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Universitas Negeri Surabaya (Unesa) hosted the 1st Social Sciences, Humanities and Economics Conference, taking up a theme: Promoting social change for sustainable development goals. The aim of the conference is to provide a platform for researchers around the globe who want to present on-going or completed research results in the broad area of humanities and social sciences. This conference was a perfect place for researchers and academics across disciplines to interact and build networks.

The conference featured a plenary and individual sessions which address a wide range of topics within various fields, such as culture, education, literature, linguistics, economics, business and accounting, sociology, anthropology, communication and law.

Please click [here](#) for the conference website.

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The first Social Sciences, Humanities, and Economics (SoSHEC) 2017 is one of a series of international conferences held by Universitas Negeri Surabaya (Unesa), Indonesia this year. The conference was held on 24 October 2017 in Wyndham Hotel, Surabaya, Indonesia. Organizing this event shows the commitment and acknowledgement of Unesa to research activities. This event will be a perfect platform for senior and junior researchers in the fields of humanities and social sciences to exchange experiences and ideas and to building network. In addition, this conference will certainly help improve scientific publication of researchers and lecturers.

The theme of the conference this year is “promoting social changes for

sustainable development goals (SDGs)". SDGs have been a central issue in the agenda to eradicate poverty in developing countries. A great deal of effort should be devoted to achieve the SDGs, and certainly this requires participations from all parties, especially researchers of social sciences and humanities. The researchers can do their bit with their research findings in promoting social changes in order to create equitable, sustainable economic growth, to reduce inequality and to improve human resources.

This conference has attracted much attention from scientific community. There are 141 review and research-based papers submitted and presented in the conference. The papers have a wide range of topics, namely good corporate governance, accounting, economics and cultural policies, culture of democracy, Asian pop culture, media literacy and digital citizenship, linguistics and literature, as well as creativity in teaching and learning. Out of the submitted papers, 61 papers were selected to be published by Atlantis Press. The selection was based on the results of the rigorous review of the papers by two referees for each paper who focused on the format, language use, and contents. Hopefully, the scientific papers can give us invaluable insights on those very important topics.

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Mindfulness Practice in Socially Engaged Ethnographic Fieldwork

Gene Ammarell

In recent years, the Buddhist practice of mindfulness has become the subject of research in the cognitive sciences and a potent tool in clinical psychology and counseling. While Buddhism, itself, is the subject of countless studies in the social sciences and histories of religion, there is a surprisingly...

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Does Corporate Governance Moderate the Effect of Earnings Management on Tax Aggressiveness

Dewi Prastiwi

Taxes are important for a State and company. Both have a common interest in taxes. For the State tax is a source of State income, so there is an effort to maximize tax revenue. For the company, the tax is a net income deduction. Therefore, companies frequently use earnings management to control the reporting...

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Second Language Interactional Competence in Classroom Discursive Practices

Dian Misesani, Lies Amin Lestari

The purpose of this study is to identify the forms of discursive practices that make evident to the demonstration of second language interactional competence, and describing the manners of second language interactional

competence showed by participants employment of linguistic and interactional resources...

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The Blueprints of Definition in Technical Dictionary

Fitri Amilia, Kisyani Laksono, Budinuryanta Yohanes

Definition which refers to the term concept with different formation of the form of specific words in a dictionary has been the reason of the study. Collected data were in the form of definition taken from document record, identification and classification of the norms found in the dictionaries. The data...

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Contour Intonation Transfiguration of Declarative Speech by Autistic Children

Ika Septiana, Bambang Yulianto, Kisyani Laksono

The purpose of this paper is to describe contour intonation transfiguration of autistic childrens declarative speech. Autistic childrens speech is unique when it is compared with normal childrens speech. Sometimes the speech of autistic children makes the adult think critically to understand the meaning...

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Principal Leadership in Developing School Culture

Mohammad Ridho, Mr Murtadlo, I Budayasa

The Principals leadership plays an important role in cultivating a school culture. The aim of this study was to analyze the principals leadership in an attempt to develop a positive school culture and its impact on school achievement. A qualitative approach with case study was used. The study was conducted...

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Impacts of Social Media on Youth's Sexual and Social Behaviors

Refti Listyani, Agus Fauzi

This research examines social & sexual impact of youth social media behavior using an ethno methodology approach. Several theories are employed in this research including the theory of sociology of media, social interaction and the concept of sexuality. Results indicate that despite the promise of enhanced...

