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The 1st International Conference on Education Innovation (ICEI 2017) was held in the Whyndham Hotel in Surabaya, Indonesia, on October 14th, 2017.

Please click here for the conference website. *(Conference website no longer available.)*

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The 1st International Conference on Education Innovation (ICEI 2017) was held in the Whyndham Hotel in Surabaya, Indonesia, on October 14th, 2017. The success of this conference is supported by 321 presenters and 5 participants. It had many important issues about education discussions and exchanged most recent ideas that contributed to the success of the conference. This conference had qualified key speakers: Prof. Peter Charles Taylor, Ph.D., M.Ed., Bsc., DipEd. From Murdoch University, Australia, Prof. Dr. Muchlas Samani, M.Pd from Universitas Negeri Surabaya, Indonesia, Dr. Carlo Magno De La Salle Araneta University, Philippines, Dr. Bambang Sumintono from Universitas Malaya, Malaysia who had beneficial knowledge, especially about education. Participants and presenters from several countries made the

conference truly international in scope. Those key note speakers material strengthened the proceeding that were presented on the conference and provided much opportunity for education discussion.

All the qualified papers for the proceeding have been selected for the Atlantis proceedings. We encourage the organizers of the next ICEI to seek a higher level of participants and to have more participants and better material. Among the proceeding were several professor, lecturers, postdocs and students, who brought new perspectives to the education. Given the improvement of education knowledge and bridging the latest education information with contemporary best practice in teaching by ICEI, we expect that these future ICEI conferences will be as stimulating as this most recent one was, as indicated by the contributions presented in this proceedings volume.

The Education Faculty - Universitas Negeri Surabaya thanked and highly appreciated this trust, for all those who have helped organize this International Conference, We wish thank to invited speakers and participants for sharing and active contribution in the conference. We also greatly thank the organizing committee, the members of committees, reviewers and sponsors for supporting the conference. We also would like to express our gratitude the authors for contributing their research result to the conference.

Budi Purwoko
Chairman of Organizing Committee

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## The Existence of Schools as Professional Learning Community (PLC)

Ahmad Furqon, Aan Komariah, Djaman Satori, Asep Suryana

The main objective of this research was to depict school as professional learning community (PLC) as a way of continuous professional development (CPD). In this research, case study is used with 4 stages namely: (1) pre-field; (2) field work; (3) data analysis, and (4) evaluation and reporting. The findings...

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## The Implementation of Socialization, Externalization, Combination, and Internalization (SECI) Through EDMODO Application to Improve Student Group's Learning Outcomes

Agustian Prasetya, Kamang Taroreh

The purpose of this study is to implement SECI through ED-MODO in classroom learning as well as to improve student group's learning outcomes in terms of their cognitive, affective, and psychomotor domains. This study utilized an application program named EDMODO as an assisting media in the process of...

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## The Influence of Realistic Mathematics Education (RME) Approach on Students' Mathematical Representation Ability

Ahmad Fauzan, Edwin Musdi, Riri Yani

In this research, the researchers compared mathematical repre-sentation

ability between the students who were taught using Realistic Mathematics Education (RME) and those who were taught using conventional approach, according to their gender and learning styles. This quasi experimental research was carried...

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## The Development of Contextual Teaching and Learn-ing-Based Comic as a Learning Media for Elementary School Students

Ais Rosyida, Mr. Mustaji, Waspodo Subroto

The research aimed at developing and testing the validity, practi-cality, as well as the effectiveness of learning a learning media in the form of comic based on Contextual Teaching and Learning (CTL) on Social studies. Observation model and development model (R&D) of Borg and Gall used were the research....

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## The Use of Project-Based Learning Using Visual Art to Increase Students' Interest and Creativity

Ajin Prianji, Wahono Widodo, Tjandra Kirana

The aim of this study was to produce a valid, practical, and effective learning material for project-based learning using visual art to increase the elementary school students' interest and creativity. This research was conducted through three stages of 4-D model contrived by Thiagarajan et al. The results...

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# Factors Affecting Individual Resilience

Amien Wahyudi, Siti Partini

Resilience is a skill ability, knowledge, or insight that acts as an individual effort to overcome difficulties and to face future challenges. This study seeks to explain several factors that affect individual resilience. The method used in this study is literature study. Data were analyzed using descriptive...

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# The Development of Discovery Learning Model With SETs Approach For Science Learning in Junior High School

Ani Hidayati, Yatim Riyanto, Luthfiyah Nurlela

This study aimed at developing the discovery learning model with SETs approach for science learning. This research used research and development (R&D) design proposed by Borg and Gall's model that was modified into nine steps. The subjects of the try-out were the eighth-grade students in junior high...

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# Knowledge Transfer in Promoting Entrepreneurship

Anik Wahjuningsih, Mr. Supriyono, Umi Dayati

Vocational education aims to prepare students to get jobs. More-over, it should be able to demonstrate a set of working skills that are needed in working place and able to promote business. How-ever, job skills are most exposure in entrepreneurship ability. It can conclude that knowledge transfer in...

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# The Effectiveness of Bibliotherapy to Decrease Negative Thoughts Towards Children with Special Need

Ari Khusumadewi, Ericha Sholecha, Mr. Ifdil

The aim of this research is to test the effectiveness of bibliothera-py technique to decrease students' negative thoughts toward spe-cial need children. This research was conducted in an inclusion school where interactions between special need children and normal students are managed. One group pre-test...

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# Career maturity of guidance and counseling students at the Yogyakarta State University

Fathur Bahrinsyah

. The study aims to map the maturity of career guidance and counseling students which includes self-appraisal ability, work information, goal selection ability, planning ability, and skill in solving problems related to

career development tasks. In approach, it used the explorative-descriptive research...

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## Rasch Model Measurements as Tools in Assesment for Learning

Bambang Sumintono

Assessment for learning means to provide good information for teachers to help students learning better. Besides tools from the Classical Test Theory (CTT) approach that usually used by teacher, other approach which is called as objective measurement that based on probability is an alternative that can...

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## The Implementation of School Literacy Movement in Elementary School

Bambang Yulianto, Faridahtul Jannah, Ms. Nurhidayah, Prima Asteria

The Launching of School Literacy Movement (SLM) is intended to involve schools, academics, publishers, mass media, and the public in order to support the reading habituation of students. Data were taken in SD Laboratorium Unesa and SDN 21 Ampenan at West Nusa Tenggara. The research involves the im-plementation...

