Data and Metadata. 2024; 3:.407
doi: 10.56294/dm2024.407

ORIGINAL

Practicality of syntax soft skill-based learning (Ss-BL): a new model in web-based entrepreneurship learning

Practicidad de la sintaxis del aprendizaje basado en habilidades interpersonales (Ss-BL): un nuevo modelo de aprendizaje empresarial basado en la web

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Cite as: Yuhelmi, Effendy M, Ridwan, Walhidayat, Raja S, Andikos AF, et al. Practicality of syntax soft skill-based learning (Ss-BL): a new model in web-based entrepreneurship learning. Data and Metadata. 2024; 3:.407. https://doi.org/10.56294/dm2024.407

Submitted: 16-02-2024 **Revised:** 01-06-2024 **Accepted:** 30-09-2024 **Published:** 01-10-2024

Editor: Adrián Alejandro Vitón-Castillo

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ABSTRACT

The soft skills-based learning (Ss-BL) learning the methodology was proposed as an innovative approach to facilitate experiential learning in authentic real-world contexts. This was created to address the shortcomings of the Experiential Learning (EL) approach in enhancing student communication proficiency. Thus, this study's goal is to evaluate the viability of the Ss-BL learning paradigm. In this work, confirmatory factor analysis (CFA) and the Mile and Huberman methodology were employed in an exploratory sequential mixed methods approach. The paradigm for Ss-BL learning is created by conceptualization, theorization, hypothesization, and finalization phases. The research data was acquired via the process of document analysis and conducting a Focus Group Discussion (FGD). A focus group discussion (FGD) was carried out with a sample of 5 experts for research purposes. A non-test was the tool used in the FGD. The Ss-BL model consists of the Motivation, Observation, Real Experience, Implementation, Evaluation, Reflection phases. For all phases, a CFA value of 0,000 was obtained, that is, if the number is less than 2, it means that the Ss-BL model meets the goodness-of-fit model criterion. Among the innovative learning models suggested for entrepreneurial courses in vocational education, the Ss-BL model stands out as both a contribution to the advancement of knowledge and a viable option.

Keywords: *Soft Skills-Based Learning;* New Learning Model; Entrepreneurship; Website.

RESUMEN

La metodología de aprendizaje basado en habilidades blandas (Ss-BL) se propuso como un enfoque innovador para facilitar el aprendizaje experiencial en contextos auténticos del mundo real. Esto fue creado para abordar las deficiencias del enfoque de Aprendizaje Experiencial (EL) para mejorar la competencia comunicativa de los estudiantes. Por tanto, el objetivo de este estudio es evaluar la viabilidad del paradigma de aprendizaje Ss-BL. En este trabajo, se emplearon el análisis factorial confirmatorio (AFC) y la metodología de Mile y Huberman en un enfoque exploratorio de métodos mixtos secuenciales. El paradigma para el aprendizaje Ss-BL se crea mediante las fases de conceptualización, teorización, formulación de hipótesis y finalización. Los datos de la investigación se adquirieron mediante el proceso de análisis de documentos y la realización de una discusión de grupo focal (DGF). Se llevó a cabo una discusión en grupo focal (DGF) con una muestra

de 5 expertos con fines de investigación. La herramienta utilizada en el DGF fue un no test. El modelo Ss-BL consta de las fases de Motivación, Observación, Experiencia Real, Implementación, Evaluación, Reflexión. Para todas las fases se obtuvo un valor de CFA de 0,000, es decir, si el número es menor a 2, significa que el modelo Ss-BL cumple con el criterio del modelo de bondad de ajuste. Entre los modelos de aprendizaje innovadores sugeridos para los cursos de emprendimiento en educación vocacional, el modelo Ss-BL se destaca como una contribución al avance del conocimiento y como una opción viable.

Palabras clave: Aprendizaje Basado en Habilidades Blandas; Nuevo Modelo de Aprendizaje; Emprendimiento; Sitio Web.

