



The Improvement of Graduate Work Readiness Through Learning Agility E-Training

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Abstract

This research uses the quasi-experimental study with a pretest-posttest control group to improve graduate work readiness through learning agility training. This study used the independent sample t-test to determine the average comparison of different groups and also the Paired sample t-test to find the differences in the two groups. This research aims to examine the graduate work readiness can be improved through learning agility e-training. There are 32 subjects divided into two equal parts for both the control and experimental groups with the criteria including graduates seeking employment, those have never worked before, and have moderate and low readiness scores. However, the e-training on learning agility were only provided for the experimental group and not to the control group. The results of the sample t-test in the post-test experimental group showed that there was a significant difference between the pretest and post-test with a value of $t = -7.206$; $df = 15$; and the significance of 0.000 ($p < 0.05$). The results using independent samples t-test indicate that work readiness tends to be improved through learning agility training.

Keywords: E-Training; Learning Agility; Work Readiness; Quasi-Experiment

Peningkatan Kesiapan Kerja Lulusan Melalui Pelatihan Learning Agility

Abstrak

Penelitian ini menggunakan penelitian eksperimen semu dengan kelompok kontrol pretest-posttest untuk meningkatkan kesiapan kerja lulusan melalui pelatihan learning agility. Penelitian ini menggunakan independent sample t-test untuk mengetahui rata-rata perbandingan kelompok yang berbeda dan juga Paired sample t-test untuk mengetahui perbedaan kedua kelompok. Penelitian ini bertujuan untuk mengkaji kesiapan kerja lulusan dapat ditingkatkan melalui learning agility e-training. Terdapat 32 subjek yang dibagi menjadi dua bagian yang sama besar untuk kelompok kontrol dan eksperimen dengan kriteria antara lain lulusan mencari pekerjaan, belum pernah bekerja, dan memiliki skor kesiapan sedang dan rendah. Namun, e-training tentang learning agility hanya diberikan untuk kelompok eksperimen dan bukan untuk kelompok kontrol. Hasil uji-t sampel pada kelompok eksperimen setelah tes menunjukkan bahwa terdapat perbedaan yang signifikan antara pretest dan posttest dengan nilai $t = -7,206$; $df = 15$; dan signifikansi $0,000$ ($p < 0,05$). Hasil uji independent sample t-test menunjukkan bahwa kesiapan kerja cenderung meningkat melalui pelatihan learning agility.

Kata kunci: Pelatihan Elektronik; Belajar Ketangkasan; Kesiapan Kerja; Kuasi-Eksperimen

1. Introduction

Indonesia merupakan negara tropis yang kaya akan keanekaragaman hayati dan sudah terkenal selama berabad-abad lamanya, salah satu dari keanekaragaman tersebut adalah

minyak atsiri. Minyak atsiri adalah cairan hidrofobik yang mengandung senyawa kimia yang bersifat mudah menguap dan memiliki aroma yang khas.

Currently, 68.7% of the Indonesian population are in the demographic bonus for productive age (www.bps.go.id). This has a positive impact on the country because the productive age helps in improving welfare and progress. Furthermore, the existence of the ASEAN Economic Community (AEC) formed in 2015 has made the conditions of investment, trade, services industry and transportation, tourism, telecommunications, and finance to be more dynamic (www.kemlu.go.id). However, the AEC and the demographic bonus of productive age has not brought significant impacts and changes. The Statistic Central Agency reported 194,779,441 people between the age of 15 years and above to be productive in Indonesia, but only 124,004,950 of them, or 63% are absorbed in the work environment.

The fact that the quality of human resources is not in line with the work standards desired by an organization and industry tends not to bring about an increase in the demand of labor [1]. According to Caballero and Walker [2] stated that the work readiness was needed for graduates to be recruited as an employee. This is because it is used in predicting individual's potential to see their performance and career in the future [2]. Also, the work readiness is a key for individuals entering the work environment because the industry or organization wants competent human resources to follow the rhythm, work culture, and fulfill what they need [1]. These organizations need graduates not to only master the knowledge acquired during education but also to be able to show good performance [3].

Work readiness makes graduates to have attitudes and attributes required of them for success in the work environment [2], [4]. The organization or industry believe the graduates are job seekers with low development skills [5], [6].