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## Anger Management in Adolescents Behind Romantic Breakup: Implementation of Solution-Focused Brief Therapy

Budi Purwoko, Fifi Fitriyah

Romantic relationship is a common phenomenon in adolescents. 112 of 263 adolescents aged 16-17 years old in this study had experienced in romantic relationship, 30 of them were breakup. This romantic breakup was positively correlated with anger (? = 0.64). The study aims to test the anger management...

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## Educational Technologist Competencies At School

Mr. Budiyono, Mr. Haryono, Yuli Utanto, Edi Subkhan

Education is the answer to the changes and development of sciences and technologies. This research was conducted to strengthen and accelerate the effort to improve the education quality at school level. This research analyzed the need of educational technologist competencies to develop the applied model...

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# The Ability of Math Teachers to Develop Higher-Order Thinking Tasks

Mr. Burhanuddin, Mr. Sugiman

This study aims to describe the ability of junior high school math teachers to develop higher-order thinking tasks in Kutai Timur district. The kind of research was a survey with documentation method. A number of respondents were 34 math teachers of jun-ior high school which certified in Kutai Timur...

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# Individual Student Planning: A Comparison Between United States and Indonesia

Caraka Bhakti, Agus Kumara, Budi Astuti, Mr. Suwarjo

This article presents a comparison of individual student planning between United States and Indonesia, providing history and de-velopment of individual student planning, issues and trends of individual student planning, individual student planning strate-gies, and the implementation of individual student...

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# Teaching Self-Regulated Learning in Classrooms

Carlo Magno, Dave Cayado

The purpose of this paper is to look at various ways on how self-regulation is conducted in schools in order to promote better aca-demic performance

among learners. Different studies were re-viewed where self-regulation was implemented as an instructional intervention with different measures of performance....

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## Inquiry / Discovery-Based Instruction to Improve Critical Thinking Skills and Mastery of Physics Concepts

Choirul Huda, Sudi Aji, Muhammad Hudha, Mr. Wartono, F. Gamat

Inquiry/discovery-based instruction is a teaching model that en-ables students actively and independently discover and acquire their knowledge. The role of the teacher is only as a facilitator that guides them to discover and solve the problems they encounter. Using one group pretest and postest design,...

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## Enhancing concentration through Dayak's beaded crafts

D.N. Rahayu, P.A. Putri, L. Puji

The purpose of this study is to find out the concentration enhancement of Elementary Students after they were given the Dayak's beaded craft beading training. The design of the study is quantitative by experimental approach. The sample of this research was 30 elementary students of SD 001 Samarinda Ilir....

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## Problem based learning model assisted edmodo

Dana Setyowati, Mr. Nasution, Ismet Basuki

The purpose of this study is to improve the competence of learners' knowledge in social studies by applying problem-based learning model that assisted Edmodo on web-based learning. This research used a quantitative experimental research with pre-test group design and post-test control. The sample group...

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## The Influence of Cooperative Learning Model of Think Pair Square with Problem Posing Task on Students' Mathematics Learning Outcome

Mr. Darsono

This study aims to look into the influence of coperative learning model of think pair share (TPS) with problem-posing task on students' learning outcomes as well as analyze the students' responses toward the learning model and the effectiveness of the learning model after the treatment on the topic of...

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## Guidance and Counseling of Capital Social-Based Entrepreneurial Training of Package C Program

Dayat Hidayat

The study analyzes entrepreneurial guidance and counseling and capital social-based entrepreneurial training of a package C program. This study used literature analysis method by doing acomparative study of various sources and conducted in-depth analysis to find a conclusion that could be justified scientifically....

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## Cinema Therapy to Improve The Counselor?s Understanding about Dealing with Feeling Skills for Students

Denok Setiawati, Evi Winingsih

The research has the purpose to know the utilization of cinema therapy to improve the counselor's understanding about dealing with feeling skills for students. The skills consist of how to know, understand and express the feeling in the right situation. The kind of this research is qualitative research....

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## The Impact of Self-Regulated Learning to Wards on The Ability to Understand A Concept of Pratical Chemical Engineering Operation

Dwi Lestariningsih, Lutfiyah Nurlaela, Andi Mariono

The purpose of this research is to reveal the impact of self-regulated learning on the result of a learning, especially the ability to understand the concept of practical chemical engineering oper-ation. Self-regulated learning is an ability that can be measured through the level of participation, it...

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## Career guidance for self-knowledge and occupation knowledge of cerebral palsy students in Special Senior High School

Endang Sartinah

This research aims to examine the effectiveness of career guidance service product for self-knowledge and occupation knowledge through the advisability and accuracy test. This research use Borg & Gall research and development procedure, with the used of two-cycle steps, including (1) main field test...

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## Leadership attitude through the acts of planning in the management and development of Inclusive School

Endang Purbaningrum

This research was aimed at revealing the leadership attitude through the acts of planning which grown by each school member in an inclusive school. This

research used a qualitative approach within a case study design. The data collection techniques used in this research were interviews and observations....

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## The effect of music Mnemonic and Flash Cards to increase fourth grade students' english vocabulary acquisition

Eunike Winoto, Sugoto Sugoto, Ananta Yudiarso

The purpose of this quasi-experimental study was to examine the effect of music mnemonic and flash cards in enhancing grade 4 students' English vocabulary acquisition. The participants were 30 students, aged 9-11 years old, who had low capability in second language (English) vocabulary acquisition. The...

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## The Development of Learning Tools Based on SETS with Interactive Multimedia to Improve Science Learning Outcomes

Fajar Setiawan, Mr. Mustaji, Wahono Widodo

The purpose of this research is to produce a learning tool based on SETS with interactive multimedia to improve science learning outcomes. Feasibility is seen from the results of validation, practicality, and effectiveness. This research uses Dick and Carey model with Pretest-Posttest One Group Design....

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## Youth narcissistic and aggression: A challenge for guidance and counseling service in University

Fifi Fitriyah, Budi Purwoko

University student is the next generation of nation that must have a good character, so must be avoided from narcissistic and aggression. The purpose of this study was to explore the phenomenon and to test the relations. Amazing results about the profile of Indonesian students about narcissistic. A study...