INTRODUCTION

Revolution 4.0 presents a challenge for all countries in the world, especially in the education sector.[1,2,3,4,5] However, in Indonesia the challenges presented have not yet been fully answered. As one unanswered indicator, there is still a lack of soft skills among vocational education graduates, including graduates of the Informatics Engineering study program. (Central Statistics Agency, 2022) . A suitable model that can be used to improve students' entrepreneurial *soft skills* is the *Experiential Learning* (EL) model.[6,7,8,9] and *the* earliest and most widely used today is the *Experiential Learning model* (AL).[6,7,8,9,10,11,12,13] Three classes of the Department of Commuter Science's entrepreneurship courses were observed in the 2023-2024 academic year. The AL and EL learning paradigms are used to implement this learning in improving students' *soft* communication skills in entrepreneurship.

To illustrate how to improve *soft skills* in entrepreneurship , see the work of Sălceanu et al.[14], and Tan et al.[15] To improve students' communication skills , the EL approach was used by Javier Monllor et al.[16] To see that the AL model can be used together with the EL model to improve *soft skills* in entrepreneurship with Contextual Learning, Rocha et al.[17], used a website in the *soft skills paradigm* . The approach we are currently using, namely the *soft skill-based learning (SS-BL) learning model*, is a hybrid of the learning methods known as Experiential Learning (EL) and Experiential Learning (AL).

Experiential Learning (AL) and *Experiential Learning* (EL) are two models that form the basis of the *Ss-BL* learning model. The EL model fails in building a student communication base, the AL model aims to compensate for this. The reason is that the aim of the AL model is to improve student skills through hybrid learning. Therefore, The Ss-BL model is used in this study to examine and illustrate the superiority of the Ss-BL learning paradigm. The structure of the Ss-BL model is shown in figure 1.

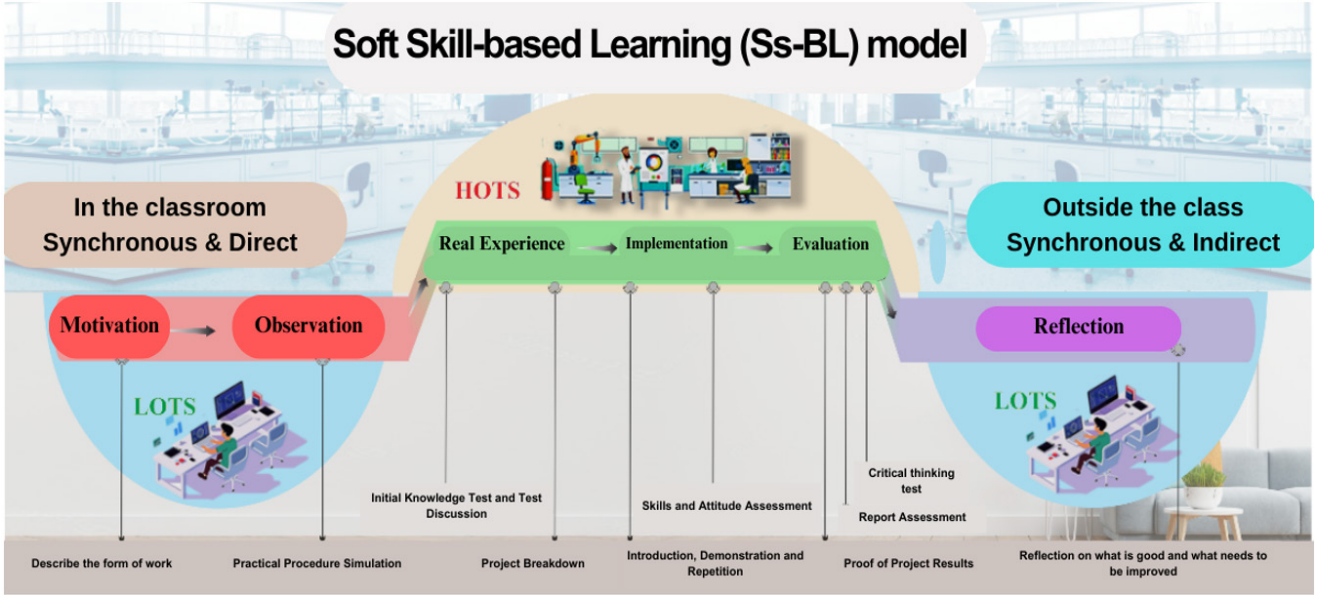

Figure 1. *Ss-BL learning framework* (Model), Results of developing the AL model with EL

