PROCEEDING

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Bengkulu International Conference on Science and Education (BICSE - 2017)

"Breaching international boundaries to share scientific research and advance education"

Rectorate Building 3rd Floor, University of Bengkulu
December 14 – 15, 2017

Invited Speakers:

Dr. Corey Johnson
University of North Carolina–Greensboro, USA

Dr. Jay Lennartson
University of North Carolina–Greensboro, USA

Dr. Ian Singleton
PanEco Foundation, Switzerland

Organizer:
Fakultas Keguruan dan Ilmu Pendidikan
Universitas Bengkulu
Bengkulu International Conference on Science and Education (BICSE - 2017)

“Breaching international boundaries to share scientific research and advance education”

Chief editor: M. Lutfi Firdaus, Ph.D.

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Bengkulu International Conference on Science and Education (BICSE - 2017)

“Breaching international boundaries to share scientific research and advance education”

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PREFACE FROM ORGANIZING COMMITTEE

The Bengkulu International Conference on Science and Education (BICSE-2017) was held from 14 – 15 December 2017, in Bengkulu, Indonesia. The conference is organized by Faculty of Teacher Training and Education, University of Bengkulu. The conference was hosted in the rectorate building of University of Bengkulu and new hall building of the Faculty of Teacher Training and Education located in the Bengkulu city center.

This conference was organized by Faculty of Teacher Training and Education, University of Bengkulu, which was attended by more than 100 registered presenters and participants. Invited Speakers include Dr. Jay Lennartson, Dr. Corey Johnson, and Dr. Ian Singleton. The theme of the conference is “Breaching international boundaries to share scientific research and advance education.” The range of topics covered by BICSE 2017 are experimental, theoretical and empirical papers includes, but not limited to (1) Scientific research, (2) Science, physics, chemistry and biology, (3) Teaching, learning, media, and assessment in education, (4) Teacher education, (5) Teaching technology, (6) Research on education, science, and in between, and (7) Advance education.

Finally, we thank all the participants of BICSE 2017, everybody who helped in the organization, all sponsors, the PEER-project supported by USAID, and we are looking forward to meeting you again at BICSE 2019.

Bengkulu, 28 February 2018
BICSE Organizer,

Encouraged.

M. Lutfi Firdaus, Ph.D
Chairman
PREFACE FROM PEER PROJECT

Principal Investigator (PI) of Sumatran Turtles Conservation Project

There is a clear distinction between scientists and science teachers in Indonesian universities, with scientists focusing on pure biology (science) and science teachers focusing on learning biology (pedagogy). Some educational institutions in Indonesia still emphasize this dichotomy between content and learning, which has been noted as a classical problem in science education. The difference between a scientist identity and a science teacher identity is only where to place the emphasis. I believe that both science and learning research capacity to show that these two identities can co-exist in a single individual and that can be very beneficial. In the meantime I also witnessed the facts that Science education at the K-12 levels in Bengkulu does not focus on biodiversity. Fieldwork is rarely included as an instructional technique at any educational level, and there is little focus on local conservation issues. Bengkulu University (UNIB) recently started a graduate program for teachers with the theme of “Natural Conservation Education for A Better Life”. In conjunction with this graduate program, UNIB has also started a pioneering conservation effort, “UNIB Campus, A Safe Home for Turtles,” with educational components at the K-12 level and at the university as part of the Science Teacher Education curriculum track. On the basis of the description I feel that the development of science teachers through the experience of science and learning research is one option for the improvement of science education in locations similar to Bengkulu.

Implementation of science and learning research in science teacher education was not easy. It requires a long discussion and openness of the existing dichotomy paradigm. Students of biology education, for example, usually do not easily answer with a short sentence when asked: “What is the difference between biology and pure biology?” Some of them answered; “We study biology according to the curriculum demands where we will teach”. I communicated with some science education experts, among others, Dr. Catherine Matthews. She is a science educator at the University of North Carolina Greensboro (UNCG), and is also Principal Investigator (PI) on the National Science Foundation (NSF) -funded project; "Herpetology Education in Rural Places and Spaces". Matthews and I visited each other, wrote some manuscripts, and submitted a number of research proposals including titled; "Developing science and learning research capacity of Bengkulu University in ex situ conservation of Sumatran freshwater and terrestrial turtles". The proposal is funded by USAID through the Partnerships for enhanced engagement in research (PEER) project for the period of December 2015 - November 2018.