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## Problem based learning model assisted edmodo

Fitriana Sari, Mr. Supana, Sarwiji Suwandi

This qualitative descriptive research aimed to (1) describe the content of character education value viewed from the philosophical meaning of Javanese script, (2) improve the character of students through Javanese script. Semiotic system approach of Pierce was used to analyze the objects of research...

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## The Development of Cognitive Behavior Therapy Guidebook to Improve Self-efficacy of People with HIV/AIDS

Najlatun Naqiyah, Bambang Wiyono, Citra Kholidya

The purpose of this research is to produce Cognitive Behavior Therapy (CBT) guidebook for people with HIV/AIDS (PWHA) that fulfill the criteria of acceptability, i.e. utility, accuracy, and feasibility aspects. This research uses Borg & Gall development model. The data collection instrument used in this...

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## The use of primary documents on literature history in primary scholl

Ganes Gunansyah, Nanda Novayanti

This study aims to determine the effect of the use of primary documents against the literacy of the students of 5th grade Al-Azhar Mojokerto Islamic Plus Primary School. This research uses Quasi Experimental Design research design in the form of Non-equivalent Control Group Design with instrument test....

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## Organizational justice analysis on employees satisfaction and performance in Faculty of education Universitas Negeri Surabaya

Gunarti Lestari

Influencing is the core of educational leadership. The ability to influence people is a necessary 'strength' and 'way', so onehas the power and creative in creating a way to move towards achieving goals. The justice of the institution to its each employee has an effect on the job satisfaction and performance...

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## The effect of virtual labs toward students' understanding of physics based on gender

Gunawan, Nina Nisrina, Ni Made Suranti, Ria Ekasari, L. Herayanti

The concept of physics consists of concrete and abstract concepts. Students should be able to master the concept of physics as well as to be able to solve problems in physics. Students' concept mastery can be improved with technology-based learning. The study was conducted at three different high schools....

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## The profile of adolescent' moral intelligence and practical solution to its improvement efforts

Hardi Prasetiawan, Muya Barida

High moral quality is needed by adolescent to be success in their personal and educational life. Those who have high morale quality can be considered as morally intelligent Individuals. This study is aimed to collect information about adolescents' moral intelligent by using moral intelligence Instrument...

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## The development of computer-based career guidance application program for senior high school students

Mr. Hartono, Boy Soedarmadji

The purpose of this research is to find a solution to the problem of senior high school students, by developing an application program of computer-based career guidance as a tool to increase the intensity of senior high school students' self-knowledge, career-knowledge, and independence in career choice,...

**Proceedings Article**

## Ethnopuitics of puppetry "javanese suluk" as language and art learning material

Heru Subrata, Setya Yuwana, Udjang Pairin

Puppetry or puppet artwork is original art that has great value as a cultural heritage of Indonesia. Works of art of puppetry or puppet has a variety of styles (gagrag), including the style of Surakarta, Yogyakarta style, and the style of Jawatimuran. To distinguish between the styles (gagrag) with each...

**Proceedings Article**

## Primary Literacy Program: Integrating Reading and Writing in The Classroom

Ida Dewi, Ni Nyoman Padmadewi, Luh Artini

This study aims at describing literacy program which integrates reading and writing in English for young learner classes in North Bali Bilingual Schools. The study follows a descriptive qualitative design, involving 4 teachers, school principal and 56 students of grade 4, 5, and 6. The data are collected...

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## Normalization strategy as the concept of power in the dutch-indies literature: michel foucault critical discourse analysis perspective

Ida Sukowati

The background of this research problem is an attempt to prove that literature as collective consciousness product, in this case the Indies Literature, is not an isolated production form, but always influenced by certain power, social and economic system, so it is a discourse that can be used as a tool...

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## Analysis The Development of Gross Motor and Emotional-Social Skills in Terms of Characteristics of Parents in Kindergarten Children

Jannatul Ma'wa

This study aims to analyze the development of gross motor and emotional social in terms of characteristics of parents that are democratic, authoritarian, and permissive. This research uses descriptive research with a qualitative approach. The research instrument used is observation sheet and an interview...

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## The Implementation of Physical Fitness Learning Module in Kindergarten

Kartika Adhe, Muchammad Ardha, Chang-Bin Yang, Fifukha Khory, Totok Harianto, Kukuh Putra

The Physical education in early childhood could provide more chances for student to develop their physical ability and motoric development by a variety of physical exercise. This research aims to develop an ideal lesson plan of physical education which is suitable and worthwhile for early childhood student...

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## The Effect of Paikem Learning Model within Direct Instruction and Cooperative Learning Setting towards 9th Graders Learning Mastery

Khusniatus Shobikhah

One of primary reasons of learning in the curriculum 2013 is based on strategy which is principled on PAIKEM learning. This study aimed at knowing

students' learning mastery and students' response. Type of this research is Classroom Action Research that consists of 2 cycles with formative test and questionnaire...

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## Applying Online Media for High School Students

Khusnul Khotimah, Ms. Sulistiowati

This study aims to develop an online learning media on nutrition and reproduction material, and to determine the effectiveness of the media. The method was based on Research and Development model by Plomp (1997) through five stages: investigation, design, realization, evaluation and implementation. The...

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## Exploring The Use of Literacy Strategies in Junior High School Level

Kisyani Laksono, Pratiwi Retnaningdyah

The 2013 Indonesian curriculum requires that literacy be incorporated into teaching learning process. This paper aims to (1) identify literacy strategies that have and not have been planned in learning steps; (2) identify literacy strategies that were used in teaching practice sessions. The data were...

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## The Essential Principles of Practice-Based Learning

Mr. Kustori, Mr. Rusijono, Andi Mariono

Vocational education faces a number of challenges, in which one of the biggest issues is skills mismatch. Skills mismatch occurs when workers have either fewer or more skills than jobs require. Some mismatch is inevitable, as the labor market involves complex decisions of employers and workers, and depends...

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## Comparison Between Predicted and Actual Readabilities of EFL Texts

Ms. Kusumarasdyati

The present study attempted to compare the predicted readability computed using formulas and the actual readability expressed by the readers. Forty six students of English Department Unesa ranked five English texts from the hardest to the easiest, then Spearman r was employed to correlate the ranks from...