Figure 1 depicts the six stages of the *Ss-BL learning paradigm*. The Motivation and basic observation phases each form the first two stages. We ensure that students have a strong knowledge base in both periods. In the classroom, students work in groups according to their individual needs while the lecturer facilitates their knowledge creation. Students' Low Order Thinking Skills (LOTS) skills are expected to be improved by studying in groups formed according to their individual needs, interests and talents to understand the material.[18,19]

https://doi.org/10.56294/dm2024.407

Stages three, four, and five include real-world applications. Students' capacity in higher order thinking skills (HOTS), including creativity and critical thinking, can be formed through these three stages. Therefore, these three steps are carried out simultaneously outside the classroom or in the field by lecturers who partner with elements of the business and industrial world. According to research[10,12,13,14] *the Ss-BL approach* helps students develop their HOTS skills by having them tackle real-world problems, share ideas, and practice what they have learned. Stage six includes asynchronous out-of-class practice with learning led directly by the lecturer through grouping students based on needs. Students whose knowledge has just been expanded are encouraged to practice their memorization skills during the single practice phase.[16] Practicing students' skills and recording their work on practice reports is a great way to help them remember everything. The benefit of the *Ss-BL* approach is that this approach seeks to improve students' skills by making learning more effective from a practice-based perspective in the field. Therefore, the purpose of this study is to validate the stages or syntax of the Ss-BL learning model, which is a relatively new method designed with the aim of improving students' intellectual performance skills through exposure to real-world work scenarios.

METHOD

From June to December 2023, the study took place in the Entrepreneurship class at Universitas Lancang Kuning in Riau Province, Indonesia. It was part of the Department of Information Engineering. We used an experimental sequential mixed method design research method to find out how the usefulness of the learning model affected this study. The qualitative research approach was conducted using the Mile and Huberman method. Then the researcher continued by using the Confirmatory Factor Analysis (CFA) method for the quantitative research approach.[23] A description of the Ss-BL learning model is in Figure I. Currently, Indonesia needs a lot of informatics engineering majors who can be entrepreneurs. To answer the research questions, this research was conducted on the topic of entrepreneurship.

The instrument used in collecting data is a non-test instrument. This instrument is based on the factors that form the Ss-BL model. This instrument uses a Likert scale. The Likert scale used is a scale of one for 'strongly disagree' and five for 'strongly agree'. The instrument used has passed the validity and reliability test by 7 experts in the field of learning models. The selection of participants uses saturated sampling, where the population becomes the sample. The validity of the instrument uses the Aiken's V formula and reliability uses the Cronbach Alpha formula. For categories in measuring validity and reliability can be seen in table 1.

Table 1. Categories of Data Used in Validity and Reliability Testing[24]

Aiken's V value	Cronbach Alpha	r value	Category
0,67-1,00	Valid	0,81 - 1,00	Very high
		0,61 - 0,80	High
≤0,67	Invalid	0,41 - 0,60	Medium
		0,21 - 0,40	Low
		0,00 - 0,20	Very Low

Based on table 1, the construct validity test of a model can be used to answer the hypothesis in this study. The stages of building the Ss-BL model can be seen in figure 2. The hypothesis in developing the Ss-BL learning model consists of:

Ha: One may use the Ss-BL learning paradigm in good sense.

H0: It is not possible to use the Ss-BL Learning Model.

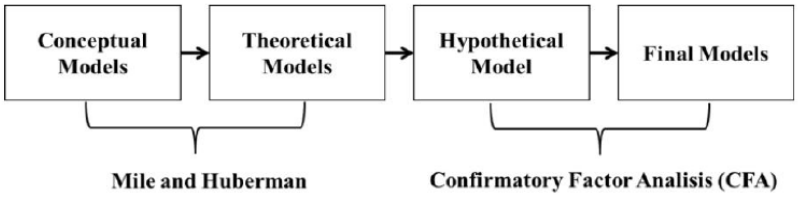

Figure 2. Stages of Forming the Learning Model for the Ss-BL

Figure 2, which may be found above, A paradigm that is both theoretical and conceptual of the Ss-BL learning model is developed using the Mile and Huberman technique. A final version of the Ss-BL learning model and a hypothetical model were both developed using the CFA approach.

