

# COLLEGE: A Universal Tool to Assess Indonesian Student's Soft Skills

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## ABSTRACT

Soft skills make significant contributions to university graduates' success, especially when they are in the work field. However, it is not easy to access an instrument to measure Indonesian students' soft skills. This article is aimed to promote COLLEGE, a valid, reliable, specific, and universal instrument that can be used to assess and interpret students' soft skills. COLLEGE is the acronym of soft skills: Communication skills, Organizational skills, Leadership, Logic, Effort, Group skills, and ethics. The development of the instrument refers to Mardapi's model consisting following steps: preliminary research, early product analysis and development, expert validation and revision of the product, small-scale field trials and revision, large-scale field trials and final product, and assessing and interpreting. The researcher applies expert judgment to validate the instrument. ITEMAN version 3.0 is used to select the items and Alpha Cronbach coefficient with SPSS Version 16.0 to measure the instrument's reliability. This instrument has 66 items in Likert Scale format and has been applied to assess 413 Indonesian university students from various faculties with four criteria: very good, good, low, and very low.

**Keywords:** Indonesian students, instrument, universal, soft skills,

## 1. INTRODUCTION

The necessary skills can be divided into two major skills in the workforce--hard skills and soft skills. Hard skills generally refer to technical procedures or practical tasks that are usually easily observed, calculated, and measured. The training for fresh graduates for these skills is relatively easy to provide because they have already acquired the required knowledge from college. In contrast, soft skills, also called people skills, are not easy to teach. Meanwhile, these skills are needed in the workforce.

The study by the National Association of College and Employers (NACE) from 2002 [1] up to 2015 [2] indicates the importance of soft skills to help students prepare for a winning transition into the real field of the job. On its web page, Purdue University affirms a list of soft skills are seeking by employers in 2020 [3] covering communication, leadership, critical thinking, teamwork, professionalism, multiculturalism, and diversity.

Nowadays, the discussion on soft skills regains more attention from researchers and experts, especially related to online learning, which is very popular in the pandemic era where teachers and students do not meet physically at schools or campuses. A study by Tseng [4] reveals that students' soft skills increase learning outcomes. It means that students' soft skills give a significant contribution to the achievement of an online learning. In other sides, Moore and Pearson [5] indicate that online assignments develop students' soft skills, especially management and organization skills. In other words, students' soft skills are mutually related to the success of online learning.

In both online and offline classes, we intend to provide students with all aspects of soft skills. The more soft skills they get, the better the result they acquire. However, it seems impossible to cover all aspects of soft skills in any classes [5]. We should prioritize several aspects that can be inserted into the learning process.

Putra and Pratiwi originally introduced COLLEGE in a book entitled *Sukses Dengan Soft Skills* [1]. COLLEGE is an acronym of seven aspects of soft skills: Communication skills, Organizational skills, Leadership, Logic, Effort, Group Skills, and Ethics. However, a valid and reliable instrument is not available to assess students' soft skills refers to COLLEGE.

Shakir [6]) states that communication skills include effective communication in national and international languages. In the Indonesian context, those languages are Indonesian and English. Communication skills can be observed when someone communicates with different people and situations. Those who can communicate can convey ideas and thoughts clearly and confidently, both in oral or written form. They are also expected to be active listeners and to be able to respond to people who are talking with them. They are also able to use technology well when making presentations.

Putra and Pratiwi [1] point to these communication skills based on two communication tools—oral communication and written communication. Verbal communication is divided into personal communication, presentations, and group discussions. These three types of communication are considered to determine the quality of one's oral communication.

Organizational skills [1] include three specific skills: managing time, increasing motivation, and maintaining health and physical performance. The essence of real-time management is how to manage the implementation of activities so that they can be completed in a certain period with maximum quality and minimal stress.

Motivation is the personal desire or needs to move individuals to do something to fulfill those desires. As Goldstein expresses, motivation involves psychological processes leading to passion, goals, and persistence of behaviors [7]. Motivation is related to how someone manages their enthusiasm. Maintaining health and appearance refers to a precious property that we rarely know unless we get sick. Companies want healthy and fit workers. If many employees are unhappy, it will undoubtedly bother those companies' productivity. Likewise, the appearance will affect the job, especially in giving the first impression, although it is not absolute.

Leadership is a process in which a person influences others to achieve a goal and directs several resources to achieve a particular vision and mission. Forsyth [8] states leadership as "a reciprocal process in which an individual is permitted to influence and motivate others to facilitate the attainment of the mutually satisfying group and individual works." People who do this leadership process are called leaders. Leadership skills are the ability to lead in diverse activities. Someone who has these skills must know the fundamental theories

about leadership that will allow him to lead a project. It is also essential that someone who wants to have this ability can understand the role of a leader and group members and be able to perform both functions in turn [6]

Logic is solving a problem and thinking creatively. Solving problems is a person's ability to recognize and formulate issues and apply practical solutions. Problem-solving is related to cautious, disciplined, and systematic attitudes in dealing with and looking at problems. Moreover, it is also related to the willingness to do the best and face problems instead of avoiding them.

