Jurnal Iqra' Kajian Ilmu Pendidikan

E-ISSN: 2548-7892 & P-ISSN: 2527-4449

Volume 6, Number 1, June 2021

The Development of Assessment Instrument to Assess Implementation of Work-Based Learning, and Learning Innovation Skills

Irma Manda Negara[1*], Nurul Hidayati[2]

[1,2] *Sekolah Tinggi Bahasa Asing Pontianak, Indonesia*

irmamanda23@gmail.com*

ARTICLE INFO

Article history:

Received

August 25 , 2020

Revised

April 14, 2021

Accepted

May 17, 2021

ABSTRACT

This article aims to develop an instrument to assess the implementation of a Work-Based Learning internship approach, and learning innovation skills by referring to the Framework of Partnership 21 Century Skills. This research was a Research and Development (R&D). The development was carried out through four phases; Preliminary Investigation, Design, Realization, and Development. The instruments developed were tried out to students who had already carried out an internship. This study conducted 3 tests of validity, namely expert validity, content validity, and criterion validity. Then, reliability testing uses Cronbach's Alpha. The WBL variable had a reliability of 0.942 and a LIS variable of 1,000, Hence, it can be concluded that the instrument developed was declared valid and reliable to assess students' WBL and LIS activities.

Keywords: *Work Based Learning, Innovation Skills of Students, Development Assessment Instrument*

How to cite Negara, I., & Hidayati, N. (2021). The Development of Assessment Instrument to Assess Implementation of Work-Based Learning, and Learning Innovation Skills. *Jurnal Iqra' : Kajian Ilmu Pendidikan, 6(1)*. 1-13. https://doi.org/10.25217/ji.v6i1.932

Journal Homepage http://journal.iaimnumetrolampung.ac.id/index.php/ji/

INTRODUCTION

To enter the workforce, students are required not only to master theoretical concepts but also to have skills as provisions for the competitiveness of Human Resources (HR) in the current 4.o revolutionary era. The internship is a part of learning activities aimed at introducing the workforce to students, integrating the theories already obtained in lectures, as well as a forum for developing student skills. The internship needs to implement as a means to prepare students for the workforce. It is consistent with the results of research by Mu'ayati & Margunani (2014) which shows that the internship is very beneficial to gain experience in work, students are placed directly at work, so students have the skills and prepared to enter the workforce. Futher, in STBA Pontianak, internship activities have carried out in the last two years, and there is no evaluation conducted to describe the impact and obstacles of implementing the internship, especially for improving student skills (Sturner et al., 2017; Duerden & Witt, 2012).

Based on identification carried out by researchers and studies above that the implementation of an internship in STBA Pontianak has never evaluated. Furthermore, no research examines and measures the level of influence of the implementation of internship on Learning-Innovation Skills using the Partnership 21st Century Skills framework. Though, there have been several studies that examine the implementation

of the internship among these are studies conducted by Cheong et al (2014) examines the experiences of students during internships and recommendations for the educational institutions to enhance the experience of the internship. Furthermore, research by Binder et al (2015) examines the integration of the experience internships for academic to career. Then, research conducted by Fong et al (2014) analyze how students choose an internship with ten criteria, including: "relevance of internship to career development, a functional area of the internship, physical working environment, comprehensive training program, friendly colleagues, a brand of the organization, competitive remuneration, distance commuting to workplace, the experience of the company as a consumer, and working in an organization that affiliated with the universities." Last, research conducted by Tsai et al (2017) analyse of the relationship between students motivation, the success of off-campus internships, and career preparation. Meanwhile, this study will develop an assessment instrument, to evaluate the results of the implementation of the internship against the scope of skills that exist in the learning innovation skills.

Furthermore, as mentioned by Sudira (2015) that there isn't much that examines the complex of Learning-Innovation Skills. To determine the impact of the implementation of the internship on students' Learning-Innovation skills, require an assessment device. The results of the assessment will be the basis for evaluating the program and making improvements. Therefore the main objective of this research is to develop an assessment instrument, which will be used to measure the results of the implementation of the internship and the substance of the skills of Learning-Innovation Skills. Another difference between this research than the previous one lies in the theoretical literature used. For variable Learning-innovation skills the theory used refers to the 21st-century skills framework, whereas, for internship variables, this study uses the theoretic of Raelin (2008) which includes "effects on self, effects on interpersonal and team relationships, effects on professional behavior, effects on a project". Specific use of this theory based on the fact that an internship is a form of the Work-Based Learning approach model (Siswanto, 2012). Since, this learning concept provides learning experiences in work activities, provides curriculum insights, and build up partnerships (Van Velzen et al., 2012).

