

INTED **2017**

**11th International
Technology, Education and
Development Conference**

6-8 March, 2017
Valencia (Spain)

CONFERENCE PROCEEDINGS



Sharing the Passion for Learning

INTED **2017**

**11th International
Technology, Education and
Development Conference**

6-8 March, 2017
Valencia (Spain)

CONFERENCE PROCEEDINGS

Published by
IATED Academy
iated.org

INTED2017 Proceedings
11th International Technology, Education and Development Conference
March 6th-8th, 2017 — Valencia, Spain

Edited by
L. Gómez Chova, A. López Martínez, I. Candel Torres
IATED Academy

ISBN: 978-84-617-8491-2
ISSN: 2340-1079
Depósito Legal: V-369-2017

Book cover designed by
J.L. Bernat

All rights reserved. Copyright © 2017, IATED

The papers published in these proceedings reflect the views only of the authors. The publisher cannot be held responsible for the validity or use of the information therein contained.

INTED2017 COMMITTEE AND ADVISORY BOARD

Adam Myers	UNITED STATES	Jose F. Cabeza	SPAIN
Agustín López	SPAIN	Jose Luis Bernat	SPAIN
Ali Ibrahim	UNITED ARAB EMIRATES	José Luis Solleiro Rebolledo	MEXICO
Altynbek Sharipbay	KAZAKHSTAN	Josephine Butler	UNITED ARAB EMIRATES
Amparo Girós	SPAIN	Kari Haavaag Voldsund	NORWAY
Ana Neves	PORTUGAL	Keith Buckley	UNITED STATES
Ana Tomás	SPAIN	Kenneth Spiegel	UNITED STATES
Anja Docter	NETHERLANDS	Khondkar Islam	UNITED STATES
Antonio García	SPAIN	Lenka Klimplová	SWEDEN
Asli Sungur Ergenoglu	TURKEY	Li Jin	UNITED KINGDOM
Brigit Kolen	NETHERLANDS	Lorena López	SPAIN
Ceyhan Cigdemoglu	TURKEY	Luis Gómez Chova	SPAIN
Chelo González	SPAIN	M ^a Jesús Suesta	SPAIN
Claire Fox	UNITED KINGDOM	Mangala Tawde	UNITED STATES
Cláudia França	BRAZIL	Margarida Romero	CANADA
Cristina Lozano	SPAIN	Maria Porcel	SPAIN
Danielle Morin	CANADA	Marian Stoltz-Loike	UNITED STATES
David Martí	SPAIN	Mark Sarvary	UNITED STATES
Diana Dias	PORTUGAL	Maurice Danaher	UNITED ARAB EMIRATES
Diane Powles	UNITED KINGDOM	Mauro Figueiredo	PORTUGAL
Diogo Casanova	UNITED KINGDOM	Mónica Fernández	SPAIN
Dirk Verbeek	NETHERLANDS	Nathalie Gettliffe	FRANCE
Edita Butrime	LITHUANIA	Norma Barrachina	SPAIN
Eduardo Olguin	CHILE	Olga Teruel	SPAIN
Eduardo Penalosa	MEXICO	Panagiotis Fotaris	UNITED KINGDOM
Eladio Duque	SPAIN	Patrick Fargier	FRANCE
Elena Ors	SPAIN	Patti Simone	UNITED STATES
Elizabeth Romero	UNITED STATES	Paul Smith	UNITED KINGDOM
Emmanuel Varouchas	GREECE	Paulino Silva	PORTUGAL
Eric Kuo-Hao Tang	TAIWAN	Pavel Nastase	ROMANIA
Fabiana Biasini	ITALY	Peter Haber	AUSTRIA
Gabriela Kugler	GERMANY	Ruth Kerr	ITALY
Giovanni Torrissi	BELGIUM	Selma Koc	UNITED STATES
Helen Boulton	UNITED KINGDOM	Serena St. Clair	UNITED STATES
Iain Weir	UNITED KINGDOM	Sergio Pérez	SPAIN
Ignacio Ballester	SPAIN	Simon Cross	UNITED KINGDOM
Ignacio Candel	SPAIN	Sirkku Männikkö Barbutiu	SWEDEN
Iván Martínez	SPAIN	Staffan Karp	SWEDEN
James Sobredo	UNITED STATES	Stuart Shaw	UNITED KINGDOM
James Sunney Quaicoe	ESTONIA	Sune Weile	DENMARK
Javier Domenech	SPAIN	Valentina Terzieva	BULGARIA
Javier Martí	SPAIN	Valérie Lavergne Boudier	FRANCE
Jim Playfoot	UNITED KINGDOM	Victor Fester	NEW ZEALAND
Jin Feng	UNITED STATES	Wendy Gorton	UNITED STATES
Joanna Lees	FRANCE	Xavier Lefranc	FRANCE

CONFERENCE SESSIONS

ORAL SESSIONS, 6th March 2017

Educational Software Experiences
Social Media in Education (1)
Collaborative and Problem Based Learning (1)
Teachers Development: Online & Blended Learning
Experiences in Math Education
Digital Competence for Lifelong Learning
ICT in Special Needs Education
Technology in Engineering Education

Videos for Learning
Blended Learning (1)
Collaborative and Problem Based Learning (2)
ICT Skills and Competencies among Teachers (1)
Technology in STEM Education
Quality Assurance & Accreditation
Challenges of an Inclusive Classroom
Experiences in Engineering Education (1)
Preparing Pre-Service Teacher-Librarians for a Technological Environment

