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Certificate of Participation Awarded to

JASLIN IKHSAN

For the Attendance of

**THE INTERNATIONAL POST GRADUATE CONFERENCE ON
SCIENCE AND MATHEMATICS 2013**

On

5-6th OCTOBER 2013

Venue

**CONVENTION HALL, E-LEARNING BUILDING
UNIVERSITI PENDIDIKAN SULTAN IDRIS**

Professor Dr. Mustaffa Ahmad

Dean

Faculty of Science and Mathematics

Universiti Pendidikan Sultan Idris





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SULTAN IDRIS EDUCATION UNIVERSITY

International Post Graduate Conference on Science and Mathematics 2013

Research in Science and Mathematics Catalyse Sustainable Future

IPCSM2013

Date : Saturday, October 5th, 2013
Venue : Convention Hall, E-Learning Building,
Universiti Pendidikan Sultan Idris
Organised by : Faculty of Science and Mathematics,
Universiti Pendidikan Sultan Idris

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Room 3 (Chemistry, Chemistry Education and Mathematic)

Session 1	
Chairperson: Dr. Adila Mohamad Jaafar	
Time	Presenter
10.15-10.30	OR-033: The Optimization Of Nicotine Capture By Using <i>Sansevieria</i> Leaf Active Carbon With The Variation Of Mass Apd Type Of Activator As An Effort To Reduce The Danger Level Of Smoke
10.30-10.45	OR-034: Isolation and characterization of protein from natural rubber latex concentrate factory effluent.
10.45-11.00	OR-035: Synthesis Of Carbon Nanotubes From Different Preparation Method Of Waste Chicken Fats
11.00-11.15	OR-036: Performance Of Unconfined Compressive Strength Of Stabilized/Solidified Sample Containing Heavy Metals From Incinerated Rubber Sludge Waste
11.15-11.30	OR-077: Waste management, practices and awareness in Vocational College welding workshop
11.30-11.45	OR-078: The Study Of Web-Based Collaborative Assistance Through Edmodo As A Hybrid Learning Model On Chemical Kinetic
11.45-12.00	OR-079: Development Of Five Phase Needham Constructivism Module For Electrochemistry Concept
12.00-12.15	OR-080: The Effect Of Using Jigsaw Puzzles In Writing The Formula Of Chemical Compound Among The Secondary School Students
12.15-12.30	OR-081: The Development Of Java 2 Micro Edition Based Mobile Chemistry Encyclopedia " <i>Chemistclopedia</i> " As Independent Learning Media For Senior High School Students
12.30-12.45	OR-082: The Development Of Mobile Game " <i>Scientist Academy</i> " As Chemistry Learning Media For Independent Experiments
Lunch	
Session 2	
Chairperson: Ms Nor Dalila Abd Rahman	
14.00-14.15	OR-083: The Development Of Java 2 Micro Edition Based <i>Chemistclopedia</i> Application On Chemical Elements For Senior High School Students
14.15-14.30	OR-084: The Development Of Java 2 Micro Edition Based Mobile Application <i>Chemistclopedia</i> On Hydrocarbon And Petroleum As Learning Media For Senior High School Students
14.30-14.45	OR-085: The Development And Response Of Teachers Toward Character-Based Mobile Game " <i>Robochem</i> " On The Reaction Rate Topic
14.45-15.00	OR-075: Strong Convergence Of An Algorithm About Quasi-Nonexpansive Mappings For The Split Common Fixed-Point Problem In Hilbert Space
15.00-15.15	OR-076: Modeling the Churning Tendency among Mortgage Customers using Data Mining Approach
15.15-15.30	OR-111: Synthesis And Characterization Of Ldh-Latex Stimulant Nanocomposite-Chitosan

