3rd UNJ International Conference on Technical and Vocational Education and Training 2018 (3rd ICTVET 2018)

The 3rd International Conference on Technical and Vocational Education and Training (ICTVET 2018) was organized by the Universitas Negeri Jakarta for the third time on 19–21 October 2018 as a forum for researchers, academics, students, and professionals in this field to meet and share their ideas and experience.

The 3rd ICTVET 2018 had the theme: 'Technical & Vocational Education Training on the Industrial Revolution 4.0.' Innovation in education, industry, vocational education, and its various supporting elements are expected to provide answers to the Industrial Revolution 4.0 challenges. The Industrial Revolution 4.0 makes information technology as the backbone of communication, distribution channels, and competitive weapon in the global community. Indonesia, whose potential lies in its population, abundant natural resources, and strategic geographical position, must encourage innovation to confront the Industrial Revolution 4.0 in the Asia-Pacific region. This conference specializes in topics related to Vocational Education and Training, Engineering, and Innovation Industry.

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**Statement of Peer review**

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Universitas Negeri Jakarta, Indonesia
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"Job in the Changing World of Work"
and Vocational Education and Training
2nd UNI International Conference on Technical
UNI ICTVET 2015
Proceeding
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Faculty of Engineering, Universitas Negeri Jakarta
Dewi Sartika Building, 2nd floor UNJ
Jakarta, October 27th 2015
title

Introduction

The ability to control engineering systems is an important skill for modern engineers. This skill is crucial in many industries, including aerospace, automotive, and manufacturing. In this study, we investigate the impact of computer-aided design (CAD) software on students' ability to control engineering systems. The results show that students who used CAD software had a significant improvement in their ability to control engineering systems compared to those who did not.

Abstract

Students basic skills vocational
Improved ability to control Engineering
where learning and experience can be seen as the mental attitude of the students SMK itself.

In the national education law, the main purpose is to prepare vocational education, is to prepare learning to be able to work for the future and for the welfare of the nation. (Schippers, Patrauma, 1994; 19).

Issues arising from the joint venture foreign investment (FDI) of Japan, workers in Indonesia who have a degree in vocational education, are generally not be able to work for the future and for the welfare of the nation. (Schippers, Patrauma, 1994; 19).

To improve the quality and the quality of learning, vocational education is to improve the ability to think critically, in-depth understanding of the concepts, through literature, and the ability to think critically, in-depth understanding of the concepts. Based on the above background, the formulation of the problem in this study as follows: (1) is there a relationship between the ability to think critically and the ability to think critically, altogether, with the basic skill? (2) is there a relationship between the ability to think critically and the basic skill? (3) is there a relationship between the ability to think critically and the basic skill? (4) is there a relationship between the ability to think critically and the basic skill?

The term "capability" refers to the capability of learning and is the result of one's learning. (Gagne, 1985; 46-59). Gagne, Briggs, and Wager (1992; 107) said that attitude is to organize learning outcomes and experiences.
All requirements needed in the field, especially for electronics technician on the mastery of knowledge and skills of basic electronic circuits and electronic equipment on the subjects taught basic skills in engineering Vocational High School in clumps electro mechanical subjects. According to Butler a person’s ability to learn a very influential among them is the knowledge or skill that is mastered previously associated with a special material that has been studied. (Butler, 1979: 16).

Mechanical Talent

Talent is the inherent ability or “inherent” in a person (Semiawan, 1996: 5). Khatena (1992: 5) says giftedness is defined as a natural ability or aptitude, talent. Besides talent, or “aptitude” is defined as an innate ability which is the potential (potential ability) that still need to be developed or trained. (Semiawan and Munandar, 1987: 1). Children who are gifted in a certain field does not necessarily have a high IQ.

Gifted and talent give evidence on the ability of high performance in children in areas such as intellectual, creative, artistic, or leadership capacity of specific academic skills (Clark, 1983: 5). On the other hand Munandar say that talent and ability is one of the factors that determine one's achievement, where achievement is determined among other things by the intelligence (Munandar, 1992: 17). Magill believed that the intelligence is the ability to learn and understand, often linked with the skill of someone on a new treatment or a material that is not known. (Magill, 1993: 1).