The effort includes three parts: resistance to face pressure, assertiveness, and the ability and willingness to learn [1]. The pressure at work can lead to stress because not everyone can manage stress well. Stress occurs when a person experiences a situation beyond his capability (Baron, 1983: 276). Some people panic and make careless mistakes when they see something going wrong. Even people tend to do unnecessary things when they are stressed.

There are two essential parts of group skills: teamwork and improving interpersonal skills. Teamwork skills or working skills in teams include working individually and working together with others who have different social and cultural backgrounds to achieve common goals. To build a good working relationship with others, one needs mutual trust, attitudes, and behavior. From time to time, he/she is expected to be ready and capable of carrying out the task both as a leader or member [6]. Interpersonal skills are skills to socialize with other people. Establishing good relationships with others is not easy because it requires time, mutual trust, and respect. Good relations are not only crucial to bosses but also colleagues and subordinates. Good relationships will make work more efficient and also fun. Good connections will also open up new opportunities that were not previously thought of.

Ethics are the beliefs, values, and principles that will guide individuals to interact concerning work and responsibility for a task. The word ethics comes from the Greek, namely *ethos*, referring to a person's basic orientation to life. In Latin, it also means *mos* or *moris*, which is equivalent to moral. "Ethics is the branch of philosophy concerned with the intent, means, and consequences of moral behavior." [9]. According to these two leadership experts, ethics discuss morals as well as the right and the wrong, while morality is sincere behavior and is not artificial [10]

Unlike hard skills, soft skills are not easy to observe and measure. Soft skills are rather implicit and vague

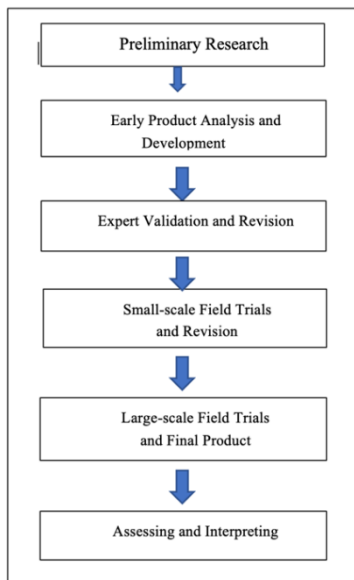
[11]. Some experts argue that they are essential to be taught and examined, while others believe that they are not examinable. These facts urge researchers to develop instruments to observe and assess students' soft skills [12].

Hadiyanto tried to develop an instrument to assess students' and graduates' soft skills [13]. However, that instrument does not specify soft skills measurement. The instrument also evaluates students' hard skills and competitiveness. A research by Ginting resulting an instrument to assess student's soft skills includes certain religions' values as one of the factors meanings that it can be used exclusively to assess the followers of the religion [14]. This article would like to introduce an instrument that can be used universally to assess all students' soft skills regardless of their religions, races, etc.

**2. METHOD**

**2.1. Instrument Development Design**

The development model of COLLEGE soft skills assessment instrument primarily refers to the development model suggested by Mardapi [15]. They are: preliminary research, early product analysis and development, expert validation and revision of the product, small-scale field trials and revision, large-scale field trials and final product, and assessing and interpreting (as shown in Figure 1)



**Figure 1** COLLEGE instrument development model.

**2.2. Respondents**

The small-scale trials involved 20 students, and the big-scale field trials involved 138 students from various departments and faculties. The respondents are seventh-

semester students. This choice is related to soft skills indicators, including presentation skills, teamwork, etc. Seventh-semester students already have experience and soft skills, such as presentations and collaboration. Presentations were made in seminar lectures, and working in teams was done when they carried out fieldwork, field experience program, social service, etc

**2.3. Data Types**

The types of data collected from this trial instrument are in the form of quantitative and qualitative. Quantitative data was obtained from the gained score of each statement in the instrument, both in small and big scale trials. Qualitative data are from comments and advice from field trials and experts' respondents

**2.4. Data Analysis Techniques**

Instrument reliability was determined by calculating the Alpha coefficient from Cronbach using the ITEMAN Version 3.0 Program. The Alpha reliability coefficient from Cronbach was calculated based on the rest of the developed instruments, which are not true or false but relatively gradual. The minimum limit of the reliability coefficient was 0.300. Instrument validity is based on expert judgement. To analyze the data of students' soft skills and instrument reliability, the researcher applies SPSS Version 16.0

**2.5. Assessment and Data Interpretation**

The assessment data are interpreted into four categories: very high, high, low, and very low and refer to the following formula:

**Table 1.** Categorization of soft skills values of uad students

Score	Category
$X \geq Mi + 1,5 SDi$	Very High
$Mi \leq X < Mi + 1,5 SDi$	High
$Mi - 1,5 Sdi \leq X < Mi$	Low
$X < Mi - 1,5 SDi$	Very Low

X : score that student achieves  
 Mi : Ideal Mean  
 SDi : Ideal Standard Deviation

**3. RESULT AND DISCUSSION**

In general, this research has two main phases. They are preliminary research and instrument development. Preliminary research step involves literary study on the topic discussed in academic journals, books, research reports, etc. The instrument development step consists of the following steps.

