Background

SEMIRATA in the field of Educational Sciences and Teaching Profession is an annual seminar and meeting of the Deans and Heads of Study Program in the collaboration of 32 State and Private Universities from Western Indonesia. This event will facilitate researchers and stakeholders to communicate and discuss the current development as well as opportunities in the field of research and best-practices in Educational and Teaching Profession. SEMIRATA 2018 will discuss Revitalization of Educational Sciences and Teaching Profession to Strengthen in Higher Institution for creativity, innovativeness and competitiveness. In the SEMIRATA 2018, we will also conduct an international conference, and therefore the name is SEMIRATA International Conference on Educational Sciences and Teacher Profession (SEMIRATA ICETeP-2018)

Aim and Scope

The current condition of educational sciences and teaching profession in Indonesia, particularly in educational management, learning & teaching process, still requires revitalization. Interaction and communication between researchers from many regions in Indonesia can generate ideas and research collaborations to address actual issues in educational sciences and educational teacher profession. The research formed from such collaborations will be able not only to improve an institution but also to improve self-creativities, innovativeness, and competitiveness to continue providing competence human resources. Therefore, the conference theme is "Revitalization in Educational Sciences and Teaching Profession toward Industry Revolution 4.0 Era".

Scopes of the conference are ranged from, but not limited to:

– Educational Management and Policy
– Curriculum and Educational Technology
– Teaching Profession
– Specific Education
– Science Education
– Other Areas of Education

Invited Speakers

The SEMIRATA International Conference on Educational Sciences and Educational Teacher Profession will present the following invited speakers:

1. Prof. Dr. Ali Ghufron Mukti (Director General of Resources, Ministry of Research, Technology and Higher Education)
Venue and Activities
The SEMIRATA ICETeP 2018 will be held at Faculty of Education and Teacher Training – University of Bengkulu, Jl WR Supratman Bengkulu, Indonesia.

Important Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract Submission deadline</td>
<td>October 15, 2018</td>
</tr>
<tr>
<td>Notification of Acceptance</td>
<td>Oktober 15, 2018</td>
</tr>
<tr>
<td>Payment deadline</td>
<td>Oktober 18, 2018</td>
</tr>
<tr>
<td>Conference Day</td>
<td>October 26-28, 2018</td>
</tr>
<tr>
<td>City Tour</td>
<td>October 28, 2018</td>
</tr>
<tr>
<td>Coaching Clinic</td>
<td>October 28, 2018</td>
</tr>
<tr>
<td>Full paper submission deadline</td>
<td>November 12, 2018</td>
</tr>
</tbody>
</table>

Call for Abstract

Authors are requested to submit an abstract to the Organizing Committee by July 31, 2018. The abstract must contain the following section: introduction, aim of the study, method, results, conclusion, and keywords. The abstract must have no longer than 200 words.

[IMPORTANT] To submit an abstract, authors must register first (click here). Then they can submit their abstracts by logging in to this site (menu “Submission System” then “Login”). The submitted abstracts will be selected for presentation. The manuscripts (full papers) should be submitted only after the abstracts are accepted. Please bring the draft of manuscript for coaching clinic session.

The full paper must be submitted two weeks after the conference day (November 12, 2018). Please go to “Submission System” menu then “Login” to submit the full paper. Abstracts and full papers are peer-reviewed. Selected papers will be published in a proceeding that will be submitted for further indexing in SCOPUS. All articles get Digital Object Identifier (DOI). Other papers that do not meet the minimum requirements will be published in a proceeding with ISBN published by University of Bengkulu.

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Welcome to the 1st International Conference on Educational Sciences and Teacher Profession (ICETeP 2018). It is a great honor and pleasure to bring you the collection of articles from the ICETeP 2018. This conference was organized by the Faculty of Education and Teacher Training – University of Bengkulu, Indonesia, and was held on University Bengkulu campus on October 26-28, 2018.

The current condition of educational sciences and teaching profession in Indonesia, particularly in educational management, learning & teaching process, still requires revitalization. Interaction and communication between researchers from many regions in Indonesia can generate ideas and research collaborations to address actual issues in educational sciences and educational teacher profession. The research formed from such collaborations will be able not only to improve an institution but also to improve self-creativities, innovativeness, and competitiveness to continue providing competence human resources. Therefore, the conference theme is "Revitalization in Educational Sciences and Teaching Profession toward Industry Revolution 4.0 Era".