The main goal of this PEER project is to develop both science and learning research capacity through cooperation between UNCG and UNIB using the field of herpetology as a venue to improve conservation education and, indeed, conservation itself. Furthermore the cooperation is designed to achieve the following goals; (1) identify some safe habitats for five species of turtles, (2) increase science and learning research capacity through the thesis research of nine graduate students, (3) develop teaching modules, (4) develop both indoor and outdoor learning resources, and (5) establish a new teacher training center in herpetology and environmental education on the green campus of UNIB. This project will
support the spirit of the program “UNIB Campus, A Safe Home for Turtles,” which is a novelty for Indonesia. The existence of the turtles on the UNIB campus will be a learning resource for conservation education for the young people in Bengkulu. This model of conservation efforts through educational approaches is designed to be completed over three years, as an attempt to improve the competence of biology teachers in Bengkulu and other provinces of Indonesia.

As the PI of Sumatran Turtles Conservation Project, I am very excited with Bengkulu International Competence on Science and Education 2017 (BICSE 2017). BICSE 2017 is an excellent forum for exchanging experiences on science and learning research. Hopefully in the next, BICSE becomes an annual regular agenda. Welcome to Bengkulu. Congratulations to do your best for science education.

Bengkulu, 28 February 2018

Dr. Aceng Ruyani, MS
Principal Investigator
GENERAL TIME SCHEDULE

Venue: University of Bengkulu (main campus)
Jl. WR. Supratman, Kandang Limun, Bengkulu 38371
Plenary session: Rectorate of University of Bengkulu, 3rd floor – main meeting room
Parallel and poster session: Graduate School of Science Education office hall, 3rd floor

Day 1: December 14, 2017
08:00 – 08:45 Registration
08:45 – 09:45 Opening ceremony
  Traditional dance
  Singing “Indonesia Raya”
  Prayer readings
  Speech 1: BICSE chairman
  Speech 2: Dean of Faculty of Teacher Training and Education
  Speech 3: Rector of University of Bengkulu
  Photo session
  Chorus “Heal the World”
09:45 – 12:00 Plenary session
  Dr. Corey M. Johnson
  Dr. Jay Lennartson
  Dr. Ian Singleton
12:00 – 13:00 Lunch break
13:15 – 13:45 Poster session
13:45 – 16:00 Parallel session (5 rooms, each presentation 12 minutes)
16:00 – 16:30 Closing
  Best oral and poster presenter announcement

Day 2: December 15, 2017
Bengkulu City Tour
Location: Fort Marlborough, Soekarno’s seclusion house, Anggut souvenir market, Long beach, etc.
Please register first at registration desk on December 14, 2017.
FLOOR PLAN

a. University of Bengkulu (Main Campus)

Notes:
1. Rectorate of University of Bengkulu, 3rd floor – main meeting room (Plenary session)
2. Office of Graduate School of Science Education (Parallel and poster session)

b. Floor Plan for Parallel and Poster Session

Notes:
Room name: Office of Graduate School of Science Education
Place: 3rd floor
Poster Session: Room 1

Room Number (Parallel Session):
1. Room Group 1
2. Room Group 2
3. Room Group 3
4. Room Group 4
5. Room Group 5
6. Room Group 6
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Examining environment and development tradeoffs through the Resource Nexus (RN): The case of urban governance