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The Role of Political Communication in Anticipating Social Conflicts Based on the Government Policy in East Java

Rr Setyowati, FX Sadewo, Martinus Legowo

Based on the sociological perspective, the results concluded that the policy issued by the government that was originally to overcome social conflicts in the community, actually raises a new problem. This shows the need for the role of political communication. Political communication is a process of...

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Green School Program Management in Fostering Students' Character

Syunu Trihantoyo, Asmi Rahma

Green school programs contribute to creating a comfortable, clean, and healthy school environment. For students, green school programs can also foster environmental cares. This study aims to analyze green school program management in developing environmental caring character in elementary school. Management...

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Students' Narrative Composition Based on the Implementation of Rubric Referenced-Peer Assessment

Ms Yunani, Oikurema Purwati, Mr Aswandi

The use of rubric in peer assessment has greatly increased in recent years. However, the result of the use of rubric in peer assessment becomes an underexplored area. Therefore, this study focuses on investigating the result of rubric referenced peer assessment RRPA on students narrative writing. This...

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The Presentation of President Obama's Ideologies in View of the Five Discursive Strategies

Mr Supeno, Slamet Setiawan, Oikurema Purwati

As a US president, Obama was not a particularly ideological person, but remains passionate about certain issues. That is, everybody should get a fair shake and should be treated with dignity or respect regardless of what they look like or who they are. Some even state that he is pretty pragmatic in how...

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A Study on the Competence of English Subject at Junior Middle School Having Low and High Order Thinking Skills

Fauris Zuhri, Mr Susanto

The purpose of this paper is to find out which contents of core and basic competence of English subject have low order thinking skills LOTS and higher order thinking skills HOTS at Junior Middle School. It discusses that learning taxonomies having six levels, remembering, understanding, implementing,...

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Revealing Intercultural Communicative Competence in an EFL High School Textbook

Ali Rosyidi, Oikurema Purwati

Since the goal of teaching English is now shifted from communicative competence to intercultural communicative competence ICC, English teachers should rethink of and be selective on using teaching sources which are mainly referred to textbooks. Many studies were then conducted to analyze the cultural...

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Protraction of Javanese Philosophy In Djarum 76 Advertisement Video Series

Asidigisianti Patria, Nova Kristiana

This study aims to describe the genes characteristic in the advertisement as a representation of Javanese culture since Djarum 76 Cigarette is an original Javanese cigarette. This study aims to investigate the point of attraction of Djarum 76 advertisement and the implementation of Javanese local wisdom...

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The Unique Vowel Play for Negative Quantifier in Javanese Reduplication

Slamet Setiawan, Ayunita Leliana

Native speakers of a given language, including Javanese, may not be aware of

their detail language system. This is due to the fact that they are able to use their first language through natural process of language transmission from care givers and members of community. Furthermore, it seems that they...

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Learning English through the Use of Classroom Language in Community Service

Atik Herlianawati, Lies Lestari, Mr Suwono

The study investigated how student tutors of Big Buddies Club, a community service tutoring English to elementary school students, learned and used classroom language in the prep training and tutoring program. The subjects of this qualitative study were four students tutoring a group of class 3 and 4...

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Improving Students' Scientific Arguments Guided Inquiry Ability Through Student Textbook

Bagus R. Wijaya, Yuni Sri Rahayu, R Agustini

Student of preservice biology teacher should be able to hold the scientific facts discovered through the inquiry process using scientific argument. The purpose of this study was to facilitate students scientific arguments ability through guided inquiry based learning. The approach adopted in this study...

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Indonesian Children Acquisition on Single Word Utterance Stage: A Case Study

Bambang Yulianto

This The study is aimed to explain the language sound acquisition of Indonesian utterances of a child aged 1,0 to 1,6, including the characteristics of the language sounds consonants and vowels and 2 its distribution. The study is based on the qualitative research approach. Viewed from the light of language...

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EFL Teachers Perceptions and Practices of Information Literacy

Didik Syaifullah, Pratiwi Retnaningdyah, Lies Lestari

This qualitative inquiry examined two English teachers perceptions of information literacy IL in the secondary schools. The study sought to illuminate individuals understanding, opinions or belief of information literacy. To collect data, semi structured interviews were employed as the research instruments....

