THE IMPACT OF THE EXPERIENTIAL LEARNING MODEL ON INCREASING DIGITAL SKILLS FOR EMPLOYEES

a Dedi Budi Utomo, bFendy Suhariadi, cRudi Purwono, dPutu Agus Suginantra

ABSTRACT

Objective: This experimental study aims to find out which training model is more appropriate to use in preparing employees who have digital skills in a shorter. The purpose of this research are knowing a more appropriate training model for the preparation of employee digital skills and knowing the impact of the experiential learning model on increasing the digital skills for employee, namely Enterprise Architecture and Database & Programming Knowledge.

Methods: This research was conducted using experiments study, conducted in 2 (two) groups where group A will receive learning treatment using conventional learning models as the control and group B will receive learning using experiential learning models as the experiment. The findings for the research are that there are differences in all aspects of digital skills between group experiment and group control. Experiential Learning learning models have an impact on increasing employee digital skills, especially on aspects of Database & Programming Knowledge.

Results: The dependent variable in this study was the gain score differences in the aspects of Enterprise Architecture and Database & Programming Knowledge of the employees. The calculation results of the central size (mean and standard deviation) for gain scores data in both aspects of Enterprise Architecture and Database & Programming Knowledge. To test the research hypothesis, the assumption test was first carried out as a prerequisite for hypothesis testing, namely the data distribution normality test, the covariance variance homogeneity test, and the dependent variable intercorrelation test. The normality test in this study was conducted using Kolmogorov Smirnov statistics.

Conclusion: There are differences in all aspects of digital skills between employees who learn with the experiential learning model and employees who learn with the conventional learning model. There is no difference in the aspects of digital skills Enterprise Architecture between employees who learn with experiential learning models and employees who learn with conventional learning models.

Keywords: sustainable development goals, asean, covid vaccines, Indonesia.

---

a Magister Management, Bina Nusantara University; Airlangga University, Indonesia, E-mail: dedibudiu@gmail.com, Orcid: https://orcid.org/0009-0006-0615-4037
b Doctor Industrial Engineering and Management, Institut Teknologi Bandung; Airlangga University, Indonesia, E-mail: fendy.suhariadi@psikologi.unair.ac.id, Orcid: https://orcid.org/0000-0001-9679-2185
c Doctor in Economics, Faculty of Economics, University of Indonesia, Airlangga University, Indonesia, E-mail: rudipurwono@feb.unair.ac.id, Orcid: https://orcid.org/0000-0002-4902-0745
d Bachelor in Informatics Engineering, Udayana University; Ciputra University, Indonesia, E-mail: psuginantra@magister.ciputra.ac.id, Orcid: https://orcid.org/0009-0008-0958-4280
O IMPACTO DO MODELO DE APRENDIZAGEM EXPERIENCIAL NO AUMENTO DAS HABILIDADES DIGITAIS PARA OS FUNCIONÁRIOS

RESUMO

Objetivo: Este estudo experimental visa descobrir qual o modelo de formação mais adequado para preparar os trabalhadores com competências digitais mais curtas. O objetivo desta pesquisa é conhecer um modelo de treinamento mais apropriado para a preparação de habilidades digitais dos funcionários e conhecer o impacto do modelo de aprendizagem experiencial no aumento das habilidades digitais para os funcionários, ou seja, Arquitetura Corporativa e Banco de Dados e Conhecimento de Programação.

Métodos: Esta pesquisa foi realizada utilizando experimentos de estudo, realizados em 2 (dois) grupos onde o grupo A receberá tratamento de aprendizagem usando modelos de aprendizagem convencionais como o controle e o grupo B receberá aprendizagem usando modelos de aprendizagem experiencial como a experiência. Os resultados da pesquisa são que há diferenças em todos os aspectos das habilidades digitais entre a experiência de grupo e o controle de grupo. Os modelos de aprendizado de aprendizado experiencial têm impacto no aumento das habilidades digitais dos funcionários, especialmente em aspectos de conhecimento de banco de dados e programação.