To find out, we apply the CFA approach. Quantitative data derived from Focus Group Discussions (FGDs) is used by the CFA approach. The collected data was computed using the CFA technique in conjunction with a statistical program, namely Lisrel 10,20. The criteria that were suggested for determining CFA by Stevens and Mayers[24]

are used. Based on their recommendations, Stevens and Mayers[26] settled on the following criteria: chi-square (x2) divided by the degrees of freedom test (df), Here we provide the method's explanation (x2/df) in table 2.

Table 2. Conformity Index Categorization (Test)[24,27]

Index Category	Goal Value
x2/df	< 2

Based on table 2, the data (x2/df) can be considered legitimate if the number falls below 2. Thus, if the result (x2/df) is less than 2, we may say that the learning phase or model is legitimate or that it has a satisfactory goodness-of-fit.[25]

RESULTS

The results of this study are categorized into qualitative and quantitative results. Conceptual themes are used to characterize qualitative outcomes. In contrast, both the model of the hypothesis, as well as the final model provide an explanation for the quantitative data. The outcomes of the validity and reliability tests may be seen when quantitative data is obtained using non-test instruments in table 3.

Table 3. The findings of the tests to determine validity and reliability for the research instruments

Test Value	Mark Cronbach lpha	Category
Validity	0,853	Very high
Reliability	0,855	Very high

According to table 3, in addition to being reliable, the tools that are used are genuine. Therefore, this research instrument is suitable for the purpose of gathering data for study. The research data analysis is described as follows.

1) **Modeling the Concept**

As a result of merging the EL and AL learning models, the learning model known as Ss-BL was launched. To make the EL learning model a more viable alternative practice model, the Ss-BL learning model has to be developed. Consequently, the EL learning paradigm is conceptually integrated with, as reflected in figure 3.

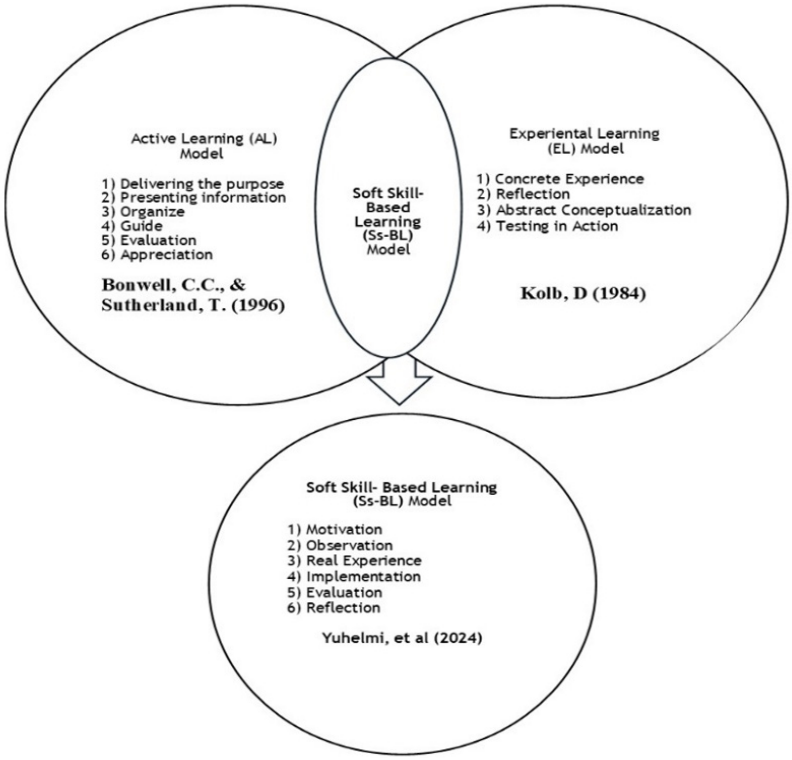

Figure 3. Idea for Making a Ss-BL Learning Model

https://doi.org/10.56294/dm2024.407

Conceptually, as shown in Figure III, Soft Skill-Based Learning (Ss-BL) is a novel learning model that is created by combining the EL and AL learning models. DBy using the Ss-BL model, one is able to get direct learning from the EL model as well as indirect learning from the AL structure. Consequently, in order to provide theoretical support for this new learning model, it is necessary to identify each step of the Ss-BL learning model as well as to combine learning models.