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Strategies for Avoiding Business, Failure of Local Franchise

Yessy Artanti, Nindria Untarini, Mr Sanaji

This study aims to implement the entrepreneurial marketing and adversity intelligence on business performance of local franchise. The criteria of selecting respondents are domestic franchiser companies local in the field of food and beverages service which are included in the AFI Association of Franchise...

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Local Wisdom in the Plurality of Religious Life: Lessons from Tenggerese

FX Sadewo, Mr Artono, Martinus Legowo, Zainuddin Maliki

There is a worrying lesson in the transition of democracy. The transition from one regime to the other regime lead to a change of political constellation. This change will bring religious, ethnic and other issues into political identity.

Strengthening political identity in a plural society produces a...

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Islamic Work Performance of Muslim Employees

Mr Harinoto, Christea Frisdiantara, Anwar Sanusi, Boge Triatmanto

This study aimed to analyze the linking of Islamic work ethos to the performance of employees through organizational commitment in a city government. The types of research include explanatory research, by developing survey methods, using questionnaires with city government employees as the respondents....

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The Developments on Audit Quality in Indonesia, The Qualitative Analysis on the Practitioners' Expectations

Irma Tyasari

Indonesia has a continuous concerned on its audit quality AQ since the impact of global changes on the countrys accounting profession. The data was obtained from face to face interviews with practitioners which have given the notion on how far Indonesia has already gone to enhance its AQ. Review of documentary...

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The Representation of Vocoid "?" in Indonesian Phonological Development of Preschool Aged Children with Hearing Impairment

Rahayu Pujiastuti, Bambang Yulianto, Ms Kisyani

This study aims to describe the representation of vocoid ? phonological developments in the Indonesian language on deaf preschool age children. Therefore, the collection of data is done longitudinally. A data source is a group of three deaf children TKLB B Nursery School of Students with Special Needs...

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The Development of Supplementary Book Based on Direct Reading Thinking Activities to Increase the Intensive Reading Learning Outcomes

Rizki Agnestria, Kisyani Laksono

The aim of this research is to develop a supplementary book based on Direct Reading Thinking Activities DRTA to increase the intensive reading learning outcomes of the fourth grade elementary school. This research refers to the four D model that consists of defining, designing, developing, and disseminating....

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A Closer Look into Primary School Students' Self Efficacy in L2 Learning across Gender and School Location

Syafi'ul Anam, Mr Susanto

Self efficacy is believed to drive learners to have a greater cognitive and motivational engagement in learning activities, and accordingly help them to perform better. This study, therefore, aimed to look into the profile of students self efficacy levels across school location and gender. The data of...

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Female Subjectivity in Lisa See's Snow Flower and the Secret Fan

Neurina Islamiyah, Much Koiri

In a society where the patriarchal system exists, generally, women are put below men and have limited access and freedom. They are being oppressed and controlled. The oppression limits the women moves, thus, they exhibit what is called as female subjectivity. In the novel Snow Flower and the Secret Fan,...

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Revealing Multiliteracies in English as a Foreign Language Classroom

Agus Khairi, Pratiwi Retnaningdyah, Mr Aswandi

Teaching English as a foreign language is aimed to give knowledge for

students in facing globalisation era in which English used as international language. Therefore, teaching and learning process should take into account about multiliteracies, those are considering difference of culture of global community...

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Indigenous Ritual as Adhesive Social Harmonization: The Meaning of Peusijuek for Young People of Aceh, Indonesia

Agus Supriono, Mr Ridwan, Ms Sarmini

The Aceh people in the activities of the traditional order of life steeped in culture and religion. One of the most urgent ritual is peusijuek so that almost all customs activities performed this ritual. This paper aimed to describe the meaning of ritual peusijuek as a medium of adhesive social harmonization...

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Young and Powerful Characters: An Analysis of Illuminati in Manga

Diana Darma, Mamik Wedawati

Man power in literary work has become a popular topic nowadays. One of its implications is the concept of illuminati. This concept conveys indifference between logic and faith, which develop in an issue of dominance in the existence of manhood. As a contemporary concept it is also a controversial issue...

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Multicultural and Character Education as the Model of Mental Revolution Movement to Prevent Santri Radicalism

Haris Supratno, Resdianto Raharjo

The goal of this research was to find the model of character and multicultural education as the model of mental revolution movement to tackle santri radicalism in Pesantren in East Java. This research used a qualitative method. The data sources were taken from the informant, including teachers, Pesantren...

