



The Effectiveness of Rapid Typing Software and Module for Improving 10-Finger Typing Skills

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Abstract

This research aims to know the effectiveness of rapid typing software and module in improving students typing skills. The program of Automatic Expertise and Office Governance requires students to be able to master typing skills. The population of the study was 62 students of class X OTKP 1 and OTKP 2 in SMK N 7 Yogyakarta. Samples were 30 students of class X OTKP 2 and the class selection used simple random sampling technique. The data collection methods were text typing skills documentations and Multivariate Analysis of Variance (MANOVA) test method was used for the data analysis. The simultaneous test results show the significance of $0.000 < 0.05$, it means all variables have a significant influence on typing skills. While the test results partially indicate that the rapid typing software and module only have a significant influence on the sub competence of typing speed, but no impact on the accuracy of typing. Based on these findings it can be concluded that rapid typing software and modules have a significant and effective influence in improving typing skills. Rapid typing software cannot only be used in schools but can also be applied in offices, government agencies and private sectors.

How to Cite

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INTRODUCTION

The quality of vocational high schools will reflect the quality of Indonesian workers who need to be continuously built to increase the competitive advantage of human resources (Priyatama & Sukardi, 2015). Therefore, the quality of vocational high schools needs to be developed for the realization of the excellent competency of vocational students and for experiencing its impact on the quality of Indonesian workers (Harwati & Yanto, 2017).

Vocational high school is one of formal education aiming to produce students who can master the knowledge and skills in the workplace. The skills are basic skills, which are the minimum abilities that students must possess in order to continue to develop themselves (Sonhadji, 2015). The minimum skills are reading, writing and counting. In subsequent developments, for entering the era of information and communication, 7 basic components of skills were developed which included: reading, writing, arithmetic, religion, information on culture, language and computers. Meanwhile, Cahyani & Witurachmi (2013) said vocational high school is also obliged to provide knowledge competence as well as to prepare students to become candidates for junior technicians.

In the field of business and management expertise, there is a program of automatic expertise and office governance. This skill requires students to master typing skills. Since the new millennium, word processing has been one of the most prevalent uses of computers in schools across all grade levels and subject areas suggesting that the use of the keyboard has increasingly become a mode of text entry in writing tasks (Poole & Preciado, 2016). Computers, it is also called as the greatest invention in 21st century, become powerful enough to change education, and because of the popularity of computers, typing skill becomes a basic skill. Improving typing skill can help students to use computers to deal with different kinds of tasks more efficiently (Lin & Liu, 2009).

Typing is a bimanual action which re-

quires simultaneous coordination between hand and fingers and in which the right and the left hand never interfere with each other, because they are assigned to different parts of the keyboard (Cerni, Longcamp & Job, 2016). According to Lubbe, Monteith & Mentz (2006) stated that keyboarding skills, as a motor skill, is defined as the ability of learners to key in information into the memory of the computer with the minimum effort and energy use. Touch typing is a typing system in which the individual's fingers are trained to hit particular keys (Weintraub, Gilmour-Grill & Weiss, 2010).

The development of information and communication technology becomes the challenge of educational institutions especially vocational high school to be able to produce graduates who master the knowledge and skills related directly to office work. One of the skills that must be owned by graduates majoring in automatic expertise program and office governance is typing skills.



Figure 1. Typing Skills

Source: www.tokopedia.com/jetwatercanon/software-mengetik-10-jari

In typing learning the most commonly used method is the typing method of ten-finger system. Sulastri (2014) explains that ten-finger typing is also called touch typing, meaning typing without using the sense of sight to find the desired keyboard keys. Typing skill is defined as the ability to use both hands that require joint coordination between the hands and fingers to enter information into the computer's memory with minimum effort and energy usage. The correct typing can be done by using a blind ten-finger system in which

each finger performs a stroke according to its own task without using the sense of sight to find the desired keyboard keys.

