

The Effectiveness of the MIRS Approach in Improving Research Paper Writing Skill of Culinary Arts Vocational Student

Research paper writing is an essential factor and one of the challenging tasks for students. This study aims to examined the effectiveness of the MIRS (Motivation, Inspiration, Realization, and Solution) approach of students' skills capability to write the research papers. This study employed the quasi-experimental design, specifically using equivalent time series method. The subjects of the study were the students of the Culinary Arts of Vocational Education. The research subjects were 154 students. The data were collected using authentic assessment with oral examination on pre-proposal, a paper and pencil (PP) test on research methodology, and a performance test on research proposal seminar. Statistical description and independent sample t-test are used to analyze the results. The results show that the number of the students of treatment group who were able to write innovative research papers increased. The control group's average score of the research paper writing is lower than that of the treatment group. Hypothesis shows that there is difference result between PP testing and oral testing. The alpha score obtains 0,003 for PP testing and 0,002 for oral testing. It can be concluded that MIRS approach is effective for improving writing skill capability

Keywords: research paper, writing skill, motivation approach

INTRODUCTION

Course completion time has drawn special attention of Yogyakarta State University (YSU) authority. This can be seen in the change in the university academic regulations that set the course maximum course duration from 7 years to 5 years for undergraduate programs. The Rector's Annual Report in the 52nd Anniversary of YSU states that the maximum course duration is 7 years while the fastest is 3.3 years. The average of course completion time from 2013 to 2016 was 4.65 years. If students are persistent and work hard, they will graduate faster than the set time.

The course completion time is heavily dependent on how fast students are able to write research papers. Research Methodology in Education course aims to prepare students to write good research papers (RP). In general, students find it hard to write research papers because of their limited insights on educational research, lack of understanding of potential research problems, and lack of academic writing skill. There are several steps that should be taken by students if they want to write a good research paper. Students are required to read a lot of scientific journals, reference books relevant to their field of studies, train their critical thinking, and learn to write honestly.

Writing a research paper requires high level cognitive intelligence. However, the students of Culinary Arts of Vocational Education program prefer the technical skills (cooking skills) rather than skills in reading and writing academic papers. This rather unfortunate preference affects their creativity or in this case the lack of it. Some students find it difficult to formulate research titles; even some of them are only able to replicate

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the titles of the previously written research papers. Any difficulty faced by academics with their writing is seen in intellectual terms writers feel, and are viewed, as not being 'clever' enough. However, whilst the main task of academic writing is to present intellectual ideas, the production of academic writing is not solely an intellectual activity. We argue that the problems experienced by academics in their writing are rarely intellectual ones. Rather, the difficulty is with creativity, e.g. not understanding or allowing the natural stages of the creative process (McNiff, 1998); or with emotion, e.g. lack of confidence in own abilities; or with practicalities, e.g. not finding time to write. We strongly feel that it is the current higher education environment, in both physical and epistemological terms, which creates the greatest problems for academics' writing (Antonioua & Moriartyb, 2018).

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The lecturers in charge of Research Methodology in Education course are expected to inspire and motivate students to formulate research problems and guide the students who are having trouble with writing their research papers. The lecturers should have a lot of research experience to be able to provide solutions that address each student's ability. Many efforts have been made aiming to help students develop fluency in writing research papers. However, the end results are tightly dependent on each individual's ability and willingness to learn. A research paper is one of the academic papers. Academic writing demands much effort and practice in composing, organizing, and analyzing ideas. In this research, an approach is applied to teach how to write scientifically in the form of research paper.

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Research Methodology in Education course aims to provide students with skills to write research proposals. There are several teaching and assessment methods for academic writing. The use of MIRS (*motivation, inspiration, realization and solution*) approach in this study is considered appropriate because this approach provides motivation for students to write, inspiration for helping them formulate their research paper titles, encouragement for them to realize or express their ideas into research proposals, and solutions when they face any problems. This study aims to examined: (1) students' skill to write research papers which is assessed based on: (a) the quality of research papers, (b) the research methods and topics chosen by students, (c) students' comprehension level on research method theories; and (2) the effectiveness of the MIRS approach in improving students' skills to write research paper

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LITERATUR REVIEW

Sturm and Rankin (2002) stated that composing is an advanced academic task within educational settings and parts of the students' difficulties in writing are related to difficulties in applying various cognitive strategies. Therefore, various methods for teaching academic writing have been developed. Giti Mousapour Negari (2011) applied an instrunctional strategy and EFL learner's writing skill. The results of the analysis of covariance revealed that the instruction of concept mapping strategy had a positive effect on EFL learners' writing skill. The students in the the experimental group achieved the instruction for the concept mapping strategy (Negari, 2011).