2) **Model of the Hypothesis**

According to the findings of the FGD that was conducted with five specialists, the hypothesis model was developed. The data obtained from the FGD process is calculated and shown in figure 4.

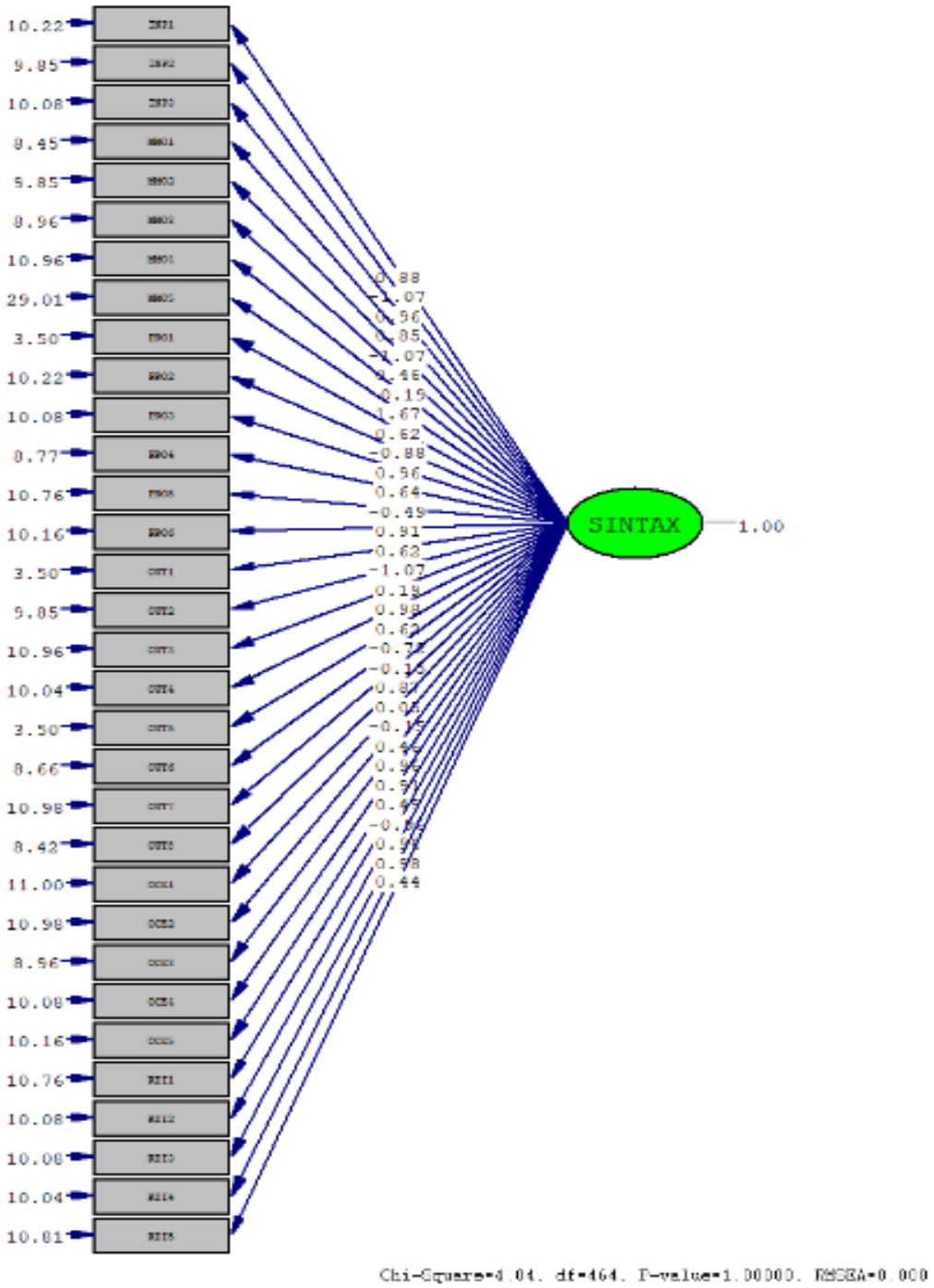

Figure 4. Assessment of the Ss-BL Learning Model's Phase Validation

Based on figure 4, the data (x2/df) value is below, it can be said that the entire syntax of the Ss-BL model is valid. All stages in the valid Ss-BL model form a goodness-of-fit model and answer the research hypothesis, namely the value (x2/df) 0,00 obtained in the overall phase of the Ss-BL learning model, because the value (x2/

df) 0,00 is below 2 which indicates that each phase is valid or goodness-of-fit. The hypothesis accepted in this study is the alternative hypothesis (Ha). Hypothesis (Ha) reveals that the Ss-BL learning model is valid for use. The results of the accepted hypothesis model can be continued to the formation of the final model.

3) **The most recent design Model**

After a thorough conceptual and theoretical development, the Ss-BL model was suggested. This model was established by merging the AL model, which was started by Bonwel *et al*.[26] with the EL model initiated by [10]. Figure 5 displays the ultimate version of the Ss-BL model, as shown by figure 4.

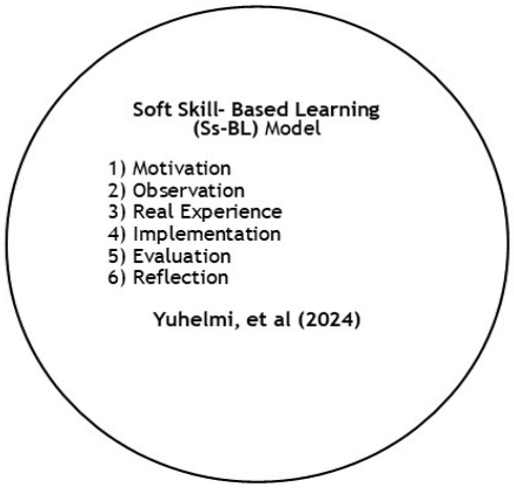

Figure 5. Ss-BL Learning Model