Learning Analytics and Adaptive Learning
e-Assessment
The other side of the Flipped Classroom
ICT Skills and Competencies among Teachers (2)
Experiences in STEM Education
International Experiences in Higher Education
New Trends in Humanities Education
Experiences in Architecture and Civil Engineering

Technology Enhanced Education to Adults and Seniors
Assessment of Student Learning
Student Support & Tutoring
Pre-service Teacher Experiences
Teachers Experiences in STEM (1)
Work Integrated Learning & Internship Programs
ICT Enhanced Language Learning
Experiences in Computer Science Education

POSTER SESSIONS, 6th March 2017

Emerging Technologies in Education

Pedagogical Innovations and New Educational Trends

ORAL SESSIONS, 7th March 2017

Quality Assurance in e-Learning
Learning Management Systems & Virtual Learning Environments
Serious and Educational Games
Competence Evaluation
Education and Globalization
Enhancing Learning and Academic Performance
Experiences in Primary & Early Education
Pedagogical & Didactical Innovations (1)
Experiences in Engineering Education (2)

e-Learning Experiences
MOOCs: Massive Open Online Courses
Virtual and International Collaboration
New Trends in Higher Education
Leadership & University Management
University-Industry Collaboration
Teachers Experiences in STEM (2)
Pedagogical & Didactical Innovations (2)

Flipped Learning (1)
Social Media in Education (2)
Learning Coding and its Applications
New Trends and Experiences in Lifelong Learning
Experiences in Multicultural Education
Entrepreneurship Education
Pedagogical Innovations in Foreign Languages
Experiences in Health Sciences Education

Flipped Learning (2)
Technological Issues in Education (1)
Games and Simulations Experiences
Lifelong and Adult Learning
Intercultural and Diversity Issues in Education
New Challenges for the Higher Education Area
Language Learning Innovations
Technology in Health Sciences Education

Blended Learning (2)
New Trends in MOOCs and Distance Learning
Technological Issues in Education (2)
Generic Skills and their Development
Experiences in Education for Disadvantaged Students
Employability Issues and Trends
New Challenges in Language Learning
Experiences in Business Education

POSTER SESSIONS, 7th March 2017

Experiences in Education

Global Issues in Education and Research

VIRTUAL SESSIONS

Apps for education
Augmented Reality
Barriers to Learning
Blended Learning
Collaborative and Problem-based Learning
Competence Evaluation
Computer Supported Collaborative Work
Curriculum Design and Innovation
Digital divide and acces to internet
Diversity issues and women and minorities
E-content Management and Development
e-Learning
Education and Globalization
Education in a multicultural society
Educational Research Experiences
Educational Software and Serious Games
Enhancing learning and the undergraduate experience
Ethical issues in Education
Evaluation and Assessment of Student Learning
Experiences in STEM Education
Flipped Learning
Impact of Crisis on Education
Impact of Education on Development
Inclusive Learning
International Projects
Language Learning Innovations
Learning and Teaching Methodologies
Learning Experiences in Primary and Secondary School
Lifelong Learning
Links between Education and Research
Mobile learning
New projects and innovations
New Trends in the Higher Education Area
Organizational, legal and financial issues
Pedagogical & Didactical Innovations
Pre-service teacher experiences
Quality assurance in Education
Research Methodologies
Research on Technology in Education
Student Support in Education
Technological Issues in Education
Technology-Enhanced Learning
Tutoring and Coaching
University-Industry Collaboration
Virtual Universities
Vocational Training