On the other hand, few studies assessed work-based learning but have a different substance than the present study. The first study conducted by Scholtz (2020) examines workplace-based learning assessments. The assessment is carried out with a portfolio to find out the perspective of internship participants from those assessments. In this study, the content analysis includes questions such as how the assessment fulfil and whether the portfolio meets the assessment objectives of the implementation of work-based learning. Subsequently, a study conducted by Schonell & Macklin (2019). The study examines the implementation of "live case study" evaluation with an alternative approach to work-integrated learning.

This study developed an assessment instrument to measure learning outcomes from WBL implementation using indicators recommended by Raelin and the impact of the implementation of the WBL Learning and innovation skills (LIS) students. The choice of LIS variables refers to the 21st-century skills framework. As it is known, for decades, there have been significant changes for students to enter the workforce (Soule & Warrick, 2015). Therefore, students expected to be ready and able to face challenges, especially when they enter the workforce and real social life. Furthermore, Binkley et al (2012) to succeed in career and social life, the partnership 21st Century Skills (P21) is needed. Moreover, P21 provides the necessary skills for students in social life and

success in the global world, because the working of the world currently require graduates have the skills prepared to work and adapt to solve complex problems (Bedir, 2019; Schonell & Macklin, 2019). Further, P21 aims to provide support in the form of experience and opportunities for students to become effective, innovative, and communicative workers, leaders and citizens who are in harmony with developments in the learning environment and society (Soule & Warrick, 2015).

Based on the above observations and differences of results from previous studies, this study will develop a valid assessment instrument, by conducting several tests. The assessment instrument developed can be used to assess the impact after carrying out an internship and the influence of the internship on learning innovation skills. As previously explained, that not much studies that examine learning innovation skills. Furthermore, there has been no research that has developed an assessment instrument using the theory of Raelin (2008) and learning innovation skills in terms of the P21 century skills framework.

METHODS

The method used in this research is Research & Development (R&D). This research develops an instrument to assess the implementation of internship and Learning Innovation Skills for students, particularly for STBA Pontianak, but it does not rule out the results of the development of this instrument can also be used for the implementation of internship in other higher education.

The development model used in this study is the Plomp method. The plomp model consists of the initial investigation phase, the design stage, the realization phase, and the test, the evaluation and revision stage, and the implementation phase (Rochmad, 2012). Following the exposure of each phase:

1. The preliminary investigation phase is the first stage. In this phase, identify problems and conduct need analysis. An assessment is needed to evaluate the activities of internship, and see the impact of internship on the development of student skills, especially in the scope of learning and innovation skills.
2. The design phase is the stage to solve problems found in the preliminary investigation stage. At this stage, researchers design an assessment instrument form to assess internship activities and learning innovation skills. The design of the instrument was developed based on the internship assessment concept theory and P21 framework. In this stage also, the researcher determines who will be the validator (rater) to validate the content of the assessment instrument.
3. Realization phase is the design of work reconstruction. This stage designs a prototype to produce an instrument for assessing students' intership and learning innovation skills.
4. In the development phase, in this stage, the instrument is developed based on the indicators that have been set. Based on the description of operational definitions, instrument indicators are prepared. In the initial design, there were 34 items for the assessment indicators for internship implementation and 35 items for indicators of learning and innovation skills. Using rating scale: 5 (always), 4 (often), 3 (sometimes), 2 (ever), 1 (never)