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Hal Blythe and Charlie Sweet (2008) identified six approaches to the teaching of academic writing i.e.: the atelier approach, the great works approach, the inspiration approach, the techniques approach, the workshop approach, and the feminist approach. Firstly, the atelier was adapted by artists with prominent painters and sculptors taking promising young artists as students under their wing and teaching them one-on-one for a long period of time. In writing, this method occasionally occurred with the master being a great author, a tutor/professor, or even an editor. Secondly, the great works approach is an extension of the Altelier, and like the Atelier, it has been around for a long time. Derived from the ancient concept of *imitatio*, or imitation, this method originally demanded students to study the techniques, forms, and content of the ancient classical writers and copy them. Thirdly, the inspiration approach is an approach which emphasizes copying or learning from others then creating one's own work. Fourthly, the techniques approach emphasizes the instructor (be it the author of an article, the classroom teacher, or a computer programmer), who utilizes excerpts from great and minor work and writers to illustrate technical concepts. Teaching a creative writing class is conducted through several steps: (1) define a key technique, (2) provide an example, and (3) internalize the technique so that the student can create his or her own version. Fifthly, the workshop approach is a collection of apprentices led by a single master. The workshop functions as a test market for beginner writers. The workshop is a doorway for the beginners to get criticisms and motivation to write because of the deadlines that are imposed. Each writer will have different weaknesses; if the facilitator tries to provide a minilecture and discussion on the form of the villanelle, some students will be ahead of the curve and some behind. Finally, in the feminist approach, feminist teachers distance themselves from authoritarian approaches, asking students, especially female students, to discover what they truly feel and to adopt their own voice. The Feminist Approach seemingly doubts the efficacy of the Atelier and Great Works approaches since both have evolved from a masculine social structure (Blythe & Sweet, 2008)

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This research applied MIRS approach adapted from the six approaches to teach academic writing. The inspiration approach was adapted to widen students' ideas in choosing topics and constructing titles for their research papers; the Techniques Approach was adapted to teach how to write scientific papers correctly; and the workshop approach was adapted to help students express their ideas into research proposals. To find research problems and formulate research papers' titles, students need realistic ideas. Lecturers have to provide inspirations that enable students to have ideas for their research paper titles which are relevant to their field of studies

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Writing is one of the most difficult skills that require the mastery of cognitive and sociocultural competencies. De Larios, Manchón, & Murphy (2006) identify five behaviours that writers need to acquire: (1) the ability to manage complex mental representations, (2) the ability to construct rhetorical and organizational goals and hold them in mind while writing, (3) the efficient use of problem-solving procedures in order to formulate their texts, (4) the ability to distinguish between editing and revision as two different operations distributed in different stages of the writing process, and (5) the adoption of a flexible attitude toward the use of rhetorical devices (De Larios, Manchón, & Murphy, 2006). The lecturer's encouragement (motivation) is expected to help

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students find their focus to write research papers amidst their busy academic schedules. Focus and concentration are important for students to keep their ideas flowing when writing research papers. Intrinsic motivation gives energy and direction to behavior in the absence of reward and punishments. It affects learners to choose a task, get excited about it, and persist until they master it (Tombari & Borich, G. D, 1999).

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Creative writing is unique to every individual; it should be parochial. Creative writing requires one to be a good reader; students should be guided to read a wider range of topics other than their current interests (Winterson, 2012). Nevin Akkaya suggests that teachers should emphasize that creative writing develops the imagination, helps uncover abilities, increases self-confidence, develops writing ability, encourages one to think and move beyond clichés etc” (Akkaya, 2014). Students are able to express their ideas if they have knowledge and knowledge can be obtained from reading. Therefore, to be able to write a good paper, one is required to read a lot.

After perusing several strategies to teach academic writing, I decided to use the MIRS approach. Motivation to write is given to students to prompt them to set their personal targets and achieve them. The MIRS approach also helps students find inspiration for their writings so that they will be filled with creative ideas to formulate research problems. Their creative ideas are then realized by writing research proposals and they are facilitated with workshop on proposal writing techniques. If they face problems in writing research proposals, the lecturers should help them finding solution.

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Students will often encounter several problems in writing their research proposals. Akkaya (2014) describes three strategies to overcome student problems in developing the ability to write scientific papers. (1) for poor reading problems, the lecturers should assign students to write the readings that they do not cover in class, and to ask students to write expressively in response to texts (reading logs, summary/response notebooks). (2) for failure to reconstruct arguments of what students read, the lecturers should assign summary writing and have students make outlines, flowcharts, or diagrams of articles. (3) for failure to adapt to different kinds of discourse, the lecturers should explain their own reading process: when they skim, when they read carefully, when they study a text in detail, and so forth; explain how their own reading process varies when they encounter different genres of text, how to read a textbook versus a primary source, how to read a scientific paper, how to read a poem; and so forth (Dorothy & Ferguson, 2011) in (Akkaya, 2014).