They are first, arranging instrument specifications. The specification of the instrument developed in this study is self-assessment instruments. The students judge their skills based on the questionnaires. We trust them in weighing their handiness in the aspects of soft skills measured. Four things to consider in preparing the instrument specifications are: (a) determining the instrument's objectives, (b) arranging the instrument grid, (c) determining the format of the instrument, and (d) deciding the length of the instrument.

The objective of the instrument is to find out the strengths and weaknesses of students' soft skills. Thus, students can evaluate the existing potential within themselves [15]). In setting up the instrument grid based on theories and concepts about soft skills that contained concepts, indicators, descriptors, as well as the number and number of items. Based on the literary study, there are seven aspects or factors of soft skills will be observed. They are: communication skills, organizational skills or self-management skills, leadership or leadership, logic that contains the ability to solve problems and creativity, effort that includes the ability to deal with pressure, assertiveness, and learning ability, group skills consisting of the ability to work in teams and interpersonal skills, and ethics which form the acronym COLLEGE. The instrument grid determination covers the indicators of each aspect, number of items, and item number.)

The format of the instrument is a self-assessment questionnaire. In deciding the length of the instrument, the instrument developer refers to the instrument grid. The first aspect, communication skills, has four indicators, with four items for each indicator, so that the first aspect has sixteen items. The second aspect, organizational skills, covers three indicators, with four items for each indicator, so the second aspect has twelve items. The third aspect, leadership, has one indicator and 6 items. The fourth aspect, logic, has two indicators with four items for each indicator, so the fourth aspect has eight items. The fifth aspect, effort, has three indicators. Each indicator has four items, so the fifth aspect has twelve items. The sixth aspect, group skills, has two indicators. Each indicator has four items, so the sixth aspect has eight items. The seventh aspect, ethics, has one indicator with four items. The total number of items is sixty-six with an average completion time of 15 minutes.

Second, writing the instrument. Based on the formulated lattices, the instrument items and their completeness were then arranged regarding the instrument writing instructions and the arrangement of the items. In addition, the form of writing, page format, and page layout are made as well as possible so that they are easy and interesting to read.

Third, determining the scale of the instrument and scoring system. The instrument scale used in this research development is a Likert Scale with five-choice categories, namely: never, rarely, sometimes, often and always. The scores stretch from 1 to 5. Never scores 1, rarely scores 2, sometimes scores 3, often scores 4 and always scores 5.

Fourth, reviewing the instrument. It starts with consulting the instrument with the experts and the supervisor. The researcher made improvements to the instrument based on feedback from them. The researcher asked colleagues for feedback by examining the layout, diction, punctuation, and content in the next step. In addition, the researchers also asked 20 students as a trial for small groups to find out the duration needed to fill out the instrument, the readability, clarity of the language, and the look of the instrument.

Based on the suggestions obtained from the small group trial, the developer made improvements to the instrument. The improvements made are the addition of introductory instruments and improvements related to the choice of words or diction and sentences on the items of the instrument. Thus, it became effective and easy to understand the sentence. For items that reveal two different things, the improvement made was to choose one thing that was considered more important or best represents the indicator. For example, item number 17 (power difference: 0.548), originally written: "I make a list of activities that I want to do and make a priority scale of each activity that I will do." This statement contains two different ideas: making a list of activities and making a priority scale. Thus, the developer should decide on one more representative idea and should be kept. In this case, "making a list of activities" was chosen rather than "making a scale of priorities." The statement that should be changed to be: "I made a list of activities that I wanted to do." This improved instrument would then be used in field testing.

Fifth, conducting field trials. After the instrument had been improved, the instrument was tested. This trial involved 138 students already in semester six and had done the compulsory field social service (*Kuliah Kerja Nyata*). Thus, respondents come from almost all study programs or faculties. The selection of students who are conducting the compulsory social service as a trial respondent with the assumption that semester VI students (as one of the requirements to be able to take part in the compulsory social service) had an experience related to soft skills, such as the experience of making presentations, working together in teams, etc. Data was collected by visiting the places where the students conducted the compulsory social service and asking them to fill in the instruments. The completed

instruments were immediately returned to the data collection officer. The data was then analyzed using the ITEMAN Version 3.00.