We would like to express our gratitude to all keynote speakers and presenters from around the world who travelled to Bengkulu to deliver and exchange their ideas. Our appreciation goes to all the committee members who have worked hard to make this event possible. This volume of proceedings provides an opportunity for readers to engage with a selection of refereed papers that were presented during the ICETeP 2018 conference. Scopes of the conference are ranged from, but not limited to: Educational Management and Policy, Curriculum and Educational Technology, Teaching Profession, Specific Education, Science Education, Other Areas of Education.

We wish scholars, professionals, and stakeholders from all parts of society and all regions of the world enjoy and discover valuable engagement with authors’ ideas in sustaining professional development in the area of Educational Sciences and Teacher Profession.

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Prof. Dr. Sudarwan Danim
University of Bengkulu, Indonesia
1

University of Bengkulu, Indonesia
12

Prof. Dr. Rambat Nur Sasongko
University of Bengkulu, Indonesia
2

Dr. Manap Somantri, M.Pd.
University of Bengkulu, Indonesia
3

Dr. Connie, M.Pd.
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4

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Dr. Eng. Asep Bayu Dani Nandiyanto, M.Si.
Universitas Pendidikan Indonesia, Indonesia
Dr. M. Lutfi Firdaus
University of Bengkulu, Indonesia
17

Prof. Dr. Wachidi, M.Pd.
University of Bengkulu, Indonesia
18

Prof. Dr. Badeni, M.A.
University of Bengkulu, Indonesia
19

Prof. Dr. Rohiat, M.Pd.
University of Bengkulu, Indonesia
20

Prof. Safnil, M.A., Ph.D.
University of Bengkulu, Indonesia
21
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Abdurrahman, Abdurrahman
The Effect of Jumping Task and Collaborative Activity on Enhancement of Student Critical Thinking Ability

Abdurrahman, Abdurrahman
Developing and Validating an Instrument of In-service Teachers Responses to Knowledge-Based Teacher, Engagement, and Expectation in Teacher Profession Education Program in Indonesia: Integrating factor analysis with Rasch modeling

Abdurrahman, Abdurrahman
The Exploration of History, Potential and Management of Earthquake in the Context of Mapping and Empowerment of Learning Community

Afdal, Afdal
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Agusdianita, Neza
The Influence of Project Based Learning Model in Thematic Learning by Using Scientific Approach on the Elementary School Students

Agust, Satria
Rasch Model Analysis on Grammar Tests of “Stepping the 5 Stairs A” Technique for College Students

Agustriana, Nesna
The Application of Dick and Carey Learning Design toward Student’s Independence and Learning Outcome

Alizamar, Alizamar
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Alperi, Muzanip
Quality Mapping Analysis of Methods, Media and Learning Resources Usage at Junior High School

Amri, Syaipul
The Role of Self-Efficacy and Mathematics ability in the Problem Solving Mathematics

Andreswari, Desi
Achievement of Development on Early Childhood Based on National Education Standard

Anggoro, Abdurrobbil Falaq Dwi
Ethnomathematics and Outdoor Learning to Improve Problem Solving Ability

Anggoro, Abdurrobbil Falaq Dwi
The Improvement of the Understanding of Mathematical Concepts through the Implementation of Realistic Mathematics Learning and Ethnomathematics

Anggraini, Dwi
The Effect of Thematic Learning Based on Rural and Urban Environment on the Elementary School Students’ Knowledge about Their Living Place

Anisah, Anisah
Effectiveness of the Student Council Programs in Vocational High School
Ardi, Zadrian
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Ardina, Mona
Analysis Study of Guidance and Counseling Teachers Competency

Ardina, Mona
A Teacher’s Perception of Print and Digital Literacy in Early Childhood

Arwildayanto, Arwildayanto
Development of University Classroom Climate Inventory

Aryati, Aziza
Promoting Deradicalization in Higher Education through Reconstruction of Islamic Learning

Asikin, Nurul
Changes in the Behavior of Junior High School Students in the Learning Process

Asmara, Wanti
Using Teaching Materials Outdoor Learning to Improve Mathematical Problem Solving Ability

Badeni, Badeni
Improving Children’s Fine Motor Skills through Pencil Skills

Badriyah, Khoirotul
Improving Motor Skills and Math Logic through the Method of Traditional Games Engklek in Early Childhood