Resultados: A variável dependente neste estudo foi o ganho de diferenças de pontuação nos aspectos de Arquitetura Corporativa e Banco de Dados e Conhecimento de Programação dos funcionários. Os resultados do cálculo do tamanho central (média e desvio padrão) para obter dados de pontuação em ambos os aspectos de Arquitetura Corporativa e Conhecimento de Banco de Dados e Programação. Para testar a hipótese de pesquisa, o teste de suposição foi realizado pela primeira vez como pré-requisito para o teste de hipóteses, ou seja, o teste de normalidade de distribuição de dados, o teste de homogeneidade da variância da covariância e o teste de intercorrelação variável dependente. O teste de normalidade neste estudo foi realizado usando estatísticas Kolmogorov Smirnov.

Conclusão: Há diferenças em todos os aspectos das competências digitais entre os trabalhadores que aprendem com o modelo de aprendizagem experiencial e os trabalhadores que aprendem com o modelo de aprendizagem convencional. Não há diferença entre os aspectos da arquitetura empresarial de habilidades digitais entre os funcionários que aprendem com modelos de aprendizagem experiencial e os funcionários que aprendem com modelos de aprendizagem convencionais.

Palavras-chave: objetivos de desenvolvimento sustentável, asean, vacinas contra a covid, Indonésia.

1 INTRODUCTION

To prepare the company to face the VUCA era and industry 4.0, PT ABC, which is engaged in the F&B sector, is starting to prepare itself by implementing IT into business processes which have been done manually so far. To implement IT, employees who are competent in managing and utilizing IT are needed to support the Corporate
Transformation Program. From the projections in the company's long-term plan, the potential income earned is 5x the current income and can provide better added value to the company and customers. This transformation program requires employees to improve digital skills quickly, accurately and effectively.

In the past, the process of preparing digital skill employee was carried out with conventional learning models in which the majority of training programs were given in the form of formal training (inclass training, knowledge sharing, etc.). Learning schemes with conventional models require relatively longer time to ensure employees competency readiness. The average time needed to make the new employees ready for work is around 2-3 years from the recruitment process. This method is felt to be not effective enough in preparing competent employees to be quickly linked to the challenge of the company in providing competent employee in a large quantity and in a short period of time. By paying attention to the conditions and referring to previous research, the company seeks to develop a new training model, namely the experiential learning model which is expected to become one of the breakthroughs in the effort to increase the speed, accuracy and effectiveness of the digital skills employee competence preparation. Breakthroughs in implementing the right and effective learning model will be able to help companies in the process of preparing digital skill’s employees which can support human resource shortage in the electricity sector.

According to Jabbar, Ong, Choi & Lim (2013), information and communication technology that has developed in the world today has changed the way knowledge is transferred, especially in the field of education. According to Lestari, Sadia & Suma (2014), the development of education must anticipate the global trends that will occur. One of them is the education movement from returning to basic (conventional) ideas to be an increase in the ability to think, learn and be creative. Innovative solutions are needed to improve the ability to think, learn and create employee education and development programs. Thus, based on these conditions, innovative learning models based on experience need to be applied. One of the innovative lessons is called the experiential learning model. This learning model is built on experience in the constructivist paradigm.

According to Kolb & Kolb (2005), there are four stages of the experiential learning model, namely concrete experience, reflective observation, abstract conceptualization and active experimentation. The four stages are considered capable of increasing the speed of employee understanding of learning materials provided. This
The experiential learning model is based on experience that involves students directly in the problem or the problem being studied. Looking at conventional learning models that have been done so far, the instructor only provides an opportunity for students to read, write, hear or observe existing problems, whereas in experiential learning models, students are invited to immediately feel and observe events that are around by collecting data, so students can report what they find from their experiences. Learning, according to learning experience, is a process of creating knowledge through a combination of experiences of getting and changing experiences (Lestari, Sadia, Suma, 2014).