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The way to teach writing of scientific papers is reviewed by many researchers. De Smedt and Van Keer (2018) found no significant differences between peer-assisted and individual writing practices. The peer assisted writing in education is more effectively. Step-by-step learning is carried out with the following steps: (1) the teacher mentions the goals and motivates students to learn, (2) the teacher gives examples and writing strategies, (3) students practice writing and the teacher provides feedback; (4) the teacher concludes the lesson (Smedt & Keer, 2018.)

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People tend to produce their best work when they enjoy what they are doing. Bernardo (2010) applied a fun learning method in teaching academic writing. According to

Bernardo, research paper writing remains an uninteresting and unexciting activity for many university students. They may not have realized its indispensable value in their respective disciplines and target workplaces. Hence, teachers must provide more enticing and more motivating classroom-based writing tasks to spur students' interest in producing varied academic texts. It is in this light that this paper proposes a number of "fun tasks" that teachers may use as their pre-writing tasks, lesson spring boards or enrichment exercises when they teach the rudiments of academic writing or research paper production. The use of these "fun tasks" is based on the premise that cultivating students' interest in research largely depends on the creativity of the teachers and the appeal of classroom activities and that learning could better take place when students are motivated and when they enjoy the learning process at the same time. Bernardo (2010) designs the following fun task to improve students' writing skill: (1) *Library Hunt*, is an interesting way for students to get familiar with the library; (2) *Solve that Gobbledygoo*: is an exciting way to teach the concept of conciseness and brevity reckoned to be an important writing skill; (3) *Nosebleed*: the exercise likewise teaches the students to write not to impress but to express ideas by dissuading them from using high-sounding words; (4) *Survey Says*: this activity provides students with initial experience of gathering pertinent data; through this exercise, the students are also introduced to simple data analysis; (5) *Go APA Online*, is an interesting web-based activity that allows students to use online learning resources and teaches the students how to document references and write in-text citations using the APA style (Alejandro S. Bernardo, 2010).

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Every lecturer has a different teaching method. Lengeling and Malarcher (1997) created games to improve students' writing skills. They argue that games will benefit students in the following aspects: (1) in the *affective* aspect, games increase motivation, and provide fun learning experience; (2) in the *cognitive* aspect, games provide reinforcements and opportunities for review and extension tasks; (3) in the *adaptability* aspect, games provide easy adjustment for age, level, and interests, involve all four skills, and require minimum preparation after development (Lengeling & Malarcher, C, 1997). Caldwell teaches academic writing with the following conventional steps: (1) drawing the students' attention to the necessity of redeveloping the basics of their writing; (2) involving them in a number of practical writing exercises; (3) giving them feedback; (3) dedicating the first fifteen minutes of each period for quick revision (Caldwell, 2011).

Aside from using certain teaching method, innovation in teaching academic writing can also be done by utilizing digital technologies. Arlina & Melor (2015) states that mobile learning can be integrated into academic writing by using it with several writing approaches which complement the pedagogical advantages in mobile devices. Perhaps the future will bring electronic Ateliers in the form of online tutors or computer programs that instruct new writers one-on-one (Arlina & Melor, 2015).

The research proposal writing skill is the acquisition of higher-order thinking processes and competencies instead of factual knowledge and basic skills. The function of the assessment is promoting and enhancing student learning. This view requires alternative assessments because standardized, multiple-choice tests are not suitable for this.

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According to Eby, authentic assessment is a task that mostly enables students to use their cognitive processes besides showing them what they have learn and what they do (Eby, 1998). Authentic assessment, or sometimes also called performance assessment, appropriate assessment, alternative assessment, or direct assessment, contains such techniques as written texts, portfolios, checklists, teacher observations, and group projects (Olfos & Zulantay, H, 2007). It requires students to use their prior knowledge, recent teachings, and skills to overcome real and complicated problems. For instance, students can create a project on a topic they have chosen, prepare a research report and present their end products to evaluators (DiMartino & Castaneda, A, 2007).

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METHOD

Research Design

This study employed the quasi-experimental design specifically the equivalent time series with the the control group design (Neuman, 2011). The treatment was given continuously in accordance with research paper writing steps starting from formulating a title, writing a research paper, and research paper seminar. The quasi-experiment research design can be seen in the following Table 1.

Table 1
Research Design

Variation	Year	M	I	R		S		S		
Control	2017	X	X	O1	X	O2	X	O3	X	O4
Experimental	2018	X1	X2	O1	X3	O2	X4	O3	X5	O4

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Note:

O1=Title grade (creativity, theme, and method) X1=motivation
 O2=Grade of oral examination on pra-research paper assignment X2=inspiration
 O3=Grade of paper-and-pencil test of research methodology comprehension X3=realisation
 O4= Grade of research paper seminar X4=early solution
 X=Course grade (conventional) X5=last solution

Research Process

The research was conducted at Culinary Arts of Vocational Education, Faculty of Engineering, Yogyakarta State University in the even semester of the academic years 2017 and 2018. A set of treatments was given to sample students for one semester for 16 weeks. The research was conducted according to the following time Table 2.