According to figure 5, the Ss-BL learning model's last iteration includes the Motivation, Observation, Real Experience, Real Experience, Implementation, Evaluation, and Reflection phases. The finished Ss-BL model is now ready to be used as a new learning model, based on the model hypothesis test, offering an alternate approach for implementing practical.

DISCUSSION

The results of the theoretical formulation of the Ss-BL learning model were used to assess it using the Hypothesis model. FGD looked at the Ss-BL learning model's theoretical underpinnings. The study data is shown in Figure IV. According to the data computations in figure 4, all phases of the Ss-BL learning model have a (x2/df) value of 0,00. The achieved value of (x2/df) in the overall phase of the Ss-BL learning model is less than 2, indicating the validity of each phase.[27] The group of "goodness-of-fit models" encompasses all the appropriate phases that represent the Ss-BL learning model. The goodness-of-fit model supports the study hypothesis by taking the alternative hypothesis (Ha). This hypothesis says that the Ss-BL learning model is valid, so it passes the hypothesis test and is added to the final model. Figure IV illustrates that the final Ss-BL learning model consists of 6 learning stages, which are implemented both directly and indirectly. The Ss-BL learning model combines both direct and indirect learning methods with the goal of enhancing communication in student entrepreneurship.[28] Strong capabilities will yield highly proficient graduates in the area of entrepreneurship. Hence, you could think of the learning model Ss-BL as a new way to learn and a good way to make practicum-based learning work better.