Model 70:20:10 is a learning model that focuses on experiential learning mechanisms (Lombardo & Eichinger, 1996). Moreover, it is a model that is widely used by organizations to increase effectiveness in training programs and human resource development. Experiential learning takes place with a portion of 70% through challenging work-based tasks; the 20% portion is in the form of social learning and peer support, managerial support, mentoring, and feedback; and a 10% portion of formal learning through structured training programs (Forum 70:20:10, 2015a; Jennings, 2011; Lindsey, Homes, McCall, 1987; McCall, 2010; McCall Jr., Lombardo, Morison, 1988; Rabin, 2014). According to Lombardo and Eichinger (1996), Model 70:20:10 focuses on learning & developing experiences (70%), learning & developing through others (20%) and learning & developing through structured programs (10%). Model 70:20:10 in human resource development is a prescriptive method for developing prospective leaders (Cross, 2011).

This research conducted an impact study of experiential learning models on improving the competence of digital skills employees. In this case, two groups were sampled, namely Group A as the experimental group and Group B as the control group. Each group consisted of 30 (thirty) people. Group A was taught with the experiential learning model, while Group B was taught with conventional learning. Two variables in this study included one independent variable and one dependent variable. The independent variable was the learning model as a treatment variable which was divided into two groups, namely the experiential learning model for the experimental group, and the conventional learning model for the control group. The dependent variable was the competence of the digital skills employee, shown in two aspects, namely Enterprise Architecture and Database and programming Knowledge.
The problem of this study is the need to prepare competent digital skills employee in a relatively faster time because the conventional learning model carried out so far has not been able to meet the increasing demand of competent digital skill’s employees. With these conditions, companies need to conduct research in the form of experiments on the implementation of experiential learning models and their impact on improving the competence of employees, especially in the aspects of Enterprise Architecture and Database & Programming Knowledge.

This study attempts to define the training model that is more appropriate to be implemented in increasing the competencies of employees.

Additionally, the research objectives are:

a. to find out which training model is more appropriate in preparing competent employee in a shorter period of time between conventional learning models and experiential learning models

b. to find out the impact of experiential learning models on improving the competence of employee digital skill, especially in the aspects of Enterprise Architecture and Database and programming Knowledge

The results of this study are expected to contribute to employee’s development patterns that are effective in improving employee’s competencies and performance.

2 METHODOLOGY

This study used quantitative approach to test and analyse the impact of experiential learning model on improving the competence of employee digital skills. This research was conducted using experiments with both independent and dependent variables that had been identified beforehand. Generally, a good research study uses qualitative methods and quantitative methods. This study used Research Design with the aim that the research could become more detailed. The research design in this study is illustrated in the following figure:
This research aims to find a more appropriate training model to be used in preparing digital skills competency in a shorter period of time between conventional learning models and experiential learning models and to determine the impact of experiential learning models on improving the digital skills competency, especially in the aspects of Enterprise Architecture and Database & Programming Knowledge.

2.1 DATA

Random sampling technique was used in this study in which from 300 new employees, 2 classes were selected, each with 30 members. The research strategy used in this study was experiments where each group received different treatments in the learning model, namely the experiential learning model and the conventional learning model. This research was conducted from February 2022 until April 2022 (3 months).

Group A was given the experiential learning model with a portion of 70% through job assignments; the 20% portion was in the form of coaching and mentoring as well as a 10% portion of formal learning through a structured training program (in-class training). Group B was given the conventional learning model where the employees received formal training (in-class training, knowledge sharing, etc.). The profile of employees in Group A and Group B was the same, in terms of educational background of Diploma graduates, aged between 23-28 years, male, and < 1 years work experience.

2.2 ANALYSIS

The measurement used in this study was the employee’s competency assessment before they were given two types of learning models (the experiential learning model &
the conventional learning model). The competency assessment was carried out after the
two groups of employees had received the learning models for a period of 3 months. A
competency assessment was carried out by the assessor that had been determined by the
company with two aspects of assessment, namely Enterprise Architecture and Database
& Programming Knowledge.

Competency assessment was carried out by the assessor with interview methods
and practice tests and used a score of 1 - 100 which described the percentage of
competence mastery of an employee.

The Assessment process was carried out in stages and conducted twice, as follows:
a. Pre-assessment was carried out before the employees received the learning
model (beginning of the first month) in both group A (the experiential learning
model) and group B (the conventional learning model)
b. Post-assessment was carried out at the end of the third month after each
operator had received a different learning model of treatment in group A and
group B

Competency assessment was carried out on both groups of employees; those who
had received the experiential learning mechanism and those who had received the
conventional learning model. This experimental design was used to build casual
relationships between independent variables and dependent variables. The competency
assessment was carried out by the assessor through a series of interviews and practical
tests on employees who had undergone different learning mechanisms.