Table 1
Research Procedure

Activity	Weekly meeting
1. Motivation & Inspiration	1-4
2. Map of Research Titles	5-6
3. Realization	7-9

4. Solution in oral exam	10-13
5. Theory Examination	14
6. Performance test	15-16

Sample

The sample of the study were established using the simple random sampling technique. The control group consisted of the students taking Educational Research Methodology course in the even semester of 2017 without the MIRS approach. Meanwhile, the the experimental group consisted of the students who in the even semester in 2018 taught using the MIRS approach. The framework of research sample is presented in Table 3.

Table 3
Framework of Research Sample

	The control group (2017)		The experimental group (2018)	
	N	N	N	n
Class A	49	45	38	37
Class D	38	35	42	37
Total	87	80	80	74

Data Collection Tool

The research data were collected using the documentation of research paper. The research paper writing skill was assessed using the authentic assessment. The data collection was conducted through the following steps:

- 1) The titles of the research papers were analyzed for their quality (in terms of their creativity, innovativeness, and whether or not the titles merely replicated or duplicated the existing ones) the research topics, and the research methods used.
- 2) Oral examination on pre-research paper was administered to determine whether or not the resesarch plan was ready to be implemented.
- 3) The comprehension of theories of research methodology was tested using a paper-and-pencil test in the form of constructed response (CR);
- 4) The seminar on the research proposal was conducted and it was assessed using a performance test.

Analysis of the Data

An assessment using the standard grade scale of 1 to 100 was administered, The collected data were analyzed using descriptive statistics and then presented in the frequency distribution table.

RESULTS

The results of the research paper analysis are classified into 4 parts, namely: (1) the research topics and the research methods; (2) pre-research paper writing skill; (3) understanding the theory of research methodology and (4) presentation of the research plan performance

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1. students' skill to write research papers
2. the effectiveness of the MIRS approach

Research Topic Mapping

The research paper titles are mapped based on topic, research method, and quality level. The indicators of research papers' quality are grouped into four categories: (1) imitative titles; (2) replicating titles; (3) innovative titles, and (4) creative titles. The results of the document analysis of the research papers' titles submitted by the students are reported in Figure 1.

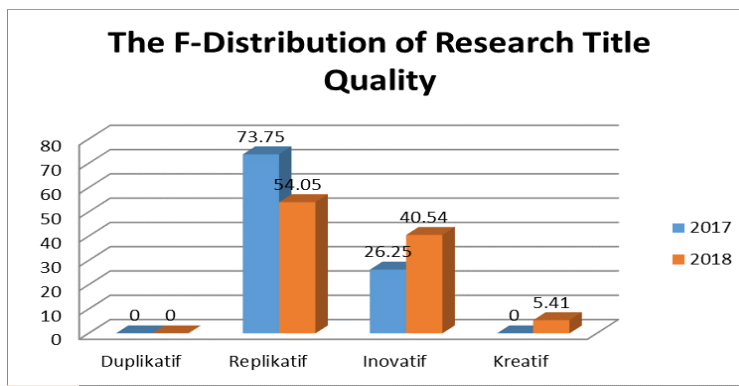


Figure 1

The Frequency Distribution of Pre-Research Papers

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The research methods used by the students of Culinary Arts of Vocational Education Program are shown in Table 4.

Table 4

Types of Research Method used by students

No.	Type of Research	2017		2018	
		f	%	f	%
1.	Explanatory Survey	28	35	25	33.78
2.	Comparative Survey	3	3.75	7	9.46
3.	Correlational Survey	6	7.5	8	10.81
4.	Research & Development (R&D)	12	15	19	25.68
5.	Classroom Action Research	15	18.75	1	1.35
6.	Quasi-experiment	3	3.75	0	0.00
7.	Evaluation	6	7.5	3	4.05
8.	Case Study	7	8.75	10	13.51
9.	Document Analysis			1	1.35
	Total	80	100	74	100.00

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Student research papers were categorized into two large topics i.e., education research and culinary research. The result of the topic analysis is presented in Table 5

Table 5

The Research Paper Topics

No	Tema	2017		2018	
		n	%	n	%
1	Education				
	a. Vocational Education	8	10	13	17.57
	b. Character Education	0	0	2	2.7
	c. Learning strategies	12	15	1	1.35
	d. Learning media	18	22.5	19	25.68
	e. Learning outcomes	2	2.5	2	2.7
2	Culinary business management		0		0.00
	a. business management		0	2	2.7
	b. marketing	21	26.25	4	5.41
	c. Culinary	4	5	9	12.16
3	Food nutrition	15	18.75	21	28.38
4	Family welfare		100	1	1.35
	Total	80	100	74	100.00

There were 28.38% of the students who had chosen to conduct research on nutrition science with food habit, diet, and body mass index as the sub-topics.

