

## ABSTRAK

Sistem komputer merupakan salah satu mata pelajaran pada program studi Teknik Komputer dan Jaringan di kelas 10 SMK yang mempelajari berbagai pengolahan data dan informasi yang berkaitan dengan komputer. Informasi yang yang diperoleh setiap individu berbeda-beda sehingga dapat menimbulkan adanya miskonsepsi. Untuk mengatasi hal tersebut, dikembangkan instrumen berupa tes diagnostik *two-tier* yang dapat mendeteksi miskonsepsi siswa pada materi operasi aritmatik logik. Jenis penelitian yang digunakan adalah penelitian pengembangan (*research and development*) menggunakan model Tessmer tipe *formative evaluation* yang terdiri dari: (1) tahap *preliminary*, (2) tahap *self evaluation*, dan (3) tahap *prototyping (expert review, one-to-one, small group)*, dan (4) tahap *field test*. Berdasarkan penelitian ini diperoleh hasil bahwa: (1) uji validasi ahli praktisi mendapat nilai 88,57% dengan kategori “sangat valid” atau dapat digunakan tanpa revisi. Hasil uji coba ahli materi mendapat nilai 78,86% dengan kategori “valid” atau dapat digunakan sesuai dengan saran perbaikan. (2) sedangkan hasil uji coba *one-to-one*, uji coba *small group*, dan uji coba *field test* tidak dapat dilaksanakan karena penelitian dilakukan pada masa pandemi covid-19. Dengan demikian, tes diagnostik *two-tier* yang dikembangkan layak digunakan dalam mengidentifikasi miskonsepsi siswa kelas X SMK pada materi sistem komputer.

**Kata Kunci:** Instrumen tes, Tes Diagnostik, Miskonsepsi

## **ABSTRACT**

*Computer Systems is one of the subjects in the Computer and Network Engineering study program in the 10th grade of vocational high schools which provides various data and information processing related to computers. Information obtained by each person is different so that it can cause misconceptions. To overcome this, an instrument consisting of a two-level test was developed that could detect students' misconceptions on the subject of logical arithmetic operations. The type of research used is development research (research and development) using the Tessmer type formative evaluation model which consists of: (1) the initial stage, (2) the self-evaluation stage, and (3) the prototype stage (expert review, one-to-one , small groups), and (4) field tests. Based on this research, the results of the study are: (1) expert validation test obtained 88.57% with the category "very valid" or can be used without revision. The results of the trial of material experts got a score of 78.86% with the category "valid" or can be used in accordance with suggestions for improvement. (2) while the results of one-to-one trials, small group trials, and trials cannot be carried out because the study was conducted during the covid-19 pandemic. Thus, the two-level test developed is feasible to be used in correcting the misconceptions of grade X vocational high school students on computer system material.*

**Keywords:** *Test instruments, Diagnostic Tests, Misconceptions*