DEVELOPMENT OF LEARNING TOOLS FOR DIFFERENTIATED GEOMETRY LEARNING ORIENTED ON DEDUCTIVE THINKING AND MATHEMATICAL COMMUNICATION ABILITY

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ABSTRACT

This research aims to develop learning tools in the form of Learning Plans and Activity Sheets for Differentiated Geometry Learning which are oriented towards deductive thinking and mathematical communication skills and describe the quality of these learning tools.

This research is development research (Research and Development) to develop learning tools in the form of Learning Plans and Geometry Activity Sheets which are oriented towards deductive thinking and mathematical communication skills. The research stages refer to the ADDIE (Analyze, Design, Development, Implementation and Evaluation) development model. At the analysis stage, student analysis, instructional analysis, instructional objectives, and learning objectives are carried out. At the design stage, design principles, assessment design, assessment instruments, instructional strategies, and activity sheet design are prepared. At the development stage, factual samples were prepared, limited trials, evaluation and revision of factual samples, and activity sheets for all topics and validation. At the implementation stage, a wider scale trial was carried out. Meanwhile, at the evaluation stage, formative evaluation and summative evaluation are carried out. The subjects of this research were students majoring in Mathematics Education who took Geometry courses. Data was analyzed quantitatively and qualitatively.

This research produces a Learning Plan for differentiated learning in Geometry lectures equipped with Activity Sheets to facilitate student diversity. An important step in this learning is the opportunity for students to develop deductive thinking and mathematical communication which is included in the material in the "Let's Do Mathematics" section, while the Activity Sheet facilitates student diversity seen from material readiness and problem solving styles.

Kata Kunci: *Key words: learning tools, geometry, differentiated learning, deductive thinking, mathematical communication.*