

## ABSTRACT

**Delila Br Sembiring, IDN 4193131018 (2023). Development of Powtoon-Based Audio-Visual Media in Chemical Bonding Materials.**

This research was conducted at SMA Negeri 11 Medan with the background being that the teacher had never developed audio-visual media on chemical bonding material with a variety of learning media. This study aims to find out how the needs of teachers and students for learning media, determine the feasibility of media developed on chemical bonding material and to find out how students respond to this development. The type of research used is research and development (R&D) using the 4D model (Define, Design, Development, Disseminate). The data that has been obtained through the questionnaire instrument for the needs of teachers and students is analyzed using the proportion formula and then described. Based on the validation results of the animated video learning media that had been developed by 2 expert validation and 20 practitioner user validator, based on the results of the material expert's assessment, the feasibility value of powtoon-based audio-visual media was obtained the results of the material validation obtained "very feasible" results with a percentage of 86.63%. In media validation, was obtained a proportion of 94.79% with the "very feasible" criteria. The practitioner user validation was obtained "very feasible" results with a percentage of 89.38%. The results of the trial on students through the distribution of response questionnaires obtained a score with a total proportion of 90.63% with the qualification "strongly agree". Overall, it can be interpreted that the development of powtoon-based audio-visual media on chemical bonding materials has been categorized properly.

**Keywords:** media; audio-visual; Powtoon; chemical bonding