Badrujaman, Aip
Prospective Teachers Input Based on Intelligence Quotient in the Institute of Teacher Training and Education

Bentri, Alwen
The Models of Assessment to Accommodate Instructional Domain in Blended Blended Learning

Bustasar, Bustasar
The Relationship between Motivation, Engagement and Performance of Employee

Cahyawulan, Wening
Profile of Prospective Teacher in the Special Capital Region of Jakarta

Cahyawulan, Wening
Prospective Teachers Input Based on Intelligence Quotient in the Institute of Teacher Training and Education

Candra, Muhammad
Exploring EFL Teachers’ Perception of Pedagogical Task

Dadi, Sri
The Effect of Thematic Learning Based on Rural and Urban Environment on the Elementary School Students’ Knowledge about Their Living Place

Dalifa, Dalifa
The Influence of Project Based Learning Model in Thematic Learning by Using Scientific Approach on the Elementary School Students

Dalimunthe, Henny Herawati B. R.
Impact of Learning Assistance on Improving the Pedagogic Competence of Tutors

Damara, Boby Engga Putra
The Impact of Contextual Teaching and Learning (CTL) Ability in Understanding Mathematical Concepts
Darwis, Darwis
Internal and External Quality Audit in Efforts to Build High Quality in the College of Poltekkes Kemenkes Bengkulu

Destania, Yuriska
Design of Internet Integrated Students Worksheet for Developing the Ability of Mathematical Reasoning

Dewi, Desy Eka Citra
The Implementation of Multicultural-Based Theological Education in Bengkulu City

Dihamri, Dihamri
Increasing the Competence of Scientific Publications of Technology-based Primary School Teachers in Indonesia

Djunaedi, Djunaedi
Development Computer Assistant for Evaluation Guidance and Counselling Program

Efendi, Saipul
Effect of Self Efficacy and Emotional Intelligence on Teacher Performance

Elvia, Rina
Teaching Oceanography Using Ocean Data View Software

Fikri, Miftahul
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Firdaus, M. Lutfi
Teaching Oceanography Using Ocean Data View Software

Firdaus, M. Lutfi
Development of a Learning Module Based on Biofuel Synthesis Laboratory Research from CPO Residual of Palm Oil Mill Effluent (POME) with Ultrasonic Irradiation Assistance

Firdaus, M. Lutfi
Implementation of Moving-goal Football Model in Sports and Health Education

Fitriyani, Hilma
Need Analysis in Developing Drug Abuse Prevention Module for High School Guidance Curriculum Services

Flora, Flora
Context and Language Learning Strategies: Thai students' strategies within the realms of learning English and Indonesian

Fuad, Nurhattati
Strategy in Improving Research Productivity of the Lecturers

Gunawan, Ansyori
The Effect of Thematic Learning Based on Rural and Urban Environment on the Elementary School Students’ Knowledge about Their Living Place

Hadiyanto, Hadiyanto
Development of University Classroom Climate Inventory

Haimah, Haimah
Increasing the Competence of Scientific Publications of Technology-based Primary School Teachers in Indonesia

Haimah, Haimah
Academic Supervision by School Principals at State Elementary Schools in Indonesia

Hairida, Hairida
The Development of Blended Learning Media for Flipped Classroom Model on Direct Learning in Process Evaluation Courses and Chemistry Learning Outcomes
Haji, Saleh
The Impact of Contextual Teaching and Learning (CTL) Ability in Understanding Mathematical Concepts

Haji, Saleh
Using Teaching Materials Outdoor Learning to Improve Mathematical Problem Solving Ability

Hamdani, Dedy
The Development of Dual Mode Experiment Model Based on Physics Problem Solving: Comparing learning achievements between real and virtual experiment

Handayani, Dewi
Quality Mapping Analysis of Methods, Media and Learning Resources Usage at Junior High School

Hanifah, Hanifah
Building Critical, Tenacious, and Confident Characters through Application of APOS Model: Case study in integral calculus learning

Hanif, Wirda
Development Computer Assistant for Evaluation Guidance and Counselling Program

Hardianto, Andika Nur
Changes in the Behavior of Junior High School Students in the Learning Process

Hariandi, Ahmad
The Effect of Internet Utilization on the Students Academic Achievement in Educational Administration Study Program

