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The Development of Effective Communication Skills Instruments: Identification of Student Communication Skills

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Abstract

As part of the Demographic Dividend, students must maintain effective communication skills to welcome the MEA (ASEAN Economic Community). The study aims to develop communication skills instruments that have high effectiveness, validity, and reliability to measure the optimum functions of communication skills in students. This study refers to enGauge 21st-century skills to analyze the effectiveness of communication skills by involving five constructs such as 1) working in groups/teams, 2) interpersonal skills, 3) integrity, 4) responsibility, and 5) interactive communication. The researchers adapted the questionnaire method by compiling each construct justified and agreed upon by experts. This research study is a survey of 200 respondents of non-primary education students at the Universitas Terbuka, Pekanbaru, Riau, selected through stratified sampling and random sampling. The data were then analyzed using SPSS version 18.00 for Windows, while internal consistency was investigated with Cronbach's Alpha. The results of the analysis confirm the validity and reliability of effective communication skills with Cronbach's Alpha scores 0.803 - 0.816. Thus, this research succeeded in producing high-quality instruments, so it is useful to evaluate the effectiveness of student communication skills.

Keywords: *Effective Communication Skills, Construct Validity, Reliability, ASEAN Economic Community*

1. Introduction

The era of technology is developing rapidly, as happened in the world of education in the 21st century. These alterations not only affect the philosophical and content aspects of the curriculum, but also approaches, methods, and learning techniques. Based on the 2015/2016 Global Competitiveness Report released by the World Economic Forum (WEF), Indonesia has competitiveness with a ranking of 41st, Infrastructure ranked 82nd out of 148 countries or ranked 4th among ASEAN countries. This indicates Indonesia is still less competitive than other countries in the field of services and infrastructure [1]. The data from the ASEAN Productivity Organization (APO) affirm that out of 1,000 Indonesian workers, only 4.3% are classified as skilled workers. In contrast to the Philippines, the country even has 8.3% of skilled workers, followed by Malaysia with 32.6% and Singapore 34.7%. Most of the Indonesian workforce is elementary school graduates (80%), while 7% are college graduates; ironically, many companies currently require a workforce of college graduates. This fact is inversely proportional to Malaysia, where most of the

workforces are Bachelor's Degree graduates. This, of course, has an impact on the distribution of education in Indonesia as well as the quality of the Indonesian workforce. They will only be easily accepted as laborers or unskilled laborers in the international labor market [2].

Indonesia must be more serious and move quickly to strengthen its contribution to improving the quality of education. One of the educational institutions recognized worldwide as a provider of qualified educational facilities is the Universitas Terbuka (UT). This college implements a distance learning system and is available for anyone. The distance learning system adapts to remove the face-to-face method between lecturers and students and uses printed or internet modules in the learning process [3]. Anyone and anywhere has the same opportunity to get an equivalent university education without having to attend campus because this is very useful as a solution and a way to improve and develop the effectiveness of communication skills when dealing with the ASEAN Economic Community (MEA) [4]; [5]. Therefore, educational institutions must provide innovation and actualization of skills in the 21st century [6]; [7].

MEA is a golden opportunity to improve the quality and competence of students in improving competitiveness through the development of knowledge and skills (soft skill and hard skill). Students need to always be critical and run dynamically to changes in the environment in discovering the work environments. These competencies are positive and significant values in enhancing skill, not only focusing on scientific [5], [8] and [9]. Of course, it is a big challenge and threat to students since they must handle their abilities as best as they can to compete in the work environments. Students must acquire intelligence not only from the intellectual side but also emotional, spiritual, language and IT mastery. Students demand to have many competencies after graduation, not only academic competence but also the effectiveness of communication skills. Siswandi mentioned the communication skills of students must emerge to improve intellectual competence, emotional maturity, and social [10].

Everyone should have a good soft skill in communication [11] because it has the potential to create harmonious relationships in the work environment. Communication experts even emphasize communication is highly useful for creating and maintaining good relationships with couples in overcoming normal and extraordinary challenges to maintain intimacy at all times [11]. With these skills, students can convey their ideas and shape their environment to be more productive and produce high grades [12]; [13]; and [14]. Hence, an appropriate assessment instrument is needed to evaluate, improve, and practice communication skills. This is following the purpose of this study to develop and validate instruments of the effectiveness of communication skills in students in maximizing their competence.

2. Literature Review

Effective communication skills are particularly significant in the world of education, because they support effectiveness in completing tasks in the learning process [15]. Besides, communication also plays an essential role in society, because various family, community, work environment and state problems may occur due to miscommunication [9].