INTED2017 TABLE OF CONTENTS

RESEARCH AS A TOOL TO UNDERSTAND STUDENT EXPERIENCE: EXPLORING THE CASE OF A COHORT OF PRE-SERVICE PRIMARY SCIENCE TEACHERS IN IRELAND <i>M. Hamilton</i>	1
THE SCIENTIFIC LEARNING ACCORDING TO VIGOTSKY <i>E. Arribas Garde, I. Escobar, M.T. Franco, C. Suarez, S. Vidales Felix, Y. Benitez, S. Maffey, J. González-Rubio, A. Najera, R. Ruiz, A. Beléndez, R. Ramírez-Vázquez, J. Besanilla, C. García-Olguin</i>	9
TEACHING AND LEARNING ACTIVE PHYSICS WITHIN FRAMEWORK OF COMPETENCIES <i>E. Arribas Garde, S. Maffey, R. Ramírez-Vázquez, I. Escobar, M.T. Franco, S. Vidales Felix, C. Suarez, J. Besanilla, C. García-Olguin, A. Najera, J. González-Rubio, A. Beléndez</i>	17
REWRITING CRITICAL PEDAGOGY WITH TECHNOLOGY <i>A. Gitlin</i>	26
“SURELY YOU CANNOT TEACH THEM ALL THE SAME CONTENT?” AN INSIGHT INTO TEACHING AND LEARNING SCIENCE IN A PRIMARY TEACHER EDUCATION PROGRAMME <i>A. O’ Dwyer</i>	31
USING LEARNER-GENERATED DIGITAL MEDIA (LGDM) AS AN ASSESSMENT TOOL IN GEOLOGICAL SCIENCES <i>J. Reyna, F. Horgan, D. Ramp, P. Meier</i>	40
AN EXPERIENCE OF COOPERATIVE TEACHING <i>S. Tena-Monferrer, J.C. Fandos-Roig, J. Sánchez-García</i>	51
LANGUAGE AS BARRIER TO COMMUNICATION AMONG BLACK AFRICAN STUDENTS AT THE UNIVERSITY OF JOHANNESBURG, SOWETO CAMPUS (GAUTENG, SOUTH AFRICA) <i>M. Pather</i>	55
TECHNOLOGY, TERRORISM AND TEACHER EDUCATION: LESSONS FROM THE DELIVERY OF HIGHER EDUCATION TO SOMALI REFUGEE TEACHERS IN DADAAB, KENYA <i>T. Sork, N. Boskic</i>	64
ASSESSMENT AS LEARNING USING PEER REVIEWED SCREENCASTING <i>M. Caukill, C. Atkins</i>	69
LEARNING METHODOLOGIES ABOUT INTERACTIVITY AND THE MIX INTERNET AND TELEVISION: THE CASE OF HBBTV <i>J.F. Fondevila-Gascón, J. Botey-López, J. Rom-Rodríguez, E. Ordeix-Rigo, M. Muñoz-González, G. Berbel, Ó. Gutiérrez-Aragón</i>	74
A LOOK AT THE ATTITUDES, CONCERNS, EXPECTATIONS AND FEARS OF THE MILLENNIAL GENERATION AND SOME IMPLICATIONS FOR HIGHER EDUCATION <i>R. Sims, S. Bias</i>	86
GO WHERE THE STUDENTS ARE: GROUPS IN FACEBOOK TO IMPROVE COMMUNICATION BETWEEN STUDENTS AND EDUCATORS <i>A. Najera, J. González-Rubio, R. Ramírez-Vázquez, C. Suarez, P. Gómez, A. Beléndez, F.J. Escobar-Rabadán, E. Arribas Garde, R. Reolid</i>	93
A QUALITY OF SERVICE ARCHITECTURE FOR REAL-TIME MOBILE-LEARNING SYSTEMS <i>C. De Castro</i>	100
LIFELONG LEARNING FOR VOCATIONAL QUALIFIED PEOPLE – A NEW CHALLENGE FOR GERMANY’S HIGHER EDUCATION <i>D. Brückner</i>	105
DEVELOPING EMOTIONAL COMPETENCE TRAINING FOR UNIVERSITY STUDENTS IN ARGENTINA AND SPAIN <i>T. Pozo-Rico, R. Gilar, J.L. Castejón</i>	112
GAME-BASED LEARNING IN (FURTHER) EDUCATION <i>C. Müller-Kreiner, S. Niedermeier</i>	123
INCREASING INTERCULTURAL LEARNING IN STUDY ABROAD THROUGH ACTIVE PEDAGOGY: THE CONSORTIUM FOR ADVANCED STUDIES ABROAD (CASA)-SEVILLA PILOT PROGRAM <i>E. Infante Mora</i>	129
SHOULD FEMALE STUDENTS DEVELOP A TRANSFORMATIONAL LEADERSHIP IN THE FUTURE? <i>S. Agut, F.A. Lozano, R. Peris</i>	136

