

Implementation of Work Based Learning as an Effort to Increase Student Competence in Vocational Midwifery Education

Hastuti Marlina
Doctoral Student of TVE
Padang State University
 Padang, Indonesia
 hastutimarlina56@gmail.com

Sherly Vermita Warlenda
Public Health Science
STIKes Hang Tuah Pekanbaru
 Pekanbaru, Indonesia
 sherlyvermita130988@gmail.com

Yeyen Gumayesty
Reproduction Health
STIKes Hang Tuah Pekanbaru
 Pekanbaru, Indonesia
 yeyenrangkuti@gmail.com

Nizwardi Jalinus
Chairman of the Doctoral Study
Program
Padang State University
 Padang, Indonesia
 jnizwardi228@gamil.com

Raviola
Health Policy Administration
STIKes Hang Tuah Pekanbaru
 Pekanbaru, Indonesia
 lo14fiola@yahoo.com

Fahmi Rizal
Tecnology Vocational Education
Padang State University
 Padang, Indonesia
 fahmi.rizal81@gamil.com

Abstract—Work Based Learning is a learning model that presents students directly in the workplace to gain direct work experience and improve psychomotor aspects. This study aims to examine the application of work based learning model learning in diploma III midwifery students at STIKes Hang Tuah Pekanbaru. The research method is Quasy Experiment with group work based learning model learning and group simulation learning model with phantom in the laboratory for pregnancy examination material especially Leopold I-IV practice. Students in each study group consist of 25 people, a work based learning model using an internship approach for 1 month with a duration of 3 hours in the workplace. The success of the study was assessed from the improvement of cognitive, affective and psychomotor aspects that were prepared in accordance with the competency assessment guidelines for midwifery graduates. The results obtained that learning with a work based learning model using the internship approach is more effective in increasing the realm of cognition and affective and significantly increasing the psychomotor domain based on the results of statistical analysis when compared with simulation learning methods using phantom in the laboratory. Therefore a written policy is needed to be able to use and apply a work based learning model internally in the study of STIKes Hang Tuah Pekanbaru midwifery programs.

Keywords — *Work Based Learning, Competence, Vocational, Midwifery*

I. INTRODUCTION

The Higher Education Quality Assurance System directs 21st Century learning to the aspects of skills needed by the world of work [1]. The curriculum development policy directs learning directly exposed to the world of work in order to create synchronization between the world of education and employment in order to reduce unemployment, especially for vocational education [2]. The Central Statistics Agency in Indonesia in 2015 unemployment in Indonesia for the level of Diploma three education was 7.49%, this illustrates the weak competition of

diploma graduates in the workforce competition, and 3.25% are graduates of the three midwifery diplomas [3,4].

Diploma education in midwifery in Indonesia has increased institutionally, but it has not been matched by an increase in the quality of its graduates. This is the same as the results of the Hutapea Research in 2011 which concluded that midwife graduates who had just completed their education (fresh graduate) did not have work skills as evidenced by the data that 80% of midwifery fresh graduates had not worked [5,6]. The latest World Health Organization (WHO) data in 2011 reported that midwife graduates who were not yet competent to work according to their area of expertise reached 25% worldwide [7]. Indonesian Midwives Association report in 2015 presented at the National Working Meeting that fresh graduate midwives have not been able and have not dared to do labor assistance independently and do not respond to obstetric emergency studies [5].

These conditions need to be addressed so as not to increase the number of educated unemployed today whose numbers also continue to grow each year. Iteration is needed in the world of education where there is collaboration between the world of work and the world of education so as to produce a link and function between the providers of graduates and users of graduates. There is a learning model that is designed to utilize workplace experience to help meet certain learning objectives such as the Work Based Learning model [8,9,10].

Work Based Learning is learning that teaches students in the workplace to learn all aspects that exist in the world of work that are not found when learning takes place in class [11]. Various aspects of the work environment will shape the skills of students so they are ready to work [12]. This learning model has been widely used by European countries such as Ireland, England, Scotland and Australia which have successfully implemented Work Based Learning on vocational tertiary education in their country starting in the 19th century [13].

According to Brennan in 2005 Work Based Learning programs can be done through various approaches including career mentorship, apprenticeship opportunities, cooperative work experience, leadership, tech prep [14]. One that is used in this study with the Internship approach is that students do an internship to the workforce to gain experience in accordance with learning objectives [15].

The application of Work Based Learning with good results abroad may not necessarily be adopted and implemented directly in Indonesia because the characteristics of business actors in the world of work in Indonesia are very different from business actors abroad. In addition, the characteristics of students in Indonesia are also very different from the characteristics abroad, so that further research is needed to assess the success of Work Based Learning on the learning outcomes of midwifery study program students at STIKes Hang Tuah Pekanbaru.