Research Paper Writing Skill

The oral exams are used to measure writing skills. The analysis results of the oral examination are presented in Figure 2.

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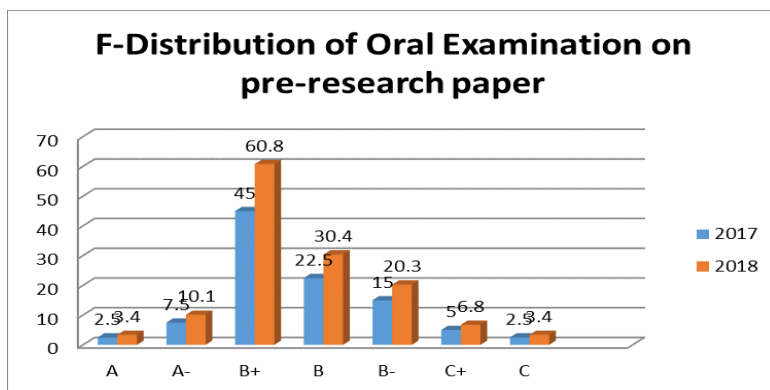


Figure 2

Distribution of Oral Examination on pre-research paper

There are 7.5% of the students in the the control group and 23% of the students in the the experimental group who achieved grade A- in the oral examination. After the examination, the students were given a chance to revise and improve their research papers. The revision results were tested on research paper seminar. The assessment was done using a performance test by three lecturers.

The Performance in Writing Research Paper

The writing performance is measured from (1) introduction; (2) literature review; (3) methods; (4) writing organization; and (5) presentation. The result of performance test is presented in Figure 3.

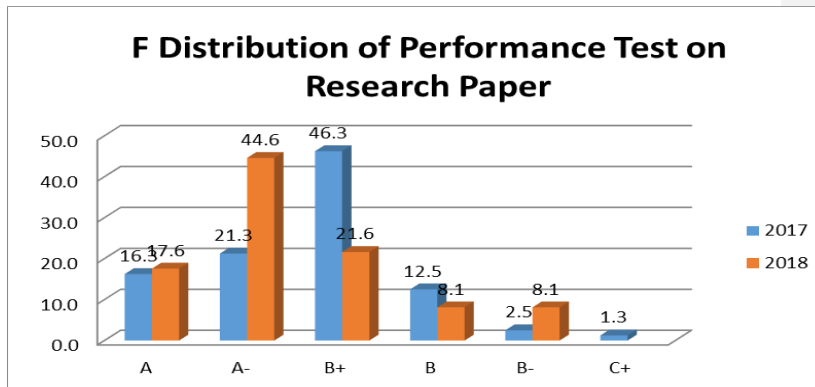


Figure 3

Frequency Distribution of Performance Test on Research Paper

There are 21.25% of the students in the control group and 44.6% of the students in the experimental group who achieved grade A-. This result shows that the MIRS approach can improve grades in performance tests on research paper.

The understanding of Research Methodology

The students' understanding of theories of research methodology was tested using a paper-and-pencil test in the form of constructed response (CR). The grade distribution of the paper-and-pencil test is presented in Figure 4.

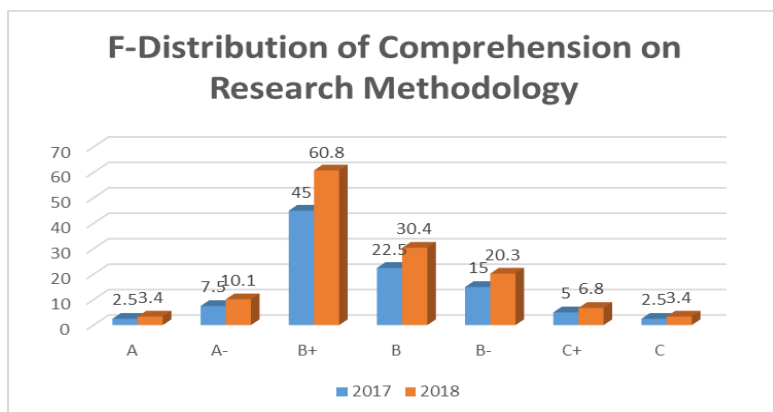


Figure 4
Frequency Distribution of the students' grades on research methodology theories

The hypothesis of the effectiveness of the MIRS approach in improving the research paper writing was tested using an independent sample t-test. The results of the analysis are summarized in Table 8.