CONCLUSION

Since the Ss-BL model came out, the problem with the limitations of the learning model EL has been fixed. The following steps make up the Ss-BL model: Motivation, Observation, Real Experience, Real Experience, Implementation, Evaluation, and Reflection. For all stages of the Ss-BL learning model, the number (x2/df) is 0,00. The obtained value of (x2/df) in the overall phase of the Ss-BL learning model is less than 2, indicating that each phase is valid or has a good fit. The efficacy of the Ss-BL learning model demonstrates that its development has been effective and is now prepared to enhance students' communication skills for employment or entrepreneurship. Hence, the Ss-BL Model learning is introduced as a novel learning approach that provides additional choices to enhance the efficacy of applying practice-based learning i in classes on business and help increase our understanding of how people learn. The Ss-BL approach is particularly suggested for vocational education programs that emphasize practical learning. This study is restricted to the phases involved in constructing the Ss-BL model. Continual evaluation and development of the Ss-BL learning model is

necessary in order to enhance its capabilities in the future. These enhancements were implemented to assess the feasibility of applying the Ss-BL model. Improvements need to be made to measure the level of practicality, effectiveness, and impact of implementing the Ss-BL model.

REFERENCES

1. N. M. Tri, P. D. Hoang, and N. T. Dung, "Impact of the industrial revolution 4.0 on higher education in Vietnam: Challenges and opportunities," Linguist. Cult. Rev., vol. 5, no. July, pp. 1–15, 2021, doi: 10.37028/lingcure.v5nS3.1350.

2. A. Oke and F. A. P. Fernandes, "Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR)," J. Open Innov. Technol. Mark. Complex., vol. 6, no. 2, p. 31, 2020, doi: 10.3390/JOITMC6020031.

3. A. P. K. Mantovani, A. Duanaiko, J. Haryanto, T. E. Putri, and D. A. D. Angendari, "Higher Education 4 . 0 and the Readiness of Indonesia ' s Future Workforce," Cent. Digit. Soc. Fac. Soc. Polit. Sci. Univ. Gadjah Mada, pp. 1–68, 2020.

4. A. F. Andikos, "Work-Based Learning Independent Learning (WBL-MB): optimizing Learning Models Based on the Industrial World Aprendizaje basado en el trabajo Merdeka Belajar (WBL-MB): optimization of basic learning models in the industrial world," 2024, doi: 10.56294/dm2024.415.

5. Badan Pusat Statistik (BPS), "Keadaan Ketenagakerjaan Indonesia Agustus 2022," Jakarta, 2022.

6. T. Bradbury, E. Schwarz, and A. Linton, "Experiential learning from an international perspective: An empirical study of the United States, Canada, Australia and New Zealand," Int. J. Sport …, vol. 22, pp. 55–73, 2021, Online.. Available: https://vuir.vu.edu.au/42188/8/5DecemberECS-FINAL_EDITS_Experiential_learning_from_an_international_perspective.pdf.

7. Anita Winandari, Leo Agung Sutimin, and Triana Rejekiningsih, "Benefits of Using Experiential Learning Based Electronic Modules to Facilitate Students Concierge Learning in Vocational High Schools," J. Educ. Technol., vol. 6, no. 4, pp. 568–577, 2022, doi: 10.23887/jet.v6i4.48064.

8. R. Nuriana and A. Mulyana, "The Effect Of Experiential Learning Modelson The Ability Of Historical Mindednessand Historical Empathy (Quasi Experiment At Sman 1 Parongpong)," Pros. ICoISSE, pp. 524–540, 2020.

9. M. U. Hidayah, Z. Ulfah, M. Kadir, E. Learning, and A. Introduction, "Development of an Experiential Learning Model Based On Dedication To Society," el-Buhuth, vol. 6, no. 1, pp. 99–113, 2023.

10. D. A. Kolb, "Experiential Learning: Experience as The Source of Learning and Development," Prentice Hall, Inc., no. 1984, pp. 20–38, 1984, doi: 10.1016/B978-0-7506-7223-8.50017-4.

11. D. A. Kolb, R. E. Boyatzis, and C. Mainemelis, "Experiential learning theory: Previous research and new directions," Perspect. Thinking, Learn. Cogn. Styles, no. 216, pp. 227–247, 2014, doi: 10.4324/9781410605986-9.

12. M. Hulaikah, I. N. S. Degeng, Sulton, and F. D. Murwani, "The effect of experiential learning and adversity quotient on problem solving ability," Int. J. Instr., vol. 13, no. 1, pp. 869–884, 2020, doi: 10.29333/iji.2020.13156a.

13. P. Malik and S. Behera, "The Transformative Power of Experiential Learning: Bridging Theory and Practice," Int. J. Indian Psychol. , vol. 12, no. 2, 2024, doi: 10.25215/1202.007.