Improving typing skills can help students use computers to handle different types of tasks to be more efficient. Poole and Preciado (2016) explained that teachers felt touch typing skills were important and that a lack of touch typing proficiency would negatively impact student performance on a standardized test. Typing on a computer has several advantages that students get. First, the product tends to be neater, more legible, and more accurate than a handwritten. Second, the writing process is more efficient, since students can more easily correct typing and spelling errors. Children are also less hesitant to reevaluate and edit their written work produced on the computer. As a result, the productivity and quality of their written work may be increased (Preminger, Weiss & Weintraub, 2004).

Typing skills consist of two components, typing speed and typing accuracy. Ten-finger typing speed is usually measured on two scales, namely CPM (Characters Per Minute) and WPM (Word Per Minute). CPM is the number of true words typed in one minute, while WPM is the number of standard words that are five letters typed in one minute. WPM can be obtained from CPM divided by five (Sulastri, 2014). Type accuracy is measured by a percentage scale (%). An expert touch typist can easily achieve 50 wpm and even 100 wpm. These self-taught typists use two or three fingers per hand, and may look for each key as they are typing (Baker & Redfern, 2007).

Based on the results of examination subjects of Office Technology on the competence of typing skills class X Automatic Expertise and Office Governance in SMK N 7 Yogyakarta semester one batch 2017/2018. Retrieved data of daily test results and mid-term exam results that have not reached the target. The target is 100% students reach the minimal mastery criteria established by the school, which is a value of more than or equal to 75 without remedial process.

Based on the observation, students

have not maximized their typing skill. They are difficult to apply techniques ten-finger typing correctly. They are only concerned with the results, so the speed and accuracy are less noticed. Keyboarding is a complex skill that requires the concentration of linguistic, cognitive and sensory-motor skills. It is not a simple skill to acquire and maintain, and achieving fluency while keyboarding requires many hours of practice (Preminger, Weiss & Weintraub, 2004). The use of learning media besides aiming to facilitate the delivery of material from teacher to the student can also increase interest and willingness of students in a subject (Saeroji, 2014). Therefore, the position of learning media in the world of education is needed.

The effort to improve typing skills was done by implementing rapid typing software and modules. This software is a special program to practice the typing skills of ten fingers correctly. In addition, this software can also monitor the level of speed and accuracy of typing students. McGlashan, Blanchard, Sycamore, Lee, French, and Holmes (2017) add that the software used graphically presented hand and finger placement for each key was self-paced and had short lessons with visual reinforcers. Chwirka, Gurney & Burtner (2002) argue that students were highly motivated to pursue this type of intervention because they enjoyed the use of a computer.

Skills possessed by a typist is that he is able to type without looking at the keyboard, the fingers automatically press the keyboard keys without being forced. A typist is completely focused on typed text. In addition, a typist also needs to pay attention to the time in completing the task. Therefore it takes software that can be used to practice typing skills, one of the software is rapid typing.

Sutirman (2012) explains software rapid typing is a special application program developed to train typing skills. Sulastri (2014) also explains software rapid typing is one software to help learn to type fast. With the help of this app can train our fingers to be used for fast typing. In line with previous opinions, ra-

pid typing application is an application used to train typing ten fingers with training speed and accuracy of typing (Setyawati, 2016). It can be concluded that rapid typing software is an application program used to help learn typing skills with speed training and accuracy of typing.

This program is published by a site <http://www.rapidtyping.com>. Rapid typing software has features that can monitor the level of speed and accuracy of typing students. In addition, student progress and achievement from beginning to end training can be known. The display of rapid typing software is also quite interesting. Dynamic and colorful display of images and text is the main attraction. The presence of music background accompaniment also adds to the advantages of this program.