The method of data collection in this study was through experiments, especially
by looking at the improvement of employees’ competencies before getting treatment of
learning models and afterward. A competency assessment was conducted twice. The first
one was at the beginning of the study where two groups of employees, each of which
consisted of 30 people, had not received the treatment of any learning models, so scores
were obtained for each group related to aspects of Enterprise Architecture and Database
& Programming Knowledge (Pre-assessment). Furthermore, a different learning method
was given to each group, as follows:
a. In Group A, learning was given with the experiential learning model with
the following stages:
  • Stage 1: In-class training on Enterprise Architecture and Database &
    Programming (± 2 weeks)
• Stage 2: Implementation of a job assignment through mentoring from an expert (± 2.5 months)
• Stage 3: Competency assessment

b. In Group B, the conventional learning model was given where students received training, the majority of which was in the form of formal training (in-class training, knowledge sharing, etc.), with the following learning stages:
• Stage 1: In-class training & sharing knowledge about Digital Skills (± 3 months).
• Stage 2: Competency assessment

At the end of the third month, the competency assessment of each employees group was carried out in the same aspects, namely Enterprise Architecture and Database & Programming Knowledge (Post-assessment).

The purpose of the data collection was to obtain data on employee competency assessment (aspects of Enterprise Architecture and Database & Programming Knowledge) with the condition that the operator groups had not received any learning methods and after receiving the learning methods (the experiential learning model and the conventional learning model). Through this step, a comparison of the impact of each learning model on improving the competencies of the power plant operator could be asserted.

Furthermore, from the data collected, data analysis and statistical tests were performed so that the research conclusions could be generated.

2.3 ANALYSIS

According to Hake (2009), descriptive analysis is used to describe the average value of the dependent variable, in this case the employee's competence both from the aspects of Enterprise Architecture and Database & Programming Knowledge. To see the increase in each of the dependent variable scores, the gain score analysis is done by determining the gain score normalized by the formula:

\[ G = \frac{S_{post} - S_{pre}}{S_{max} - S_{pre}} \]

Information:
Before a statistical test was carried out, calculations had been made on the average and standard deviation of each gain value, both in the experiential learning method and in the conventional learning method. In this study three hypotheses were proposed, namely:

a. There are differences in all aspects of digital skills between employees who learn with the experiential learning model and employees who learn with the conventional learning model;

b. There is no difference in the aspects of digital skills Enterprise Architecture between employees who learn with experiential learning models and employees who learn with conventional learning models.

c. There are differences in the aspects of digital skills Database & Programming Knowledge between employees who learn with experiential learning models and employees who learn with conventional learning models.

To test these three hypotheses, Multivariate Variance Analysis (Manova) was used through statistical F variants. To test the research hypothesis, the assumption test was first carried out as a prerequisite for hypothesis testing, namely the data distribution normality test, the covariance variance homogeneity test, and the dependent variable intercorrelation test. The data distribution normality test was intended to ensure that the sample actually came from a population that was normally distributed so that hypothesis testing with Multivariate Variance Analysis (Manova) could be done.

Testing the normality of the data in this study was performed using Kolmogorov-Smirnov statistics. With a confidence level of 95%, if the number of significance for each data was greater than 0.05, it could be concluded that the gain score data for the aspects of Enterprise Architecture and Database and Programming Knowledge were normally distributed.

Whereas the homogeneity variance was tested using Levine's Test Of Equality of Error Variance which aims to measure whether a group of data has the same variant and to ensure that the differences occur as a result of differences in treatment in the group. With a confidence level of 95%, if the number of significance for each data was greater...
than 0.05, it could be concluded that the gain score data for the aspects of Enterprise Architecture and Database and Programming Knowledge that were differentiated by group learning model were homogeneous.

