan layak digunakan untuk mengidentifikasi miskonsepsi peserta didik pada materi getaran, gelombang, dan bunyi. Penelitian lanjutan masih diperlukan untuk menguji keefektifan dan reliabilitasnya melalui uji coba langsung.

Kata Kunci: bunyi, getaran, gelombang, miskonsepsi, tes *two-tier*

**DEVELOPMENT OF TWO-TIER MISCONCEPTION TEST
ON THE MATERIAL OF VIBRATIONS, WAVES, AND SOUND**

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ABSTRACT

This research develops an evaluation tool in the form of a two-tier misconception test on the material of vibrations, waves, and sound. The purpose of this study is to describe and explain the information needed when designing the two-tier misconception test, as well as to analyze the validity of the two-tier misconception test. This research is a type of development research. The development model used is the 4D model by Thiagarajan, with the development steps being define, design, develop, and disseminate. However, in this study, the development steps were only carried out up to the develop stage, which is the validity test by experts. The subjects for the product trial included validity testing involving two experts in Science Education. The data in this study consist of quantitative and qualitative data. The data collection instruments used include literature studies, interviews, and questionnaires, such as teacher needs analysis questionnaires. Data analysis was conducted descriptively. The result of the study show that (1) the information needed when designing the misconception test consist of: (a) document studies; (b) interviews. (2) The Two-tier Misconception Test received a very valid qualification with a score of 0.967, categorized as a very valid criteria. Based on the research result, it can be concluded that the two-tier misconception test on the material of vibration, waves, and sound provide initial information when designing the misconception test, namely (a) student experience misconceptions in the material of vibrations, waves, and sound; (b) there is currently no specific instrument available to detect misconceptions, and it has a very valid qualification, allowing it to proceed the the next steps. The result of the validity test indicate that the developed instrument is highly valid and suitable for identifying student misconceptions regarding vibrations, waves, and sound. Further research is needed to test its effectiveness and reliability through direct trials.

Keywords: *misconceptions, sounds, two-tier test, vibration, waves*