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Table 2
The analysis results of independent sample t-test

Assessment Results	Year	n	Mean	Levene's Test of Equality of Variances		Test of t-test	
				t	Sig.	t	Sig.
Oral Examination on pre-research proposal	2017	80	74.95	10.095	.002	-1.503	.135
	2018	74	76.5811				
Paper-and-pencil test on research methodology	2017	80	63.6125	2.363	.126	-3.048	.003
	2018	74	68.6216				
Performance test	2017	80	78.7625	.465	.496	-3.19	.002
	2018	74	81.473				

The variances of each sample were homogeneous if the significance obtained in Levene's Test >alpha (0.05). The results of the analysis of the independent sample t-test showed that there were significant differences in the paper and pencil test and the performance test between the control group and the treatment group

DISCUSSIONS

After the treatment, the replicating titles decreased by 19.7% while the innovative research papers' titles increased by 14.29%. Once confirmed why many students chose

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The first purpose of the study is to analyse the quality of the students' paper. So what is the quality of the students' paper?

to replicate the titles of the previous research, they said that it was easier for them to conduct research that had been done before. The title of a research paper gives us a glimpse of what method will be used in that particular research. The data on the research method types were analyzed using descriptive statistics. Prior to treatment, 19.75% of the students chose to conduct classroom action research. After the treatment, there were 25.68% of the students who chose to conduct R&D. These differences can indicate that there is an increase in the quality of the research paper titles. The students wrote fewer replicating titles and formulated more innovative titles. The results of Semra Kıranlı's Güngör research was found distribution of postgraduate theses and articles on ethical leadership in Turkey were collected based on the quantitative approach and the surveys and scales were used as data collection tools (Kıranlı Güngör, 2018).

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The students of Culinary Arts of Vocational Education Program are prospective teachers and they are expected to maintain high standard of academic ethics. The results of this study are supported by Marin (Marín, Duart, Galvis, & Richter, 2018). The main theme is *learning* and around this topic we can identify different aspects that are relevant in this context, like *teaching* (overlapping word between learning and education), *methods*, *strategies*, *course*, *skills* and *students*. In this period, therefore, learning design and the elements around it are paramount, as can be seen from the literature.

Through the oral examination, the students who committed plagiarism could be identified because they would not be able to elaborate satisfactorily the research papers they had written. The results of the assessment on methodology theory show that the students in the experimental group mostly (66.3%) achieved grades A and B, while those in the control group mostly (53.75%) achieved grades C and D. This indicates that the MIRS approach can improve students' comprehension of research methodology.

The data that were analyzed were the results of authentic assessment. The results of this study are in line with those of İsmail and Birsen (2016), who gave authentic tasks and group work to the experimental group. The authentic tasks fulfilled by prospective teachers were analyzed in accordance with the authentic assessment approach. Moreover, a comparative analysis of the adjusted post-test results based on the pre-test results of the experimental and control groups indicated a statistically significant positive difference in favor of the experimental group (İsmail & Birsen, 2016)

CONCLUSION

The results show that the number of the students who were able to write innovative research papers increased by 14.29% while the number of those who replicated the existing research papers decreased by 19.7%. As many as 35% of the control group conducted survey research and the other 18.75% conducted CAR (classroom action research). As many as 33.78% of the treatment group conducted survey research while the other 25.68% conducted R&D. As many as 26.25% of the control group conducted research on food marketing while 28.38% of treatment group conducted research on food nutrition. The control group's average score of research paper writing is lower than that of the experimental group's with 0.63 score difference on oral examination of pre-

proposal and 5.01 score difference on paper and pencil test of research methodology. It can be concluded that MIRS approach is effective for improving writing skill capability.

SUGGESTIONS

The MIRS has been empirically proved as an effective approach to enhance students' ability in research paper writing. Students who have no writing experience indeed need more motivation to get some writing ideas. In the process of writing paper, students still need teacher's guidance to solve problems that students encountered. This approach requires talented and eminent teachers in helping students. Very good results of students' achievement on writing papers will definitely paid teachers' hard work off. Motivation is given by conveying the benefits of completing study on time. The lecturers keep providing inspiration for students until they find problems worthy of research.

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15



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Editor in Chief

Name of the article: The Effectiveness of the MIRS Approach in Improving Research Paper Writing Skill of Culinary Arts Vocational Student

After reviewing the attached article, please read each item carefully and select the response that best reflects your opinion. To register your response, please **mark** or **type in** the appropriate block.

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Do you think the title is appropriate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Are the tables, if any, arranged well?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Are the references adequate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the language clear and understandable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Would you like to see the revised article if you have suggested any revisions? Yes No

Please write your report either on the this paper or on a spare paper.

REPORT

The content of the study is accepted. However there are several parts which require major revision.