HIGHER ORDER THINKING SKILLS INTEGRATION INTO THE TEACHING OF LITERARY TEXTS: A MOOC FOR ENGLISH LANGUAGE TEACHERS	9090
<i>N. Mat Daud, N. Mat Daud, A. Mohd Ali, J. Juhary, R. Mohd Mydin</i>	
END-OF-DEGREE AND END-OF-MASTER PROJECTS AS EXPLORATORY OPPORTUNITIES FOR STUDENTS TO ASSESS RESEARCH AND SCIENCE TRANSFERENCE AS JOB OPTIONS: THE UNIVERSITY OF LEÓN ANIMAL BREEDING GROUP EXPERIENCE	9097
<i>B. Gutierrez-Gil, A. Suarez-Vega, Y. Bayón, L.F. de la Fuente, J.J. Arranz</i>	
FRAMEWORK FOR GAMIFICATION OF SPECIALIZED SUBJECTS WITHIN ENGINEERING STUDIES	9103
<i>P. Ziolkowski</i>	
AN INTERACTIVE SCENARIO-BASED EDUCATIONAL TOOL TO EDUCATE MALAYSIAN TEENAGERS ABOUT ONLINE PERSONAL PRIVACY	9111
<i>S.Z. Ibrahim, L.J. Han, A. Azman, M. Masrom</i>	
CROWDFUNDING OF RESEARCH PROJECTS IN POLAND	9121
<i>P. Ziolkowski, A. Janowski</i>	
ACADEMIC POTENTIAL OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN TRAINING LINGUISTS AND TRANSLATORS	9128
<i>L. Korneeva, E. Bozhko</i>	
ENHANCING RESEARCH AND EDUCATION ON URBAN HISTORY BY USING MOBILE TECHNOLOGY	9133
<i>K. Barthel, C. Kröber, K. Friedrichs, J. Brusckke, F. Maitwald, F. Niebling, S. Münster</i>	
SIGNAL'S SIMULATION METHODOLOGIES USED IN SCIENTIFIC AND EDUCATIONAL TASKS OF REAL-TIME INFORMATION SYSTEM'S MODELLING	9140
<i>E. Smirnova, V. Suzev, A. Proletarsky, V. Gurenko</i>	
INTERACTIVE DIGITAL JOURNALISM AND TRAINING OF JOURNALISTS IN ECUADOR	9144
<i>A. Suing, G. Salazar, P. Barraqueta</i>	
THE USE OF 3D CONSTRUCTIVE MODELS AND PUBLIC PRESENTATIONS AS A TEACHING METHODOLOGY IN THE SUBJECT "CONSTRUCTION OF NON-STRUCTURAL ELEMENTS"	9152
<i>V.R. Pérez-Sánchez, M.F. Céspedes-López, R.T. Mora-García, B. Piedecausa-García, J.C. Pérez-Sánchez</i>	
ICT INTEGRATION IN INITIAL TEACHER TRAINING IN CHILEAN UNIVERSITIES. A CURRICULAR COMPARATIVE ANALYSIS	9160
<i>C. Fuentes Henríquez, M.C. Badilla Quintana</i>	
STORYTELLING IN HIGH EDUCATION INSTITUTIONS: HOW TO ENRICH THE LEARNING EXPERIENCE IN MULTIDISCIPLINE AREAS?	9170
<i>N.C.S. Wilujeng, V.I. Ekowati, S. Sudarmaji</i>	
APPROPRIATENESS IN THE CURRICULAR REDESIGN OF THE SOCIAL COMMUNICATION CAREER AT UNIVERSIDAD TÉCNICA PARTICULAR DE LOJA	9181
<i>A. Suing, P. Barraqueta, G. Salazar</i>	
LEARNING OUTCOMES IN HIGHER EDUCATION: DESIGNING A CONCEPTUAL MAP FOR PORTUGUESE ACADEMIA	9188
<i>D. Dias, D. Soares</i>	
TRANSLATING CRITICAL THINKING SKILLS TO HIGHER EDUCATION PRACTICES	9195
<i>D. Soares, A. Franco, D. Dias</i>	
QUALITATIVE ASSESSMENT OF THE INTERIOR DESIGN' COURSES PERFORMANCE	9201
<i>N. Sami AbdelAziz</i>	
ALTERNATIVE IDEAS AND MODELS ABOUT THE VISION OF COLOUR IN SECONDARY EDUCATION STUDENTS	9211
<i>R. Limiñana, A. Menargues, C. Nicolás, S. Rosa, A. Rey</i>	
SOCIO-SCIENTIFIC INQUIRY-BASED LEARNING AND INITIAL TEACHER EDUCATION. PILOTING AND PRELIMINARY RESULTS	9217
<i>A. Quesada, M.R. Ariza, A.M. Abril</i>	
LIFELONG LEARNING AS A CRUCIAL VECTOR FOR DESIGNING HIGHER EDUCATION CURRICULA	9227
<i>D. Soares, D. Dias</i>	
IS IT POSSIBLE TO PROMOTE INTEREST IN SCIENTIFIC CULTURE?	9228
<i>A. Menargues, R. Limiñana, S. Rosa, C. Nicolás, A. Rey, J. Martínez-Torregrosa</i>	
MORE COMPETENT AND MORE EQUAL: HIGHER EDUCATION AS A SUPPORTER OF SOFT SKILLS DEVELOPMENT	9237
<i>D. Soares, R. Carvalho, G. Burkholder, D. Dias</i>	

STORYTELLING IN HIGH EDUCATION INSTITUTIONS: HOW TO ENRICH THE LEARNING EXPERIENCE IN MULTIDISCIPLINE AREAS?

Nuning Catur Sri Wilujeng, Venny Indria Ekowati, Sudarmaji

Yogyakarta State University (INDONESIA)

Abstract

This study was aimed at:

- 1 investigating the implementation of storytelling in 11 study program with multidiscipline area,
- 2 investigating the impact of storytelling based on students' perspective towards their learning process, and
- 3 determining the sustainability of storytelling learning method into further research.

21 teachers were involved in this study that has been running from 19 September to 23 December 2016 in the Faculty of Languages and Arts, Yogyakarta State University (YSU). 13 teachers implemented the storytelling in languages classes and 8 teachers conducted the study in arts classes. There were 545 students registered in this piloting project. All the subjects were mandatory subject of the running semester based on the Indonesia National Curriculum of Qualification 2014. This learning method of storytelling was a part of Indonesian Innovative Pedagogy (INDOPED) project, initiated by University of Seville, Spain and funded by the Erasmus and Program of the European Union 2016. To initiate the storytelling piloting in higher education institution, teachers were deliberately registered to the project. This, followed by the intern meeting in the faculty level to inform about the INDOPED project and make acknowledgment that those certain teachers would conducting 1 of 3 methods which YSU plan to implement in the academic year of 2016-2017.

There were steps in storytelling's learning process such a:

- 1 workshop for the teacher,
- 2 teaching practice for the teacher, monitored by the European partner from Seville University,
- 3 Implementing the method by the teachers,
- 4 students' turn become the storyteller,
- 5 evaluation,
- 6 findings, and
- 7 sustainability of the storytelling method in the coming semester.

21 teachers implemented the storytelling method in 21 different subjects.

During the implementation, teachers inserted storytelling in 15 minutes in each period. This can be seen from their teaching plan. Twice meetings were held to monitor the running progress of piloting. The implementing of storytelling was documented in the form of video. There were middle and post evaluation during the implementation of storytelling. All the evaluation's item was provide by INDOPED team from European partners.