Development procedure

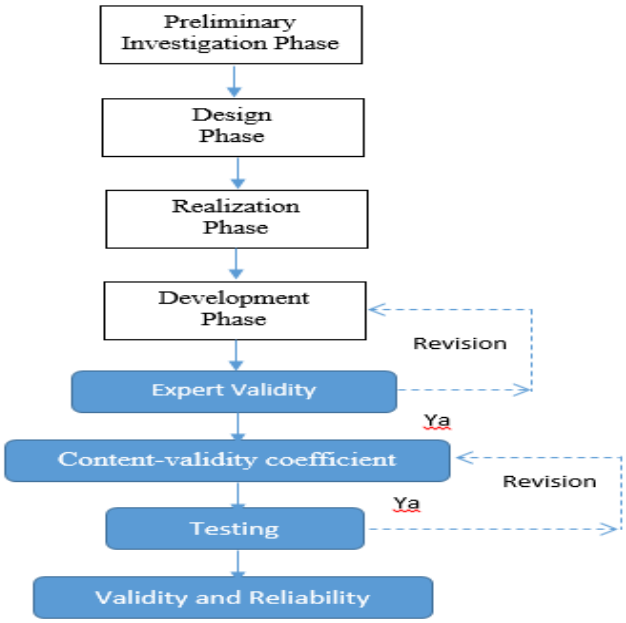

Figure 1. Prototype Development Procedure Plomp Model

Validity and Reliability

After developing the instrument, the next step is to test the validity and reliability. As stated by Rochmad (2012) valid, practical, and effective are the three criteria in determining the quality of development. In this case, the validity of an instrument can be proven in several ways. It can be proven in content, construct, or criteria (Yusup, 2018). In this study, the first is to do validity the expert, in which experts provide input for improvement instrument content, the number of items may increase, according to the advice and input provided. The next step is to test the content validity by using the Aiken's V coefficient, three rates give the value of each item. Appraisers are lecturers who are chosen based on their fields of expertise, especially education. Then, the results of the assessors were analyzed using Aiken's formula, which are:

V = Σ s / [n{C-1}]
S = r – lo
Lo = lowest rating score (e.g. 1)
C = highest rating score (e.g. 4)
R = number given by the rater (Hendryadi, 2017).

Coefficient V values range from 0 to 1, with reference to the greater value of V, so the greater the content validity of an item (Ningdyah et al., 2018). Furthermore, for agreement index criteria the coefficient V values are as follows: if V <0.4 = low validity; if V 0.4 - 0.8 = medium validity; if V> 0.8 = high validity (Retnawati, 2016). The instrument has been content validated, revised, then tested on the field. The instrument is tested on students who have done an internship, the determination of the sample using purposive sampling. The results of the field trials are used as the basis for conducting the validation criteria for Test-Retest reliability, using product-moment correlation and alpha Cronbach's.

RESULT AND DISCUSSION

This research was to develop instruments to assess the impact of internship implementation and internship contributions on learning and innovation skills. Determination of indicators based on operational definitions and theories. The following are the descriptions of each indicator:

Table 1. Indicator of Measurement Outcomes
Work-Based Learning Variables with Internship Approach

Indicator	Aspect	Item
Effect on self	Academic development	A1 – A4
	Personal development	A5 – A13
	Career development	A14 – A17
Effect on interpersonal and team relationship	Increased awareness of team dynamics, improved performance as a team member, ability to facilitate teams, greater patience with others, improved listening acuity, faculty in communicating one's feelings, greater sensitivity to others, better probing skills, proficiency in challenging others, adeptness in soliciting collective inquiry, and enhanced networking capability	A18 – A26
Effect on professional behaviour	Ability-based and relate to the technical knowledge pertaining to the profession or field in question	A27 – A34

(Raelin, 2008)

Table 2. Variabel Learning and Innovation Skills

Indicator	Aspect	Item
Critical thinking and problem solving	Reason effectively	B1 – B8
	Use system thinking	
	Make judgements and decisions	
	Solve problems	
Communication and Collaboration Skills	Communicate clearly	B9 – B20
	Collaborate with others	
Creativity and Innovation	Think creatively	B21 – B35
	Work creatively with others	
	Implement innovations	

(Triling & Fadel, 2009)

The instrument has been developed, validated by experts by providing suggestions for content improvement. Following are the results of expert validation:

1. Make sure that each indicator is represented by at least 2 point statement, so that if there are invalid items at the time of validation, the indicator is still represented by the other items.
2. There are several statements that are almost similar (some are even the same).

Based on these suggestions, improvements were made to reduce and increase the number of items, are for the WBL variable from 34 to 32 items, and the Learning and Innovation skills variable from 35 to 39 items. The next stage, the instrument that has

been improved, is assessed by three raters to find out the content validity, and the results are as follows:

Table 3. The Calculation Results of the Content Validity Aiken's V
Variable WBL

Kategori	Items	Validity	Freq (%)
≥0.8	A2, A3, A5. A8, A11, A14, A15. A19, A20, A21, A24, A25, A26, A27, A31, A32	High	50
0.4 – 0.8	A1, A4, A6, A7, A9, A10, A12, A13, A16, A17, A18, A22, A23, A28, A29, A30	Medium	50
≤0.4	-	-	0