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## Investigation of Linear Momentum and Impulse Using Video Analysis

Liya Kholida, Fourier Latief

This study aims to present the use of Tracker software as a pedagogical tool for conducting experiments by means of video-based analysis for three different type of collisions using air track apparatus. Video-based analysis has the possibility to provide a better way of visualizing the motion for a direct...

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## Character Education Practices at a Piloted Primary School

Luh Indrayani, Luh Artini, Ketut Seken

Some theories in psychology explain the importance of shaping character since early and primary schools as they are the first formal education to cultivate positive values through hands-on activities. This study aimed at analyzing character education practices at a piloted primary school in Bali. This...

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## Collaboration in EFL Classes: Listening to Teachers' and Students' Voices

Luh Artini, Ni Nyoman Padmadewi

The 21st century learning is characterized by the 4Cs: Collabora-tion, Creativity, Critical Thinking, and Communication. Peda-gogical practices, therefore, should accommodate interactions and active thinking among students. Putting students into groups is one strategy that can be expected to encourage...

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## The Effectiveness of REBIT to Reduce Academic Cheating On Elementary School

Mr. Machmudah, Nanang Saleh

The purpose of this study is to know the effectiveness of Rational Emotive Behavior Intervention in reducing academic cheating behavior on elementary school students in Mardisiwi Surabaya. The subjects of this study were twelve students aged 10-12 years who had medium to high grade cheating behavior....

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## Ethics and "Pembelajaran Matematika Realistik Indonesia" (PMRI): a Critical Reflection on Mathematics Instruction Practice

Mangaratua Simanjorang, S. Gultom, B. Sinaga

The emphasize on character education in Indonesian national education policy includes the concern of ethical value. As part of the national education system, mathematics education should also have a concern on ethical values. However, many experts believe that mathematics is free value and has nothing...

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## Local Wisdom of Samin Community: Core Values to Building Character

Maria Roesminingsih, Rivo Nugroho

The phenomenon happens more and more and it affects people's behavior which resulted to been being far from the roots of the tradition and local wisdom. It certainly raises the concerns about the erosion of values of national character, such as a culture of mutual cooperation. The Samin community in...

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## Students Motivation and Achievement Whose Parents Work as Indonesian Migrant Workers

Marina Filayanti, Mr. Rusijono, Mr. Nasution

This study was conducted to describe motivation and achievement of elementary school students whose parents work as Indonesian migrant worker. This is qualitative research in the form of case study. This method requires in-depth situation. The respondents were 24 students. Data were analyzed by process...

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## Keraton Ngayogyakarta Hadiningrat: Learning Mathematics Based on Ethnomathematics

Maulida Yulianti, Ilania Andari, Dwi Nurhayati

This research aims to explore mathematics and make the steps of learning mathematics that exist in some objects in the Keraton Ngayogyakarta Hadiningrat (Yogyakartan Palace). Some objects had been analyzed based on Realistic Mathematics Education scheme and the learning stage was made with scientific...

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## How to Improve Lecturers' OCBs?

Meiske Claudia, Siti Sulasmi, Dwi Ratmawati

This research aaimed to obtain empirical findings of the influence of perceived organizational support (POS) and workplace spirituality on lecturers' job satisfaction, organizational commitment, and organizational

citizenship behaviors (OCBs). The population of this study consisted of all permanent lecturers...

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## The Great Mosque of Sumenep as Character Education Material in Art and Culture Lesson

Miftah Rohman

Character education becomes the solution to decrease moral damages which increasingly rises nowadays. It is characterized by the number of brawl, corruption, promiscuity, and others. Character education can be applied in various subject areas, including art and culture lessons. It can be inserted through...

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## The Influence of Athlete Students' Psychological Capital on Track and Field Performance

Miftakhul Jannah, Edy Mintarto, Mr. Nurhasan, Rachman Widohardhono

This study aims to know the correlation between students' psychological capital on track and field performance. The subjects of this study were 18 athletes who still studied in Senior High School in East Java. The adapted Psychological Capital Questionnaire for sport was constructed by Luthans, et al....

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## Learning Design to Integrate Scientific Character Values with Green Chemistry Insight in Basic Chemistry Course

Mr. Mitarlis, Utiya Azizah, Bertha Yonata

It has been done a curriculum analysis in the form of research development to find out learning materials on Basic Chemistry course with green chemistry insight in order to realize green education. This is research and development study. This article presents the results of research at the preliminary...

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## Physical Education Curriculum for Early Childhood: Developing Students' Manipulative Skills in Soccer

Muchamad Muchamad Arif Al Ardha, Chang Chang-Bin Yang, Kartika Adhe, Kukuh Putra, Fifukha Khory, Totok Harianto

Introducing soccer for early childhood students is very beneficial, because they are in the range of golden ages in learning development. This research aims to find the proper strategy to help students get the benefit on learning passing, dribbling and shooting in soccer. By a quasi-experimental study,...

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## Developing Character Education Based on Local Wisdom

Muchlas Samani, Mr. Daryono, D. Ratnadewi

The aim of this research was to develop character education model based on common values of local wisdom. The research applied a modified development research with four stages: survey to find common value in local wisdom, develop character education model, model internal validation and external validation....

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## The Influence of Hug Therapy on Children's Emotional Intelligence Improvement

Muhammad Adriyansyah, Diah Rahayu

The development of technology and the internet has negative impacts on the development of children's emotional intelligence. Hug therapy is one of the way which provides safety for children both physically and psychologically. The purpose of this study is to determine the effect of hug therapy on improving...

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## The Analysis of Instructional Mistake in Formulating Indicator of Attainment Competence on Civic Education in Elementary School

Mr. Mujtahidin

The aim of this study is to analyze the instructional mistakes in elaborating the basic competence (BC) into the indicator of attainment competence in arranging a lesson plan for Civic Education in Elementary School. This study employs descriptive qualitative research. The result shows that the teacher...

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## The Effectiveness of Reality Therapy for Decreasing Self-Motivation Problems of Lower Group Students

Mr. Mulawarman, Mr. Sunawan, Zakki Amin

The purpose this study is to investigate the effect of reality therapy on self-motivation problems. The design of this research is mix-methods. Two vocational high school students have involved the experiment based on the initial identification of the selection with purposive sampling techniques. Data...