The study showed that:

1) The 21 teachers implemented the storytelling in 21 different subjects towards 11 study programs. Teachers first applied the method. Since there is no single pattern on storytelling implementation then the students performed their storytelling's learning in various model based on their study program. Some product of this implementation can be seen in the mind map of literature review, comic online, dance movement, and music composition.

The in code barometer was divided into 3 categories of:

- 1 individual,
- 2 interpersonal, and

- 3 networking.

The sustainability of storytelling method will be applied into a classroom action research (CAR). The further studies mainly focus on reducing or eliminating the 3 aspects that still found very poor during the piloting program.

Those 3 aspects were:

- 1 respect different opinions, perspectives and values,
- 2 presentation skills
- 3 ability to generate creative ideas

Keywords: Storytelling, learning method, INDOPED, learning experience.

1 INTRODUCTION

People has been using story telling as a powerful media in communication for centuries. A story is constructed by a sequence of events, characters, and what the characters say and do, in a different place and/ or a different time [1]. Storytelling is believed as one method in learning in every level of education. Student will learn through storytelling when there emerges a process in which learning is constructed with story or narrative as a means of sense making. Moreover, McDrury and Alterio [2] and Harrison [3] said that there is recognition that stories are useful within higher education, particularly in reflection and personal developments' areas. In storytelling students involve their personal story and anecdote to engage peers students and share their knowledge. Stories can be found everywhere in human life and can be termed narrative, case study, life history, myth, anecdote, legend, scenario, illustration or example, storytelling and / or critical incident, etc. Stories can be delivered in many ways namely spoken, written, filmed, mimed, acted, presented as cartoons and/ or as ne new formats in medias [4].

Funded by Erasmus and European Union in the framework of INDOPED 2016 the storytelling as a learning method has been successfully piloted in the Faculty of Languages and Arts. Seville University in Spain as the university partner in Europe shares, helps, and mentors the YSU during the piloting and even more will contribute in the next term of implementation. This learning experience will continue in the next semester in the form of classroom action research (CAR).

Based on the explanation at the first paragraph, it is potential that storytelling can be implemented in the Faculty of Languages and Arts, Yogyakarta State University. The faculty has 11 (eleven) study programs that major in languages and arts. It is hoped that the piloting of storytelling method in higher education will be fruitfulness, both for the teachers and the students. This paper will tell about 1) the investigation of the implementation of storytelling in 11 study program with multidiscipline area, 2) the investigation on the impact of storytelling based on students' perspective towards their learning process, and 3) the determination of the sustainability of storytelling learning method into further research.

2 LITERATURE REVIEW

2.1 Story and Storytelling

This part will discuss about the definition of story and storytelling.

2.1.1 *Story*

Bruner [5] said that story usually refers to the timeless plight of human experience that commonly unfold in the form of plot. The plot itself often contains some references to time, place, events, and individual involved in that story. It often concerns with discordance and concordance, added Bruner [5] and Ricoeur [6]. Then, a relation emerges between the narrator or reader of a story and the listeners, neither are passive in the process. When the narrators share their interpretation of the story, then the listener will recreate the events for themselves through their own imagination [5], [7]. Sometime story often perceived as factual or as products of the author's imagination [8].

Neuhausser [9] explained that stories allow people to feel and see the information as well as factually understand it. That is because people hear the information factually, visually and emotionally. The story is more like imprinted on their brain in a way that sticks with them longer, involved with very little

effort on their part. Moreover story comes in many shapes and forms and also able to serve a variety of purposes, therefore it is important to choose a story very well. Ganz [10] added there are 5 (five) essential elements in a story, are: 1) character (s), 2) a plot, 3) a challenge, 4) a choice and 5) a resolution.

2.1.2 Storytelling

Societies have taught key principles through storytelling for years [11] and [12]. Egan [13] added that in some culture whose written language, storytelling was the only way to convey a society's culture, values and history. Storytelling has been used by great leader at almost all level of instruction as an instructional tool in the form of parables, legends, myths, fables and real life examples to convey important information [1] and [14]. Storytelling has always been an important part of human being. Storyteller often viewed as special member in their society who required to develop skill in the appropriate use of language, communicating with impacts, insight and sensitivity. He or she also needed to develop his/ her memory and visualization skill and use these skill to paint a picture in mind of their audience. Meanwhile, storytelling also viewed as a vocation [13].

2.2 Storytelling as Learning Method

Story takes valuable influence within the learning process. Learning can be achieved through deliberation [4]. Stories do not only capture people's attention through their narrative structure, but also give opportunity for people to get noticed and accommodated [5]. Therefore storytelling makes both intellectually and emotionally connections.

As one of an information medium, storytelling is heavily used in today education and training at any level of education [16]. Labov [18] explains that narrative is a method of recapitulating past experience by matching a verbal sequences to the sequences events. Furthermore, story facilitates instruction directly through verbal or linguistics means. Learning through storytelling seen as a process in which learning is structured around those of narrative and story [4]. There are at least 15 (fifteen) ways to use stories in learning [1]. They are: 1) to introduce or wrap up a presentation/ learning period, 2) as a "pre-frame" or context builder, 3) to compose rapport, 4) to maintain a theme for an event, 5) to illustrate a teaching point, 6) to make learning multisensory, 7) to give examples, 8) to share knowledge, 9) to transmit values, 10) to respond to questions, 11) to evoke and influence states, 12) to elegantly resolve or reframe difficult group situations, 13) to commence discussion, 14) to teach and relate facts and sequences, 15) to communicates visions.