Table 4. The Calculation Results of the Content Validity Aiken's V
Variable LIS

Kategori	Items	Validity	Freq (%)
≥0.8	B2, B5, B6, B7, B8, B9, B11, B12, B13, B14, B15, B16, B17, B18, B19, B20, B21, B22, B23, B24, B25, B26, B27, B28, B29, B30, B31, B32, B33, B34, B35, B36, B37, B38, B39	High	89.74
0.4 – 0.8	B1, B3, B4, B10	Medium	10,26
≤0.4	-	-	0

Based on the table, it can be seen that the WBL variable with the internship approach has a percentage of 50% for high validity and 50% for medium validity. Then for variable learning and innovation skills, 89.74% items have high validity and 10.26% have medium validity. This means that items can be tested in the field. The next step, the instrument was tested on the field and to carry out criteria validity. In this case, the respondents are students who have done an internship. The data obtained was calculated validity using product-moment and reliability using Cronbach's Alpha. The following results are explained:

A. Variable WBL dengan pendekatan internship

Table 5. Result of Calculation of Product Moment Validity of
WBL Variable with Internship approach

Items	r_{tabel}	Validity	Freq (%)
A2, A3, A4, A6, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, 18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32	0,3494	Valid	93,75
A1, A5	0,3160	Invalid	6,25%

The table above shows that there are two items that are not valid, in this case, invalid items in aborted. Thus, the number of items tested for reliability calculations there are 30 items. Following is the description of the results:

Table 6. Results of Cronbachs' Alpha Reliability Calculation, WBL Variable Internship approach

Cronbach's Alpha	N of items
0.942	30

From the table above it can be seen that the r-value is 0.942. it means that items instruments are reliable and fall into the very high category.

B. Varibel Learning and Innovation Skills

Table 7. Result of Calculation of Product Moment Validity of Learning and Innovation Skills

Items	r_{tabel}	Validity	Freq (%)
B1 – B39	0,3160	Valid	100

Based on the results of data analysis using SPSS, all items are valid. This is indicated by the value $r_{xy} > r_{table}$.

Table 8. Results of Cronbachs' Alpha Reliability Calculation, Learning and Innovation Variable

Cronbach's Alpha	N of items
1.000	39

From the table above it can be seen that the r-value is 0.942. it means that items instruments are reliable and fall into the very high category.

The results of this study produce an assessment tool regarding the influence of the implementation of Work-based learning and Learning Innovation Skills derived into four skill components. Variable was developed according to the theory and framework has been determined, and after conducting a survey, the main theoretical studies used differently with several previous studies that have been described above. This instrument has also carried out several stages of testing as a test of requirements in developing an assessment instrument.

Based on the findings, this study conducted three stages of validity. The first is expert validity. Conducting expert validity aims to assess the suitability of the contents of the instrument items of each variable in accordance with the theories and indicators that have been determined, in this case, WBL and LIS. This is similar to what was stated by Cohen et al (2010) that validity leads to suitability, significance, usability, specialness, diagnostic potential, practicality, and adequate. The results of the expert evaluation, regenerate instruments to be reviewed, after no further revision, the next step to do is to test the validity of the content. Content validity testing involves 3 raters, where the assessors give a score of each item according to a predetermined rating scale and the results are calculated using the coefficient Aiken's V formula. This test is done to see the depth and relevance in accordance with the scope of the indicators and the contents of the instrument. Content validation requirements specifically are the provision of values that serve to know the intensity and breadth of the content that is sufficient and does not exceed the scope (Cohen et al., 2010). The raters also provide comments and suggestions for improvement, these suggestions are used to improve relevant instruments. This is similar to the statement (Hudha & Mardapi, 2018) that the

expert validator provides an assessment of all instruments as well as comments and suggestions, and then these suggestions are used as a basis for improvement to rewrite the research instrument items. Based on the results of the analysis of assessments given by raters, it appears that for the WBL and LIS variables can be categorized as having high validity.

The revised instrument was tested on a research sample, then the results were used to test empirical validity or criterion validity. The objective is to determine the value of correlation between items and internal consistency. As stated by Matondang (2009) the value of empirical validity is obtained from the results of tests conducted on respondents to be evaluated. This test uses Product Moment Correlation was analyzed using SPSS. Based on the finding, for the WBL variable, there are two invalid items, the decision of both items is aborted. So for the WBL variable, there are 30 items. As for variable LIS, 39 items declared valid.