Intercorrelation testing of the dependent variables using the Pearson Correlation Coefficient was implemented to determine whether there was a high enough relationship between the aspects of Enterprise Architecture and Database and programming Knowledge. With a confidence level of 95%, if the value of Sig. (2 tailed) > 0.05, it was concluded that no relationship was high enough, which was indicated by means that no similar aspects were measured in these variables, thus the analysis could proceed.

Multivariate tests or inter-subject testing were carried out on the significance of Pillai’s Trace F value (Candiasa, 2010). From the results of the statistical variant F with a confidence level of 95%, if the significance number was smaller than 0.05, it would mean that first HO was rejected, which meant there were differences in the dependent variable between groups, namely differences in aspects of employee competencies, including the aspects of Enterprise Architecture and Database & Programming Knowledge between the group of employees who studied using the experiential learning model and another group of operators who learned using the conventional learning model. On the contrary, if the significance number was greater than 0.05, HO was accepted which meant there were no differences in aspects of employee competencies, including the aspects of Enterprise Architecture and Database & Programming Knowledge between two groups.

To test the second and third hypotheses, the study used the F Test with a confidence level of 95%. If F count < F table, then the hypothesis would be accepted, which meant that there was no difference in one aspect of competency between the group of employees who studied using the experiential learning model and another group of employees who learned using the conventional learning model. On the other hand, if F count > F table, then the hypothesis would be rejected, which meant that there was a difference in one aspect of competency between the group of employees who studied using the experiential learning model and another group of employees who learned using the conventional learning model.

If the Multivariate Test results showed a statistically significant difference in the employee competency aspects between the experiential learning model and the conventional learning model, then further tests would need to be carried out to determine the significance of the differences between the two learning models using the least
significance difference (LSD) analysis. If the difference in the average gain score of employee competency aspects was greater than the LSD rejection limit, it could be concluded that there was a significant difference between the average gain score in the competency aspects of both groups.

3 RESULTS AND DISCUSSION

The dependent variable in this study was the gain score differences in the aspects of Enterprise Architecture and Database and programming Knowledge of the employees. The calculation results of the central size (mean and standard deviation) for gain scores data in both aspects of Enterprise Architecture and Database and programming Knowledge are presented in Table 1.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Enterprise Architecture</th>
<th>Database &amp; Programming Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conventional</td>
<td>Experiential</td>
</tr>
<tr>
<td>Average</td>
<td>0.45</td>
<td>0.62</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.10</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Source: Research author SPSS 20.0 2023

Based on Table 1, the average number of the Enterprise Architecture aspect of employees who studied with the experiential learning model is 0.62 (moderate qualifications). This average is higher than the average number of those who studied with the conventional learning model (0.45) who are in moderate qualifications. For the Database & Programming Knowledge aspect, employees who studied with the experiential learning model has an average of 0.62 (moderate qualification). This average is higher when compared to the average of the Database & Programming Knowledge aspect of employees who studied with the conventional model (0.23) which are in low qualifications.

To test the research hypothesis, the assumption test was first carried out as a prerequisite for hypothesis testing, namely the data distribution normality test, the covariance variance homogeneity test, and the dependent variable intercorrelation test. The normality test in this study was conducted using Kolmogorov Smirnov statistics. The recapitulation of the results of normality test of data distribution is presented in Table 2.
Based on Table 2, it appears that the gain scores data of the aspects of Enterprise Architecture and Database & Programming Knowledge both in the experiential learning model and the conventional learning model came from samples that were normally distributed. This is indicated by the singular significance for each data which is greater than 0.05.

Homogeneity of variance was tested using Levine’s Test of Equality of Error Variance. This test aims to measure whether a data group has the same variant and to ensure that the differences really occur as a result of differences in treatment in the group. The recapitulation of the results of the variance homogeneity test is presented in Table 3.

