

ANALYSIS OF LOCAL WISDOM-BASED COLLABORATION SKILL INSTRUMENT (LWCSI) IN CIVICS FOR HIGHER EDUCATION

**Juliana Tirza^{1*}, Ni Nyoman Parwati²,
Gede Rasben Dantes³, and I Kadek Suartama⁴**

¹Pelita Harapan University, Indonesia

^{2,3,4}Ganesha Education University, Indonesia

learn.mjtirza@gmail.com¹, nyoman.parwati@undiksha.ac.id²,
rasben.dantes@undiksha.ac.id³, and ik-suartama@undiksha.ac.id⁴

*correspondence: learn.mjtirza@gmail.com

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Abstract

The ability to collaborate is highly important in the world of work and social life. This skill is related to the individual's ability to cooperate with others in achieving a goal. Several previous studies related to the development of collaboration ability instruments using visible dimensions as their pivot, such as aspects of performance outcomes and levels of interaction. However, some previous studies suggest that a person's ability to collaborate comes from within as well. Therefore, an instrument is needed to measure students' collaborative abilities in depth and adapt to the diverse Indonesian context, which is diverse in so many aspects. The researchers developed an instrument called the Local Wisdom-Based Collaboration Skills Instrument (LWCSI), which is an instrument that measures students' collaboration abilities but is adapted to the context of Indonesia which is Godly and diverse in culture. The population in this study consisted of 166 students who took civics education classes in the short semester of 2022/2023. To determine the validity, the df value used is $(166-2) = 164$ with an α value of 0.05. The R-table value obtained is 0.1281. From the table the R-count is greater than the R-table, so it can be concluded that all items are valid. The number shows 0.06 so it can be concluded that the LWCSI instrument is reliable and can be utilized to measure student collaboration skills based on local wisdom. Therefore, it can be concluded that this instrument is able to measure the collaboration skills of students with a variety of beliefs and cultures, especially in Indonesia that have a large and diverse population.

Keywords: civics education, collaboration scale, collaboration skills, higher education

Introduction

The ability to collaborate is very important in the world of work and social life. This skill is related to the individual's ability to cooperate with others in achieving a goal. In the context of education, collaboration skills are very important



to help students learn effectively and prepare them for future success (Afif & Fauzi, 2022). Collaboration skills are an important ability for students to face an increasingly complex world of work. Collaboration is also the key to success in completing assignments or projects in the work environment and when studying.

The Republic of Indonesia's national education law number 20 of 2016 targets graduates to be equipped with knowledge, good character, and various skills. In terms of skills, students are expected to have the ability to think creatively, critically, independently, and be able to collaborate and communicate. This is in line with the skills that humans need to have in the 21st century, namely being able to think critically, creatively, communicative, and collaborative (Braathen, 2022; Maniam & Pruekpramool, 2019). Collaboration skills are one of the skills that are important for students to have before they enter the world of work which continues to be affected by globalization (Pazos et al., 2020).

In the context of Indonesian higher education, the implementation of collaborative learning strategies can also contribute to the development of intercultural competence (de Hei et al., 2019). As Indonesia's higher education system becomes increasingly internationalized, students must be equipped with the skills to navigate diverse cultural contexts and work effectively with peers from different backgrounds. However, existing research suggests that there are several challenges to promoting collaboration among students in Indonesian higher education (Djalante, 2016). These include limited experiences with collaborative learning, power dynamics within student groups, and a lack of incentives for international collaborations and publications. To address these challenges, institutions must prioritize the development of student collaboration skills through the integration of group-based learning activities, the provision of training and support for both students and faculty, and the implementation of policies that encourage and reward collaborative work.

Indonesia's higher education institutions face a pressing need to cultivate students' collaboration skills (Ye & Xu, 2023). This is crucial for equipping them with the necessary abilities to thrive in the 21st century workforce, where teamwork and cooperative problem-solving are highly valued. Studies have shown that Indonesian students' critical thinking and communication skills lag behind international standards (Susanto & Lestari, 2020). This underscores the urgency for universities to prioritize the development of collaborative competencies. As Yokhebed (Hikmawati et al., 2021) notes, communication skills are essential for effectively conveying ideas to others - a cornerstone of successful collaboration.