After conducting a series of validity tests, the last step is reliability testing. Testing reliability intends to determine the appropriateness and validity of the instrument as a tool to assess. Reliability is performed to determine a reliable measurement tool (Matondang, 2009). Reliability aims to see the correlation of an item from an instrument to measure what is actually (Garson, 2013). In this study, the reliability calculation was performed using the SPSS application using the Alpha Cronbach's formula. From the analysis obtained for the WBL variable the reliability number is 0.942 and the LIS variable is 1,000. Shows that the reliability of the instruments of the two variables in the category is very high, this means that the instrument is reliable.

This assessment device was developed, in order to be used by education implementers implementing WBL. According to Binder et al (2015, p.82) the necessity for educational institutions to consider that students do not just simply have a degree, but it needs to be supported by internship activities, which is a part of the WBL model. Based on the results of development and testing, the assessment instrument has high validity and reliability. Then, this device can be used to measure the WBL program implementation in the form of an internship. In essence, all programs implemented, necessary to carry out evaluation activities to see how much success it is or to see the impact of the program being carried out. Furthermore, to measure the impact of implementing WBL, it is necessary to determine the "intervening effect" between the program and the results to measure the impact of changes that occur on students after implementing the program. (Raelin, 2008, p.254).

Theoretically, the WBL variable has four indicators, but in this study only three indicators are taken. Furthermore, each indicator selected has a sub-indicators. Pertama, the effect on self indicator emphasizes more on academic, personal and career development. The implementation of WBL has a relationship with these three aspects, which comes from the motivation of students to increase their willingness to study according to their talents and relevant majors. an overview of career after students complete their education (Raelin, 2008, p.263). Second, effects on interpersonal and team relationships, including increasing the dynamics of working in teams, improving performance, ability as a facilitator, having patience, listening and being sensitive to others, skills in challenging, questioning skills, ability to expand networks (Raelin, 2008, p.266). Third, effects on professional behavior, including students who are more reflective, collaborating, and innovative (Raelin, 2008, p.268). These aspects are used as indicators of the evaluation of internship implementation.

Then, it has been assessed, that the implementation of an internship provides relevant support for career planning and controlling academic achievement (Binder et al., 2015). Furthermore, there is the finding that the implementation of off-campus internships provides a positive impact on self-efficacy, career preparation, and career decisions. Internships also make students acquire and apply new knowledge in practical skills (Tsai et al., 2017). Self Efficacy is an aspect to measure the benefits of the implementation of the WBL more detail, in which the self-efficacy is an intervening variable influence on the final result of the implementation of practical learning (Raelin, 2008, pp. 263-264). Research conducted by Cheong et al (2014) show that in general, students benefit from the implementation of the internship, including learning that is gained in the field that exceeds what they can in class, see conditions in the wider world of work so that they wish to further develop their skills, and make them independent learners.

Other research shows how students choose the institution for internships. Includes objective aspects and subjective aspects. The objective aspects include training programs, remuneration, mileage. Meanwhile, the subjective aspect includes friendly colleagues and company profiles (Fong et al., 2014). If it is reviewed and compared, the analyzed variable elements, component indicators of previous studies are more likely the same as the first indicator of this study, covering an impact on academic and career plans. But it does not examine the other two indicators as in this study, specifically for the WBL variable.

For variable LIS, there are four variables, including: "1) Critical thinking and problem solving (expert thinking); 2) Communication and collaboration (complex communicating); 3) Creativity and innovation (applied imagination and invention) (Triling & Fadel, 2009). The initial component of this LIS is critical thinking and problem solving for lifelong learning and creative work. Triling & Fadel (2009) explains that Critical thinking and problem-solving are considered the basis of 21st-century learning (p.50), these skills are used to develop the ability to analyze, interpret, evaluate, summarize, and synthesize information (p.51). Furthermore, the application in learning can be done using the inquiry and problem-solving approach (p.53). Goal of Critical thinking and problem solving skills students are expected to: "1) reason effectively, which includes about use various types of reasoning (inductive, deductive, etc) as appropriate to the situation. 2) use systems thinking, that include analyse how parts of a whole interact with each other to produce overall outcomes in complex systems. 3) make judgements and decisions, that include : (a) effectively analyse and evaluate evidence, arguments, claims, and beliefs; (b) analyse and evaluate major alternative points of view; (c) synthesize and make connections between information and arguments; (d) interpret information and draw conclusions based on the best analysis; (d) reflect critically on learning experiences and processes. 4) solve problems, that include: (a) solve different kinds of nonfamiliar problems in both conventional and innovative ways; (b) identify and ask significant questions that clarify various points of view and lead to better solutions" (Triling & Fadel, 2009, p.52). Furthermore, the development of these skills can be done by providing project-based learning or analyzing a problem, finding a solution, and making a conclusion.