Communication is a transition of information, ideas, emotions and skills indicated by symbols, words, graphics, and numbers. Some literature explains communication is a skill to listen, observe, talk, ask, analyze and evaluate situations to convey messages and information to others through various media. Communication skills have implications for the ability of individuals to

communicate using spoken or written language, verbal or non verbal and effective collaboration [16]. Effective communication skills currently include information and various elements as described by [5] including teamwork, interpersonal skills, social responsibility, interactive communication, communication with the environment, and identified as groups in the components of effective communication.

The collaborative factor or teamwork is dominant in increasing the effectiveness and creativity of students since they are interdependent to submit ideas, provide moral support, and solve problems personally and professionally [17]. The results of the collaboration will trigger the formation of new ideas thereby increasing the potential in activities. Moreover, it will create interpersonal skills. In his study found a person's skills to work collaboratively and cooperatively in groups are part of verbal and non-verbal communication skills [18]. They will be more sensitive to the feelings and emotions of others, so they are included in an integral part of interpersonal skills including listening, asking, speaking, responding, changing attitudes, and appearance [19]. Also, it is necessary to generalize the social responsibility and leadership qualities to prevent inequality affecting the emotions of group personnel, which may disrupt the completion of the task.

Interactive communication is part of the interaction process relying on visual, text, or sound technology to maximize the communication process. This context is relevant in education to initiate and integrate ICT because it can work in increasing competition and information technology literacy communities [14]. Therefore, researcher¹ determine several constructs affecting effective communication skills, including 1) working together in groups/teams, 2) interpersonal skills, 3) the nature of integrity, 4) responsibility, and 5) interactive communication.

3. Methodology

This research study is a survey to create an effective communication skills instrument. The researchers collected data from questionnaire instruments [20]. The instrument utilized a scale of 7 using the theory of effective communication skills with 5 constructs [5] to assess the validity and reliability in creating high-quality instruments. The researchers took 200 non-educational student respondents from the Universitas Terbuka applying stratified sampling and random methods to ensure each member of the population had the same potential and was proper to be sampled. The data were processed using the Statistical Package for Social Sciences (SPSS) to examine the quality of the instrument. The researchers tested the instrument validity using the corrected item-total correlation with the total score without items binding to dimensions or constructs. In addition, the researchers also applied Cronbach's Alpha to obtain the Reliability Index. Validity values with corrected item-total correlations must be a minimum of 0.3 [21] and Cronbach's Alpha analysis values must be more than 0.6 and below 1 [22] for creating good quality instruments.

4. Result and Discussion

Instrument Development. There are ³ three stages to developing an instrument of effective communication skills, including stage 1: starting with identification of the scale, stage 2: involving writing individual items on a scale; and stage 3: requiring field testing items followed by item analysis and validation procedures. The following is the explanation of each step:

Stage 1 - Scale Identification and Development. Stage 1 contains three steps of identification and scale development. The first step is to review the literature related to effective skills instruments by adapting the theory of effective communication skills with

5 constructs [5] and relevant studies. This step serves to identify the main components needed by researchers, educators, and practitioners to develop communication skills. The second step comprises face-to-face interviews and focuses on group discussions by asking experienced lecturers about their suggestions and opinions on effective communication skills issues. Besides, the researchers also asked for approval and clarification of the constructs and items in the instrument. The third step classifies and rearranges the scale associated with effective communication skills according to expert advice. Hence, it confirms the five components affecting effective communication skills, including 1) teamwork, 2) interpersonal skills, 3) integrity, 4) responsibility, and 5) interactive communication.

Stage 2 - Writing Individual Items. Based on the above instrument, the researchers compile a set of questionnaires, each of which contains sub-construction components as a pattern for developing the questionnaire. Table 1 below describes the number of items developed. Also, the entire set of items has implications for the expert panel to ensure construct validation and content within the instrument.

Table 1. Constructs of Effective Communication Skills Instruments and Questionnaires

Constructs of Skills	Questionnaire
Collaboration in groups / teams	<ol style="list-style-type: none"> 1. I realize the importance of working in teams (groups) by expressing leadership 2. I can convey interesting ideas 3. I can receive information in groups 4. I and the group can create the best solution 5. I can complete the tasks given by the group to me
Interpersonal Skills	<ol style="list-style-type: none"> 1. I can overcome conflicts in social interaction 2. I can allow others to ask questions (take turns talking) 3. I can maintain good behavior in social interaction 4. I can control emotions in social interaction 5. When I listen carefully to what someone says to me, then I can predict their conclusions
Integrity	<ol style="list-style-type: none"> 1. My actions are following universally accepted values 2. My actions are following the true beliefs 3. My actions are following the true principles 4. I can be trusted by friends and competitors 5. I work according to main duties and functions
Responsibility	<ol style="list-style-type: none"> 1. I challenge to take risks from decisions made 2. use technology for good purposes 3. I can accept the responsibility given 4. I do not abuse authority 5. I prefer the interests of many people rather than myself
Interactive communication	<ol style="list-style-type: none"> 1. I resolve the problem encountered through sincere conversation (communication) from all parties 2. I can use various communication tools to communicate ideas to others 3. I use technology to solve problems 4. I can communicate both ways 5. I believe that the words I choose to communicate convey most of my message