Collaborative capacity is the key to success, both in work and life (Phuong & Drong, 2018). Students must be able to work cohesively, leverage each other's strengths, and collectively tackle complex challenges. Septikasari and Frasandy (Hikmawati et al., 2021) emphasize that 21st century learners need to master the "4C" skills - critical thinking, creativity, collaboration, and communication - to thrive in the modern landscape.

One promising avenue is to develop learning materials and assessments rooted in Indonesia's rich cultural heritage. Marzuki and Feriandi (Murdiono et al., 2020) note that civic education should leverage local wisdom to promote global citizenship values, including social responsibility and political engagement. By tapping into Indonesia's diverse cultural tapestry, universities can design collaboration-focused curricula that resonate with students' lived experiences and

social contexts. This approach not only strengthens students' sense of identity and belonging, but also equips them with the collaborative skills needed to navigate an increasingly interconnected world.

Incorporating local wisdom into collaboration-oriented assessments can provide a more holistic and contextually relevant measure of students' abilities. Research-based on local culture in the field of science as an effort to develop students' critical thinking and communication skills is still rare (Hikmawati et al., 2021), underscoring the need for more targeted efforts in this area.

Based on the results of observations by the researchers at a private tertiary institution in Tangerang, there has not been an instrument that can measure student collaboration skills, especially when blended learning is applied. Student collaboration activities already exist, but there is no instrument that measures student collaboration abilities. Instruments used in learning tend to measure students' cognitive abilities only. Several previous studies related to the development of collaboration capabilities instruments only focused on visible dimensions, such as aspects of performance outcomes and levels of interaction (Sufajar & Qosyim, 2022), participant roles and responsibilities (Boyras, 2021) and willingness to express opinions (Tang et al., 2022). Thus, an instrument is needed that can measure students' collaborative abilities in depth and adapted to the diverse Indonesian context. In this study, developed an instrument called the Local Wisdom-Based Collaboration Skill Instrument (LWCSI), which is an instrument that measures student collaboration skills, but adapted to the God-diverse and diverse Indonesian context.

This research only focused on student collaboration skills at a private university in Tangerang. Measurement instruments: This research will only focus on developing instruments to measure student collaboration skills; therefore, this research will not discuss efforts to improve student collaboration skills. The validity of this research instrument will focus on developing a valid and reliable instrument for measuring student collaboration abilities. This research will not discuss internal validity, such as course content or constructs.

The research question in this study is how to develop a valid and reliable instrument to measure students' collaboration abilities in civics education courses? The purpose of this research is to develop a valid and reliable instrument to measure students' collaboration abilities in civics education courses in accordance with the rules of local wisdom in Indonesia, which is a country with a very large population. The purpose of this research for higher education in general is to improve the quality of measuring student collaboration abilities. With the existence of valid and reliable instruments, it can help ensure that measurements made regarding collaboration capabilities are more accurate and reliable. For tertiary institutions, the aim of this study is that LWCSI can be input for tertiary institutions to develop curriculum and learning better and according to the needs of students in developing collaboration skills. For researchers, the development of this instrument can be preliminary research before carrying out further research on a larger scale.

Literature review

Collaboration skills are very important for students to have, collaboration skills will make students proficient in mobilizing and providing energy for other people to form a common vision in solving a problem (Nova, 2022), develop

teamwork and leadership skills (Umrotin et al., 2022), and able to make commitments (Salasiah et al., 2022). A high-level collaborative learning process, including self-reflection from different perspectives (de Hei et al., 2019) and integration of new emerging knowledge within the group (Poort et al., 2022) is an important aspect of the collaborative process.

