ABSTRAK

PENGEMBANGAN SOAL HOTS *(HIGHER ORDER THINKING SKILLS)* BERBASIS APLIKASI PADA MATERI SISTEM IMUN KELAS XI

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HOTS merupakan kemampuan berpikir pada level kognitif tinggi yang dapat diintegrasikan dalam penilaian hasil belajar. Soal-soal penilaian harus bisa mengarahkan siswa pada kemampuan berpikir tingkat tinggi. Hasil wawancara menunjukkan bahwa, soal-soal yang digunakan dalam penilaian hasil belajar 75% bersifat LOTS dan 25% bersifat HOTS. Hal ini disebabkan karena guru belum terbiasa membuat soal HOTS. Selain itu, siswa juga belum terbiasa mengerjakan soal-soal HOTS. Siswa belum mampu mengkonstruk pengetahuannya sendiri, karena proses pembelajaran masih mengarah pada hafalan bukan penalaran. Sistem imun merupakan materi yang bersifat abstrak dan kompleks, sehingga untuk bisa memahaminya diperlukan kemampuan menalar yang baik. Penelitian ini bertujuan mengetahui deskripsi dan kualitas produk soal HOTS pada materi sistem imun.

Penelitian ini menggunakan jenis *Research and Development* (R&D). Prosedur penelitian dan pengembangan mengacu pada model 4-D menurut S. Thiagarajan, yang terdiri dari *define, design, develop,* dan *disseminate*. Penelitian ini hanya dilakukan sampai tahap *develop*. Pengambilan data dilakukan dengan teknik wawancara dan kuisioner. Data selanjutnya dianalisis menggunakan teknik analisis kualitatif dan kuantitatif.

Berdasarkan hasil validasi, dapat diketahui bahwa rata-rata akhir dari hasil validasi butir soal latihan adalah 4,72, butir soal ulangan harian 4,67, materi soal 4,72, dan aplikasi 4.58. Hasil validasi tersebut masuk dalam kategori "sangat baik". Dengan demikian, dapat disimpulkan bahwa produk soal HOTS yang dikembangkan memiliki kualitas yang baik dan layak digunakan atau diuji coba secara terbatas.

Kata Kunci: R&D, HOTS, Sistem Imun

ABSTRACT

THE DEVELOPMENT OF HOTS (HIGHER ORDER THINKING SKILLS) QUESTIONS BASED ON THE APPLICATION ON THE IMMUNE SYSTEM MATERIALS FOR CLASS XI

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HOTS is the ability to think at a high cognitive level that can be integrated into learning outcomes assessment questions. The questions must be able to direct students to higher thinking skills. The results of the interview that the questions used in the assessment of learning outcomes are 75% LOTS and 25% are HOTS. This is because the teacher is not used to making HOTS questions. In addition, students are also not used to working on HOTS questions. Students were not able to construct their own knowledge, because the learning process still leads to memorization, not reasoning. The immune system is an abstract and complex material, so to understand it requires good reasoning skills. This study aims to determine the description and product quality of HOTS questions on the material of the immune system.

This study uses the type of Research and Development (R&D). The research and development procedure refers to the 4-D model according to S. Thiagarajan, which consists of defining, design, develop, and disseminate. This research was only carried out until the developmental stage. Data were collected using an interview and questionnaire techniques. The data were then analyzed using qualitative and quantitative analysis techniques.

Based on the validation results, it can be seen that the final average of the results of the validation of the practice questions is 4.72, the daily test items are 4.67, the material questions are 4.72, and the application is 4.58. The validation results fall into the "very good" category. Thus, it can be concluded that the HOTS test product developed has good quality and is suitable for use or limited trials.

Keyword: *R & D, Immune System, HOTS*