II. METHODS

This research method uses Quasi Experiments to assess the effectiveness of the Work Based Learning model with the Internship approach to student groups compared to the simulation learning model with phantom in the laboratory. Each group consisted of 25 3rd semester students at the STIKes Hang Tuah Pekanbaru midwifery study program. Work Based Learning groups conduct direct learning at midwife maternity hospitals on the topic of pregnancy examination learning methods Leopold I-IV. While the simulation group conducts learning with phantom practice in the classroom laboratory. Indicators of success by assessing aspects in the realm of Cognitive, Affective, Psychomotor which have been designed in a set of evaluations tools. Trial learning models conducted for 1 month. The results of the study were processed and analyzed by the T test.

III. RESULTS AND DISCUSSIONS

TABLE I. DATA ANALYSIS RESULTS USING INDEPENDENT T-TEST

MEASURED ASPECTS	LEARNING MODEL	LEVENE'S TEST	MEAN	P VALUE	CI 95%
COGNITIVE	WBL	0.120	81.52	0.001	19.5-21.9
	SIMULATION		60.76		
AFFECTIVE	WBL	0.072	87.52	0.001	19.7-26.7
	SIMULATION		58.28		
PSYCHOMOTOR	WBL	0.351	78.00	0.001	24.5-36.8
	SIMULATION		47.80		

Table 1 shows that the Levene's Test on each aspect measured is greater than 0.05, meaning that the data in this study have homogeneous variants, so it can be said that there is no difference in the cognitive, affective and psychomotor learning data with Work Based Learning models and simulation models in the laboratory. The average (mean) cognitive, affective and psychomotor aspects of the Work Based Learning model are greater than the simulation learning model with phantom in the laboratory. The acquisition of P-value for all aspects of measurement is greater than 0.05, which means there is a difference between the Work Based Learning model and the simulation learning model with Phantom in the laboratory. The range of differences in cognitive aspects with the Work Based

Learning model and the phantom simulation learning model in the laboratory from 19.5 - 21.9, on the affective aspects the difference in the Work Based Learning model and the phantom simulation learning model in the laboratory from 19.7-26.7, and on the psychomotor aspects the difference between the Work Based Learning model and the phantom simulation learning model in the laboratory from 24.5 to 36.8. This means that the Work Based Learning model is more leverage in improving the psychomotor aspects compared to the simulation learning model with phantom in the laboratory.

The results of this study are in line with Siswanto's 2012 study with the result that learning with the Work Based Learning model has a significant influence on cognitive aspects of automotive mechanics, professionals in affective, mentally prepared to work and independence in doing work [16]. A similar sentiment was also conveyed by sebayang in 2017 according to the results of his research that an increase in student competence in the ability to install ceramics through learning with Work Based Learning models [17].

Research by Ismail et al also found that there was an increase in cognitive, affective and skills in students who learn directly from the workplace. Discovering the concept of Work Based Learning Arizona where Work Based Learning must involve three zones, namely the involvement of students, educational institutions and the industrial world [18]. Other research also suggests that Work Based Learning is effective in improving the work skills of vocational education graduates in Europe so that government support is needed in implementing this policy by providing policies to learning provider institutions [19].

Similar research also resulted in increased skills in automotive students at universities in South Africa through the concept of learning Work Based Learning [20]. The application of Work Based Learning in nursing programs in the United Kingdom also shows an increase in social health services by students accompanied by academic supervisors [21].

The research title "Developing midwifery practice through work based learning: an exploratory study" aims to explore the effects of Work Based Learning-based learning modules conducted by midwives in learning pregnancy, normal delivery and neonatal care. Research uses a case study approach. Research findings show that the modules used are effective in the personal and professional development of midwives. Work Based Learning in midwifery is able to improve multi-professionalism and develop the consequences of midwifery services so that it is seen as able to bridge the gap between theory and practice of midwifery while at the same time improving work relations between universities and workplaces [22].

Work Based Learning is a means for students to develop pedagogical skills through learning in the workplace. The components include 1) Learning: how students learn from theory and apply the theory in the form of direct practice in the work place. 2) Critical reflection: how students are able to think critically and show the feasibility of work for the owner of the work place. 3) Capabilities: how students improve self-audits, time management, interpersonal skills and discipline in carrying out learning while working [23]. In addition, Work Based Learning is able to shape students'

skills in making decisions in real work situations and is able to consider the positive and negative impacts of decisions made [24,25].

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IV. CONCLUSION

Work Based Learning is a learning model whose application is effective in improving cognitive, affective and psychomotor aspects. Policies and regulations are needed so that this learning model can be widely used so that quality tertiary graduates are directly absorbed by the world of work.