Several previous studies related to collaboration ability instruments

The standard rubric of collaboration skills put forward by the International Reading Association suggests five aspects in measuring collaboration skills. Which are, contribution, time management, problem-solving, working with others, inquiry and synthesis techniques (ReadWriteThink, 2005). Several other studies have developed collaboration ability instruments, writing down several indicators of collaboration ability, among others, asking friends or teachers, being able to speak or express opinions, respecting and respecting the opinions of others, working together to solve problems, sharing tasks among group members, showing concern, and able to guide others to achieve goals (Verawati et al., 2020). Friesen and Brown also suggest a sense of responsibility as an indicator of collaboration (Friesen & Brown, 2022). Greenstein also put forward several indicators in measuring collaboration skills, including giving opinions in groups, having empathy and compromise, prioritizing group interests, being able to develop values, being able to work together to create new ideas and ideas, and actively participating in completing assignments and having respect, respect opinions of others, have the ability to resolve conflicts and is active in group discussions (Greenstein, 2012).

Ability to collaborate in the context of religious pluralism

One's collaboration ability is certainly influenced by various aspects. Collaboration that occurs in rich nuances with spiritual values can produce products with a high level of trust (Daniel, 2010), success in inquiry learning (Irwandi et al., 2022), and build a positive climate of collaboration (Kim & Gentle-Genitty, 2020). Faith belief is found to be one of the positive quality factors in a person including his ability to interact (Stewart-Ginsburg & Kwiatek, 2020). Collaboration between different religions makes students use existing communal power (Miles-Tribble, 2020) so that the results of the collaboration become more meaningful. Research shows that collaboration that occurs in a pluralistic religious context creates positive relationships and an antidote to negative stereotypes in collaborative groups (Berling, 2020). Thus, the aspect of spiritual values can be used as one dimension in measuring a person's collaboration ability.

Collaboration skills and cultural diversity factors

A person's understanding of the value of diversity influences his success in the process of collaborating (Stafford, 2022). The higher the sensitivity to diversity, the easier it will be for him to work in groups with different backgrounds from his own (Seithers et al., 2022). If collaboration skills are still low, it is highly recommended for educators to often apply group designs with various backgrounds, so that they can quickly form intercultural competence (IC) in self-member groups. (Liang & Schartner, 2022). Cooperation in various diversity also has a very significant impact, one of which is to minimize the emergence of subjectivity in the results of the work made (Novelty, 2021). Thus, the dimension of sensitivity to

diversity is an indicator that needs to be considered when trying to measure one's collaboration abilities. Based on the explanation of the experts above, it can be concluded that there are several aspects of one's collaboration skills, including aspects of contribution (Greenstein, 2012), time management (ReadWriteThink, 2005), religious pluralism awareness (Berling, 2020) and cultural awareness (Stafford, 2022). Below is a grid of research instruments developed based on previous studies.

Table 1. Grid table

No.	Dimensions	Indicators	Questions
1	Contributions	Actively giving opinions and carrying out activities in groups	<ol style="list-style-type: none"> 1. I actively give my opinion when working on group assignments. 2. I attend group meetings 3. I am not negligent in doing my part 4. I give a progress report on the task of my section 5. I convey my approval and disapproval in group discussions
2.	Time management	Able to manage time in teamwork	<ol style="list-style-type: none"> 1. I provide time for discussion. 2. I manage my time well. 3. I neglect group study time. 4. I focus during group discussions. 5. I am still doing other things when working in groups
3.	Religion pluralism awareness	Understand your own religious insights and those of others in the team	<ol style="list-style-type: none"> 1. I know about the teachings of my religion 2. I have sufficient knowledge about the different religions of my colleagues. 3. I know when my partner's worship time is. 4. I am willing to be assigned with colleagues of different religions 5. I am not comfortable with colleagues who are of a different religion than mine
4.	Cultural awareness	Understanding own culture and others in the group	<ol style="list-style-type: none"> 1. I know my cultural background. 2. I know the cultural background of my group mates. 3. I am comfortable working with colleagues from different cultures with me. 4. I am slow to adapt to people who are culturally different from me. 5. For me working with people from different cultures is not a problem.

Method

The research methodology used in this study focused on the following sub-sections: population, sampling procedure, sample size, instruments, and data analysis techniques.

Population and sampling procedure

The population in this study consisted of 166 students who took civics

education classes in the 2022/2023 short semester at a university in the Banten area. Students who are the sample come from various study programs such as design, nursing, law, engineering, and mathematics. According to Hair, the number of samples should be more than 100 people (Hair et al., 2014) thus if the number of samples is 166 for 20 items it is considered sufficient to maintain the validity of the instrument.