Hariyani, Hariyani
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Hartati, Sofia
Prospective Teachers Input Based on Intelligence Quotient in the Institute of Teacher Training and Education

Hasnawati, Hasnawati
The Influence of Project Based Learning Model in Thematic Learning by Using Scientific Approach on the Elementary School Students

Hasnunidah, Neni
Development of Laboratory Worksheet with Argument-Driven Inquiry Model to Enhance the Student’s Argumentation Skills

Hasnunidah, Neni
The Effect of Jumping Task and Collaborative Activity on Enhancement of Student Critical Thinking Ability

Hayati, Misi Kurnia
Ethnomathematics and Outdoor Learning to Improve Problem Solving Ability

Herawaty, Dewi
Ethnomathematics and Outdoor Learning to Improve Problem Solving Ability

Herawaty, Dewi
The Improvement of the Understanding of Mathematical Concepts through the Implementation of Realistic Mathematics Learning and Ethnomathematics

Hidayati, Ade
English for Specific Purposes in Geography Learning

Hidayati, Abna
The Models of Assessment to Accommodate Instructional Domain in Blended Blended Learning

Ibrahim, Nurdin
Critical Thinking Ability and Students’ Learning Achievement of Sociology Education in the Industrial Sociology Course
Ifdil, Ifdil
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Illyas, Asmidir
An Analysis of Phubbing Behaviour: Preliminary research from counseling perspective

Indrawati, Indrawati
Applying Role-Play Method in Enhancing Social Intelligence of Early Childhood Learners

Inharjanto, Anselmus
Implementing Realistic Mathematics Education for Elementary Schools in Indonesia

Iqbal, Moch
Dualism System of Higher Education in Indonesia

Iriyadi, Deni
Equating Method for Small Sample: Comparative research on nominal weight mean and linear method

Jayadi, Agus
Investigating the Impact of Hard Work on the Achievement of Islamic Education and Discipline: Focus on the cognitive abilities of vocational high school students

Johan, Henny
Constructing the Test for Describing the Students' Problem Solving Skill to Mitigate the Earthquake Disaster

Joyo, Aceng
Character Education through People's Story

Karjiyati, Victoria
The Influence of Project Based Learning Model in Thematic Learning by Using Scientific Approach on the Elementary School Students

Karyadi, Bhakti
Ethnobotanical Study of Medicinal Plants by Lembak Ethnic Bengkulu as a Source of Learning Biology

Kasrina, Kasrina
Ethnobotanical Study of Medicinal Plants by Lembak Ethnic Bengkulu as a Source of Learning Biology

Khairiah, Khairiah
Organizational Culture and the Improvement of Teacher Performance

Khoirunnisa, Fitriah
Character Education Based on Psychology Perspective in the Industrial Revolution Era 4.0

Kohar, Farida
Development of Economic Mathematics Learning Materials Based on Problem Based Learning

Komalasari, Gantina
Profile of Prospective Teacher in the Special Capital Region of Jakarta

Koto, Irwan
Introducing Outdoor Learning in Science and Mathematics to Elementary School Teachers via Professional Development

Krisnawati, Dewi
Increasing Self-efficacy through Inclusive Education for Autistic Children

Kurniah, Nina
Achievement of Development on Early Childhood Based on National Education Standard

Kusumah, Raden Gamal Tamrin
The Application of Dick and Carey Learning Design toward Student's Independence and Learning Outcome
Kusumah, Raden Gamal Tamrin  
Achievement of Development on Early Childhood Based on National Education Standard

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Development of Economic Mathematics Learning Materials Based on Problem Based Learning

Laihat, Laihat  
Development of Audiovisual Media Based on Local Excellences of South Sumatra for Science Learning

Latifah, Nurlia  
Development of a Learning Module Based on Biofuel Synthesis Laboratory Research from CPO Residual of Palm Oil Mill Effluent (POME) with Ultrasonic Irradiation Assistance

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Development of University Classroom Climate Inventory

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classroom climate; inventory; development; validation; university

Abstract
Improving the quality of learning in universities can basically be done through a macro-scale approach or with a micro approach through improving the learning situation in the classroom. A macro approach has been largely done by creating national and regional policies. However, micro approaches, such as those undertaken by lecturers through classroom climate studies, have not been made a systematic effort to improve learning processes. The second approach requires the ability and willingness of self-evaluation of the lecturer; Ideally, this second approach should be more optimized as it is a college effort to provide service satisfaction to its internal customers, namely students. This study aims to develop and validate the classroom climate inventory for use in universities. The inventory consists of two forms, the actual and preferred form adapted from the Colleges and Universities Classroom Environment Inventory (CUCEI). The research was conducted on 1,244 undergraduate students from various universities in some provinces such West Sumatera, Riau and Gorontalo. From the analysis result, it can be concluded that both the actual and preferred form of college classroom climate are valid and reliable, so it can be used to conduct further research at universities.