Academic skills is the transfer of knowledge according to ones field of study [7]. Other skills capable of affecting the level of readiness include self-management, initiative, and self-development planning [5]. Furthermore, socialization is one of the important skills needed by graduates and is seen in good communication, adaptation, and interpersonal relationships [2], [5], [8]. According to 'Aini et al. [9] the weakness of job seekers was the low soft skills possessed in the industrial revolution era. This weakness is part of the competence expressed in nature, motive, and self-concept [10]. However, these three competencies in the industrial and organizational world have various types, and one of them is learning agility. The graduates that manage to get jobs easily are those with a good learning agility [11].

Learning agility is the one of ability of human resources to learn quickly, flexibly, and quickly change to new conditions based on learning outcomes and experiences gained [12]. This learning has 4 dimensions that include: (1) Mental agility is characterized by high curiosity, but remains comfortable with obscurity and ambiguity, and looks at something from the root of the problem, as well as providing a solutive, (2) People agility is described as having the characteristics of open, tolerant, respect, and good interpersonal communication skills, (3) Change agility is a behavior that easily accepts change and cherish an experiment for something new, and (4) Result agility makes people to build team performance and be present in real-time in completing a job [12].

Furthermore, learning agility is used to predict individual's performance in industry and organizations [13], [14]. This industry and organizations tend to survive and continue to develop if members are agile in dealing with changes and uncertainties. Therefore, learning agility are improved through feedback on what has been carried out, individuals learning from their mistake after realizing it, and having a good self-awareness to understand their weaknesses and strengths to be able to make a solution [15].

Training is an attempt to improve attitudes, knowledge, or skills through learning experiences for better performance. Also, adult is entitle to it with the help of auditory, visual, and kinesthetic. Training are effective when there is 22 participants and there are three learning objectives and they include affective, connective, and cognitive [16].

E-training is the use of Internet or Intranet to improve the skills, knowledge, attitudes, and values of individuals using computers, voice, video, multimedia, e-books, email, chat, or group discussions [17], [18]. The tools used are web, computer, video, and audio-based [19], [20]. Several stages of e-training are seen in Figure 1.

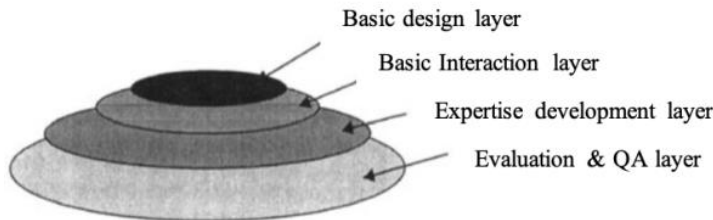


Figure 1. Layer design model [21]

The first layer focuses on how to design training, the characteristics and nature of the trainees, pedagogical structures and interaction processes to develop skills in a particular learning context, and a culturally sensitive and authentic assessment. The cultural sensitive and authentic assessment needs to be developed to ensure the achievement of the skills to be evaluated in a meaningful way. The second layer is about how the interaction are carried out in a training, while the third layer is the skills improvement and the fourth layer is the evaluation.

The previous study described learning agility to help graduates improve work readiness, therefore, they tend to be more easily absorbed by industry and organizations. Furthermore, the training of learning agility expects graduates to have better work readiness in self-awareness, agile in thinking and change, and desire to know and explore the needs of industry and organizations. Therefore, there are differences in the scores of work readiness in the experimental and the control groups with the provision of treatment such as learning agility training. The purpose of this study is aim to determine the effect of learning agility training in improving graduate work readiness to increase the quality of human resources in Indonesia. However, the results of the previous study are used as the basis for compiling the framework seen in Figure 2.

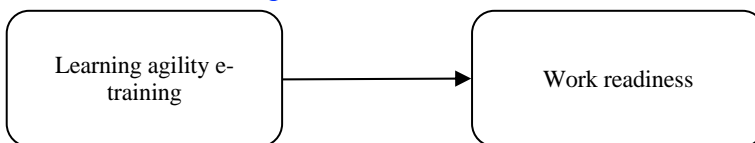


Figure 2. Research Framework

2. Methods

2.1. Research Design

This study used work readiness as the dependent variable and learning agility with training methods as the independent variable. Furthermore, this is a quasi-experimental study because it used the pretest and posttest control group design (Figure 3).