Based on Table 3, it appears that the gain scores data of the aspects of Enterprise Architecture and Database & Programming Knowledge that were distinguished by group learning models are homogeneous. This is indicated by the singular significance for each data which is greater than 0.05. The intercorrelation test was then carried out to find out whether there was a high enough relationship between the two aspects. If there was no relationship that was high enough, it meant that there was not any same aspects measured on that variable, so the analysis could proceed. The technique used for the intercorrelation test was product-moment correlation (Pearson Correlation Coefficients). The intercorrelation matrix between the dependent variables is presented in Table 4.
Table 4 Inter correlation Matrix between Bound Variable Fellow

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Statistics</th>
<th>Gain Aspect of Enterprise Architecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain Aspects of Database &amp; Programming Knowledge</td>
<td>Pearson Correlation</td>
<td>0.246</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.058</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Research author SPSS 20.0 2023

Based on Table 4 above, although the value of Pearson Correlation is not the same as 0 (0.246), which indicates that there is a positive correlation between the two aspects, the significance value of the correlation indicated by the Sig. (2 tailed) shows a value greater than 0.05 (0.058) which means there is no very strong correlation between the dependent variables.

Asserting the results of the normality test, the data homogeneity, and the intercorrelation test data, it appears that the requirements for hypothesis testing with Multivariate Anova could be fulfilled so that hypothesis testing could be continued. The three hypotheses in this study were tested by multivariate variance analysis. The results of testing the first hypothesis are presented in Table 5.

Table 5 Summary of Results of Testing the First Hypothesis

<table>
<thead>
<tr>
<th>Free variable</th>
<th>Statistics</th>
<th>Statistical Value</th>
<th>F Test</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning model</td>
<td>Pillai Trace'</td>
<td>0.854</td>
<td>28.958</td>
<td>2</td>
<td>58</td>
<td>0.001</td>
</tr>
<tr>
<td>Wilks Lambda</td>
<td>0.106</td>
<td>28.958</td>
<td>2</td>
<td>58</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Hotelling Trace</td>
<td>8.446</td>
<td>28.958</td>
<td>2</td>
<td>58</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Roy's Largest Root</td>
<td>8.446</td>
<td>28.958</td>
<td>2</td>
<td>58</td>
<td></td>
<td>0.001</td>
</tr>
</tbody>
</table>

Source: Research author SPSS 20.0 2023

Table 5 shows that the statistical value of Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root is F count = 28.958 with a significance level of 0.001 less than 0.05. This mean the first HO states that “There are no differences in all aspects of employee competencies, including the aspect of Enterprise Architecture and Database & Programming Knowledge between the employees who study using the experiential learning model and the employees who learn using the conventional learning model,” was rejected. Thus, it was concluded that there were differences in all aspects of employee competencies, including the aspects of Enterprise Architecture and Database & Programming Knowledge between the two groups.

The results of testing the second hypothesis are presented in Table 6 which shows the value of F count (2.513) smaller than F table (3.34). Thus, the second HO which states that “There is no difference in the aspect of Enterprise Architecture between the
employees who study using the experiential learning model and the employees who learn using the conventional learning model,” was accepted. In other words, there was no significant influence in the aspect of Enterprise Architecture between employees who learned with the experiential learning model and those who learned with the conventional learning model.

To test the significance of the differences, the least significant difference (LSD) analysis was used. Based on the results of the calculation, it was obtained that the rejection of LSD for the gain score of the aspect of Enterprise Architecture of the employee was 0.6671. The difference in the average gain score of the Enterprise Architecture aspect of the operator was 0.17. This value was smaller than the LSD rejection limit. So, it could be concluded that the average gain score of the aspect of Enterprise Architecture of employees who learned with the experiential learning model did not differ significantly from the average gain score of those who learned with the conventional model. This indicates that in improving the aspect of Enterprise Architecture, the experiential learning model did not show a significantly different impact compared to the conventional learning model.

Table 6 Summary of Results of Testing the Second Hypothesis

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Df</th>
<th>F count</th>
<th>F table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (a)</td>
<td>1</td>
<td>2.513</td>
<td>3.34</td>
</tr>
<tr>
<td>In (d)</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (t)</td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research author SPSS 20.0 2023