The second component of skills as part of the LIS is Communications and Collaborations skills. In the P21 framework, the objectives of these skills are expected to be able to communicate clearly and collaborate with others (Triling & Fadel, 2009, p.55). Furthermore, the ability to communicate effectively and collaboratively is a 21st Century skill in economics (Huang et al., 2010). In general, communication is a process

for conveying messages effectively, clearly, and easy to understand, and requires courage to convey information to others (Khan et al., 2017). These skills competencies are defined as the ability to present clearly to the audience, listen and explain, and accept the exchange of ideas (Huang et al., 2010). It can be said that communication skill is the ability to communicate or present a clear message effectively to others, both individuals and groups. The importance of having good communication skills, so that the purpose of the message delivered can be well received by the recipient of the message, so as to avoid misunderstanding, or understanding the message.

In the realm of P21, students are directed immediately to be able to communicate and collaborate in teams, both with colleagues or with the social environment (Triling & Fadel, 2009, p.56). In general, collaboration is defined as a way to build a relationship or network. The relationship includes exchanging ideas, and knowledge to achieve goals and innovate (Huang et al., 2010). Therefore, it is important to develop student collaboration skills. Because it can help students in analyzing a problem, find a solution, and decide to solve a problem, by opening up opportunities for others to express ideas and accept differences. As stated by Erdogan (2019) collaboration is important because it allows students to work closely with others, and students may realize that other people had different ideas with what they have.

The last skills component of LIS is Creativity and Innovation. In terms of definition, creativity is an attempt to understand and implement the functions of a unique product that does not depend on a particular field (Kim, 2019). Furthermore stated by (Piirto, 2011) creativity is a result of an innovation and creative ideas that are useful and contribute. While innovation, can be said is part of creativity in developing or creating something new and there is an element of uniqueness from the previous concept. Creativity is the key and one of the skills that must be mastered in the 21st century learning (Zubaidah, 2018). Creativity and innovation skills in the 21st century framework include: (1) think creatively; (2) work creatively with others; (3) implement innovation (Piirto, 2011, p.38). As stated by Putu Sudira (2015) "creative thinking process requires an open attitude, willingness to take risks, tolerance of differences, self-discipline, and trust in groups (p.3). Creating a real learning environment by providing real experiences to students and apply appropriate learning models is one way to develop students' thinking skills (Yusnaeni et al., 2017). It means that the 21st-century learning system must be able to lead students to develop their creativity and innovation, both to create social relationships and self-discipline, as well as in the form of a product of the creativity of thought. The intended social relationship is to be working with other people, exchanging ideas and concepts, and understand the differences in analyzing, solving problems, and draw conclusions. Creativity and innovation skills can be trained and developed continuously over time (Triling & Fadel, 2009). In short, Learning and innovation skills are sets of skills to be able to become learners, workers, and society in the 21st century.

The results of this study contributed to an assessment instrument that was measured and tested, regarding the implementation of work-based learning in the form of internship, and the development of students' learning innovation skills during the internship. This assessment instrument was developed based on relevant theories, thus, it can be said that this instrument has a strong scientific basis. Furthermore, this instrument can be used in all majors and is not limited, because the assessment items do not lead to a specific field of science. The limitation of this research was only tested in one college. Thus, this instrument can still be tested on a large scale with subjects of 100 subjects (can be more) to find out how valid and reliable the large scale

instruments are to measure the implementation of WBL and LIS of students. The developed instrument can be used to measure or evaluate WBL activities with an internship approach and identify student LIS developments, as a result of WBL implementation. The emphasis of developing an assessment instrument in this research is not only to measure the evaluation of the implementation of work-based learning in the internship model but also to measure the impact of the internship on LIS.

CONCLUSION

Based on finding and discussion, it can be concluded that: (1) Content validity analyzed using Aiken's V formula, obtained for the WBL variable has a percentage of 50% high validity and 50% for medium validity. While the LIS variable, 89.74% for high validity and 10.26% for medium validity. In this test, the number of items for the WBL variable is 32 items, and 39 items for the LIS variable. (2) Validity criteria testing is analyzed using Product Moment Correlation, for WBL variables there are two items that are declared invalid, so that both items are aborted, while the LIS variable for all items is declared valid. (3) Reliability testing was analyzed using Cronbach's Alpha, the WBL variable had a reliability of 0.942 and a LIS variable of 1,000, so it can be concluded that the instrument developed was declared valid and reliable to assess students' WBL and LIS activities.

