

INCREASING TEACHER ACADEMIC COMPETENCY IN TEACHERS ASSESSMENT DEVELOPMENT OF CONCEPTUAL ABILITY ASSESSMENT AND PROCEDURAL ON LEARNING OF THE IPA IN INTEGRATED

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ABSTRACT

Science learning is developed as an integrative science subject not as discipline education, so it must be applicative oriented, developing thinking ability, learning ability, curiosity, and the development of caring and responsible attitude towards the natural and social environment. Therefore, the assessment system developed in science learning should also include four dimensions of knowledge, namely; (1) factual knowledge, (2) conceptual knowledge, (3) procedural knowledge, and (4) metacognitive knowledge. This kind of knowledge is very helpful for educators to decide what needs to be taught. This level of specification allows four types of knowledge to be applied to all grade levels and subjects.

This research generally aims to improve the academic competence of prospective science teachers in the development of assessment assessment of conceptual and procedural dimension of knowledge on science learning in an integrated manner. This is very important with regard to learning outcome in KKN level 6 that is mastering the theoretical concepts of certain knowledge field in general, and able to formulate problem solving procedural, so that students are accustomed to develop high order thinking (high order thinking). Specific objectives of this research are; (1) to obtain validity and reliability test results for the measurement of conceptual and procedural knowledge dimensions, (2) to develop a model of competency improvement for prospective teachers in the item to measure the dimensions of conceptual and procedural knowledge. The methodology developed in this research is the classical item test analysis model and Item Respons Theory as well as the Research & Development spiral model as referenced by Cennamo and Kalk (2005: 6). In this spiral model is known 5 (five) development phase that is: (1) definition (define), (2) design, (3) demonstrate, (4) development, and (5) (deliver).

The result of univariate test of F in treatment has a significance level less than 0.05 thus the use of module influences the ability of conceptual ability and procedural capability. Partial Eta Square (PES) values of conceptual capabilities and procedural abilities are 0.094 and 0.747, respectively. This means that the use of modules affects the conceptual ability of 8.4% and the procedural ability of 74.7%. The academic competence of prospective teachers, especially the ability to develop assessment instruments for conceptual and procedural knowledge dimensions in integrated IPA learning, has not been very satisfactory since only 12.5% are able to get test scores above 60 (from maximum score 100) and increase to 23% after learning using modules. The validity and reliability of the item for the measurement of the conceptual and procedural dimension of science learning in an integrated manner made by the prospective teacher students is still low so that further research is needed to improve the competence. The improvement model of teacher candidate competence in developing the measurement of conceptual and procedural knowledge dimension, using module alone has not shown significant improvement, still need to be given further treatment.

Kata Kunci : *academic competence, teacher candidate, conceptual ability, procedural ability*