The results of testing the third hypothesis are presented in Table 7 which shows the calculated F value (7.836) greater than F table (3.34). So, the third HO stating that “There is no difference in the aspect of Database & Programming Knowledge between the employees who study using the experiential learning model and the employees who learn using the conventional learning model,” was rejected. In other words, it could be concluded that there was a difference in the aspect of Database and programming Knowledge between employees who learned with the experiential learning model and employees who learned with the conventional learning model. To test the significance of the differences, LSD analysis was used again. Based on the results of the calculation, it was obtained that LSD rejection for the gain score of the Database & Programming Knowledge aspect was 0.3065. The difference in the average gain score of employees’ Database and programming Knowledge was 0.39. This value was greater than the LSD
rejection limit. Thus, the average gain score of the Database and programming Knowledge aspect of employees who learned with the experiential learning model differed significantly from those who learned with the conventional learning model.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Df</th>
<th>F count</th>
<th>F table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (a)</td>
<td>1</td>
<td>7,836</td>
<td>3,34</td>
</tr>
<tr>
<td>In (d)</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (t)</td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source : Research author SPSS 20.0 2023

Descriptively, the average gain score of the Database & Programming Knowledge aspect of employees who learned with the experiential learning model (0.62) was greater than the average gain of the other group that learned with the conventional learning model (0.23). This indicates that in improving the employee competencies in the aspect of Database & Programming Knowledge, the experiential learning model provides more optimal results compared to the conventional learning model.

Based on the results of these studies, it appears that there were differences in all aspects of employee competencies, including the aspects of Enterprise Architecture and Database & Programming Knowledge between the two groups. Experiential learning models that are built on experience in the constructivism paradigm consist of four stages, namely concrete experience, reflective observation, abstract conceptualization and active experimentation. The four stages are proven to be able to increase the speed of employee understanding of the learning material provided. The experiential learning model has the role of activating employees in building their knowledge and skills and values as well as attitudes through their experiences directly. If in conventional learning models that have been done so far, the instructor only provides an opportunity for the employee to read, write, hear or observe the existing program, but with experiential learning models, the employee is invited to immediately experience and observe the events around by collecting data found so they can report what they find from their experience.

Experiential based learning occurs with the largest portion through job assignment on challenging jobs; the remaining portion is in the form of social learning and support from colleagues, managerial support, mentoring, and feedback; and the portion of formal learning through a structured training program. With this mechanism, the experiential learning model can accommodate the development of all aspects of employee competencies, including aspects of Enterprise Architecture and Database & Programming.
Knowledge. New experiences created in the learning process become a more interesting stage from the learning cycle that is considered to be monotonous that they have been getting. Employees are no longer passive listeners but are demanded to be active and responsive during the learning process.

The aspect of Database & Programming Knowledge is certainly not enough to be studied with a one-way method, but with a strong interaction between instructors and learners in emphasizing aspects of experience in the learning process. This shows the importance of the active involvement of operators in developing their competencies in the guidance of instructors/mentors who will continue to observe and provide feedback on the development of competencies through a series of assignments given. With this mechanism, the development of employee competencies runs more effectively because they can directly apply their knowledge and understanding with stronger achievement indicators. In addition, the experiential learning model changes the pattern of one-way communication relations into a dialogical relationship in which the values built between learner and instructors are harmonious and sustainable.

This research reinforces the conclusions in the research conducted by Lestari, Sadia, Suma (2018) which concludes: there are differences in critical thinking skills and achievement motivation between students who learn with experiential learning models and students who learn with conventional learning models.

4 CONCLUSION

The conclusion of this research can be described as follows:

a. There are differences in all aspects of digital skills between employees who learn with the experiential learning model and employees who learn with the conventional learning model.

b. There is no difference in the aspects of digital skills Enterprise Architecture between employees who learn with experiential learning models and employees who learn with conventional learning models.

c. There are differences in the aspects of digital skills Database & Programming Knowledge between employees who learn with experiential learning models and employees who learn with conventional learning models.
d. Experiential Learning learning models have an impact on increasing employee digital skills, especially on aspects of Database & Programming Knowledge.

Based on these conclusions, it can be suggested that human resources practitioners should apply the experiential learning model as a breakthrough in the effort of improving the effectiveness of employee competency improvement programs. In its implementation, it is necessary to develop a curriculum and syllabus that represent a learning model that focus more on job assignment needed to be conducted by employees, both individually and in groups.
REFERENCES


Hake (1999). Analyzing Change/Gain Scores. 24245 Hatteras Street, Dept, of Physics, Indiana University. USA. Woodland Hills, CA, 91367