ACKNOWLEDGEMENT

This article is one of the results of PDP research (Penelitian Dosen Pemula) submission of 2019, funding in 2020. The researchers thank DRPM Kementerian Riset, Teknologi dan Pendidikan Tinggi (Kemenristek Dikti) Republik Indonesia for funding research under the PDP project in 2020.

AUTHOR CONTRIBUTION STATEMENTS

Irma Manda Negara (IMN) is the main author of this research. Meanwhile, Nurul Hidayati (NH) is the second author who helped in this research from start to finish, especially, providing support in the data collection process.

REFERENCES

Bedir, H. (2019). Pre-service ELT teachers' beliefs and perceptions on 21st century learning and innovation skills (4Cs). *Journal of Language and Linguistic Studies*, *15*(1), 231–246. https://doi.org/10.17263/jlls.547718

Binder, J. F., Baguley, T., Crook, C., & Miller, F. (2015). The academic value of internships: Benefits across disciplines and student backgrounds. *Contemporary Educational Psychology*, *41*, 73–82. https://doi.org/10.17263/jlls.547718

Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining Twenty-First Century Skills. Assessment and Teaching of 21st Century Skills. In *Springer Science Business Media* (P. Griffi). NY:Springer. https://doi.org/10.1007/978-94-007-2324-5_2

Cheong, A. L. H., Yahya, N. binti, Shen, Q. L., & Yen, A. Y. (2014). Internship Experience: An In-Depth Interview among Interns at a Business School of a Malaysian Private Higher Learning Institution. *Procedia - Social and Behavioral Sciences*, *123*, 333–343. https://doi.org/10.1016/j.sbspro.2014.01.1431

Cohen, L., Manion, L., Morisson, K., & Wyse, D. (2010). A Guide to Teaching Practice. In *A Guide to Teaching Practice* (Fifth Edit). Routledge.

https://doi.org/10.4324/9780203848623

Duerden, M. D., & Witt, P. A. (2012). Assessing program implementation: What it is, why it's important, and how to do it. *Journal of Extension*, *50*(1), 1–8. Google Scholar

Erdogan, V. (2019). Integrating 4C Skills of 21st Century into 4 Language Skills in EFL Classes Vacide Erdoğan. *International Journal of Education and Research*, *7*(11), 113–124. www.ijern.com Google Scholar

Fong, L. H. N., Lee, H. A., Luk, C., & Law, R. (2014). How do hotel and tourism students select internship employers? A segmentation approach. *Journal of Hospitality, Leisure, Sport and Tourism Education*, *15*(1), 68–79. https://doi.org/10.1016/j.jhlste.2014.06.003

Garson, G. D. (2013). *Validity AND Reliability* (2013 Editi). Statistical Publishing Associates. www.statisticalassociates.com

Hendryadi. (2017). Validitas Isi : Tahap Awal Pengembangan Kuesioner. *Jurnal Riset Manajemen Dan Bisnis (JRMB)*, *2*(2), 169–178.

Huang, D., Leon, S., Hodson, C., La, D., Obregon, T. N., & Rivera, G. (2010). *Preparing Students for the 21st Century: Exploring the Effect of After School Participation On Students' Collaboration Skills, Oral COommunication Skills, and Self-Efficacy*. Google Scholar

Hudha, S. A., & Mardapi, D. (2018). Developing an instrument for measuring the spiritual attitude of high school students. *Research and Evaluation in Education*, *4*(1), 35–44. https://doi.org/10.21831/reid.v4i1.20304

Khan, A., Khan, S., Zia, S., & Khan, M. (2017). Communication Skills of a Teacher and Its Role in the Development of the Students' Academic Success. *Journal of Education and Practice*, *8*(1), 18–20. https://eric.ed.gov/?id=EJ1131770

Kim, K. H. (2019). Demystifying Creativity: What Creativity Isn't and Is? *Roeper Review*, *41*(2), 119–128. https://doi.org/10.1080/02783193.2019.1585397

Matondang, Z. (2009). Validitas dan Reliabilitas Suatu Instrumen Penelitian. *Tabularasa PPS UNIMED*, *6*(1), 87–97. Google Scholar