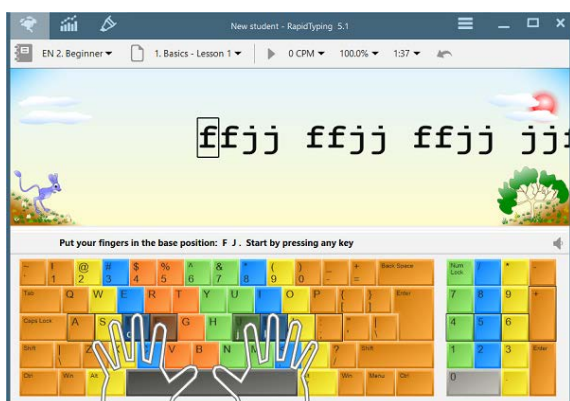


Figure 2. Rapid Typing

This software is equipped with several worksheets that must be done by students. The worksheets provided in this program range from basic typing exercises in the form of alphabetical typing to complex skill training in the form of an english text typing exercise. How to type with ten fingers using rapid typing software is just by following the letters in the rapid typing display by pressing the same letter on the keyboard, do according to the letters printed on the screen, if there is an empty one we just press the space bar, do it carefully until the lesson is over. In the rapid typing software, there are also statistics on the results of the lessons that have been followed, whether

the typist is perfect or still not perfectly typed. It can all be seen in the statistics that will appear at the end of the typist following the lesson (Sulastri, 2014). Thus, the existence of a rapid typing software can help students learn, understand and practice skills and increase 10-finger typing skills easily.

Utilization of rapid typing software program can improve typing speed of ten fingers students with average speed from 98.53 CPM in pre test to 190.06 CPM in post test. This software increased the accuracy of typing ten fingers with an average accuracy of 88.33% in pre test to 96.06% in post test, so that students can be declared skilled (Setyawati, 2016). Sulastri (2014) stated that the use of rapid typing software program can increase the lecture appeal, increase the seriousness, the speed and accuracy of typing. Other research shows that the use of rapid typing software can improve the attractiveness of typing manuals for students and can increase the seriousness of students in following the lectures (Sutirman, 2012).

This research aimed to know the effectiveness of rapid typing software and module for improving students typing skills. There are two hypotheses in this research. First, there are differences in the effect of rapid typing software and module for student typing skills. Secondly, there is a significant effect of using rapid typing software on student typing skills.

The purpose of the agency will be easily achieved if the work is completed effectively. According to Sedianingsih, Mustikawati & Soetanto (2010) that effective is doing the right things to target the right, so that the desired target can be achieved. Hadade (2015) argue that effectiveness basically can be shown at the level of achievement of results. However, effectiveness is not only oriented to the results but also the existing process of achieving goals.

Based on the description above, it can be concluded that effective is a state indicating the extent to which the plan can be achieved. The more plans that can be achieved, the more effective the activity will be. Thus, the effecti-

veness can be defined as the level of success that can be achieved from a particular way or business in accordance with the objectives to be achieved

METHODS

The research was a pre-experimental design that generally aimed to know the influence of rapid typing software and module in the learning process. The specific purpose of research was to know the change of typing skill before and after the application of rapid typing software and module in the experiment group. This research used quasi-experimental research, because the class had been determined by the school and researchers cannot create a new class. Hence, researcher used an existing class to determine the group. Pre-experimental design analysed one group pre-test and post-test design. This design was pre-test before treatment and post-test after treatment, so it can be compared before and after treatment and the detail is shown at Table 1.

Table 1. Research Design: One Group Pre-test and Post-test Design

Pre-test	Treatment	Post-test
O_1	X	O_2

Source: Processed Primary Data (2018)

Description:

X_1 : giving treatment to experimental group by using rapid typing and module in learning

O_1 : giving pre-test to experimental group

O_2 : giving post-test to experimental group

The population of the study was 62 students of class X the program of Automatic Expertise and Office Governance 1 and 2 in SMK N 7 Yogyakarta. Samples were 30 students of class Automatic Expertise and Office Governance 2, class selection using simple random sampling technique. To know the effectiveness of rapid typing software in

improving typing skills required indicator to interpret it. Typing skills consist of sub speed and sub accuracy. On the sub competence of typing speed the measurement used units of KPM (Keystrokes per Minute).