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Food Sovereignty of Communities in the Margins of the Nation: Staple Food and Politics in Mentawai, West Sumatra

Maskota Delfi

In Indonesia the main staple food is often perceived to be limited to rice consumption. This is perhaps enforced by the beras sejahtera Rastra government 2017 program in distributing rice quotas to the economically challenged groups in society, and secondly by the virtue of a strong government focus...

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Representation of Eco-spirituality Perspective in Baiat Cinta di Tanah Baduy by Uten Sutendy

Rahmi Rahmayati

This study described the representation of eco spirituality in the novel of Baiat Cinta di Tanah Baduy by Uten Sutendy. The analysis was conducted based on the study of ecocriticism. As the result, the characters who had eco centric perspective showed positive attitudes toward the environment, like keeping...

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Corporate Social Responsibility Effect on Information Asymmetry

Rizky Eriandani

This study was aimed to answer the question of whether Corporate Social Responsibility CSR disclosure as one form of voluntary disclosure can reduce the asymmetric information in Indonesian capital market, as a developing country. In other words, whether information about the performance of CSR provides...

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Hyperreality in a Football Live on Television

Rojil Aji, Eko Hermawan, Mr Riyadi

Today spotlight of direct camera in a football match is inevitable. Hundreds of cameras are always prepared in every football match in order to catch every second of the events, both inside and outside the stadium. As the result, we can access football matches anywhere from our television or our cellphone....

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The Profile of Self Efficacy Beliefs among English Teachers without L2 Teaching Degree

Wiwiet Savitri, Syafi'ul Anam, Suvi Akhiriyah

Teachers belief of their own competence, especially subject matter and pedagogical, is instrumental in teaching success and failure. This self belief, commonly called self efficacy, is believed to determine teachers effort, persistence, goal setting, and aspirations for themselves and their students....

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Reading Strategies Used by Senior High School Students to Comprehend English Texts

Zumrotul Fauziah, Ahmad Munir, Mr Aswandi

This survey study explored reading strategies employed by senior high school students in Bojonegoro East Java, Indonesia. The study aimed to find out how often the students use of Global strategies, Problem solving strategies, and Support strategies employment in comprehending English texts. It also...

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Case Marking on Constituents Constructed by Verbal Predicate: The Comparison of Japanese, English, and Indonesian

Mr. Roni, Slamet Setiawan

Discussing Japanese, English, and Indonesian is interesting because of its prominent differences. Among the most noticeable issues is the case marking for different constituencies. In respect to predicate filled by the verb, the verbal phrase becomes the mothers constituent in the sentence. The complement...

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Violence against Women and Resistance in Nawal El Saadawi's Woman at Zero Point and Alberto Moravia's The Woman of Rome

Nurul Hidayati, Budi Darma, Ali Mustofa

This research analyzes women violence and revealed by the main female characters in Nawal El Saadawis Woman at Point Zero and Alberto Moravia's The Woman of Rome. The research is qualitative study and the research used Foucault's theory of power relation. The data are in form of sentences related to...

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Do Vocabulary Learning Strategies Correlate to Reading Comprehension

Mr Muhaimin, Mr Suharsono, Ahmad Munir

This paper aims to analyze correlation of vocabulary learning strategies VLSs and reading comprehension. The study was conducted with a quantitative approach and employed thirty students of senior high school as the participants. The data were collected through questionnaire and statistically analyzed...

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The Identity of Madurese Women: Between Tradition and the Development of Modernization

Ms Sarmini, Ulin Nadiroh, Syarifah Hasanah

Madurese culture put women as a symbol of self esteem. Although the women in this ethnic figure renowned as tough and hard working, they are unfettered by tradition. This paper focuses on investigating Madurese womens identity between tradition and modernization. The research method used in this reseach...

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Values of Local Wisdom in Dlongop Batik Motif

Fera Ratyaningrum, Eko Oemar

The development of traditional batik is created and lifted from the roots of Indonesian culture and nature, of which is rich in local wisdom described in the motif. Discussing the development of traditional motif is similar to talking about values. Local wisdom in the development of traditional batik...

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Developing Biology based Monopoly Game as Media to Enhance Students' Learning Outcome and Social Ability

A Firmansyah, S Indana

The purpose of this study is to describe the development of biology based monopoly game as media to support students learning outcome and social

ability. Using the Four D Model, we created and developed a set of biology based monopoly game and tested it to junior high school students n equal 24. This...