Mu'ayati, R., & Margunani. (2014). Pengaruh Praktik Kerja Industri (Prakerin), Penguasaan Mata Diklat Produktif Akuntansi Dan Minat Kerja Siswa Terhadap Kesiapan Menghadapi Dunia Kerja Siswa Smk Program Keahlian Akuntansi Di Smk N 1 Salatiga Tahun Ajaran 2013/2014. *Economic Education Analysis Journal*, *3*(2), 327–335.Google Scholar

Ningdyah, A. E. M., Greenwood, K. M., & Kidd, G. (2018). A Training-Model Scale's Validity and Reliability Coefficients: Expert Evaluation in Indonesian Professional Psychology Programs. *Makara Human Behavior Studies in Asia*, *22*(1), 56. https://doi.org/10.7454/hubs.asia.2190318

Piirto, J. (2011). *Creativity for 21st Century Skills: How to Embed Creativity into the Curriculum*. Sense.

Raelin, J. . (2008). *Work-Based Learning Bridging Knowledge and Action in the Workplace*. Jossey Bass. https://doi.org/10.1002/9781118472361.ch7

Retnawati, H. (2016). *Analisis Kuantitatif Instrumen Penelitian (Panduan Peneliti, Mahasiswa, dan Psikometrian)*. Parama Publishing.

Rochmad. (2012). Desain Model Pengembangan Perangkat Pembelajaran Matematika. *Kreano: Jurnal Matematika Kreatif-Inovatif*, *3*(1), 59–72. https://doi.org/10.15294/kreano.v3i1.2613

Scholtz, D. (2020). Assessing workplace-based learning. *International Journal of Work-Integrated Learning*, *21*(1), 25–35.

https://www.ijwil.org/files/IJWIL_21_1_25_35.pdf
Schonell, S., & Macklin, R. (2019). Work integrated learning initiatives: live case studies as a mainstream WIL assessment. *Studies in Higher Education*, *44*(7), 1197–1208. https://doi.org/10.1080/03075079.2018.1425986
Siswanto, B. T. (2012). *Model Penyelenggaraan Work-Based Learning Pada Pendidikan Vokasi Diploma III Otomotif*. *2*(2), 11–26. https://doi.org/https://doi.org/10.21831/jpv.v2i1.1013
Soule, H., & Warrick, T. (2015). Defining 21st century readiness for all students: What We Know and How to Get There. *American Psychological Association*, *9*(2), 178–186. https://doi.org/0 http://dx.doi.org/10.1037/aca0000017
Sturner, K. K., Bishop, P., & Lenhart, S. M. (2017). Developing Collaboration Skills in Team Undergraduate Research Experiences. *Primus*, *27*(3), 370–388. https://doi.org/10.1080/10511970.2016.1188432
Sudira, P. (2015). Pengembangan Model "LIS-5C" Pada Pendidikan Teknologi Dan Kejuruan. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, *1*, 1–11. https://doi.org/10.21831/cp.v1i1.4145
Triling, B., & Fadel, C. (2009). 21st Century Skills Learning for Life in Our Times. In *21St Century Skill* (Issue Book). Jossey Bass.
Tsai, C. T. (Simon), Hsu, H., & Yang, C. C. (2017). Career decision self-efficacy plays a crucial role in hospitality undergraduates' internship efficacy and career preparation. *Journal of Hospitality, Leisure, Sport and Tourism Education*, *21*(August), 61–68. https://doi.org/10.1016/j.jhlste.2017.08.002
Van Velzen, C., Volman, M., Brekelmans, M., & White, S. (2012). Guided work-based learning: Sharing practical teaching knowledge with student teachers. *Teaching and Teacher Education*, *28*(2), 229–239. https://doi.org/10.1016/j.tate.2011.09.011
Yusnaeni, Y., Corebima, A. D., Susilo, H., & Zubaidah, S. (2017). Creative thinking of low academic student undergoing search solve create and share learning integrated with metacognitive strategy. *International Journal of Instruction*, *10*(2), 245–262. https://doi.org/10.12973/iji.2017.10216a
Yusup, F. (2018). Uji Validitas dan Reliabilitas Instrumen Penelitian Kuantitatif. *Jurnal Tarbiyah : Jurnal Ilmiah Kependidikan*, *7*(1), 17–23. https://doi.org/10.18592/tarbiyah.v7i1.2100
Zubaidah, S. (2018). Mengenal 4C: Learning and Innovation Skills untuk Menghadapi Era Revolusi Industri 4.0. *2nd Science Education National Conference*, *April*, 1–18.