14. C. Sălceanu, M. Grigore, and C. O. Sorici, "The Impact of Entrepreneurship Education in Developing Soft Skills for Students from Non-Economic Faculties," Ovidius Univ. Ann. Econ. Sci. Ser., vol. 21, no. 1, pp. 153–162, 2021, doi: 10.61801/ouaess.2021.1.20.

15. C. Y. Tan, A. G. K. Abdullah, and A. J. Ali, "Soft skill integration for inspiring critical employability skills in private higher education," Eurasian J. Educ. Res., vol. 2021, no. 92, pp. 23–40, 2021, doi: 10.14689/

ejer.2021.92.2.

16. J. Monllor, N. Michels, and S. Adderley, "Pivoting an Entrepreneurship Experiential Learning Module Online: Applying a Concrete Experience Framework," Entrep. Educ. Pedagog., vol. 0, no. 0, pp. 1–23, 2023, doi: 10.1177/25151274231217953.

17. R. G. Rocha, A. do Paço, and H. Alves, "Entrepreneurship education for non-business students: A social learning perspective," Int. J. Manag. Educ., vol. 22, no. 2, p. 100974, 2024, doi: 10.1016/j.ijme.2024.100974.

18. S. Suyitno, Y. Kamin, D. Jatmoko, M. Nurtanto, and E. Sunjayanto, "Industrial Apprenticeship Model Based on Work-Based Learning for Pre-service Teachers in Automotive Engineering," Front. Educ., vol. 7, 2022, Online.. Available: https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2022.865064.

19. S. Suyitno and P. Pardjono, "Integrated work-based learning (I-WBL) model development in light vehicle engineering competency of vocational high school," J. Pendidik. Vokasi, vol. 8, no. 1, p. 1, 2018, doi: 10.21831/jpv.v8i1.14360.

20. A. Bahl and A. Dietzen, Work-based Learning as a Pathway to Competence-based Education. 2019.

21. T. C. Nguyen, "Work Integrated Learning: A Case Study of Chinese Students in an Australian University," 2020.

22. S. Kallakuri, L. Tan, and A. Y. C. Chuang, "Work-Based Learning Model To Develop Self-Directed Learners in Optometry Education," Proc. Int. CDIO Conf., vol. 6, no. 2, pp. 366–377, 2021.

23. Creswell, Educational Research : Planning, Conducting, and Evaluating Quantitative and Qualitative Research. 2012.

24. S. Bahariniya, M. Ezatiasar, and F. Madadizadeh, "A Brief Review of the Types of Validity and Reliability of scales in Medical Research," J. Community Heal. Res., vol. 10, no. 2, pp. 100–102, 2021, doi: 10.18502/jchr.v10i2.6582.

25. J. S. Matthew B. Miles, A. Michael Huberman, Qualitative data analysis: a methods sourcebook.

26. Meyers, Digital Literacy and Informal Learning Environments: An Introduction. Learning, Media and Technology. 2013.

27. C. R. Jackson, "Validating and Adapting the Motivated Strategies for Learning Questionnaire (MSLQ) for STEM Courses at an HBCU," AERA Open, vol. 4, no. 4, pp. 1–16, 2018, doi: 10.1177/2332858418809346.

28. T. Bonwell, C.C., & Sutherland, The active learning continuum: Choosing activities to engage students in the classroom. 1996.

29. S. G. Forneris et al., "Enhancing clinical reasoning through simulation debriefing: A multisite study," Nurs. Educ. Perspect., vol. 36, no. 5, pp. 304–310, 2015, doi: 10.5480/15-1672.

30. H. M. Al-Fikri, T. Wulandari, and N. A. Karimah, "Implementation of Communipreneur Concept In Development Campus Entreprenial," IKOMIK J. Ilmu Komun. dan Inf., vol. 1, no. 1, pp. 9–15, 2021, doi: 10.33830/ikomik.v1i1.1882.

FINANCING

This research was funded by Universitas Negeri Padang, Indonesia.

CONFLICT OF INTEREST

None.

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Validation: Ridwan.
Drafting – original draft: Raja Syamsidar.
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https://doi.org/10.56294/dm2024.407