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Abstract—Improving the quality of learning in universities can basically be done through a macro-scale approach or with a micro approach through improving the learning situation in the classroom. A macro approach has been largely done by creating national and regional policies. However, micro approaches, such as those undertaken by lecturers through classroom climate studies, have not been made a systematic effort to improve learning processes. The second approach requires the ability and willingness of self-evaluation of the lecturer; Ideally, this second approach should be more optimized as it is a college effort to provide service satisfaction to its internal customers, namely students. This study aims to develop and validate the classroom climate inventory for use in universities. The inventory consists of two forms, the actual and preferred form adapted from the Colleges and Universities Classroom Environment Inventory (CUCEI). The research was conducted on 1,244 undergraduate students from various universities in some provinces such West Sumatera, Riau and Gorontalo. From the analysis result, it can be concluded that both the actual and preferred form of college classroom climate are valid and reliable, so it can be used to conduct further research at universities.

Keywords—classroom climate; inventory; development; validation; university

1. INTRODUCTION

Improving the quality of learning can be done both at the national, university level and at the classroom level. The micro approach at this class level allows the lecturers to make changes more intensively assisted by their students as 'internal customers' who truly feel the quality of the learning [1]. The study of classroom climate is a very specific study and has developed in developed countries such as America since 1979 [2], and developed in Australia [3]. From both sources, research on classroom climate developed into other countries such as Spain, the Netherlands, Canada [4], Singapore [5].

In Indonesia, classroom climate studies, especially in universities, have been carried out in very limited number. Some classroom climate studies are still very elementary, limited to exploratory studies [6], or correlational studies [7,8]. Such studies are carried out by students at the undergraduate, master and doctoral levels. The studies carried out by some researchers [9-12], were done in primary and secondary schools. For this purpose, research on classroom climate in universities in Indonesia is a necessity so that it does not lag behind compared to what has been implemented in other countries.

Further studies on classroom climate cannot be separated from the notion that 'climate' is the quality of the classroom environment that is continuously experienced by lecturers, influencing behavior and based on collective perceptions of their behavior. Furthermore, it is added that the term 'climate' is like 'personality' in humans. Each class has a personality that is not the same as another class, even though the classes physically have the same form or architecture [13]. Moos [2] added that the classroom climate is like humans, some are very task-oriented, democratic, formal, open or closed [14].

The study of classroom climate is also inseparable from three general dimensions to measure the psychological and social environment, namely the dimensions of relationships, dimensions of growth and personal development (personal growth / development) and dimensions of system maintenance and change [2]. To complete these three dimensions, there are dimensions of the physical environment [15]. The four dimensions of the classroom climate can be broken down into a narrower range of scales. Included in the dimensions of the relationship are scale of personalization, and student cohesiveness. The related scale in the personal growth dimension is task orientation. The scales included in the dimensions of the maintenance and change system are innovation, and individualization. Some scales included in the dimensions of the physical environment such as resource adequacy and physical comfort. There are approximately 46 classroom climate scales that fall into the four dimensions mentioned above. These scales are taken from various classroom climate inventories that have been developed in various countries [14].

Research on the climate of higher education classes was inspired by a study conducted in 1986 [16]. This study was carried out in the framework of developing, validating and using a university classroom climate inventory called College and University Classroom Environment Inventory (CUCEI). The inventory was used to determine the perception of students or lecturers about the seven psychosocial dimensions, namely: personalization, involvement, student cohesiveness, satisfaction, task orientation, innovation, and individualization. CUCEI was given to 372 students in 34 classes and 20 lecturers. The study was conducted to determine the reliability,
internal consistency and discriminant validity of the inventory used to measure the actual form and the expected climate class (preferred form). The application of research using CUCEI involves the relationship between student learning outcomes and classroom climate, suggesting that the classroom climate influences student learning outcomes. Other studies show that both students and lecturers prefer a classroom climate that is better than it actually is. The lecturers view that the classroom climate they create is more positive than what is perceived by students. CUCEI is expected to be applied in the future for research purposes and in order to improve the learning process in universities [16].