3 METHODOLOGY

This part will discuss about the design and approach for this study, the participant, data and the analysis.

3.1 The Design and Approach

There were 3 (three) objectives of this research. They are 1) investigating the implementation of storytelling in 11 study program with multidiscipline area, 2) investigating the impact of storytelling based on students' perspective towards their learning process and 3) determining the sustainability of storytelling learning method into further research. Qualitative approach was chosen for this study because the qualitative approach is explanatory in its nature and priority in depth understanding [15].

3.2 The Participants

21 teachers were registered to conduct the storytelling piloting during the fall semester started from 19 September to 23 December 2017. Those teacher taught in 11 different study program. They are 1) Children Literature in Indonesian Study Program, 2) Literature's Reading in Indonesian Study Program, 3) Teaching Methodology for Children in English Study Program, 4) Speaking in Professional Contexts in English Study Program, 5) Paragraph Writing in English Language, 6) Basic Reading in English Language, 7) German History, 8) Reading for Beginner in German Language, 9) Listening in French Study Program, 10) Media and IT in French Language Learning, 11) Media and IT in Javanese Language Learning, 12) Fiction Writing in Javanese Language, 13) Javanese for Beginner, 14) Project and Perspective in Fine Arts, 15) Ornament in Fine Arts, 16) *Batik I*, 17) Leather Craft I, 18) Teaching Plan in Music Study Program, 19) Analysis and Critics in Music Study Program, 20) Evaluation in Dance Study Program, and 21) *Tari Nusantara II* in Dance Study Program. All of

subject is mandatory subject according to the Indonesia National Curriculum of Qualification 2014. More than 250 were involved in storytelling piloting project.

3.3 Data Collection

The qualitative approach was applied to associate the qualitative method. Preliminary research about the overall baseline of the participant, both teacher and students about storytelling, particularly in higher education. Semi structured interview was applied to get the data. During the piloting, the teaching and learning activity was documented by recording in video. Questionnaires sheets from INDOPED were distributed to get the final data about the storytelling implementation.

3.4 Analysis

Thematic analysis was used to establish the dominant themes appearing from the collected data. The data from semi-structured interviews were classified based on the research question [17]. Patterns of storytelling captured in the observation were also coded and categorized in relation to the research question. The sequences and the impact of the storytelling process were also analyzed.

4 RESULT

The study showed those 21 teachers implemented the storytelling in 21 different subjects towards 11 study programs. Teachers first applied the method. Since there is no single pattern on storytelling implementation then the students performed their storytelling's learning in various model based on their study program. Some product of this implementation can be seen in the mind map of literature review, the this mind map would be presented in front of the class; in French study program, students were created an online comic to present their learning media; in music study program story telling helped students to compose a song, then followed by writing the lyrics, the song were being presented in front of the class; in dance study program, storytelling implemented in the creation of dance movement. Therefore students were not only learnt the philosophy of the creation of dance movement but also the symbolic values of the dance; in fine art study program students profit some technic in delivering the storytelling as the foundation of painting and/ or other art crafts. The implementation of storytelling in each study program put the creativities and activities of the students as the outmost aspects. Students were actively engaged in delivering story through storytelling and in presenting their task in front of the class. The final assignment required student to provide a scientific video related to the theme of the subject. Scientific phases were conducted in providing the video, namely interview with an scientist or expert in the study area, conducting some literature review based on their subject. Reference were gathered from books, methods, reputed journals, website, etc; getting field data, write down the scenario script for the video, and finally prepare the video after having discussion with the teacher. The video then was presented by the students in front of the class. The best video which was the one with theme-related was declared as the best video.

Based on the students self-evaluation sheet which was classified into 3 parts, the students' perspective on storytelling were a) very strong respect different opinions, perspectives and values showed 43%, b) strong ability to work systematically of 66%, c) strong ability to continue to work despite of 67%, d) strong ability to lead a classroom discussion, e) strong motivation to acquire knowledge, f) strong ability to search information/ knowledge in various sources of 56%, g) strong ability to spot the innovative/ creative process of 61%, h) strong engagement in the learning process, i) strong motivation to acquire knowledge of 58%; j) often cooperate with peers of 59%, k) often have fun while studying of 41%, l) often respect different opinions, perspectives and values, often work well under pressure of 39%; m) good ability to generate creative ideas, o) good ability to the appropriate solution to a problem, n) good ability to evaluate peers work, o) good ability to self-evaluate, p) good ability to take responsibility for someone's' education, q) good ability to use previously acquired knowledge in problem solving situation, r) strong ability to work independently of 52%, s) good analytical skill of 45%; t) good problem solving skill of 54%, u) good rreporting skill of 54%, v) good strategic thinking skill of 53%, and w) good team working skill of 59%. The incode barometer was divided into 3 categories of: 1) individual, 2) interpersonal, and 3) networking.

The sustainability of storytelling method will be continued into a classroom action research (CAR). The further studies mainly focus on reduce or eliminating the 3 aspect that still found very poor during the piloting program. Those 3 aspects were 1) respect different opinions, perspectives and values, 2) presentation skills, and 3) ability to generate creatives ideas

5 CONCLUSIONS

In storytelling, there are some aspects that have to exist such as story, plot, character, choice and resolution [5]. However, some teachers failed to conduct the storytelling as instructional method. They did not respect to the plot and characters, the two elements that must appear in story. And or the teachers were failed to apply the suggestion from Lickorish [1].