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## The Effect of Organizational Culture and Job Satisfaction on Teacher Organizational Comitment of State Junior High School in Tebing Tinggi

Mr. Nasrun, Dody Ambaritab

This study aims to find out: (1) the direct effect of organizational culture on job satisfaction; (2) the direct and indirect effect of organizational culture on teacher organizational commitment; and (3) the direct effect of job satisfaction on teacher organizational commitment. The population in this...

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## Techniques for Building Character and Literacy for 21st Century Education

Ni Nyoman Padmadewi, Luh Artini, Putu Putu Kerti Nitiasih

The purpose of this paper is to describe and analyze techniques of building character and literacy needed for 21 century at school. The research was conducted at North Bali Bilingual School in Bali, involving 5 teachers, the school principal, and 56 students from Grade 4, 5, and 6. The data were collected...

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## The Effectiveness of Natural Science Learning Based on Contextual Teaching and Learning in Improving The Critical Thinking Skills of Elementary School Students

Nunuk Hariyati, Mr. Tarma

This study aims to measure the contribution of information literacy, emotional regulation and self-directed learning on the behavior of procrastination. Research conducted in December 2016 at the Faculty of Engineering, the State University of Jakarta with 341 respondents from various departments. The...

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## Problem Solving Model with Integration Pattern: Student's Problem Solving Capability

Mr. Nurdyansyah, Siti Masitoh, Bachtiar Bachri

This study aims to create a new model of learning model that is integrated into the value of Islam and science, especially in the subjects of mathematics. The results of research conducted by researchers at MINU Pucang Sidoarjo obtained data that 1) learning math materials taught only based on transfer...

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## Management and Supervision Competences of State Elementary School Principals

Nurhizrah Gistituati, Hijriyantomi Suyuthie

This research investigated the level of management and supervision competencies of State Elementary School Principals at East Padang, West Sumatera regarded from teachers' and principals' responses. This study is quantitative descriptive with total population of 291 teachers and principals of 34 State...

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## Self-Regulation of Emotion as an Alternative to Reduce Student's Aggressiveness

Mr. Purwadi, Said Said Alhadi

This study aims to provide an overview of self-regulation of emotion that can be used as an alternative solution to reduce the aggressive behavior of students. The design of this study is the study of literature with the type of descriptive qualitative research. The analysis is done descriptively by...

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## Numeric toys media: introducing number sense in early childhood with movement and multisensory cards

Ruqoyyah Fitri, Mr. Mustaji, Bachtiar Bachri

The poor introduction of the concept of numbers in early childhood caused the number sense teaching to use too many worksheets. This study aims to introduce the effectiveness of numeric toys media in introducing number sense to improve the understanding of the concept of numbers in early childhood as...

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## Early childhood and kindergarten teachers competences: gap between text and context

Rezka Rahma

the aims of this research are to describe and analyze: (1) Basic training program implementation for Early Childhood and Kindergarten teachers and (2) Early Childhood and Kindergarten teacher's competences before and after

the training program implementation. This research uses a quantitative approach...

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## Make and match method supported by picture media to improve students' learning activity

Ris Setyawati, Wahyu Sukartiningsih, Waspodo Subroto

This research aims to describe the increase of students' activity through the application of make and match method supported by picture media. This research is a Classroom Action Research with descriptive quantitative approach. Observation and documentation were used in collecting the data. The data...

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## Developing reflective picture storybook media to improve students' tolerance in elementary schools

Rohmatul Ummah, A. Mustadi

This this study aims to produce reflective picture storybook media and determine the effectiveness of the media to increase students' tolerance. This study was a developmental study based on 10 major steps developed by Borg & Gall. The subject of the study was the fifth grade students' of elementary...

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## The analysis of validity and reliability of self-regulated learning scale

Said Alhadi, Wahyu Saputra, Agus Supriyanto

Self-regulated learning is one of the ability of individuals to manage themselves, especially in learning. Therefore, it is necessary to develop self-regulated learning scale that can measure the level of self-regulated learning of students. The self-regulated learning scale before being used needs to...

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## The implementation of home reading program to improve receptive andexpressive language of early childhood

Ms. Sakinah, Siti Masitoh, Rachma Hasibuan

Home reading program is a program to bridge informal and formal education institutions (in cooperation with parents). Therefore, the two institutions can synergize in developing aspects of children's development. The purposes of this research were to describe: planning, implementation, parental view,...

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## How CPS version 2.2 can improve students' activity and achievement in integrated learning towards the second grade students of primary school

Sevita Handaryati, Wahyu Sukartiningsih, Waspodo Subroto

This study aims to improve student activity and knowledge-skill achievement in integrated learning. This is a classroom action research which applied CPS Version 2.2 to solve social problems related to students' behavior on clean and healthy life. Data collection used documentation, observation, and...

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## Understanding how teacher perceived teaching professionalism

Siti Siti Ina, Riza Khoirunnisa

This research aims to obtain a quantitative description of teacher's perception on the meaning of teaching profession. The data were collected using a questionnaire given to 22 randomly selected subjects of primary schools in Sidoarjo, Indonesia. This research employed descriptive statistical analysis...

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## Obstacles Level of Learning Javanese Speech: A Phenomenology Study in Elementary School

Siti Wahyuni, Slamet Subiyantoro, Siti Fadhilah

This research explored the obstacles in learning Javanese speech acts. It was conducted in elementary school in Sragen. It used a qualitative approach. Data collection techniques used are observation, interviews with teachers and learners and documents analysis. Data validity is triangulation and data...

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## Social interaction service model of autistic children for kindergarten teacher

Sri Andajani

This research aims to examine the feasibility of social interaction service model. Educational Research Development (R&D) model from Borg & Gall is applied in this study in which five cycle steps were applied, which are: 1) search and collect the information, 2) plan, 3) development format of first product,...

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## Logical thinking ability and expressive language in early childhood learners

Sri Rahayu, Mr. Mustaji, Bachri Bachtiar

The purposes of this research were to produce a magic box of expressions as a feasible and effective medium in enhancing the ability to think logically and to use expressive language in early childhood. The research used Dick and Carey instructional model. The feasibility was tested using a percentage...

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## Problem-based learning in static fluid topic of physics module

Sudi Aji, Muhammad Hudha, Choirul Huda, Qorirotul Aini

This research was intended to develop a physics module based on problem-based learning in static fluid topic to improve eleventh grade students' critical thinking skills. This study was Research and Development (R&D) based on Brog and Gall. The instrument of this research is in the form of quality assessment...