1. The paper contains grammar mistakes and some parts are not coherent.
2. The key variable about MIRS is not well explained (in terms of theoretical concepts, steps of teaching)
3. The clarity of the Methods needs to be improved (assessment instruments used must be clear and information of their reliability and validity need to be mentioned.
4. The findings : not relevant with the purposes of the study.
(there are two purposes mentioned :

- a. to analyse about the quality of the students' papers
- b. the effectiveness of the MIRS

In relation to the title of the paper, in the findings, the author(s) needs to clarify the effectiveness of the MIRS. In the findings, the data between control group and experimental group were compared, but from the Title (the data of how MIRS improved the students' papers needed - which is usually done by comparing the students' quality of paper before and after the treatment and analyse whether the difference is significant or not); so the title of the article-purpose-analysis-findings need to be synchronized.

There is no data about the quality of the students' papers, so the author must provide data about the quality of the students'paper.

The author(s) need to check the latest APA style for citations

More detai can be seen from the comments provided in the document)



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REPORT

Section of the Manuscript	Comments and Notes
Title- Abstract- Summary	Abstract in accordance with the format of writing the IJI journal
Introduction and Literature Review	The paragraph arrangement in the introduction is a) general background, b) scientific background, c) empirical background, d) novelty and front line Literature uses more recent journals

Research Methods	The method is further shortened
Research Findings	His findings must be sharpened again at the core of his research
Discussion	short, dense and clear
Conclusion and Suggestions	short, dense and clear
References and Citation	use more recent references
Language	cek grammarly A proofreading is strongly advised.
Other issues	

The Effectiveness of the MIRS Approach in Improving Research Paper Writing Skill of Culinary Arts Vocational Student

Research paper writing is an essential factor and one of the challenging tasks for students. This study aims to **examine** the effectiveness of the MIRS (Motivation, Inspiration, Realization, and Solution) approach **students' capability** to write the research papers. This study employed the quasi-experimental design, specifically using equivalent time series method. The subjects of the study were the students of the Culinary Arts of Vocational Education. The research subjects were 154 students. The data were collected using authentic assessment with oral examination on pre-proposal, a paper and pencil (PP) test on research methodology, and a performance test on research proposal seminar. Statistical description and independent sample t-test are used to analyze the results. The results show that the number of the students of treatment group who were able to write innovative research papers increased. The control group's average score of the research paper writing is lower than that of the treatment group. Hypothesis shows that there is difference result between PP testing and oral testing. The alpha score obtains 0,003 for PP testing and 0,002 for oral testing. It can be concluded that MIRS approach is effective for improving writing skill capability

Keywords: research paper, writing skill, motivation approach

INTRODUCTION

Course completion time has drawn special attention of Yogyakarta State University (YSU) authority. **Undergraduate students of YSU usually take around four years for finishing their study. In fact, most students need more than in the time duration to finish its. Due to of this, the university regulates that students have to finish their study for maximum seven years. It is reported by the rector that the longest time duration of YSU's students to graduate their study is seven years and the fastest one is 3.3 years (The Rector's Annual Report in the 52nd Anniversary of YSU). It is said that the average of the time duration of YSU's students is 4.65 years.** If students are persistent and work hard, they will graduate faster. One of the requirements to complete the course, it is heavily dependent on how fast students are able to write research papers.

Research Methodology in Education course aims to prepare students becoming good writer on the research papers (RP). In fact, they find it hard to write research papers because of their limited insights on educational research, lacking of understanding of potential research problems, and lacking of an academic writing skill. Several steps should be taken if they want to write a good research paper. They have to read a lot of scientific journals, reference books relevant to their field of studies, train their critical thinking, and learn to write honestly. In addition to these, they also have a good motivation and passion to reach the goals. **In 2012, Payne stated that writing motivation can be indicated by the several low response questions, subjects with many writing assignments, writing essay and paper, and writing online discussion.**

In fact, many students of Culinary Arts of Vocational Education program prefer to the technical skills (cooking skills) rather than skills in reading and writing academic papers. Writing skill of the research paper needs intrapersonal intelligence and linguistic-verbal intelligence, whereas cooking skill needs bodily-kinaesthetic intelligence. Gardner (2011) and Armstrong (2018) studied that a group of students usually can have strong talent at the specific knowledge, yet it usually has the weakness on the certain subject. In this condition, lecturers have to deliver the material courses to his/her student appropriately. Several difficulties of the research paper facing by students should be reduced or eliminated using appropriate strategy. According to McNiff (1998), the writing difficulties are related to the lacking of the students creativity, student writing motivation, student self-capability, and the time use to rehearsal.

The lecturers in charge of the Research Methodology are also expected to inspire and motivate students to formulate research problems and guide the students who are having trouble with writing their research papers. The lecturers should have a lot of research experience to be able to provide solutions that address each student's ability. Many efforts have been made aiming to help students develop fluency in writing research papers. However, the end results are tightly dependent on each individual's ability and willingness to learn. To overcome this problems, several methods were attempted to practice in Research Methodology both reading and writing skills. One of those method is by observing students characteristics, including motivation, inspiration, realization and solution, namely MIRS approach. The MIRS approach emphasize on students' enthusiastic how to write research paper.