KPM is the number of keystrokes in a one minute period of time, with formula $KPM = (\text{Keystrokes without errors} + \text{keystrokes with errors}) / \text{time spent in minutes}$. On the sub-competence of typing accuracy the measurement used percentage. Typing accuracy is defined as the percentage of correct entries out of the total entries typed, with formula:

$\text{Accuracy} = (100\% - \text{incorrect keystrokes} * 100\%) / \text{total number of keystrokes}$. The instrument of data collection in this research using the script of typing skill made by National Education Standards Agency. Data analysis technique used descriptive analysis and MANOVA test. While the prerequisite test used the data normality test results.

RESULTS AND DISCUSSION

The experimental group learning process was conducted in class X OTKP 2 with the number of 30 students. In the experimental group applied rapid typing software and supported by rapid typing module. There were 5 meetings. The 1st meeting was pre-test was continued by introducing rapid typing software and module, the 2nd, 3rd meeting, the 4th was trained using rapid typing software and modules, and the last meeting is the warm-up exercise and ends with the post-test.

The results of statistical tests that explain that there are differences in the average results of pre-test and post-test typing skills. In the post-test result, sub competence typing speed had an average of 197.49 KPM and the average pre-test of 142.50 KPM. Then on the sub-competence subtitles typing post-test average was 97.97% and pre-test average was 96.69%. It can be concluded that there are differences in the effect of rapid typing software and module to student typing skills.

Table 2. Results of Statistical Test

	Pre Speed	Pre Acc	Post Speed	Post Acc
N Valid	30	30	30	30
N Missing	0	0	0	0
Mean	142,50	96,69	197,49	97,97
Median	139,55	97,85	190,45	98,80
Mode	102,60	99,30	135,80	99,80
Std. Deviation	32,66	3,32	37,95	1,96
Minimum	102,60	84,60	135,80	93,50
Maximum	214,50	99,80	287,00	99,80
Sum	4275,20	2900,80	5924,80	2939,30

Source: Processed Primary Data (2018)

Table 3. The Results of Normality Test

		Pre Speed	Pre Acc	Post Speed	Post Acc
N		30	30	30	30
Normal Parameters	Mean	142,50	96,69	197,49	97,97
	Std. Deviation	32,66	3,32	37,95	1,96
Most Extreme Differences	Absolute	,12	,19	,15	,21
	Positive	,12	,18	,15	,17
	Negative	-,11	-,19	-,07	-,21
Kolmogorov-Smirnov Z		,69	1,07	,83	1,19
Asymp. Sig. (2-tailed)		,72	,20	,49	,11

Source: Processed Primary Data (2018)

The results of One-Sample Kolmogorov-Smirnov Test (Table 3) is known for significance value for the experimental group which includes pre-test speed of 0.72 and post-test speed of 0.49, pre-test accuracy of 0.20 and post-test accuracy of 0.11. All the results of significance in the experimental group were more than the 0.05 significance level. It

can be concluded that the data is normally distributed. Based on the results of Multivariate Tests using Hotelling's Trace test (Table 4) showed that the significance of $0.000 < 0.05$, which can be concluded that the rapid typing software and module simultaneously have a significant influence to the typing skills.

Table 4. The Result of MANOVA Test (Multivariate Analysis of Variance)

Effect		Value	F	Hypothesis	Error df	Sig.
Intercept	Pillai's Trace	,99	39094,85	2,00	57,00	,00
	Wilks Lambda	,00	39094,85	2,00	57,00	,00
	Hotelling's Trace	1371,74	39094,85	2,00	57,00	,00
	Roy's Largest Root	1371,74	39094,85	2,00	57,00	,00
Group	Pillai's Trace	,38	17,79	2,00	57,00	,00
	Wilks Lambda	,61	17,79	2,00	57,00	,00
	Hotelling's Trace	,62	17,79	2,00	57,00	,00
	Roy's Largest Root	,62	17,79	2,00	57,00	,00

Source: Processed Primary Data (2018)