Stage 3 - Analysis of Instrument Validity and Reliability. The researchers relied on the minimum standard of validity based on a comparison of the calculated

individual coefficient values (r_{count}) with the Pearson coefficient table (r_{table}). If $r_{\text{count}} > r_{\text{table}}$, then the questions on the questionnaire are valid [23] (Triana & Oktavianto, 2013). Examining the validity of the instrument used the corrected item-total correlation value with the total score without items related to dimensions or constructs. Based on the description of [21], the correlation with a value of more than 0.25 between items and a total score is categorized high.

Cronbach's Alpha is widely used in various studies to measure the reliability of indicators on 2 or more variables. Basuki and Haryanto argued, if the correlation gets a value above 0.60 and less than 1, then the instrument has a low correlation and is not reliable [24]; [22]. According to the analysis of several research publications, 50% state explicitly that Cronbach's Alpha is effective in testing instrument reliability.

Instrument Validity Analysis. The study involved 200 Universitas Terbuka students in May 2020. The respondents were classified into ethnicity and gender as follows:

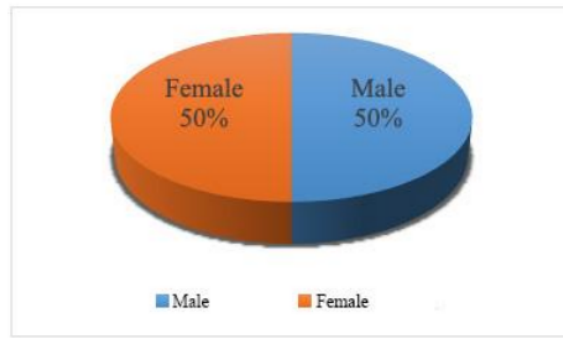


Figure 1. Comparison of Respondents Graph Based on Gender (%)

The figure above displays the same number of male students as female students; 100 people each or 50%. Therefore, the number of respondents based on gender has fulfilled the margin error requirements.

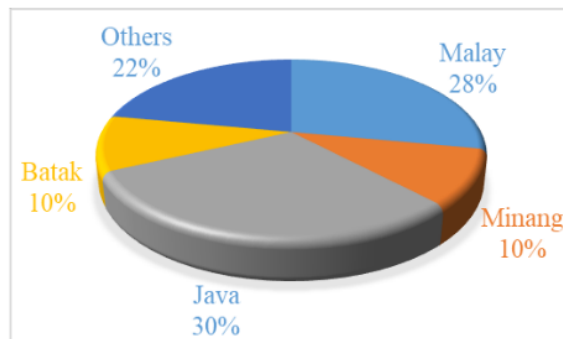


Figure 2. Comparison of Respondents Graph Based on Ethnicity (%)

The picture above explains the Malay tribe consists of 56 people (28%), Minang tribe 20 people (10%); Javanese tribe 60 people (30%), Batak tribe 20 people (10%), and other tribes consisting of 44 people (22%). The diagram also indicates the Javanese and Malay tribes are more numerous than others.

Based on the analysis of the instrument validity using the item correlation value with the corrected item-total correlation in terms of dimensions or construction, it gets the data as shown in Table 2 below.

Tabel 2. Instrument Validity Using Item Correlation Values with Corrected Item-Total Correlation for Each Construct of Study

Construct	Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Collaboration in groups / teams	1	0.587	0.776
	2	0.779	0.765
	3	0.810	0.770
	4	0.794	0.764
	5	0.772	0.765
Interpersonal Skills	1	0.714	0.772
	2	0.802	0.777
	3	0.826	0.772
	4	0.839	0.770
	5	0.694	0.779
Integrity	1	0.735	0.771
	2	0.810	0.773
	3	0.790	0.783
	4	0.794	0.777
	5	0.785	0.774
Responsibility	1	0.743	0.782
	2	0.844	0.775
	3	0.866	0.782
	4	0.834	0.776
	5	0.761	0.784
Interactive communication	1	0.769	0.782
	2	0.810	0.774
	3	0.791	0.774
	4	0.800	0.768
	5	0.737	0.783

The value of the r_{table} in Table 1 of 0.138 was from the degree of freedom (df) 198 (25 questionnaires) and was distributed as a trial. Based on a comprehensive calculation, all items are valid because the value of $r_{count} > r_{table}$, so all question items can measure the communication skills of Universitas Terbuka students.