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SILK as Kanji Learning Model for Students at Japanese Department

Amira Kocimaheni

Japanese language learners at the university level must master the knowledge of Japanese letters, which consists of kana and kanji. There are no difficulties for the students who have already been familiar with Japanese letters to know the characteristics of kana and kanji. On the contrary, students...

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Determinants of Organizational Performance in Private Universities

Mohammad Mudzakkir, Endi Sarwoko, Iva Nurdiana

Private university had higher risks e.g. performance decline, bankrupt than the state ones because it depended on the annual students admission. Therefore, this study aims to determine a simple model of organizational performance determinants in university that can be applied to private university. The...

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The Relationship between Parents Socio-Economic Background and Students' Science Literacy in Indonesia Evidence from Programme for International Students Assessment PISA 2015

Ms Mariana

Progress of a nation is determined by the ability of its human resources in mastering science and technology. Science literacy has an important role for students to prepare the quality of Indonesian human resources in the future. The objective of the study was to identify the socio economic variables...

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Developing Intercultural Awareness through Poems in EFL Classrooms

Fithriyah Abida, Rahayu Kuswardani

The use of poems has not been practiced in Indonesian EFL classrooms especially in high school context. Literary materials are generally introduced to students who study English as a foreign language in university level. However, in the context of foreign language teaching, the use of English poems in...

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Deviant Behaviors of Teenage Drug Users

Mr Warsono, Ms Sarmini, Syarifah Hasanah

Drugs seems to be an endless problem and become an international problem which can be a serious threat to our next generation. This paper focused on the problem of drug abuse among teenagers in a region in East Java. The setting of this research was state vocational senior high school because the number...

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Implicating Mental Models, Local Interpretation, and Analogy of Facebook Comments Upon the News of Paris Attack 11,13

Lisetyo Ariyanti, Regine Margareta

This paper analyses the relationship among three fields, they are mental model, analogy, and local interpretation which are used as the basic principles to understand the problem in distinguishing peoples responses toward verses in Quran. It uses the theories of Laird Johnson 1983 and George Yule & Gillian...

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Strengthening the 21st Century Skills of Elementary School Students through the Implementation of Project Based Learning

Mr Riyadi, Yuni Rahayu

The purpose of this study is to improve the 21st century skills on elementary school students through the implementation of project based learning. These skills play an important role for students to survive. This study was conducted on 24 students of Public Elementary School in Indonesia, of which were...

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The Correlation between EFL PBT Paper Based TOEFL Prediction and Verbal Assessment Test Scores of Engineering Students

Luh Ariyati, Lies Lestar

An EFL Test, a English assessment PBT prediction is developed by ITS Sepuluh Nopember Institute of Technology Surabaya Centre for Languages and Cultures to measure the students English proficiency as a part of their graduation requirements. The test has caused the majority of students postpone their...

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The Profile of Students' Lesson Plans in Instructional Design Class

Ririn Pusparini, Esti Kurniasih

Four competences that must be possessed by teachers are professional, pedagogical, ethics, and social competences. Related to pedagogical competences, English Education Study Program of Unesa has a subject to support the professionalism of students who will be a teacher, that is Instructional Design....

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Model of Language Competence Upgrading Program for English Teachers in Indonesia

Him'mawan Nugroho

This paper aims at proposing a concept in maintaining English language teachers language proficiency as an inseparable part of their professionalism. Reviewing several previous researches dealing with English language teaching and English teachers professional development is the method used

in this paper....

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Syntactic Simplicity in Dyslexic Children's Utterances

Mr Mulyono, Ketut Artawa, Prima Asteria

As kids suffering from language deficits, dyslexic children have unique linguistic characteristics. This research aims to examine syntactic simplicity in dyslexic children's utterances. The data was collected through observation, audio taping, and elicitation whereas a minimalist theory was employed...

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Spirit of Tolerance (Kanyou) in the Novel Utsukushisa To Kanashimi To by Kawabata Yasunari: The Study of Cultural Stylistics

Ina Pratita

This research was conducted to explore the cultural values that grow and develop and dominate the Japan Society, a way of thinking that is contained in the spirit of tolerance Kanyou. The main character is a woman, named Otoko, whose played a role to depict a cultural stylistics in the community. This...

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Improving Processing Data Skills on Econometrics. Could Cybernetic Learning Theory Practice Do it?