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## The Management of Students with Special Needs in Inclusive School

Mr. Sujarwanto, Yatim Riyanto, Muhammad Ashar

The objectives of this research were to know the implementation of student management in inclusive school, and to know the supporting and inhibiting

factors in its implementation. This research used a qualitative approach, with descriptive type of research. The data were collected through observation,...

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## The effect of textbooks on learning outcome viewed from different learning motivation

Sukma Prasetya

This research aims to 1) examine the effect of the application of a textbook towards learning outcome, 2) examine the effect of learning motivation towards learning outcome, and 3) examine the interaction of textbooks and learning motivation towards learning outcome. This research is quasi-experimental...

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## A Profile of Student's Scheme Activation based on Theory of Constructive Operators in Problem Solving Reviewed from The High Mathematics Ability

Mr. Suroso

The purpose of this study is to get a profile of student's scheme activation based on Theory of Constructive Operators (TCO) in solving a mathematical problem of students with high mathematics ability. The descriptive-explorative method with the qualitative approach is used in this study. The subject...

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## Project Based Learning by Utilizing Used Material to Improve Students' Creativity in Primary School

Ms. Suryanti, G. Paramitha

Creativity is important in the 21st century and the ASEAN economic community era. Used materials are infrequently used, especially as a learning media. This research aims to investigate the effect of used materials usage on Project Based Learning towards students' creativity. This research is experimental...

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## Literacy Culture to Support Eco-School Program

Syunu Trihantoyo, Patrisia Windawati

The purpose of this study was to analyze the implementation and aspects that support students' literacy culture in the implementation of eco-school programs of a particular school in Surabaya. Also, the analysis present how the school overcome the inhibiting cultural factors of students' literacy in...

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## Implementation of Cooperative Learning Inside-Outside Circle Model to Improve Elementary School Students' Motivation and Learning Outcome

Tika Hartini, Mr. Rusijono, Mr. Nasution

The aim of this research was to improve the fifth-grade students' motivation and learning outcomes on communication skills and cognitive aspect in SDN Ngagelrejo II Surabaya. This research used Classroom Action Research (CAR) and applied inside-outside circle which is one of cooperative learning models....

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## Introducing Values of Local Cultural Through Batik Motifs as The Identity of Surabaya City

Tirta Negara

The recognition of UNESCO towards batik as Indonesia's cultural heritage makes batik industries grow rapidly. Batik is currently used by the local government as a political media in introducing excellence and as an image of the region through the visual display of a particular icon that it symbolized....

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## Early Clinical Exposure Based Group Counseling Practice Model to Increase Counselor Candidate Competence In Group Counseling Services

Tri Sutanti, Irvan Handaka, Mr. Suwarjo, Budi Astuti

This study aims to examine various literatures on early clinical exposure method to improve the competence of counselor candidate in providing group counseling service. The method used is by literature study. The results showed that practical model of group counseling based on early clinical exposure...

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## The Influence of Pop-Up Book to The Student's Outcomes in Learning Ecosystem

Ulhaq Zuhdi, Elis Wati

This research aims to describe the effect of Pop-Up Book media, the implementation of Pop-Up Book media and the response of students in the use Pop-Up Book media in the fifth grade in SDN Karangpilang 1 Surabaya. It uses a quasi-experimental research by nonequivalent control group design. There is a...

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## The Relationships between Vocational High School Teachers' Organizational Climate and Innovative Behavior

Umi Izzati

This study aims to determine the relationship between organizational climate and innovative behavior of vocational school teachers. This research uses

quantitative approach with total population of 70 vocational school teachers. Data collection uses an organizational climate scale and innovative behavior...

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## Distance Education Program: Using Video Streaming to Improve Teachers' Competence

Utari Dewi, Mr. Rusijono, Fajar Arianto

This is a qualitative research which describes the implementation of distance education programs for teachers in East Java region by using video streaming, not having to meet teachers in the formal classroom environment such as traditional learning patterns. To collect data, the authors used observation...

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## Individual Counseling Program of Islamic Vocational High School in Indonesia

Wahyu Saputra, Mr. Syamsudin, P. Rohmadheny

This study is an evaluation research using discrepancy model, which aims to describe the discrepancy of level in the aspects of planning, implementation and evaluation in implementing individual counseling programs in schools with defined standards and criteria. This research uses mixed method design...

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## Inclusive Learning Management in Elementary Schools

Wahyu Nugroho, Mr. Murtadlo, Mr. Mudjito

This study aims to describe and analyze inclusive learning management with indicators, learning plan, learning organization, learning implementation, learning assessment, and compensatory services. This research uses the qualitative method with multicast type. The technique of data collection and validity...

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## Social Studies Education in Indonesia

Mr. Warsono

In Indonesia, social studies education is inseparable from the establishment of state and nation which is not only to get freedom from colonialism and to proclaim independence, but also to get the citizen be aware of living peacefully together. The awareness as a citizen in a nation needs to be built...

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## T-Mobile Learning Android Model-Based to Improve Students' Listening Capability

Wawan Setyawan, Mr. Rusijono, Miftakhul Jannah

The study was conducted to develop the students' listening capability by using t-mobile learning android model- based. It provides suggestions about how to perform an appropriate model based on android application. The subjects were 60 students who have undertaken the listening program in 2016 until...

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## The Role of Informal Education in Preserving the Culture

Mr. Widodo, A. Putra

The focus of this research is how the pattern of informal educa-tion on family education preserves the art of Karawitan. This study used a case study approach done through several following stages; data collection, data reduction, data presentation and ver-ification, and data conclusion. Meanwhile, to...

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## The Involvement of Informal Sector Society in English habit at Kampung Inggris Pare Kediri

Wiwin Yulianingsih, Mr. Supriyono Supriyon, Achmad Rasyad, Umi Dayati

This research was aimed to describe and analyze the workers' participation in the informal sector in the habituation for learning English at the Kampung Inggris, Pare Kediri. The research approach is a qualitative–descriptive

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## Lifelong Learning as a Response toward Learning Society

Wiwin Yulianingsih, I Ketut Artha, Sjafiatul Mardliyah

The importance of lifelong learning is in accordance with human life in fulfilling the learning needs and the education needs. The existence of lifelong learning is caused by the appearance of learning needs that keeps growing along with human life. People get an education through several methods. Firstly,...