Instrument Reliability Analysis. The process of developing a communication skill instrument for Universitas Terbuka students refers to each item assessed to determine internal consistency. This measurement successfully finds the worth of items to measure the same construct as other items on the same scale. Items that did not qualify were deleted and data was re-analyzed until all items with the lowest scale were removed and the alpha coefficient was at the maximum level. Table 3 below describes the reliability scale using the Cronbach's Alpha coefficient to test the questionnaire based on the communication skills instrument of Universitas Terbuka students.

Table 3. Cronbach's Alpha Reliability Index for Each Construct of Study

Construct (N = 200)	Overall Value of Cronbach's Alpha
Collaboration in groups / teams	0.803
Interpersonal Skills	0.810
Integrity	0.811
Responsibility	0.816
Interactive communication	0.812

The Cronbach's Alpha Reliability Index scores for each study constructs and the overall alpha value establish the existence of teamwork, interpersonal skills, the nature of integrity, responsibility, and interactive communication. Each of these aspects offers a value of 0.803, 0.810, 0.811, 0.816, and 0.812. This study found a reliability value (α) greater than 0.60 for each construct, meaning all questionnaires are reliable and good. Therefore, the instruments in this study can measure all variables and evaluate effective communicative skills.

In the 21st century, everyone must have special expertise to face challenges, life problems, and careers. Each organization generally has a definition of each of these skills, although mostly have almost the same essence. The National Education Association (n.d.) describes skills as "The 4Cs" covering critical thinking, creativity, communication, and collaboration [25]. The US-based Apollo Education Group determines ten (10) important skills for students to obtain job opportunities, including critical thinking skills, communication, leadership, collaboration, adaptability, productivity and accountability, innovation, global citizenship, ability and entrepreneurial spirit, and the ability to access, analyze, and synthesize information [26]. The OECD research describes three (3) dimensions of learning, for example, information, communication, ethics, and social influence [27]. Consequently, effective communication capabilities are highly valuable aspects of work environments and daily life.

Communication competence consists of skills in conveying ideas clearly with good persuasion techniques both orally and in writing. The aspect is also related to the delivery of opinions, commands, and motivation to others with clear language format and good speech. Great ability combined with mastery of technology and good social media will collaborate various things on an international scale. Over time, skills are increasingly needed to reach a better future. Students must have effective communication competencies to apply their knowledge to face off-campus competition. It is related to current educational trends when students must solve various problems with their effective communication skills and produce brilliant ideas from various sources.

The development of questionnaires based on effective communication skills instruments results in good construct validity and high reliability so that it is useful in identifying student communication skills. The researchers discovered a validity value that did not clash between items and constructs, while the value of reliability was also high. Therefore, the instrument can work optimally and is trusted in measuring the communication skills of Universitas Terbuka students. A research study of [28] reinforces the findings.

Teachers must use valid and appropriate research instruments [29]. Research instruments should provide comprehensive information about student communication skills in the learning process. Besides, this instrument can also prevent lecturer speculation in giving assessment scores, especially determining the results of lectures and achieving student competency, so the assessment works fairly. The development of communication skills assessment instruments refers to

the education standardization policy through the issuance of Government Regulation No. 19/2005, Article 63-72 of the Ministry of National Education Number 20 of 2007 about Educational Assessment Standards. Under these rules, assessments for higher education are regulated by each campus following laws and regulations [30]. The policy emphasizes every educational institution is obliged to create research instruments to support learning activities to meet competency standards.

However, this instrument only involves student respondents from the Universitas Terbuka and could be less relevant as instruments in other areas. Future studies should start the steps of this study to assess the validity and reliability of respondents in other areas and with a greater number of respondents. It will certainly increase the value of validity and reliability.

5. Conclusion

This research study is successful in discovering information related to the validation and reliability of the development of effective communication skills instruments to assess student communication competencies at the Universitas Terbuka. The development of this communication skills instrument is also an alternative to determine the required skills for students. To get the perfect instrument, the researchers must test repeatedly to improve the quality, the value of validity, and reliability. Based on research analysis, construct validity, and reliability index, it is valid and produces high scores. Thus, effective communication skills instruments can be trusted and used to measure the level of student communication skills.

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