Ni'matus Sholikah, Choirul Nikmah, Albrian Prakoso

Implementation of cybernetic practice in econometric courses to improve student learning outcomes and data processing skills. This study is a classroom action research with two cycles. Cybernetic learning theory practice of econometric courses is learning that collaborates on theoretical knowledge and...

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Consolidating the Local Governments Responsiveness through Directorate General of Highway Construction and Maintenance Fast Reaction Unit URC BIMA for Road Maintenance

M. Farid Ma'ruf, Dilla Sevtiana, Mohammad Rokib

The majority of the governments authorities that are granted to the local government through region autonomy motivates creativity and innovation of the local government in developing good local governance. This research described and analysed the roles and attempts of local government in handling damage...

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Specific Migration in Indonesia Mudik and Balik Lebaran

Ketut Prasetyo, Mr Warsono

Lebaran is a Moslems religious ceremony in Indonesia. Usually, in lebaran, every Moslem visit their family. In Indonesia, mudik is a term to represent a migration when Moslem goes back to their village from city, while when returning from village to city is known as balik. By referring to the data

obtained...

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Improving Students' Scientific Arguments Guided Inquiry Ability Through Student Textbook

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Abstract—Student of pre-service biology teacher should be able to hold the scientific facts discovered through the inquiry process using scientific argument. The purpose of this study was to facilitate students' scientific arguments ability through guided inquiry-based learning. The approach adopted in this study facilitates the ability of scientific argument indicator integrated into guided inquiry-based learning. The study conducted on respondents (n = 12) aims to examine the effectiveness of textbook was developed. The study design using One Group Pretest Posttest Design. The results showed that the application of guided inquiry-based textbook developed by researchers can facilitate scientific argument ability of students have the value of N-Gain 0.71 with the high category.

Keywords— Student scientific argument; Guided inquiry ability; Pre-service teacher; Biology education

I. INTRODUCTION

In recent years, their science lessons focused on providing opportunities for students involved and learn to use scientific thinking skills. Experts teach science concepts rather than as a product of science, but through the construction of argumentative skills which are the characteristic of scientific inquiry [1] [2] [3]. This is due to the importance of the ability to build a knowledge through argumentative ability based on new evidence is found. The emergence of this new evidence makes the researcher must be able to provide an explanation argumentative to consider the existence of theories, models, and law preexisting [4]. The conditions make learning should be taught to students with how to think and are acting as a researcher [95].

Students must learn how to be a researcher to construct knowledge through scientific inquiry [5]. As a researcher, students should be able to make inquiries, analyze the data, explain the facts, make a conclusion, and retain its findings [6]. It can be concluded that the students should be able to explain its findings through the argumentation ability. The

argument has a main role in developing, evaluating, and validating knowledge. students can engage in learning by providing evidence, data, and valid theory using scientific arguments to corroborate claim made through scientific inquiry activity [7].

Arguments can serve to control the match between the claim with evidence or phenomenon. The argument is a measure of the validity of the claim made [8]. Students can use scientific arguments to explain a phenomenon, communicating knowledge and influence the mindset of others about a fact. The use of scientific argument has a goal to make the claim and made an excuse to claim being made, asking questions, challenge and revise the claim is made, provide evidence and argumentation of the claim [9]. Kuhn and Reiser ([10]) found that students find difficulties to use scientific arguments. The difficulties occur because, they should make an appropriate claim, gives grounds to support the claim, linking findings with the concept, and deliver what they understand [11]. Schan filed five indicators of scientific arguments, such as making inferences based on data (claims), said data being used and analyze the data (grounds used), providing security against claims made (warrant), making inferences alternative (counterargument generated), made in response to alternative views are made (rebuttal offered) on the issue [12].

The previous study states that the scientific arguments that build science foundation of science [6] [13] [14]. The ability of a scientific argument is well aligned with the model of inquiry and it is typical of science learning [15]. Scientific arguments can be taught through guided inquiry. Statement researchers had previously stated that the argument is an important aspect of inquiry-based learning, but often not practiced [16]. The Scientific argument is the main aspect of developing, evaluating, validating scientific knowledge is a differentiator from other science [18].