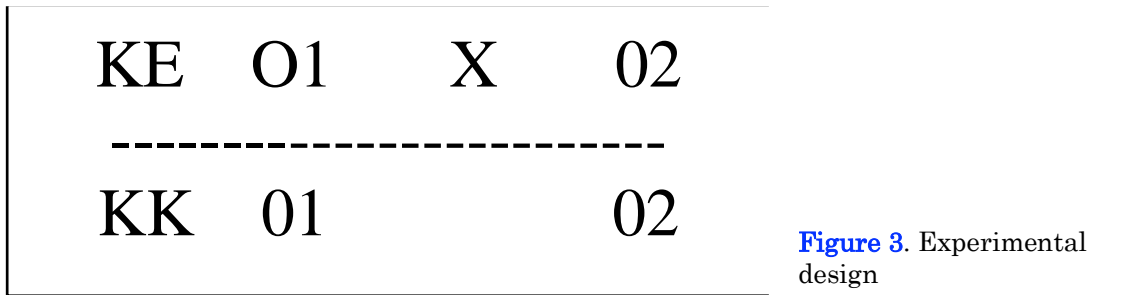


Figure 3. Experimental design

Description: KE = experimental group; KK = control group; O1 = pretest; O2 = posttest; X = treatment

2.2. Procedure

The study begins with the treatment preparation and then followed by designing the training. The training module validity is tested by conducting expert judgments on 5 subjects that fall under the practitioner, industrial, and organizational psychologists’ trainers. These criteria are determined because industrial and organizational trainers, as well as psychologists understand the concept of scientific training. This study used the Aiken's V validity coefficient to analyzed the expert judgment results. Furthermore, the validity and reliability tests of the work readiness scale were carried out with a survey by distributing the scale to 41 graduates that were seeking employment and have never worked. Data were obtained by testing the item validity using the product-moment and the participants were screened through a pretest. However, the participants are given treatment, post-test, and training evaluation because they have a low job readiness (Figure 4).

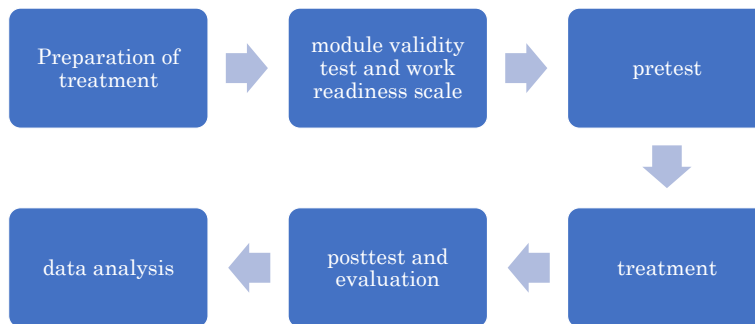


Figure 4. Research Procedure

2.3. Participants

The participants of this study are graduates seeking employment, those have never worked before, have moderate and low readiness scores, and able to access the internet with various common applications such as ms office, whatapp and zoom meeting. This criterion is assigned to the participants as an attempt to control the variables affecting the dependent variable. At the initial stage, the research selected 70 graduates with different categories, such as very low, low, medium, high, and very high job readiness.

There was a categorization norm $X (M - 1.5 * SD)$, $(M - 1.5 * SD) < X (M - 0.5 * SD)$, $(M - 0.5 * SD) < X (M + 0.5 * SD)$, $(M + 0.5 * SD) < X (M + 1.5 * SD)$, and $X > (M + 1.5 * SD)$ for the very low, low, medium, high, and very high category respectively. However, graduates with work readiness among very low and medium categories are used as the participants of this study. Based on these criteria, 32 participants were divided into two equal parts for the experimental and control group (Table 1).