Table 5. The Result of Test of Between-Subjects Effects

Source	Depent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Speed	45353,00	1	45353,00	36,16	,00
	Accuracy	24,70	1	24,70	3,30	,07
Intercept	Speed	1734000,00	1	1734000,00	1382,81	,00
	Accuracy	568446,13	1	568446,13	76123,15	,00
Group	Speed	45353,00	1	45353,00	36,16	,00
	Accuracy	24,70	1	24,70	3,30	,07
Error	Speed	72729,93	58	1253,96		
	Accuracy	433,11	58	7,46		
Total	Speed	1852082,94	60			
	Accuracy	568903,95	60			
Corrected Total	Speed	118082,94	59			
	Accuracy	457,81	59			

a. R Squared = .384 (Adjusted R Squared = .373)

b. R Squared = .054 (Adjusted R Squared = .038)

Source: Processed Primary Data (2018)

Results Test of Between-Subjects Effects (Table 5) shows that partially the significance of the speed is $0,000 < 0.05$ which means that the rapid typing software has a significant effect on typing speed. While the significance of accuracy of $0.074 > 0.05$ which means that the rapid typing software does not significantly affect typing accuracy. The results show that simultaneously the rapid typing software and modules has a significant effect on students typing skills, while the test results partially indicate that the implementation of rapid typing software and module only have a significant influence on the sub competence of typing speed, but no impact on the accuracy of typing.

The first hypothesis explains that there are differences in typing skills of students using rapid typing software and module. The findings are the post-test result sub competence typing speed has an average of 197.49 KPM and the average pre-test of 142.50 KPM. Then, on the sub-competence subtitles typing post-test average of 97.97% and pre-test average of 96.69%. The second hypothesis states that there is a significant effect of using rapid typing software on student typing skills. Showed that the significance of $0.000 < 0.05$, can be interpreted as the rapid typing software and module simultaneously have a significant influence to the typing skills. Thus, it can be concluded that the hypothesis is proven.

Based on the results of the study, there are differences in the impact of rapid typing software and module in improving students typing skills. The difference is based on the average pre-test and post-test results of typing skills. Improved typing skills are done by typing training continuously with rapid typing software and modules. The training was held for 5 meetings. The activity began with the pre-test followed by the introduction of rapid typing software and modules, the 2nd, 3rd meeting, the 4th was trained using rapid typing software and modules, and the last meeting was the warm-up exercise and ended with the post-test.

Simultaneously the rapid typing soft-

ware and module has a significant influence. Meanwhile, partially indicated that the rapid typing software and module only have a significant influence on the sub competence of typing speed, but no impact on the accuracy of typing. Differences in the results of typing speed and typing accuracy can be explained based on observations of the researcher. One of the contributing factors was the level of seriousness of learning and practice of different students. There were some students who were learning more seriously and who did not. Serious students not only focused on speed improvement but tried typing by minimizing typing errors.

The results of this study are in accordance with previous studies conducted by Setyawati (2016) stated that the utilization of the rapid typing software can increase the ten-finger typing speed of students with an average speed of 98.53 CPM in the pre-test to 190.06 CPM in the post-test. Improved ten-finger typing accuracy with an average accuracy of 88.33% on pre-test to 96.06% on post-test, so students can be declared as "skilled". Other studies show that the use of rapid typing software can increase the attractiveness of business typing lectures, where students can type using ten fingers with the expected speed and accuracy (Sulastrri, 2014).

Limitation of the research are about time and schedule of the rapid typing software on the research could not be controlled by the researcher because it followed the school schedule. The material taught is limited to the subject and training. It would be better if the teaching teacher continued the material available to students to complement the lack of learning that had been taught. This study does not take into account other influential variables, so there may be other variables that influence the results of students typing skills. Hence, the future research needs to consider other variables. Because this research was an experimental research, the researcher would suggest other learning models such as using typing master software. Therefore, the further research can be compared with this study.

CONCLUSION

Based on these findings it can be concluded that rapid typing software and modules have a significant and effective influence in improving typing skills. Rapid typing software cannot only be used in schools but can also be applied in offices, government agencies and private. So this research, expected to be useful for all circles and elements of society.

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