Another study supports that capability scientific arguments can be drilled through the inquiry. Hsu et al. Argumentative concluded that learning Scientific Inquiry System can facilitate the ability to build a scientific argument. The study conducted by Katchevich et al [17], demonstrated that the experimental inquiry-based learning has effective to facilitate scientific argument ability in the study of the environment [17]. Pickles and Patton application inquiry model can improve the ability of the student's argument [2]. Other studies Wilson et al found inquiry model better than conventional model to facilitating scientific argument ability [18]. Research conducted by Farida found argumentative inquiry learning can facilitate scientific argument ability of students [21]. The studies that have been done are the basis of this study. However, previous studies have not used guided inquiry. Therefore, researchers conducted a study to develop a student textbook on plant transport in the course of plant physiology that effective to facilitate scientific argument ability of students.

II. STUDY METHODS

Design in this study using *One Group Pretest Posttest* Design. Before doing the learning, students asked to complete a pretest to determine the initial ability of students in mastering the scientific argument. After the students have done the treatment in learning process, posttest is given to students. This test determines the ability of students in mastering the scientific argument. Questions used in the pretest and posttest are indicators of the scientific argument ability. Given problem relates to the results of experiments fact that have been done. Then the data obtained from the pretest and posttest results will be analyzed by the equation. *N-Gain*

$$N - Gain = \frac{Score\ posttest - Score\ pretest}{Score\ maximal - Score\ pretest}$$

Values *N-Gain* of student scientific argument ability can be defined by criteria scores as presented in Table 1.

TABLE I. CRITERIA N-GAIN CHANGE SCORE

Score Range	Description
>0.70	High
0.30 - 0.70	Middle
<0.30	Low

Completeness indicator scientific argument ability of student was measured by using essay question that consists of 15 items. These items must have a sensitivity index value with sensitive criteria. Sensitivity index items scientific argument abilities in this study had valued between 0.22 to 0.61 with the criteria stated sensitive. Participants in this study were student of pre-service biology teacher students of third semester (n=12, age=19-20 years old). Students were divided into 3 heterogeneous groups with each group consist of 4 students.

III. RESULTS AND DISCUSSION

A. The phase of Study

The study was conducted in several stages which are: 1. The phase of measurement capabilities initial arguments student (pretest); 2. The phase of learning; 3. The phase of literature review and experiment; 4. The phase of drafting arguments; 5. The phase of presented the results of a literature review and experiment; 6. The phase of measurement capability student scientific arguments end (posttest). The study was conducted in four sessions plus one posttest. The first meeting applied to phase 1 until phase 5. The second, third, and fourth meeting applied to phase 2 to stage 5. The last meeting applied to phase 6.

The first stage: The study begins by measuring the ability of students through the scientific arguments argument test instrument. This test instrument contains 15 questions containing indicators of students' scientific argument ability, there are the Indicators of the argument ability: make conclusions based on the data obtained (claim), mention the data being used and analyze the data (grounds used), give warrant to claims have been made (warrant), made inferences alternative (counterargument generated), made in response to the opinion alternative made (rebuttal offered) on the issue [12]. Chapter used in tests is the material that has been learned when they were 2nd semester students, so, students have sufficient understanding of the concept to be applied in the of scientific argument

The second stage: Learning is done to learn the material on transport in plants in plant physiology course. The material consists of five sub-chapters, first sub-chapter is about the nature and structure of water, second sub-chapter is on the transport of cellular level, third sub-chapter is about the transport tissues level, fourth sub-chapter is on the transport of the organ level, fifth sub-chapter is about transport the level of the organism, and the sixth sub-chapter is about nutrients of plant. Learning implemented in four meetings.

The third stage: This stage aims to collect data on the material being studied. Students do review some literature and experiment with applying the guided inquiry-based learning. This stage consists of two kinds of activities, the first activity is to study literature and second activity by experiment. The first meeting of the student is given the problem of how to spider can stand on water without sinking. The second and fourth meetings conducted by conducting experiments, there are the diffusion and osmosis, transpiration, and water absorption by plant roots experiments.

The fourth stage: Students discussion to answer questions containing indicators of scientific argument. Students make inferences, support, warranty, and disclaimer. Students are facilitated to make scientific arguments in writing form. The first meeting, students found difficulties to connect claim with existing data (indicator 3). Students also had trouble with the indicators 4 and 5. This is similar to the opinion of D. Kuhn that the ability of high-level arguments rarely mastered by children and even adults [13]. In addition, students have not

been facilitated in previous learning. The second meeting, students found difficulties at the phase of making the objection rebuttal or alternative conclusions and make a response. Students are still hard to find anything else that can be concluded from these experiments. The third meeting of student found difficulties in determining the data that should be used, because there are many data of reduction in the water volume every 10 minutes. They are confused which data should be used to determine the rate of transpiration. There is one group of students summing the difference in volume at any time. Data that should be used is the data recorded in the last time observation. The fourth meeting of the students are accustomed to using scientific argument ability, so it is not found significant obstacles.