In the approach to the analysis of the factors stated there are two main factors that shape to construct-ability is a factor g (general) and the factor s (specific). (Khatena 1992: 5). The concept of factor analysis repaired by other experts, known as the usual factors (multiple factors). In the plural factor is said that intelligence operates on four levels, namely (1) try try (trial and error), (2) perseverual, (3) ideational and (4) conceptual. (Khatena 1992: 3). The main capabilities expressed in the usual factors consists of six capabilities: (1) Verbal comprehension (V) that is commonly measured verbal understanding through reading and understanding subject best per-bondaharaan said. (2) Number (N), which is measured through counting problems. (3) Spatial relations (S) measured through manipulation of the symbol of geometric. (4) Word Fluency (W) measured by the quick response words. (5) Memory (M) measured by the memory of the words that are interconnected. (6) Reasoning (R) is measured through a series of tests of various analogies or complete sentences or patterns. (Khatena 1992: 73)

In the theory of multiple intelligence dikatakan that human intelligence has seven dimensions: (1) linguistics, which is sensitive to sound, rhythm, understand the meaning of words, and sensitive to distinguish the functions and language. (2) Music, which includes the ability to create and appreciate the sound of instruments and music, (3) mathematical logic, including the ability of logic, mathematics and scientific. (4) visual spatial, namely the ability to form a spatial model includes the ability to maneuver and operate according to the model form. (5) physical kinesthetic, namely the ability to solve problems or problems with the model of partial limbs or whole limbs. (6) social interpersonal, namely the ability to sense and make a difference in various situations, stating the purpose, motivation and feelings of others. (7) intrapersonal the ability and the capacity to control the feelings correctly and effectively applied in their lives.

Of some aspects of intelligence such as that mentioned above, in accordance with the spatial aspects of mechanical ability. A measurement experts say is often used to measure special ability is to measure the ability of mechanics. (Aiken, 1997: 210).

According to Ernest Hilgard R workers mechanical, electrical and building must have a degree in mechanical reasoning above average. From one of the results of research Renzulli et al, states that one of the important points that determine a person's giftedness is liable or binding themselves to the task. It is also stated by other experts who say that the ability of children who have high performance includes the capability demonstration or potential ability within the scope of the following may unggal or a combination of: (1) General intellectual ability, (2) Specific academic aptitude, (3) Creative or productive thinking, (4) Leadership ability, (5) Visual and performing arts and (6) psychomotor ability. (Dorothy, 1987: 8).

Abramsn, Title, Cohen says there are 10 kinds of talent that can be identified include: (1) intelligence. (2) Verbal, (3) numerically, (4) Spatial, (5)
From knowledge, from the domain of cognitive psychology, it is known that physical movement cannot be separated from the cognitive process. The body's skills in perceiving and acting upon the environment are at the heart of this process. The body's ability to move is not just a matter of the physical skills, but also involves cognitive processes. The relationship between these two is complex and interactive.

In the field of cognitive psychology, the relationship between the body and the environment is studied through various paradigms, such as attention, perception, and decision-making. The body's ability to move is influenced by these cognitive processes, which can be observed and measured. The observation of these processes can help us understand the nature of the body's ability to move.

(Cohan, 1997: 257)


development of the concept of movement, and so on. The development of the concept of movement, and so on. The development of the concept of movement, and so on. The development of the concept of movement, and so on.

(Cohan, 1997: 257)
High School in East

This research was conducted at the Vocational-

Recreational Skills

The ability of basic skills and specific strengths in

Research Methodology

Basic Technique

Research Hypothesis

Basic Techniques (X2) Correlation Between Thinking and Thinking Inference

Therefore, we need a better understanding of

Rowan, College, 7th July 2013

Learn Learning through X2 Inference

Perception of Educational Innovation Research

Department of Educational Technology

UNI OCET 215

Jahfarkhat, College, 9th July 2013

Learning Learning through X2 Inference

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### Research Result

**ANALYSIS:**

An analysis which rejects $X$ and accepts $Y$

Table 2

<table>
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<tr>
<th>X</th>
<th>Y</th>
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The correlation coefficient of $0.78$ suggests a strong positive relationship between $X$ and $Y$. This indicates that as $X$ increases, $Y$ also increases significantly.