Sixth, analyzing instrument. At this stage, the results of testing the instrument were analyzed for validity and reliability. Validity analysis would be conducted based on the contents of the test, which includes face validity and logical validity. Test the validity of this instrument is through expert judgment. Reliability testing aims to find out whether the instrument was consistent and stable to measure a construct. Reliability testing uses the Alpha formula from Cronbach. This formula was calculated with the ITEMAN Version 3.00. The use of this application regarding the instrument is in multiple-choice form. The reliability coefficient spreads between 0 to 1. In this study, the reliability coefficient of each item is expected to be at least 0.300. From this analysis, statement items that do not meet the requirements are excluded or corrected.

Table 2 provides information on the different power of each item. If a minimum power difference of 0.300 is determined for each item categorized as good, of the 66 items there are 2 (two) items that do not meet or need to be fixed, namely item number 12 (power difference: 0.254) and item number 23 (power difference: 0.293), while the other 64 items can already be categorized as good or feasible because the power difference is equal to or more than 0.300.

**Table 2.** Summary of item analysis results on the instrument difference index

No. Item	Power Difference	Inter-pretation	No. Item	Power difference	Inter-pretation
1.	0,451	Good	34.	0,668	Good
2.	0,396	Good	35.	0,668	Good
3.	0,475	Good	36.	0,741	Good
4.	0,437	Good	37.	0,650	Good
5.	0,577	Good	38.	0,674	Good
6.	0,613	Good	39.	0,557	Good
7.	0,560	Good	40.	0,606	Good
8.	0,579	Good	41.	0,668	Good
9.	0,597	Good	42.	0,620	Good
10.	0,443	Good	43.	0,500	Good
11.	0,452	Good	44.	0,566	Good
12.	0,254	Low –	45.	0,620	Good

		Revision			
13.	0,513	Good	46.	0,682	Good
14.	0,471	Good	47.	0,458	Good
15.	0,440	Good	48.	0,587	Good
16.	0,461	Good	49.	0,613	Good
17.	0,634	Good	50.	0,615	Good
18.	0,668	Good	51.	0,573	Good
19.	0,632	Good	52.	0,623	Good
20.	0,685	Good	53.	0,380	Good
21.	0,525	Good	54.	0,598	Good
22.	0,554	Good	55.	0,594	Good
23.	0,293	Low – Revision	56.	0,712	Good
24.	0,476	Good	57.	0,699	Good
25.	0,465	Good	58.	0,613	Good
26.	0,487	Good	59.	0,573	Good
27.	0,539	Good	60.	0,657	Good
28.	0,452	Good	61.	0,391	Good
29.	0,670	Good	62.	0,612	Good
30.	0,733	Good	63.	0,708	Good
31.	0,649	Good	64.	0,775	Good
32.	0,695	Good	65.	0,790	Good
33.	0,521	Good	66.	0,753	Good

Several possibilities made the two items are not good (item number 12 and item number 23). First, in terms of language, the statements in the two points did not provide a clear understanding to respondents. Second, the statements on the two items were content similar to other items. Third, the statements on these two items were out of the specified indicators. Fourth, it contains the first and second causes or the first and third causes. Therefore, it was necessary to revise both items.

Seventh, assembling instruments. After testing the validity and reliability of the instruments, the next step is examining items that do not meet the requirements by deleting or revising accordingly. The revised version after revising from the field trial resulting the final product.

Eight, applying the final instrument. The final product then applied to assess the soft skills of 413

students from diverse faculties. The data then be analyzed with SPSS version 16.0 resulting the Alpha coefficient of 0.94 meanings that the instrument reliability is very high and the description of the students' soft skills.

**Table 3.** Overall data description of students' soft skills

Aspects	Very Good	Good	Low	Very Low	Criteria (Average)
<i>Communication Skills</i>	25,18%	67,07%	7,74%	0%	Good
<i>Organizational Skills</i>	30,5%	59,56%	8,95%	0,96%	Good
<i>Leadership</i>	35,1%	52,3%	11,62%	0,96%	Good
<i>Logic</i>	69,24%	29,78%	0,72%	0,24%	Very Good
<i>Effort</i>	52,78%	45,27%	1,21%	0,24%	Very Good
<i>Group Skills</i>	62,95%	34,86%	1,93%	0,24%	Very Good
<i>Ethics</i>	83,29%	15,73%	0,48%	0,48%	Very Good

#### 4. CONCLUSION

Sixty-six valid and reliable items cover seven traits of soft skills in the instrument. Experts have previously validated the instrument and analyzed it through small and large-scale field trials. The result of the assessment to university students is that students' communication skills and organizational skills are "good". Based on the assessment and interpretation result, students' communication and organizational skills are "good", whereas students' leadership, logic, effort, group skills, and ethics are "very good".

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