Development process

The development method that will be applied in this study is the development of 4D models, namely define, design, develop and dissemination. The defining stage is useful for determining and defining the requirements needed in the learning process and gathering various information related to the product to be developed. (Arkadiantika et al., 2020). Researchers conducted a needs analysis in the field, regarding the need to develop instruments that measure student collaboration abilities. Researchers are also looking for various sources related to indicators and various aspects related to collaboration capabilities. At this stage, several aspects were found that form student collaboration abilities which were adapted and developed from the International Reading Association (ReadWriteThink, 2005) and the results of personal analysis from various literature reviews. These aspects include contribution, time management, problem solving, inquiry techniques, understanding inter-religiousness and awareness of cultural diversity.

The define stage is also used to determine its implementation, which will be implemented in the Citizenship Education course, in the short semester which lasts from May to July 2023. The product was tested on 166 third semester students at a private university in Tangerang. Instruments in the form of psychometric scales or questionnaires will be distributed using cloud media, namely OneDrive to make it more efficient and effective (Dewi & Akhlis, 2016). The second stage is the design or planning. At this stage the researcher made an initial design, as seen in the grid table in the previous chapter.

Then at the development stage, this instrument was developed specifically to form 20 questions. After the items were formed, they were tested on 166 students. These items were then tested for validity with the help of SPSS version 28 and for reliability using Cronbach alpha.

Data collection and analysis

This study uses online questionnaires through OneDrive forms and distributed to the participants using WhatsApp. All participants were informed about the purpose and procedure of the study in the introductory section. The identity of the participants remained anonymous as their data was kept privately and confidentially. The data collected was transferred into IBM SPSS 28 for data cleaning, reliability, and validity.

Findings and Discussion

Demographic

The participants' demographic information was collected using the online survey questionnaire. The demographic information included gender, semester, and religion. Only 166 of the online survey questionnaires were valid for the analysis. As illustrated in Table 1, 65.6% (n=109) were female students while 34.3% (n=57)

were males. Regarding religion, most of the respondents 66.3% (n=110) are Christians, Catholic 13.9% (n=23), 12.04% (n=20) are Muslims, 1.2% (n=2) are Hindu and 6.6%(n=11) are Buddhis. In terms of the academic semester, most of the students that participated were in their 3rd semester.

Table 2. Demographic characteristic of participants

Characteristic	N	%
Gender		
Male	57	34.3
Female	109	65.6
Religion		
Christian	109	66.3
Catholic	23	13.9
Muslims	20	12.4
Hindu	2	1.2
Buddhis	11	6.6
Semester		
Three	166	100

Measurement model

The measurement model used in this study identifies the validity and reliability of the developed instrument. To determine validity, the score of $df (166-2) = 164$ with the α score is 0.05. From this formula, the value of r-table is 0.1281. Showed in table 2, the result of validity test from LWCSI.

Table 3. Tabel item total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Contribution				
X1.1	81.07	49.590	0.505	0.843
X1.2	80.86	50.884	0.445	0.846
X1.3	81.02	48.896	0.592	0.840
X1.4	81.14	48.787	0.579	0.841
X1.5	81.11	49.326	0.477	0.844
Time management				
X1.6	80.99	49.109	0.618	0.840
X1.7	81.36	48.632	0.535	0.842
X1.8	81.16	50.448	0.222	0.858
X1.9	81.31	47.717	0.631	0.838
X1.10	81.43	49.580	0.318	0.852
Religion pluralism awareness				
X1.11	81.11	49.823	0.470	0.845
X1.12	81.90	48.136	0.410	0.848
X1.13	81.78	46.341	0.539	0.841
X1.14	81.13	50.128	0.419	0.846
X1.15	80.94	50.918	0.318	0.850

Cultural awareness				
X1.16	81.37	48.660	0.545	0.841
X1.17	82.14	47.809	0.414	0.848
X1.18	81.36	50.315	0.325	0.850
X1.19	81.37	50.610	0.318	0.850
X1.20	80.96	50.653	0.381	0.848

From the table, the r-count is greater than the r-table, so it can be concluded that all items are valid. Reliability was also calculated in this study as shown in the table below.