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REFERENCES

- [1] Panduan Kurikulum Perguruan Tinggi, Rasionalisasi Proses Pengembangan Kurikulum Berdasarkan KKNi dan SN DIKTI. 2018
- [2] Kemenristekdikti. Reorientasi Kurikulum Pendidikan Tinggi Era Revolusi Industri 4.0. Dirjen Belmawa Kemenristekdikti. 2019
- [3] Badan Pusat Statistik. Data pengangguran di Indonesia. 2015
- [4] Survey Demografi Kesehatan Indonesia. Peta pengangguran di Indonesia berdasarkan Jenjang Pendidikan. 2008
- [5] Rapat Kerja Nasional, Kualitas Lulusan Bidan. Ikatan Bidan Indonesia. 2015
- [6] Hutapea, R. Performance and Competence Determinants of Midwife in North Sumatera, East Nusa Tenggara, West Kalimantan and South Sulawesi. *Kesehatan Masyarakat Nasional*, 6(1), 29-34.
- [7] World Health Organization (WHO), Besarannya Angka Kematian Ibu di Dunia. 2011
- [8] Triyono, M. Tantangan Revolusi Industri ke-4.0 Bagi Pendidikan Vokasi. Seminar nasional vokasi dan teknologi. 2017
- [9] Jalinus, N. Pengembangan Pendidikan Teknologi dan Kejuruan dan Hubungan Dunia Kerja. Pdf. *Pendidikan Vokasi* 1(1), 25-34. 2011
- [10] Wise, R. et al. IOWA Work Based Learning Guide. E modul. 2017
- [11] Baker, S.D. Work Based Learning: A Learning Strategy in Support of the Australian Qualification Framework. *Journal of Work Applied Management*, 9(1), 97-109. 2017
- [12] Thackrah, R.D. et al. Listening to the Silence Quietly: Investigating the Value of Cultural Immersion and Remote Experiential Learning in Preparing Midwifery Students for Clinical Practice. *BMC Research Notes*. 7(1), 1-12. 2014
- [13] Schuh, G. et al. Promoting Work Based Learning Through Industry 4.0 *Procedia CIRP*. 32, 82-87. <https://doi.org/10.1016/j.procir.2015>
- [14] Brennan, L. Integrating Work- Based Learning into Higher Education A Guide to Good Practice. 2005
- [15] Malloch, M., & Connor, B. N. O. *The SAGE handbook of workplace learning* - University of Sussex. 2010 Retrieved from http://sussex-primo.hosted.exlibrisgroup.com/primo_library/libweb/action/display.do?tabs=requestTab&ct=display&fn=search.
- [16] Siswanto, B. T. Model Penyelenggaraan Work Based Learning pada Pendidikan Vokasi Diploma III otomotif. *Pendidikan Vokasi*, 1(2), 11-26. 2012
- [17] Sebayang, N., Siregar, S., & Sinaga, E. K. *Work-Based Learning Terhadap Praktik Pemasangan Keramik Mahasiswa Pendidikan Teknik Bangunan*. *Jurnal Educatin Building*, 3(2), 55-61. 2017
- [18] Ismail, S., Mohaffyza, M., Omar, N., & Mei, Y. *A Comparison of the Work-based Learning Models and Implementation in Training Institutions*. 2015. *Procedia - Social and Behavioral Sciences*, 204(November 2014), 282-289. <https://doi.org/10.1016/j.sbspro.2015.08.153>
- [19] Cedefop. Work-based learning in continuing vocational education and training: policies and practices in Europe. 2015. Luxembourg: Publications Office of the European Union. Cedefop Research Paper, 1(49), 1-78.
- [20] Rizzo, R. A case study of an experiential learning and graduate placement partnership between the South Africa Automotive Industry Development Centre (AIDC) and the Nelson Mandela Metropolitan University (NMMU). 2013. *The African Journal for Work-Based Learning*, 1(1), 5-13.
- [21] Roberts, M., & Al., E. *Developing a Work-Based Learning Model for Advanced Reflection In Project Work*. 2013. *Nurse education today*, <http://dx.doi.org/10.1016/j.nedt.2012.12.002>.
- [22] Marshall, J. E. Developing Midwifery Practice Through Work-Based Learning: An exploratory study. 2012. *Nurse Education in Practice*, 12(5), 273-278. <https://doi.org/10.1016/j.nepr.2012.06.003>
- [23] Brodie, P., & Irving, K. Assessment in Work-Based Learning: Investigating a Pedagogical Approach to Enhance Student Learning. *Assessment and Evaluation in Higher Education*, 2007. 32(1), 11-19. <https://doi.org/10.1080/02602930600848218>
- [24] Raelin, J. *A Model of Work Based Learning*. *Journal of Experimental Psychology*: 2007. General, 136(1), 23-42. Retrieved from <https://pubsonline.informs.org/doi/pdf/10.1287/orsc.8.6.563>
- [25] Rahmawati, F., & Wahyuni, S. Pengaruh Model Work-Based Learning Dan Metode Demonstrasi Terhadap Prestasi Belajar Menata Produk Ditinjau Dari Motivasi Belajar Siswa Kelas Xi Pemasaran Smk Negeri 6 Surakarta. In *Pendidikan Fakultas Keguruan dan Ilmu (Ed.)*, 2015. Seminar Nasional Pendidikan Ekonomi dan Bisnis (Vol. 2, pp. 5-10). Surakarta: Universitas Sebelas Maret.