The fifth stage: Students presented the results of the discussion to the other groups. The presentation was a means to facilitate scientific arguments ability orally. Students are more active in developing questions and answer the questions. Answers should always have a strong guarantee either derived from experimental data and the theory studied. This stage is also the guidance by the lecturers of the quality of students argumentation ability.

The sixth stage: posttest used the same type and number of questions (15) with the pretest. But both of them covering a different material. The materials on the posttest are material that has been learned at the first until four meeting.

B. Textbook Developed Effectiveness

The effectiveness of developed textbooks was analyzed from N-Gain value that derived by comparing pretest and posttest students. The following is a table of the value of N-Gain:

TABLE II. N-GAIN VALUE TEST ARGUMENT STUDENT SCIENCE

Student' Initial	Score		N-Gain	Criteria
	Pretest	Posttest		
M1	40.00	68.89	0.48	Middle
M2	44.44	84.44	0.72	High
M3	44.44	86.67	0.76	High
M4	37.78	80.00	0.68	Middle
M5	62.22	95.56	0.88	High
M6	51.11	86.67	0.73	High
M7	42.22	80.00	0.65	Middle
M8	48.89	82.22	0.65	Middle
M9	73.33	100.00	1.00	High
M10	48.89	86.67	0.74	High
M11	33.33	64.44	0.47	Middle
M12	40.00	82.22	0.70	Middle
Average	47.22	83.15	0.71	High

Table 2 shows no student who completed minimum Score that set at 75. This showed the students are not familiar with

the indicators of scientific arguments to defend and explain the conclusions made based on experimental results. Posttest showed 10 out of 12 students passed the specified minimum Score. There are two students who did not pass the posttest. This can be due to several factors such as students less engagement in the learning process, some internal factors faced by students, and the lack of the conceptual understanding. Duschl [19] stated that the first thing in mastering the scientific argument is one must have a good working knowledge of concepts like scientific theories, models, and the basic law of a concept [19]. According to Osborne is scientific argument ability one can show the extent to which understanding of the concepts, skills, and scientific argument skills [20].

Overall it can be seen that an increase in the ability of the scientific arguments of prior learning with the book of guided inquiry-based with after using it. Before the learning average score of students' scientific argument abilities is 47.22, while after learning reaches 83.15. The results showed that the ability of the scientific arguments indicator each level gets a different score. The following chart shows the average score obtained by all students at each indicator.

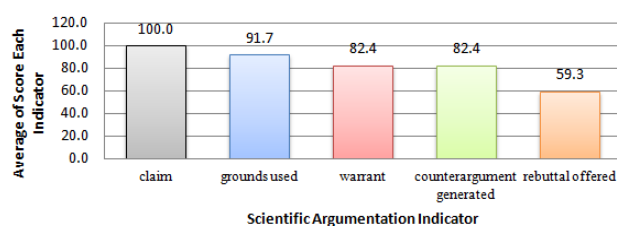


Fig. 1. The average score Indicators of Student Scientific Argument

Based on the diagram in Figure 1 showed that claim to obtain the highest score, while rebuttal offered to obtain the lowest score. The results of this study are supported by research D. Kuhn highest level of scientific arguments are rarely owned by a person [13]. Similar findings were obtained by Farida [21] that the indicator of the ability of scientific argument highest level to get the lowest score [21]. Based on the diagram is known that the classical indicators of rebuttal offered have not reached the minimum score at 75. This happens because the higher the level indicator of the increasingly complex scientific argument skills also connect between facts and concepts they have. This statement is supported by Wodjack [22] stated that at this stage while making an argument, a valid argument can only be obtained from the critical analysis and make a scientific argument starts from making a logical argument [18]. The statement illustrates how difficult it is to make an argument, especially when students are lack to explore kinds of literature resources. Besides learning by using scientific arguments indicator is only done within four weeks. Though scientific arguments to master the ability to either require longer periods of time [16].

IV. CONCLUSION

Based on the results, it can be concluded that learning model guided inquiry effective to facilitate the students'

scientific argument ability on the material transport in plants. This is evidenced by the increase in the value of N-Gain.

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