Table 4. Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
0.852	20

The number shows 0.06 so it can be concluded that the LWCSI instrument is reliable and can be used to measure student collaboration skills based on local wisdom.

By using SPSS version 28, item statistics are calculated to see the average value of each item being tested. As shown in table 2, questions 12, 13 and 17 have a lower average value than the other items. Two statement items come from the dimension of understanding of religious diversity and one item from the awareness dimension of cultural diversity. The high average score is on the contribution dimension.

Table 5. Item Statistics

Item Statistics			
	Mean	Std. Deviation	N
X1.1	4.49	0.600	166
X1.2	4.69	0.488	166
X1.3	4.53	0.600	166
X1.4	4.42	0.624	166
X1.5	4.44	0.665	166
X1.6	4.56	0.555	166
X1.7	4.19	0.687	166
X1.8	4.40	0.927	166
X1.9	4.25	0.691	166
X1.10	4.13	0.868	166
X1.11	4.44	0.608	166
X1.12	3.65	0.920	166
X1.13	3.77	0.951	166
X1.14	4.42	0.625	166
X1.15	4.61	0.639	166
X1.16	4.18	0.672	166
X1.17	3.41	0.960	166
X1.18	4.20	0.732	166
X1.19	4.19	0.693	166
X1.20	4.59	0.594	166

Discussion

The paper determined the validity and reliability of the collaboration capability instrument based on local wisdom. Many studies have been conducted regarding the development of a scale to measure students' collaboration abilities and many have used it as a reference (Hojat & Gonnella, 2011; Van Winkle et al., 2011). However, no instrument has yet been developed considering the beliefs and cultural background of each collaborator. Indonesia, which is famous for its diversity, makes Pancasila the basis of the state. The constitution of the country regulates various aspects of trust and humanity. As the ideology and basis of the state, every aspect of society, including various collaborations in education, cannot be separated from the values of Pancasila. These values include the value of God and awareness of diversity.

In developing this instrument, researchers tried to include two dimensions that had never been measured before in ensuring a student's collaboration skills. The two dimensions are divinity or awareness of religious diversity and awareness of cultural diversity. Previous studies have explained the relationship between collaboration skills and awareness of one's religious diversity. The link between collaboration skills and awareness of cultural diversity has also been studied before. Through the development of this measurement tool, it is seen that the items that measure the two dimensions are valid and reliable.

The calculation results with SPSS also show that all the 20 items proposed are valid and acceptable. At the dissemination stage, the results were seen from the answers of 166 respondents in this study. LWCSI can be an alternative when researchers or educators want to observe students' collaborative skills in their class.

Conclusion

The novelty of the development of this instrument is that it involves the dimensions of religious diversity and cultural diversity. In the context of Indonesia and other countries that have diversity, the availability of a scale to measure collaboration based on the diversity of the participants' backgrounds will be very useful. In the future, research on student collaboration skills will continue to be of interest, because it is one of the human competencies of the 21st century. Thus, this measurement scale can be an example that can be studied further or modified according to needs in the research area.

The development of a local wisdom-based collaboration skill instrument for civics education in Indonesian higher education could have significant implications for both research and practice. First, it would contribute to the growing body of literature on the role of local wisdom in shaping 21st-century skills, particularly in the context of higher education. Second, the instrument could provide a practical tool for educators to assess and improve students' collaboration skills, which are essential for their academic and professional success. Moreover, the implementation of a local wisdom-based collaboration skill instrument could lead to the design of more culturally relevant and engaging learning experiences for students, fostering a deeper understanding and appreciation of Indonesian cultural heritage.

In conclusion, the urgency of developing collaboration skills among students in Indonesian higher education is clear, and the integration of local wisdom into the curriculum and teaching practices can be a promising approach to address this need.

The development of a local wisdom-based collaboration skill instrument could have far-reaching implications for improving the quality of higher education in Indonesia and preparing students for the global challenges of the 21st century.

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