In subsequent developments, many experts have linked classroom climate to other variables [17]. For example, students actively express their opinions in class well, because they are influenced by their lecturers who motivate them to do so. On the contrary, students tend to be passive in class because the lecturers have never given an opportunity or because their classmates do not want to respect the opinions of other friends. Studies conducted [18-20], show a link between classroom climate and student learning motivation.

The study of the relationship between the classroom climate and student behavior has been carried out by Lewin which states that behavior is the result of personal relationships between people and the surrounding environment. This opinion emphasizes the importance of linking the environment with personality as forming factors for student behavior [14]. Classroom climate is also a factor that is always associated with student or student learning achievements. Studies conducted by various researchers show a link between classroom climate and learning achievement [12], [21] and student appearance [22], student performance [23], and school performance [24].

The conclusion of some of the studies mentioned above is that student learning achievement is also determined by the quality of the classroom climate in which they study. A further implication of the study is that student learning achievement can be improved by creating a conducive and better classroom climate.

This article reports on the implementation of the development and validation of a standardized university classroom climate inventory. The results of the development of the inventory are expected to be used to improve the classroom climate, and are expected to be an initiation for the development of a more conducive college classroom climate in Indonesia.

II. METHODS

This research is a stage of developing and validating the university classroom climate inventory. The steps taken in the framework of developing and validating the classroom climate inventories are as follows.

A. Selecting the Standardized Classroom Environment Inventory

The inventory used in this study is adaptation and development in the Indonesian language from the latest versions of the English-language classroom climate inventory (Colleges and Universities Classroom Environment Inventory) developed in Canada and Australia [4]. The initial version of the CUCEI was developed in 1986 [16]. The scales that will be developed include personalization, innovation, Student cohesiveness, Task orientation, Individualization, Cooperation, and Equity. These seven scales were developed respectively into 7 questions, so that in total they became 49 questions.

B. Translating CUCEI into Indonesian

CUCEI is a university classroom climate inventory that is still in English. For this reason, the researcher asked for help from a teacher with an English bachelor degree to translate the inventory into Indonesian.

C. Reduce and CUCEI with Some Items

To perfect the inventory, the researchers added three more scales, namely Competitiveness, Resource Adequacy and Physical Comfort. The final form of this university classroom climate inventory is 60 items that are framed into 10 scales and grouped into 4 dimensions.

D. Make the Inventory into Two Versions

The inventory that was developed consisted of classroom climate inventories experienced by students (actual climate) and classroom climate inventories desired by students (preferred form). The classroom climate inventory ‘actual form’ is used to capture the actual classroom climate data that has been experienced by the teacher, while the ‘preferred form’ is used to find out the desired college climate or coveted by students (as a pre-test).

E. Review New Inventories with A Focus on the Level of Readability

After the inventory adapted from English and its additions in Indonesian are combined, the results of the language transfer and merger are then requested for language validation by a Master of Education Science lecturer with a master's degree in English. From the results of the language validation, the researcher then steps to the next stage.

F. Test the Validity and Reliability of Inventories in the Field

Both forms of classroom climate inventories were developed and validated to 1,244 undergraduate students spread across several faculties and universities in Padang and Padang Pariaman, West Sumatera, in Pekanbaru Riau, and in Gorontalo Province.

III. RESULT AND DISCUSSION

A. Results of the Actual Form Questionnaire Data Analysis

The results of data analysis on the classroom climate inventory are actually form as follows.

1) Factor analysis results: The results of factor analysis of the actual form classroom climate inventory showed that the Kaiser Meyer Olkin (KMO) factor 1 was 0.767, factor 2 was 0.705, factor 3 was 0.745, factor 4 was 0.753, factor 5 was
0.736, factor 6 was 0.710, factor 7 is 0.756, factor 8 is 0.713, factor 9 is 0.829, factor 10 is 0.788. On the basis of these findings indicate that the factors in the classroom climate inventory are actually form valid because it has met the limit > 0.50. The results of the factor analysis of the actual form of the classroom climate inventory can be seen in the attachment.

2) Reliability Analysis Results: The results of the reliability analysis of the 60 items from the Actual Form classroom climate inventory can be seen that the reliability of the classroom climate inventory is actually high form with the Cornbach Alpha results which are generally valued at more than .930.