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## Examined The Social Competence: A Case Study on Parenting and Emotional Development in Children

Wulan Saroinsong, Nurhenti Simatupang

This study aimed to analyze the effect of parenting and socio-emotional development to social skill in early childhood in B group at Restu I Malang kindergarten. The data was collected through questionnaires and checklists. This study used a quantitative method with multiple regression and compare mean...

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# Learning Design to Integrate Scientific Character Values with Green Chemistry Insight in Basic Chemistry Course

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*Abstract*—**It has been done a curriculum analysis in the form of research development to find out learning materials on Basic Chemistry course with green chemistry insight in order to realize green education. This is research and development study.  This article presents the results of research at the preliminary study stage supported by references study. The results of mapping on learning materials in the Basic Chemistry courses that can lead the scientific character values with green chemistry insight, are; first, in an introduction;  scientific method, the nature of matter, elements, compounds, and mixtures. Second, learning activities formulation integrates green chemistry principles in each learning material. Students learning experience can be discussion, question and answer, practice questions, create concept maps, laboratory activity, and create project tasks.  Model, strategy, or method of learning that can integrate scientific character values on basic chemistry course such as discussion, cooperative, and project-based learning.**

*Keywords*—*learning; green chemistry; environmental; curriculum*

## I.    INTRODUCTION

Environmental issues have become one of the most important and most noticed issues in recent years. The word "green" has become a new trend in human daily life. Every element of society begins to realize that the Earth is not in good condition, and must take action to save our Earth together. Green chemistry is a philosophy or concept that encourages the design of a product or process which reduces or eliminates the use and form of harmful substances [5]. The principles of green chemistry can be adapted for application in human attitudes and actions in an effort to save the environment that can be realized through green education. This research has begun with chemical research on Green Chemistry, and students' understanding of character values [6].

Environmental aspects also become one of the basic references in every development process. College is a place where people are educated and matured in order to provide solutions in nation's problems. The level of progress of a country can be seen from the quality of college. Therefore, it should be a university to spearhead the forefront in solving a nation's problems, including environmental problems.

The learning that related to environmental issues actually can be integrated in each course. Green chemistry is also called sustainable chemistry, a chemical philosophy that encourages the design of products and processes to reduce or eliminate the use and creation of hazardous chemicals [5]. The Green Education Foundation (GEF) with the motto 'creates future sustainability through education', has ongoing programs [8]. In formal education, continuing education can be embedded in compulsory courses. From the investigation with systematic review method of several related research articles on how sustainable education approaches have been developed, the taxonomy is derived that: 1) the integration of continuing education can be broadly crossed with curricula, courses, or institutions. 2) through compulsory subjects, 3)  the study material component of a compulsory subject, and 4) the chosen subjects [2].

Green chemistry has 12 elements that can be adapted for application in human attitudes and actions in order to save the environment [12]. Caring on environmental action can be done early by implementing in the field of education at all levels that can be realized through green education. Mitarlis (2015) conducted a research on analysis of scientific character values with green chemistry insight in order to realize green education through Basic Chemistry course got some character value that can be implemented in learning. They are: 1) common character values that can be raised in Basic Chemistry lectures include: honest, disciplined, thorough, meticulous, careful, hard work, responsibility, analytical thinking, critical thinking, creative, and caring environment. 2) The identification of the principle of green chemistry as the basis of character value with green chemistry in order to realize green education found 7 principles, such as: waste prevention, use renewable feedstock, atom economy, energy efficiency, design for degradation, real-time analysis for pollution prevention and inherently chemistry safer for accident prevention. 3) Obtained value of green chemistry science of the mapping results include: honesty, meticulous curiosity, care about the environment (smart water, smart energy, smart mobility, smart rubbish), efficient and creative (utilization of natural materials for the benefit of human and learning Chemistry), and others [6]. The findings

are will give great benefit if they can be implemented in subsequent learning.

This article discusses the results of research on curriculum analysis in research development of Basic Chemistry learning with green chemistry insight in order to realize green education. Basic Chemistry curriculum is formulated in the Semester Lesson Plan that is applied in Chemistry Department at Surabaya State University. Research and development is done to describe learning materials feasibility of Basic Chemistry course which was developed by green chemistry insight. This article is aimed to: 1) map the study materials in the Basic Chemistry 1 course which can lead to the scientific character with green chemistry insight; 2) formulate learning activities that can integrate green chemistry principles in every study material. 3) determine the model or strategy, learning method that can cover the green chemistry insight in basic chemistry course.

## II. METHOD

The type of this research is a development research, which uses (R & D) development methods proposed by Dick and Carey [9].

Overall, there are 6 stages the development stages. They are: preliminary study, reference study, material development, expert evaluation, empirical evaluation and final product. In principle, this method consists of three stages, namely: preliminary study stage supported by reference studies, development phase, and evaluation phase by expert evaluation.

This article presents the results of the research obtained only two stages; the preliminary study and reference study. The preliminary study stage was analyzed by curriculum of Basic Chemistry I course to determine the learning activities that can be integrated into science character values and green chemistry insight. The analysis is linked to a literature study of green chemistry principles in the previous research and future research perspectives. Also, it is conducted a need analysis (need assessment) underlying the main research which develop basic chemistry learning materials with green chemistry insight.

## III. RESULTS AND DISCUSSION

The curriculum analysis is conducted on Semester Guideline Course (SGC) or syllabus in Basic Chemistry I course. Based on the learning outcome, students' final capability depends on learning achievement indicator, study material and learning strategy. In this curriculum analysis, mapping and linkage between the syllabus components are used. Student learning experience is associated with the emergence of sci-

ence character values with green chemistry and the form of learning activities that will be experienced by students.

The summary of the Semester Guideline Course *(SGC)* as an example of mapping results up to several study materials is presented in Table 1. While a summary of mapping results related to the green chemistry student learning experience is presented in Table II.