ABSTRACT
With the publication of the United Nations’ Sustainable Development Goals and the Paris Agreement on climate, and a host of other multilateral agreements, governing environmental change is front and center in global governance. Now attention turns to the challenges of implementation, measurement, and metrics, especially in the arena of natural resource use. The resource nexus (RN) approach has been offered as one of escaping the trap of individual resource categories by critically engaging the interlinkages between two or more natural resources used as inputs into socio-economic systems. This presentation draws on work with a collaborative network of RN scholars, first providing a brief overview of the concept and its relationship to environmental change, sustainable development, and security. It then looks at the specific case of RN issues in urban spaces, where an ever-increasing share of the world’s population lives. Cases from South and East Asia are used to illustrate the potential—and some of the limitations—of RN approaches to help us understand and better address the environmental consequences of resource extraction and consumption in cities.
Dr. G. Jay Lennartson
Department of Geography, The University of North Carolina at Greensboro, 237 Graham Building 1009 Spring Garden Street, Greensboro, NC 27412, USA.

*Email: gjlennar@uncg.edu

The Seven Pillars of Environmental Destructiveness

ABSTRACT

America is the global leader in per capita emissions of greenhouse gas emissions as a result of environmental behaviors and attitudes that are antithetical to environmental sustainability. My talk will highlight the seven key American behaviors that have proven so detrimental to the global environment and will explore ways in which such behaviors and attitudes can be changed so that developed and developing countries can function in a more environmentally sustainable manner.
Dr. Ian Singleton
Director
Sumatran Orangutan Conservation Programme
PanEco Foundation, Switzerland

Saving Sumatra’s Orangutans

ABSTRACT

Orangutans are Great Apes, along with Chimpanzees, Bonobos and Gorillas. 2 species of orangutan were recognized, the Sumatran orangutan (Pongo abelii), and the Bornean orangutan (Pongo pygmaeus), but a recent scientific publication announced the existence of a third, new species – the Tapanuli orangutan (Pongo tapanuliensis) in the Tapanuli region of North Sumatra. Most orangutans in Sumatra reside in the Leuser Ecosystem, straddling the border of Aceh and North Sumatra provinces. SOCP surveys suggest there are only around 13,500 Sumatran orangutans remaining, and less than 800 Tapanuli orangutans. Threats to both species include habitat conversion for palm oil, the construction of new roads and the development of new so-called renewable energy projects. The Tapanuli orangutan populations is also already fragmented in at least 3 smaller sub populations and corridors to reconnect these fragments are urgently needed. The paper will also describe some legal successes against palm oil companies illegally burning orangutan habitat in the Tripa swamps region of the Leuser Ecosystem and how groups of dedicated individuals can make a difference in conservation in Indonesia. The paper will also argue that the economic justification for continued destruction of Sumatra’s remaining forests habitats is weak, at best.
3. Character Education For Early Childhood

Lydia Margaretha1*
1University Dehasen Bengkulu
*E-mail: lydiamargaretha79@yahoo.com

ABSTRACT
Values from an early age need to be planted because they are a shared responsibility. Character education is a process of life transformation to be grown to develop in one's behavior. Last night life was united in him. As the times progress, many teenagers do not have good character, because it is very very important for parents and educators. On the above questions, the authors want to further and the purpose of this research are: (1) Knowing the implementation of character education in children in early childhood Dahlia Kota Bengkulu, (2) Knowing the methods used in educating the character in children PAUD Dahlia Bengkulu City. ) Knowing the inhibiting factors of character education of children in early childhood Dahlia Kota Bengkulu. The method used is the qualitative method. Research location in Early Childhood Dahlia Kota Bengkulu. Data collection using interviews, observation, and documentation. The result of the research shows: (1) Character education taught in Early Childhood Dahlia is integrated in every material, but character is not a mainstay in educating character in Dahlia (2) teaching method that educates early childhood character in early childhood Dahlia using exemplary method, (3) barriers that cannot be educated characters not only come from children, but also the school, teachers, and family environment