OR-085

THE DEVELOPMENT AND RESPONSE OF TEACHERS TOWARD CHARACTER-BASED MOBILE GAME "ROBOCHEM" ON THE REACTION RATE TOPIC

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The aims of this research were to develop character-based mobile game "Robochem" on the reaction rate topic and to know the response of chemistry teachers to the integration of character education values into the game. The development of the game was in line with Borg and Gall Educational Research and Development model that was adapted become four main steps, which are preliminary research, planning, development, and field test. The development step was to produce dummy of media. The dummy product was reviewed by experts of multimedia and Chemistry contents, as well as peers. After all revisions, the product was finally reviewed by chemistry teachers. Instruments for reviews and responses were questionnaires. The result of this research was character-based mobile game "Robochem" on the reaction rate topic that can be applied on android mobile phone whose quality based on teachers' review was very good. The response of teachers to integration of character education values into the game was very positive, on which the ideal percentage of integration was 96.3%.

OR-086

ISU DAN CABAR

Universitas

Kejayaan dalam mewujudkan iklim yang kondusif bagi penyebaran novel dan berinovasi, langkah yang memainkan peranan penting peruntukan sumber daya mewujudkan iklim yang membincangkan isu-isu sekolah.

THE DEVELOPMENT AND RESPONSE OF TEACHERS TOWARD CHARACTER-BASED MOBILE GAME "ROBOCHEM" ON THE REACTION RATE TOPIC

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Abstract

The aims of this research were to develop character-based mobile game "Robochem" on the reaction rate topic and to know the response of chemistry teachers to the integration of character education values into the game. The development of the game was in line with Borg and Gall Educational Research and Development model that was adapted become four main steps, which are preliminary research, planning, development, and field test. The development step was to produce dummy of media. The dummy product was reviewed by experts of multimedia and Chemistry contents, as well as peers. After all revisions, the product was finally reviewed by chemistry teachers. Instruments for reviews and responses were questionnaires. The result of this research was character-based mobile game "Robochem" on the reaction rate topic that can be applied on android mobile phone whose quality based on teachers' review was very good. The response of teachers to integration of character education values into the game was very positive, on which the ideal percentage of integration was 96.3%.

Keywords: mobile game *Robochem*; reaction rate; character value education.

Introduction

Nowadays, not only technology that improve rapidly but educations also grow rapidly. The educational progress cannot be separated from the use of instructional media that increasingly varieties. So the students can get knowledge from variety of source. Learning media that have characteristic fun and attractive will make the students motivated to continue learning. The key is mobility and flexibility. Douglas Rushkoff (2006) says that the younger generation called "screenagers" because they so frequently interact with technology screens. Nowadays, people have wanted life in hand, everything can be done with one touch using mobile device in his hand.

One of application that always exists on the mobile device is game. Games will always be there in any kind of mobile devices as entertainment or necessity for the user. Games can be as entertainment if the game is to make people feel entertained, but the game can also be a necessity if the game is to make people addicted. The significant role of the games can be adapted to be a learning media. Besides that for now mobile device is not a luxury anymore and almost every student has this gadget. P. Lavín-Mera, J. Torrente, P. Moreno-Ger, and B. Fernández-Manjón (2009) say that in the past three years, mobile technologies have dramatically evolved, promoting the interest in m-Learning systems. This technological evolution comes along with a great reduction in the prices of the devices the cost of the connection services, making the purchase of a last generation cell-phone or PDA (Personal Digital Assistants) no longer an unaffordable luxury.

According Muh Tammim (2007) some 45-50 million people in Indonesia have been identified using mobile phone. The combination between mobile phones and games is often called as mobile game. Learning media that was compatible with most mobile devices such as Smartphone, feature phones, pocket PCs, personal digital assistants (PDA), tablet PCs and portable media players were mobile games (Cory Janssen, 2012). Priyanto H, Aldi D & Sulisty P (2011: 8) Sulisty said that humans has characteristic faster to learning everything by visually verbal so game was also good to get involved in the learning process like educational games.

But sometimes a game just loads science contents without giving character education value Even Education Law of 2003 of Indonsian Ministry of National Education, instructed to establish