ABSTRACT

Development Of Interactive Multimedia Modules Based Models Of Problem Based Learning To Improve Critical Thinking Skills In Uniform Circular Motion Learning Material

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Based on a needs analysis conducted in the define phase MIA5 Class X SMAN 1 Padang visible instructional materials used in learning is not in accordance with their interests, characteristics of learners and learning model that has not been directing the activity of the appropriate behavior early learners to improve thinking critical skill. For it is necessary to develop alternative modules that correspond to the demands of the curriculum in 2013 and the needs of learners in pembelajran physics, that is fun, exciting, interactive, improve and cultivate critical skill thinking. This study aims to produce interactive multimedia modules based on Problem Based Learning to improve thinking critical skill in uniform circular motion of matter are valid, practical and effective and can be applied at the same level on a wider scope.

Method of this study was research and development in Four-D Models consisting of four stages: (1) Define, (2) Design, (3) Develop and (4) Disseminate, Data obtained from the research to the test by the validator validation, test the practicalities of the learners and educators, and test the effectiveness of the learners, the tests carried out in class X MIA5 and disseminate in class X MIA1 SMAN 1 Padang.

The results of the study at this stage has been carried out two activities develop, the first Expert Apprisal namely interactivity multimedia module validation problem based learning model based on the material uniform circular motion by five experts have valid criteria, both practicality Development testing obtained by the response of teachers 0.92 and responses of learners at 0.86, with the category of practical as well as well as the effectiveness is obtained with $80 \leq N \leq 100$ category is very effective for improving thingking critical skills of learners. Way of thinking learners more focused and trained to use a seven-step syntax model of problem-based learning is clarify, define, analyze, review, identify learning object, self study, and report and synthesis so as to foster critical thinking skill learners in accordance five indicators of critical thinking skill namely Analysis, Evaluation, Inference, deductive reasoning, Inductive Reasoning.

ABSTRAK

Pengembangan Modul Multimedia Interaktif Berbasis Model *Problem Based Learning* untuk Meningkatkan *Critical Thinking Skill* pada Materi Gerak Melingkar Beraturan

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Berdasarkan Analisis kebutuhan pada tahap *define* yang dilaksanakan di kelas X MIA5 SMAN 1 Padang terlihat bahan ajar yang digunakan dalam pembelajaran belum sesuai dengan minat, karakteristik peserta didik dan model pembelajaran yang belum mengarahkan keaktifan sesuai tingkah laku awal peserta didik untuk meningkatkan *critical thinking skill.* Untuk itu perlu dikembangkan alternatif modul yang sesuai dengan tuntutan kurikulum 2013 dan kebutuhan peserta didik dalam pembelajran fisika, yaitu menyenangkan, menarik, interaktif, meningkatkan dan menumbuh kembangkan *critical thinking skill* . Penelitian ini bertujuan untuk menghasilkan modul multimedia interaktif berbasis *Problem Based Learning* untuk meningkatkan *critical thinking skill* pada materi gerak melingkar beraturan yang valid, praktis dan efektif dan dapat diterapkan pada level yang sama pada cakupan yang lebih luas.

Metode penelitian ini adalah *Research And Development* dengan *Four-D Models* yang terdiri dari 4 tahap yakni : (1) *Define*, (2) *Design*, (3) *Develop* dan (4) *Disseminate*. Data diperoleh dari hasil penelitian dengan uji validasi oleh validator, uji praktikalitas oleh peserta didik dan pendidik, dan uji efektivitas oleh peserta didik, uji coba dilakukan dikelas X MIA5 dan *disseminate* (penyebaran) dilakukan dikelas X MIA1 SMAN 1 Padang.

Hasil penelitian pada tahap *develop* telah dilakukan dua kegiatan, pertama *Expert Apprisal* yaitu validasi modul multimedia interakif berbasis model *problem based learning* pada materi gerak melingkar beraturan oleh 5 orang ahli telah memenuhi kriteria valid, kedua *Development testing* diperoleh kepraktisan dengan respon guru sebesar 0,92 dan respon peserta didik sebesar 0,86, dengan kategori praktis serta serta diperoleh efektifitas dengan nilai $80 \leq N \leq 100$ kategori sangat efektif untuk meningkatkan *critical thinking skill* peserta didik. Cara berfikir peserta didik lebih terarah dan terlatih dengan menggunakan tujuh langkah *sintaks* model *problem based learning* yaitu *clarify, define, analyse, review, identify learning object, self study,* dan *report and synthesis* sehingga dapat menumbuhkembangkan *critical thinking skill* peserta didik sesuai lima indikator *critical thingking skill* yaitu *Analysis, Evaluation, Inference, Deductive Reasoning, Inductive Reasoning.*