Keywords: Character Education, Early Childhood

1. Introduction
The Indonesian nation is undergoing a period of transition from a highly-led society to a democratic society. Disputes between ethnic, racial, and religious, and between government and society are common. Likewise cases of murder, suicide, and other criminality that many people are killed. Education as a human effort to nurture his personality. It is said that “Great nation can be seen from the quality/character of the nation (human) itself [1]”. In the education office is none other than to build a quality person, both physically and spiritually. The child is a trust for both parents. His heart is clean and plain white paper. The good of a child, the parents participate in shaping it [2]. The Indonesian nation consciously builds education based on noble character. As once said by the first President of Indonesia, Bung Karno: “The Indonesian nation must be built by prioritizing the character building (Character Building) because Charakter this building will make Indonesia a great nation, advanced and glorious, and dignified. If the character of this building is not done, the nation of Indonesia will become a nation of coolies [3]. In other words, it has also incorporated it into early childhood education [4]. Character Education is a deliberate effort to realize the virtue, ie the quality of humanity which is objectively good, not only good for the individual, but also good for the whole society [5]. According to [6], character education is everything something that the teacher does to advance the participant’s character Teachers help shape the character of learners. Character education according to [7] are all things done by the teacher to advance the character of the participants educate
According to Leonardy Harmainy, character education from early childhood, such as at school, in society, in college and so on [8]. Early Childhood Education Early childhood education Dahlia is a playgroup educational institution aimed at young children to carry out a process of introducing learning so that children can develop as a child. Preschool educational institutions. In Early Childhood Dahlia this pattern is applied in providing character education that is through habituation, games, storytelling, and do not forget the role of parents. Based on the descriptions described above, the researchers would like to explore further this qualitative research with the title Character Education For Early Childhood.

The formulation of the problem in this study described with the parts of the identification, then the problem boundary, and the last problem formulation on the more specific problems and research. Based on the formulation of the above problem, this study aims to know: (1) To know the implementation of character education in children in early childhood Dahlia Kota Bengkulu, (2) to know the method used in educating the character in early childhood in early childhood Dahlia Kota Bengkulu, (3) Knowing the inhibiting factors in the implementation of character education in children in early childhood Dahlia Kota Bengkulu.

As above character education is the process of giving guidance to learners to become fully human beings who are characterized by the dimensions of the heart of mind, body, and taste and desire. In Indonesia the range of early childhood according to the National Education System Law no. 20 the year 2003 article 28 paragraph 1 is a child with age 0-6 years. So that child who are over 6 years old are already on the primary school [9]. Early child age ranges are used in this research material is early child aged 0-6 years, as described and regulated in the National Education Law No. 20 of 2003 Article 28 paragraph 1 Freelance from parents raises a race to take the initiative, on the contrary, leads to guilt. The child must be able to carry out developmental tasks to prepare for adulthood.

2. Methods
This research is done in Early childhood Dahlia address road Papaya RT 11. RW 4 perumnas Lingkar east of Bengkulu City. This research uses qualitative research. Qualitative research is a study that produces analytical procedures that do not use statistical analysis procedures or other ways of strengthening (Moleong, 2009: 6), so to collect the right data using the following method: Observation, Interview, Documentation.

2.1 In this research the focus of research is:
- A form of character education applied to early childhood in early childhood Dahlia which includes, Religious, Independence and Caring.
- Methods used in the implementation of character education in early childhood in early childhood Dahlia include exemplary methods and methods of storytelling.
- Learning model used in educating early childhood character in early childhood Dahlia which includes, combined learning model

2.2 Data Source This research is:
- Primary data source
- Secondary data sources

The technique of data validity in this research is using triangulation technique. Triangulation is a technique of checking the validity of data that utilizes something else outside the data for the purposes of checking or checking this data technique utilizing something else for checking or comparing purposes. Seidel in [10] describes the process of running qualitative data analysis is as follows:
- Recording field results, with it coded to keep the data source traceable
- Collect, sort through, classify, synthesize, create an overview, and create an index
- Thinking, by making the categories of data have to mean, searching and finding patterns and relationships, and making general findings.
Furthermore [11] explained data analysis process done since before entering the field, during the field, and after completion of the field. Data analysis before the researcher entered the field was done to the introduction data or the so-called secondary data used as the determinant of research focus, where the research focus is still temporary and can develop after the research and during the field. Data analysis is performed when data collection is being carried out, and after completion of data collection within a certain time. Activity analyzing is done interactively and run continuously until complete, so that the data obtained is saturated. Activities in data analysis include Data reduction, Data presentation, and Conclusion drawing/verification [12].