4 (four) major types of story-based instruction are mainly found during the piloting. Those 4 categories are case-based instruction, narrative-based instruction, scenario-based instruction and problem-based instruction. This finding highlight the study of Andrews et als [16].

ACKNOWLEDGEMENTS

The authors would like to acknowledge the INDOPED project, Erasmus, European Union and YSU for their cooperation and contribution during this research.

REFERENCES

- [1] S. Lickorish, "Storytelling: how to enrich the learning experience," *Training Journal*, pp.21-23, 2009
- [2] J. McDrury and M. Alterio, *Learning through storytelling: Using reflection and experience in higher education contexts*. Palmerston North New Zealand, The Dunmore Press, 2002
- [3] K. Harrison, "Listen: this really happened: making sense of social work through storytelling," *Social Work Education*, vol. 28, no. 7, pp.750-764, 2009
- [4] J. Moon, *Using story in higher education and professional development*. London, Routledge, 2010
- [5] J. Bruner, "Life as narrative", *Social Research*, vol. 54, no. 1, pp. 11-32, 1987
- [6] P. Ricoeur, *Time and narrative 3*. Chicago, The University of Chicago Press, 1990
- [7] D. Boje, *Narrative methods for organization and communication research*, London, Sage Publication, 2001
- [8] Y. Gabriel, *Storytelling in organization*, Oxford, Oxford University Press, 2000
- [9] P. Neuhaser, *Corporate legends and lore: the power of storytelling as a management tool*, New York, NY. McGraw-Hill, 1993
- [10] M. Ganz, "Leading change: leadership, organization, and social movement" in *The handbook of leadership theory and practice* (N. Nohria and R. Khurana eds.), pp. 509-550, Danvers, Harvard Business School Press, 2010
- [11] M. K. Brady, "Ethnic folklore" in *Folklore: an encyclopedia of beliefs, customs, tales, music, and art* (T.A.Green ed.), pp. 237-244, Santa Barbara, CA: ABC-CLIO, 1997
- [12] M.R. MacDonald, *Traditional storytelling today: an international sourcebook*, (Ed.), Chicago, University of Chicago Press, 1998
- [13] K. Egan, *Teaching as storytelling*, Chicago, University of Chicago Press, 1989
- [14] T.H. Davenport & L. Prusak, *Working knowledge: how organization manage what they know*, Boston, Harvard Business School Press, 1998
- [15] C. Robson, *Real world research: A source for social scientists and practitioner researchers* (2nd ed.), Oxford, Blackwell, 2002
- [16] D.H. Andrews, T.D. Hull, J.A. Donahue, "Storytelling as an instructional method: definition and research question", *Interdisciplinary journal of problem-based learning*, vol. 3, no. 2, pp. 6-23, 2009
- [17] E. Drever, *Using semi structured interviews in small scale research: A teacher's guide*. Glasgow, The Scottish Council for Research in Education , 2003
- [18] W. Labov, *Language in the inner city: Studies in the black English vernacular*, Philadelphia, University of Pennsylvania Press, 1972

APPENDIX. STUDENTS SELF EVALUATION FORM 1

This form is for the "INDOPED" Project pilot evaluation purpose only. It won't be used in any other way. Your personal data are collected only for the statistical analyses. We are asking about your name to be able to match this questionnaire with the one that you will be asked to fill at the end of the INDOPED pilot. If you attend more than one INDOPED Project subject, please submit only ONE evaluation form. Don't leave any blank answers. Fill all the 6 pages!

Thank you for your time! :)

1. Name:.....

2. FEMALE / MALE

3. Age:

4. Your university:

BINUS

UIN

UNSYIAH

WM

YSU

5. What is your major (i.e. political sciences)?
studies

7. Year of

.....

.....

6. Which classes do you undertake? Is it a mandatory or a voluntary subject?

Tick (✓) the appropriate box to indicate your answer.

SUBJECT NAME	I <u>do</u> attend this class and it's a MANDATORY subject	I <u>do</u> attend this class and it's a VOLUNTARY subject	I _____ attend this class don't
Gamification			
Innovation Camp			
Learning by Case Method			
Learning by Teaching			
Learn to Learn			
Project Hatchery			
Project Market Research			
Project Module			
Storytelling			

6a. (Only if you have chosen the option "I do attend this class and it's a VOLUNTARY subject".) Why did you start to attend this class (name 3 reasons)

SUBJECT NAME	Reason 1	Reason 2	Reason 3
Gamification			
Innovation Camp			
Learning by Case Method			
Learning by Teaching			
Learn to Learn			
Project Hatchery			
Project Market Research			
Project Module			
Storytelling			

7. Please answer all of the following questions to the best of your abilities and don't leave any blanks. Tick (✓) the appropriate box to indicate your answer.

PART I

Please rate your usual:	Very strong	Strong	Fair	Weak	Very weak
1. ability to work systematically					
2. ability to continue to work despite a previous failure					
3. ability to lead a classroom discussion					
4. ability to search for information/knowledge in various sources					
5. ability to spot the innovative/creative solutions					
6. engagement in the learning process					
7. motivation to acquire knowledge					

PART 2

Do you:	All of the Time	Often	Sometimes	Rarely	Never
1. cooperate with a teacher?					
2. cooperate with your peers?					
3. have fun while studying?					
4. respect different opinions, perspectives and values?					
5. work well under the pressure?					

