

## ABSTRACT

**Ayu Irinka Sari Br Ginting, IDN. 4203151008. Development of TPACK-Based E-Book on Human Digestive System Material to Achieve The Scientific Literacy of Students at SMP Negeri 41 Medan.**

This research was conducted on the low scientific literacy abilities of students in Indonesia based on PISA, middle school students in Medan based on PUSMENDIK data, and the lack of TPACK-based teaching materials that measure students' scientific literacy. This research aims to develop a feasible, effective and practical E-Book to improve students' scientific literacy skills on the human digestive system. The research method used is R&D with the ADDIE research model. The subjects in this research were students in classes VIII-1 and VIII-5 of SMP Negeri 41 Medan. Samples were taken by random sampling. The instruments used are tests (cognitive tests) and non-tests (in the form of questionnaires and interviews). Test instruments were given to 62 students and assessment questionnaires were given to 4 experts (media experts, learning design experts, material experts and language experts), 3 students in one-on-one evaluation, 15 students in small group evaluation, 30 students in the field test, and 32 students in the implementation, and two science teachers. The research results showed that the validation produced by media experts was 75%, material experts got a score of 98.07%, learning design experts got a score of 96.25%, and language experts got a score of 85%, so the value of E-Books was based on TPACK was declared feasible and effective in assisting the learning process and improving scientific literacy skills, 84.37% of students obtained a KKM score and the average N-Gain was 0.71 (High). Apart from that, 95.96% of TPACK-based e-books were declared very practical and 90.58% very effective for teachers and students to use in learning inside and outside the classroom.

**Keywords:** E-Book, TPACK, Scientific Literacy, ADDIE, Effective, Practical