3. Results and Discussion

Character education of children Dahlia PAUD adjusted with the phase of his age, it is done because of the nature that is owned by a child and facilitate the educator in inculcating the character value in accordance with the portion To introduce the character in early childhood should be adjusted with the portion not exceed or reduce what that should be taught.

3.1 The Early Childhood Education Strategy Dahlia in educating the character of children through the following attitudes:

- **Example**
  - Because exemplary has a very big contribution to educating the character.

- **Discipline Planting**
  - Master Paud Dahlia also always instills discipline. Because discipline is essentially a genuine obedience that is supported by awareness to fulfill duties obligations.

- **Habitation**
  - Children have the nature of the most likes to imitate. The formation of characters requires a relatively long and continuous process. Habitation is directed at the effort of culture on certain activities so that become patterned or systematic activity

- **Create a conducive atmosphere**
  - The environment can be said is the process of child's culture is influenced by the condition that every time faced and experienced by children. Likewise, creating a conducive atmosphere in the school is an effort build a culture or culture that allows building character, especially related to work culture and learning in school. Therefore In PAUD Dahlia Environment Teachers always create a conducive atmosphere

- **Integration and internalization**
  - Character education requires a process of internalizing values. Character values such as respect for others, discipline, honesty, trust, patience, etc can be integrated and internalized into all school activities in both extracurricular and other activities.

- **Character Education Submission Model**
  - Success in instilling character values in children is also influenced by the way delivery Therefore, PAUD Dahlia teachers use various models of Character Education Submission including (1) Model as Self-Subject (2) Integrated model in all fields of study(3) Model beyond teaching(4) Combined model. PAUD Dahlia teachers also have the ability to instill values and character in children in 3 ways, namely: The teacher can be an effective compassionate, The teacher can be a model, ie as an example of a person who shows respect and responsibility,
Teachers can be ethical mentors, give moral instruction and guidance through explanations, class discussions,

- Character Education Submission Method

In conveying the method of Early Childhood Teacher Dahlia chose the character education model according to the reality and condition of each school. From the model chosen, the delivery method also needs to be considered. The method of delivery chosen should be in accordance with the character education model and the objectives to be achieved. Some of the methods used by PAUD Dahlia teachers include: Method telling story, storytelling, Discussion methods and variants, Simulation Method (Role Playing and Sosiodrama), Cooperative Learning Method

- Character Education Appraisal

Teachers must have a strong commitment to implementing education holistically centered on the potential and needs of learners. So what is the goal of educating can be achieved, as well as success During the process of educating the characters and results achieved after the child received character education? Changes experienced by children when not taught character values can be observed through attitude and behavior.

3.2 Research result of the writer at PAUD Dahlia Kota Bengkulu show:

- Character education taught in Early Childhood Dahlia integrated into every material, But the value of the religious character is not a mainstay in educating the character in Dahlia.
- The method used in educating early childhood characters in early Dahlia early child use exemplary method.
- Obstacles experienced in educating the character not only comes from children, but also the school, teachers, and family environment

4. Conclusion

Based on the description and discussion of research results that have been stated in the previous chapter, the character education in early childhood in early childhood Dahlia Kota Bengkulu can be summarized as follows.

- The form of character education taught in early childhood Dahlia, included in every material and activity with the value of character taught in early childhood Dahlia.
- In teaching the value of the character, teachers in PAUD Dahlia using exemplary or example method.
- Constraints faced in educating early childhood characters in early childhood Dahlia can come from schools, teachers, learners, and even the family environment

References

Certificate

This is to certify that

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as a

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