PART 3

Please rate your:	Very good	Good	Fair	Poor	Very Poor
1. ability to generate creative ideas					
2. ability to choose the appropriate solution to a problem					
3. ability to evaluate others' (your peers) work					
4. ability to self-evaluate					
5. ability to take responsibility for someones' education					
6. ability to use previously acquired knowledge in problem solving situations					
7. ability to work independently					
8. analytical skills					
9. communication skills					
10. interdisciplinary problem solving skills					
11. interdisciplinary teamworking skills					
12. learning skills					
13. networking skills					
14. organizing skills					
15. planning skills					
16. presentation skills					
17. problem solving skills					
18. project management skill					
19. reporting skills					
20. strategic thinking skills					
21. teaching skills					
22. teaworking skills					
23. time management skills					

8. Please don't leave any blanks. Tick (P) the appropriate box to indicate your answer. Not all assessment tasks and situations are conducive to demonstrating all of the capacities and skills to which the items refer; in such cases "0" is the appropriate response.

The INCODE Barometer

Self-assessment of innovation competence performance.

		Not observed / not demonstrated	Very Poor	Needs to improve	Pass	Good	Excellent
In the activities in class:		0	1	2	3	4	5
INDIVIDUAL							
1	I present ideas that are suitable for the task						
2	I present creative ideas						
3	I present new ways to implement ideas						
4	I evaluate the advantages and disadvantages of actions						
5	I identify relationships among different components of the task						
6	I face the task from different points of view						
7	I use available resources ingeniously						
8	I foresee how events will develop						
9	I show enthusiasm						
10	I persistently pursue the goals						
11	I take daring yet reasonable risks						
12	I orient the task towards the target						
INTERPERSONAL							
13	I transmit ideas effectively						
14	I listen to teammates						
15	I establish constructive group relationships through dialogue						
16	I collaborate actively						
17	I contribute to group functioning						
18	I take initiative						
19	I drive others to act						
20	I face conflicts with flexibility to reach agreements						
NETWORKING							
21	I apply ethical values						
22	I take into account the implications of the task for society						
23	I am able to work in multidisciplinary environments						
24	I am able to work in multicultural environments						
25	I use networking contacts to reach goals						

9. Follow the instructions. They are different for every part of the Adjective Checklist

Test. PART 1

Underline all the terms in the following list which, in your opinion, best describe **you** as a student.

absent-minded	disagreeable	leader	self-confident
adventurous	dreamy	loud	selfish
ambitious	dull	lovable	sensitive
awkward	energetic	loving	sentimental
boastful	fearful	loyal	serious
bold	fierce	mannerly	sharp-witted
bossy	fighter	mean	shiftless
brave	forgetful	messy	shrewd
busy	forgiving	mischievous	shy
calm	friendly	nagging	sneaky
carefree	fun-loving	neat	soft-hearted
careless	funny	obedient	spunky
caring	fussy	organized	stern
cautious	generous	outspoken	stingy
changeable	gentle	patient	stubborn
charming	gloomy	patriotic	studious
cheerful	greedy	playful	successful
clever	gullible	pleasant	superstitious
conceited	handsome	polite	suspicious
confused	happy	proud	talkative
considerate	hard-working	quarrelsome	thoughtful
contented	helpful	quick-tempered	timid
cooperative	honest	quiet	tough
courageous	humble	reasonable	trusting
cowardly	humorous	reckless	understanding
creative	imaginative	relaxed	unfriendly
cruel	independent	resourceful	unkind
curious	intelligent	respectful	unselfish
dainty	inventive	responsible	wild
daring	jolly	restless	wise
demanding	joyful	rude	witty
dependable	kind	sad	zany
determined	lazy	self-centered	

PART 2

Check all the terms in the following list which best describe **your typical teacher (lecturer)**.

absent-minded	disagreeable	leader	self-confident
adventurous	dreamy	loud	selfish
ambitious	dull	lovable	sensitive
awkward	energetic	loving	sentimental
boastful	fearful	loyal	serious
bold	fierce	mannerly	sharp-witted
bossy	fighter	mean	shiftless
brave	forgetful	messy	shrewd
busy	forgiving	mischievous	shy
calm	friendly	nagging	sneaky
carefree	fun-loving	neat	soft-hearted
careless	funny	obedient	spunky
caring	fussy	organized	stern
cautious	generous	outspoken	stingy
changeable	gentle	patient	stubborn
charming	gloomy	patriotic	studious
cheerful	greedy	playful	successful
clever	gullible	pleasant	superstitious
conceited	handsome	polite	suspicious
confused	happy	proud	talkative
considerate	hard-working	quarrelsome	thoughtful
contented	helpful	quick-tempered	timid
cooperative	honest	quiet	tough
courageous	humble	reasonable	trusting
cowardly	humorous	reckless	understanding
creative	imaginative	relaxed	unfriendly
cruel	independent	resourceful	unkind
curious	intelligent	respectful	unselfish
dainty	inventive	responsible	wild
daring	jolly	restless	wise
demanding	joyful	rude	witty
dependable	kind	sad	zany
determined	lazy	self-centered	