Table 1. Participants' Demographic Characteristics

Characteristics	Category	N	%
Participants Age (Years old)	18	6	18.750
	19	6	18.750
	20	1	3.125
	22	2	6.250
	23	7	21.875
	24	6	18.750
	25	2	6.250
	26	1	3.125
Graduation Year	2018	2	6.250
	2019	12	37.500
	2020	18	56.250
Education Level	Vocational High School	13	59.375
	Bachelor	19	40.625
Period of Unemployment (Month)	1	1	3.125
	2	7	21.875
	3	2	6.250
	4	1	3.125
	5	1	3.125
	6	2	6.250
	8	1	3.125
	9	1	3.125
	10	2	6.250
	11	1	3.125
	12	9	28.125
	13	2	6.250
	15	1	3.125
	17	1	3.125
Category of Work Readiness	Very low	7	21.875
	Low	16	50.000
	Medium	9	28.125

2.4. Measurement Tools

This study used a work readiness scale from Savickas career theory with 4 dimensions that include: (1) Career concern consisting of 6 items, (2) Career control consisting of 6 items, (3) Career curiosity consisting of 8 items, and (4) Career confidence consisting of 7 items. This is in the form of a Likert scale to show the subject conformity level with the item scale at a score range between 1 and 5 for the least and most suitable statement respectively.

2.5. Procedure of Intervention

The treatment given to the subjects is provided in the form of training by delivering the material online through the zoom meeting. This is designed according to the e-training stages including the design, interaction, expertise development, and evaluation (Nicholson, 2005). Figure 1 expands more on these stages as follows: (1) The treatment design stage is the compilation of a treatment method that has been validated by the expert to compile an evaluation using the Kirkpatrick method, determines the participants, and the training content such as learning agility, (2) The interaction stage where there is an opening session of the training, ice-breaking as a session to enjoy the training atmosphere, precognition by playing videos, discussions about videos that have been seen, the material delivery through conferences on the zoom, as well as discussion, question, and answer, (3) Assignments by guiding participants in filling out the worksheets provided and to leave the zoom to work on assignments offline, and create a small group where each trainer provides feedback to 5 participants, and (4) the training evaluation was carried out with the Kirkpatrick method and a post-test of the work readiness scale. The work readiness e-training module presented in [Table 2](#).

Table 2. Module of Work Readiness E-training

Stage	Session	Duration	Purposes
Basic design layer	Opening and introducing	10 min	As a sign that the event has started and also so that participants can recognize the moderator and trainer.
	Brainstorming	10 min	This session aims to warm up so that participants can focus on learning agility materials. In addition, the training aims to explore basic things related to learning agility.
Basic interaction layer	video playback as precognition	10 min	This session aims to provide participants with an overview of the material to be presented.
	Discussion regarding video	10 min	Directing participants to understand the meaning of learning agility in real life.
Expertise development later	Explanation of learning agility	50 min	This activity aims to impart knowledge about learning competencies to participants through cognition.
	Discussion	45 min	Participants are expected to be able to understand more deeply related to learning agility.
	Affection	20 min	Participants are expected to reflect on learning agility. The extent to which the level of learning agility of each participant raises the desire of the participants to want to increase their learning agility.
	Conation	15 min	Directing participants to be able to find factors that can be improved related to learning agility and help them develop plans to improve their learning agility.
Evaluation and QA layer	Feedback	10 min	Getting feedback to improve the next e-learning.
	Filling evaluation form and post test	10 min	Getting evaluation from partisipants and getting data regarding their learning agility.
	Closing	10 min	As a sign that the event has finished.

3. Results and Discussion

The following is the result of the module validity through expert judgment while analyzed using Aiken's V validity coefficient. Aspect of expert judgement modul are language of module, plot, accuracy of target, duration of e-training, coherence between sessions, accuracy of theory and content, suitability of tools and materials, completeness on the preparation of e-training guidelines and procedures. There are 5 experts with Industry and organizational psychologist and trainer background who give the module appraisal.

The Aiken's V validity coefficient is .89, therefore, this e-training module shows that e-training module is valid with a significance level of $p < 0.05$. This is because the results of the module content validity test have a higher coefficient value. Further, the next validity is the item validity of the work readiness scale, and was analyzed using the product-moment with SPSS. Work readiness scale have 27 items. The value of with the Pearson correlation between 0.388 up to 0.831 with between p 0.00 up to 0.012. That value shows that items of work readiness scale is valid to measuring work readiness variable. Further, reliability value of work readiness scale shows that the value of Cronbach Alpha is 0.956, mean 3.696, with correlated item total value among 0.337-0.809. The results of the reliability test analysis indicate that the work readiness scale used in this study is reliable.