**Table 1:**

<table>
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<th>X</th>
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Regression equation $Y = 1.1495 + 0.325X$

### Table 1

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Regression equation $Y = 1.1495 + 0.325X$

### Table 2

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</table>

Regression equation $Y = 1.1495 + 0.325X$
Description:

* = Significant regression in $\alpha = 0.05$ ($F_h = 6.67 > F_t = 3.37$)

Regression is not significant on $\alpha = 0.01$ ($F_h = 6.67 < F_t = 6.695$)

$ns$ = shaped linear regression ($F_h = 0.135 < F_t = 1.98$)

df = degrees of freedom

$JK$ = sum of squares

$KT$ = Squares middle

From Table 2, it is known $F_h = 6.67 > F(3,37)$, it can be concluded that the coefficient of the regression of $Y$ on $X_2$ direction significantly. To test the linearity such as table 2 above the price obtained $F_b = 0.135 < F_t = 1.98$ at $\alpha = 0.05$, so it can be said to be the linear regression. Thus the regression equation $\hat{Y} = 11.401 + 0.348X_2$ can be used to predict the dependent variable $Y$ with independent variable $X_2$.

This equation implies that every one-unit increase in $X_2$, then will increase to $Y$ by 0.348 units to a constant 11.401. The strength of the relationship is indicated by $r_{y2}$ correlation coefficient $= 0.289$ and significance test of correlation coefficient with the price obtained ujit $t = 2.4711 > t = 1.66$ can be concluded that there is a positive correlation between the knowledge of basic skills by thinking inductive techniques.

knowledge can be explained by the ability to think inductively with the regression equation $\hat{Y} = 11.401 + 0.348X_2$.

The third relationship between talent Mechanical and Inductive thinking, the Basic Skills Knowledge Engineering obtained regression equation $\hat{Y} = 8.276 + 0.198X_1 + 0.315X_2$.

The calculation results in Table 3 show that the price of the $F$ count obtained at 5.817, while $F$ table with 2 degrees of freedom numerator and denominator degrees of freedom 72 at $\alpha = 0.05$ significance level of 2.74. From the calculation of the price of $F$ count $> F$ table prices ($F_h = 5.817 > F_t = 2.74$), thus it can be concluded that the regression equation $\hat{Y} = 8.276 + 0.198X_1 + 0.315X_2$ can be used to predict the mechanical aptitude $X_1$, inductive thinking and $X_2$, with the knowledge of basic engineering skills $Y$.

Tabel 3

<table>
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<th>Sumb er Variasi</th>
<th>Df</th>
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<tr>
<td>Resi der</td>
<td></td>
<td>115.62</td>
<td>57.8</td>
<td>5.81</td>
<td>2.7</td>
</tr>
<tr>
<td>residu</td>
<td>2</td>
<td>715.50</td>
<td>9.93</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>831.12</td>
<td>0</td>
<td>4.06</td>
<td>0</td>
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Learning system in both the optimum programs (1) class-room based, which includes the recent methods of vocational education, the recent methods of teaching, performance tests, and the recent methods of teaching. The teacher, in order to further improve the teaching, knowledge of the teacher, influences the teacher's performance in order to attain 85% of the basic skills of the Basic education program.

In conclusion, the teacher's performance is improved through the implementation of the new teacher's initiative, which improves the system. The new teacher's initiative is needed to improve the system.

Significant correlation between the knowledge of the Basic education program and the skill of the teacher. The results also show that the knowledge of the Basic education program is important to improve the teacher's performance in order to achieve 85% of the basic skills.

**Knowledge Enhancement**: Career and thinking development

Research suggests that reading and thinking development can improve vocational aptitude and can enhance the performance of vocational skills. The recent methods of teaching are an essential part of the Basic education program.

**Implications of Research**

With the knowledge of basic vocational skills, there is a significant increase in the understanding of the student and the teacher. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program. The recent methods of teaching are an essential part of the Basic education program.

**Description**

The results of the study hypothesis are not significant, especially in the area of vocational aptitude and thinking development. The results also show that the knowledge of the Basic education program is important to improve the teacher's performance in order to achieve 85% of the basic skills.
to success in the classroom is the teacher, not a\nRegional Office of the National Education System (RONE) which tries to provide the means from the activity in which students are engaged in the classroom. This attitude is by the way of a training \nteachers to develop a creative and innovative teaching ability that can motivate students, learn to think critically, and develop a holistic approach to learning. The training of these teachers can be done by \nROTE, seminars, workshops, research, and so on. Further studies on the ability of basic skills of vocational students can be done by exploring the weaknesses that exist in the study.

References


Suggestions

The basic approach to developing critical thinking is to provide students with the opportunity to think, especially through books that can improve the ability of students to think critically. If the books are available, the students can read the books on their own. The books can be read in the classroom or at home. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read. The students can be given the opportunity to think critically through the books they read.


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