TABLE I.        EXAMPLE OF SEMESTER GUIDELINE COURSE*(SGC)* OF BASIC CHEMISTRY SUBJECT

| No. | Competencies | Indicator | Matter | Learning Experience |
|---|---|---|---|---|
| 1 | Compre-hending Chemistry as result of scientific activities that discuss about matter and universal properties. | 1. Explain the step of scientific methods. 2. Explain the intensive and extensive properties. 3. Define the physical and chemical properties of element, compound and mixture | Introduction: steps of scientific method, Chemistry as scientific activity, matter and energy, intensive and extensive properties, element, compound and mixture. | 1.1 Question and answer about the steps of scientific method 1.2 Giving examples of intensive and extensive properties. 1.3 Making concept map 1.4 Define each concept 1.5 Practice about element, compound, and mixture |
| 2 | Compre-hending the basic of stoichiometri mainly: basic law of chemistry, atom and molecule, mole concept, and Avogadro constanta, compound formula, chemical reaction, as well as molarity and equivalency | 1. Explain the Basic Low of Chemistry 2. Define atom, molecule, and mole concept 3. Apply Avogadro constanta and compound formula. 4. Apply chemical reaction and balancing, molarity, and equivalency in problem exercise | Stoichiometry: Chemistry Basic Law, Atom, and molecule, mole concept Avogadro constanta, compound formula, chemical reaction, as well as molarity and equivalency | 1.1 Problem solving exercise of Chemistry Basic Law. 1.2 Making concept map of atom and molecule, as well as mole concept. 1.3 Problem solving exercise of chemical reaction and balancing, molarity, and equivalency, 1.4 Practice of Chemistry Basic Law and chmical reactions with green chemistry insight. |
| 3 | Compre-hending atomic structure development | 1. Explain fundamental particle of | Atomic Structure: Basic particle, hydrogen | 1.1 Study of basic particle of atom. 1.2 Making |

| No. | Competencies | Indicator | Matter | Learning Experience |
|---|---|---|---|---|
| | and discovery of basic particle of atom, according to Rutherford, Bohr, quantum mechanic and electron configuration. | atom. 2. Explain atomic theory development 3. Determine electron configuration many atoms. | atom spectrum, and atomic model of Rutherford, Bohr, and quantum mechanical, electron configuration. | media of atomic model imitation 1.3 Making concept map of atomic theory development. 1.4 Problem solving exercise of electron configuration |

Based on Table 1, show the results of the mapping of learning materials in the basic chemistry I course, which can lead to the scientific character with green chemistry. A formulation of learning activities that can integrate green chemistry principles in every learning material both at the time of classroom learning with non-practicum worksheet media and learning in laboratories with practice worksheet. Strategy, model, or method of learning can cover basic chemistry lesson with green chemistry in learning model. Discussion of learning models are used at the beginning of the meeting with preliminary study materials which largely covers scientific methods, material properties, and studies of elements, compounds and mixtures. Learning experience was done by doing experiments in the laboratory to learn the elements, compounds and mixtures. The example result of mapping of learning materials was presented in Table II.

TABLE II.     THE RELATIONSHIP OF TOPIC, LEARNING EXPERIENCE, GREEN CHEMISTRY INSIGHT, AND LEARNING MATERIALS

| No. | Matter | Learning Experience | Model/ strategy/ method | *Green chemistry* insight |
|---|---|---|---|---|
| 1 | Introduction: steps of scientific method, Chemistry as scientific activity, matter and energy, intensive and extensive properties, elemen, compound and mixture. | 1. Question and answer about the steps of scientific method 2. Giving examples of intensive and extensive properties. 3. Making concept map 4. Define each concept | Model: Class Discussion learning model (Think Pair Share type) Learning Strategy: making concept map | Principle No. 1: Waste prevention Principle No. 6: Energy Efficiency, (include material, water and substance efficiency Principle No. 5 Benign solvent using Principle no. 12. Inherently accident prevention |
| 2 | Stoichiometry: Chemistry Basic Law, Atom, and molecule, mole concept Avogadro Constanta, compound formula, chemical reaction, as well as molarity and equivalency | 1. Problem solving exercise of Chemistry Basic Law. 2. Making concept map of atom and molecule, as well as mole concept. 3. Problem solving exercise of chemical reaction an balancing, molarity, and equivalency, 4. Practice of Chemistry Basic Law. | Cooperative learning Model Learning Strategy: making concept map | Principle No. 1: Waste prevention Principle No. 6: Energy Efficiency, (include material, water and substance efficiency Principle No. 5 Benign solvent using Principle no. 12. Inherently accident prevention |
| 3 | Atomic Structure: Basic particle, hydrogen atom spectrum, and atomic model of Rutherford, Bohr, and quantum mecanical, electron configuration. | 1. Study of basic particle of atom. 2. Making media of atomic model imitation 3. Making concept map of atomic theory development. 4. Problem solving exercise of electron configuration | Learning Model: Project Based Learning, (PjBL) Learning Strategy: making concept map | Principle No. 1: Waste prevention Principle No. 6: Energy Efficiency, (include material, water and substance efficiency Principle No. 7 Use of renewable feedstock (natural product) |

Based on data on Table II, the learning experiences were designed by integrating green chemistry principles. They are; principle no1: Prevent/ reduce the formation of waste; Principle no. 6: Save energy, save chemicals when practicum; Principle No. 5: using solvents or safe chemicals; and Principle no. 12. Inherently prevent accidents. Its principles are important to be adapted as a basis of scientific character values. Aighewi & Osaigbovo (2010) assumed that students' opinion related to

global environmental literacy is used as requirement to comprehend the environmental literacy to non-science students [1].

Stevens (2014), and also Li & Lang (2015) found the affect of formal education and family toward orientation of human and natural environment relationship to students in China [10,4] . Also, orientation of students and pre service teacher to the environment after they took green chemistry lecture, showed the increasing of ecocentrism attitude and decreasing of homocentrism and egocentrism as well [3].

## IV.    CONCLUSION

Based on the results of development research on the first stage with preliminary studies by mapping the Basic Chemistry I curriculum and the study of literature related to learning, the principle of green chemistry can be concluded that:

The results of mapping of study materials in the Basic Chemistry I course can bring the scientific character with green chemistry insight. They are: on the initial of study materials which is stated in the introduction of the scientific method, the nature of matter, elements, compounds, and mixtures. Learning activities can be integrated to green chemistry principles in every learning material, both at the time of learning in the classroom with non-practicum worksheet media and learning in laboratories with practicum worksheet as well. Students' learning experience can be in the form of discussion, question and answer, practice questions, create concept maps, practicum, and create project tasks. Strategic models or learning methods which cover basic chemistry lessons with green chemistry; such as discussion, cooperative, and project-based learning model.

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