The normality test conducted is the Kolmogorov Smirnov test technique. The results shows that the pretest and post-test from the experimental and control groups have distributed data with a significance value between 0.075 to 0.200 ($p > 0.05$).

Pretest. The results from the pretest control group and the experimental group are seen based on the SPSS in **Table 3**. It shows that the p-value of the Levene's test for equality of variances is 0.293 ($p > 0.05$), therefore the pretest data is homogeneous. Furthermore, the p-value is 0.757 because the T-test table is independent and this means there is not pretest difference between the control and experimental groups. Meanwhile, the results of the post-test used the independent sample T-test to determine an increase in the subject's work readiness through the training provision (**Table 4**). It shows that the significance value of the Levene's test for equality of variances is 0.262 ($p > 0.05$), therefore, the pretest data is homogeneous. Furthermore, the significance value is 0.000 because the T-test table is independent and this means there is a significant difference in post-test results between the control and experimental groups.

Table 3. Pretest Results

	Levene's Test		T-Test for Equality of means				
	F	Sig.	df	Sig.	Mean Difference	Lower	Upper
Equal variances assumed	1.145	0.293	30	0.757	3.1250	-1.728	2.353
Equal variances not assumed			28.852	0.757	3.1250	-1.731	2.356

Table 4. Posttest Results

	Levene's Test		T-Test for Equality of means				
	F	Sig.	df	Sig.	Mean Difference	Lower	Upper
Equal variances assumed	1.315	0.262	26	0.000	4.77083	3.21337	6.32830
Equal variances not assumed			17.267	0.000	4.77083	3.06584	6.47582

Paired samples t-test of the control group. **Table 5** shows that the significance value is 1.000 ($p > 0.05$), therefore, there is no significant difference between the pretest and post-test in the control group. Then, **Table 6** shows that the significance value is 0.000 (< 0.05), and this means there is a significant difference between the pretest and post-test in the experimental group.

Table 5. Paired Samples T-Test of Control Group

t	df	Sig.
0.000	15	1.000

Table 6. Paired Samples T-Test of Experiment Group

t	df	Sig.
-7.206	15	0.000

The results indicate learning agility to be effective in increasing graduate work readiness. This is because learning agility is an ability that can be predicted as one of the potential employees or prospective employees [14], [22]. In an organization or company, they can adjust quickly, communicate, and make difficult decisions. Learning agility can be measured early on as a potential known as an indicator of job readiness. People who have high learning agility can have a huge impact on their job readiness. Learning agility is not only a competency related to the ability to think, but more broadly it is related to the ability to think, adapt, and act in an unstable situation. Of course, learning agility is not the only predictor of job readiness, but with an individual's high learning dexterity, he can show how

motivation works, how he views a job, how he adapts, how he can communicate well, and also make decisions in very stressful conditions.

Concept of this learning is structured by targeting the cognitive, affective, and conative aspects of the participants. Furthermore, the increase in work readiness is because learning agility focuses on increasing curiosity, flexibility, and problem solutions where new learning is obtained from their experience [15]. The results of this study are in line that learning agility tends to improve one's authentic leadership such as the ability to foster greater self-awareness, internalized moral perspectives, balanced information processing, and relational transparency [22], [23]. Therefore, self-awareness as well as balanced and positive information processing are competencies as part of work readiness [24]. The graduates are ready to enter the work environment after graduating because the work readiness is expected to be a part of learning in the education context.

Moreover, this study has several limitations such as the limited number of participants and implementation of online training or e-training that raises obstacles including an unstable signal capable of affecting the participant learning process.

4. Conclusion

The result showed that graduate work readiness tends to be improved through learning agility training. Several research explained this training to be carried out on more participants with an average of 22 people. According to Silberman (1998), training tends to be more effective if it is followed by an average of 22 participants. Furthermore, these results are used as a basis for higher education providers to improve student learning agility competencies while undergoing studies in various forms. This is carried out through training or an assignment capable of refining students' learning agility.

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