B. Results of the Preferred Form Questionnaire Data Analysis

The results of data analysis for the classroom climate inventory are preferred form as follows:

1) Factor analysis results: The results of factor analysis of the actual form classroom climate inventory showed that the Kaiser Meyer Olkin (KMO) factor 1 was 0.700, factor 2 was 0.648, factor 3 was 0.716, factor 4 was 0.690, factor 5 was 0.672, factor 6 was 0.690, factor 7 is 0.688, factor 8 is 0.694, factor 9 is 0.754, factor 10 is 0.700. On the basis of these findings indicate that the factors in the classroom climate gauge preferred form is valid because it has met the limit > 0.50. The results of the factor analysis of the classroom climate inventory are preferred complete form can be seen in the attachment.

2) Reliability analysis results: The results of the reliability analysis of the 60 items from the Preferred Form classroom climate inventory can be seen that the reliability of the classroom climate inventory is actually high form with the Cornbach Alpha result which is generally valued at more than .930.

From the results of the factor analysis it can be concluded that the items that make up the factor (as a scale), both in the classroom climate inventory which is actually (actual form) and desired (preferred form) are highly correlated, ranging from 0.705 to 0.829. Thus, the points from each of these scales can be concluded as a unit that forms a factor supported by empirical evidence.

From the results of the analysis using Alpha Cronbach it is also known that the items of the classroom climate inventory, both for the actual classroom climate (actual form) and desired (preferred form) are above 0.70. Thus, overall it can be said that Actual classroom climate inventories and reliable form reliable for use.

IV. DISCUSSION

The results show that the KMO value of each factor is generally above 0.705. The Anti image correlation produces a high correlation coefficient for each scale or factor. Thus, it can be said that the classroom climate inventory, both the actual and the preferred form, can be used to capture information about the university's climate. Some researchers have already used the classroom climate instrument to improve better classroom climate [25,26].

Given the importance of the class climate that can be used as an indicator to predict student academic activities [27], and the results of the validation of college classroom climate instrument are convincing, the instrument can be used to measure classroom climate by lecturers in the university, which can then be used to improve certain indicators of the classroom climate that need to be improved. For example, Hadiyanto et al. have used a classroom climate instrument to detect and subsequently make improvements to the 'cohesiveness' and 'innovation' scales in the relevant classes through classroom climate improvement action research [28]. Changes and differences of classroom climate scores between actual and preferred, before and after improvement treatment can be seen in the following graph.

![Fig. 1. Actual (pre-test and post-test) and preferred classroom climate on subject of educational administration and supervision.](image-url)
From the graph it can be seen that there are quite striking differences on certain scales between the actual and the preferred scales. On the basis of these conditions, researchers chose to improve the scale of ‘cohesiveness’ and ‘innovation’. After carrying out improvement treatment on these two scales for approximately eight weeks, a post test was conducted and the results were obtained that the two scales were better approaching the climate preferred by students. Based on these symptoms and steps, the process carried out by Hadiyanto et al. can be disseminated and carried out by other lecturers in various universities to improve certain scales of the classroom climate [29].

V. CONCLUSION

Based on the findings of this study, the conclusions of this study are:

- The grouping of items into a certain scale (factor) designed by classroom climate experts has been fully in accordance with the test in the field. Question items in general have been on the scales designed in the study. The KMO coefficient has shown > 0.500, as a minimum criterion for receiving questions on a scale or factor.
- The items in each school climate measuring scale, both the ‘actual and preferred forms’, have a high reliability coefficient because all items are > 0.70.
- In general, the classroom climate inventories both ‘actual and preferred form’ developed in this study can be used to capture data on classroom climate in universities in the wider population.

Based on the findings and results and discussion of this study, it can be seen that both the actual and preferred classroom climate inventories developed in this study are valid and reliable. Even so, in order to sharpen the analysis and for the sake of the continuation of the research step, analysis is still needed such as internal consistency and discriminant validity. Thus, the inventory can be used by researchers, or educational administrators by implementing the steps that have been stated in this study.

Based on the findings and from this study, it can be seen that both the actual and preferred classroom climate inventories developed in this study are valid and reliable. Thus, the inventory can be used by researchers, or educational administrators by implementing the steps that have been stated in this study.

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REFERENCES