This study aims to examine: (1) students' capabilities to write research papers which are assessed based on: (a) the title quality of the research papers, (b) the research methods and topics chosen by students, (c) students' comprehension level on research method and theories; and (2) the effectiveness of the MIRS approach to improve students' capabilities to write research paper. The use of MIRS approach in this study is considered because this approach provides motivation for students to write, inspiration for helping their research paper titles formulation, encouragement for them to realize or express their ideas into research proposals, and solutions when they face any problems.

LITERATUR REVIEW

Sturm and Rankin (2002) stated that composing is an advanced academic task within educational settings and parts of the students' difficulties in writing are related to difficulties in applying various cognitive strategies. Therefore, various methods for teaching academic writing have been developed. Negari (2011) applied an instructional strategy and EFL learner's writing skill. The results of the analysis of covariance revealed that the instruction of concept mapping strategy had a positive effect on EFL learners' writing skill. The students in the the experimental group achieved the instruction for the concept mapping strategy.

Blythe and Sweet identified six approaches to the teaching of academic writing i.e. the atelier approach, the great works approach, the inspiration approach, the techniques approach, the workshop approach, and the feminist approach. Those approaches can be elaborated as follows. Firstly, the atelier was adapted in writing processes. This method occasionally occurred with the master being a great author, a tutor/professor, or even an editor. Secondly, the great works approach is an extension of the Atelier. It derived from the ancient concept of *imitatio*, or imitation. This method originally demanded students to study the techniques, forms, and content of the ancient classical writers and copy them. Thirdly, the inspiration approach emphasizes copying or learning from others then creating one's own work. Fourthly, the techniques approach emphasizes the instructor who utilizes excerpts from great and minor work and writers to illustrate technical concepts. Fifthly, the workshop approach is a collection of apprentices led by a single master. The workshop functions as a test market for beginner writers. The workshop is a doorway for the beginners to get criticisms and motivation to write because of the deadlines that are imposed. The final approach is the feminist, feminist teachers distance themselves from authoritarian approaches, asking students, especially female students, to discover what they truly feel and to adopt their own voice. The Feminist Approach seemingly doubts the efficacy of the Atelier and Great Works approaches since both have evolved from a masculine social structure (Blythe & Sweet, 2008)

Adapted by those six approaches, this research classroom applies MIRS approach to teach academic writing. The inspiration approach was adapted to widen students' ideas in choosing topics and constructing titles for their research papers; the Techniques Approach was adapted to teach how to write scientific papers correctly; and the workshop approach was adapted to help students express their ideas into research proposals. To find research problems and formulate research papers' titles, students need realistic ideas. Lecturers have to provide inspirations that enable students to have ideas for their research paper titles which are relevant to their field of studies

Writing is one of the most difficult skills that requires the mastery of cognitive and sociocultural competencies. De Larios, et.al. (2006) identify five behaviours that writers need to acquire: (1) the ability to manage complex mental representations, (2) the ability to construct rhetorical and organizational goals and hold them in mind while writing, (3) the efficient use of problem-solving procedures in order to formulate their texts, (4) the ability to distinguish between editing and revision as two different operations distributed in different stages of the writing process, and (5) the adoption of a flexible attitude toward the use of rhetorical devices. The lecturer's encouragement (motivation) is expected to help students find their focus to write research papers amidst their busy academic schedules. Focus and concentration are important for students to keep their ideas flowing when writing research papers. Intrinsic motivation gives energy and direction to behaviour in the absence of reward and punishments. It affects learners to choose a task, get excited about it, and persist until they master it (Tombari & Borich, 1999).

Creative writing is unique to every individual; it should be parochial. Creative writing requires one to be a good reader; students should be guided to read a wider range of topics other than their current interests (Winterson, 2012). Nevin Akkaya suggests that teachers should emphasize that creative writing develops the imagination, helps uncover abilities, increases self-confidence, develops writing ability, encourages one to think and move beyond clichés etc” (Akkaya, 2014). Students are able to express their ideas if they have knowledge and knowledge can be obtained from reading. Therefore, to be able to write a good paper, one is required to read a lot.

After perusing several strategies to teach academic writing, **MIRS approach is decided to be used in writing research paper in classroom**. Motivation to write is given to students to prompt them to set their personal targets and achieve them. The MIRS approach also helps students find inspiration for their writings so that they will be filled with creative ideas to formulate research problems. Their creative ideas are then realized by writing research proposals and they are facilitated with workshop on proposal writing techniques. If they face problems in writing research proposals, the lecturers should help them finding solution. **Akkaya (2014) studied same experiences, then** three strategies are applied to overcome student problems in developing the ability to write scientific papers. Those three strategies can be listed as follows. (1) For poor reading problems, the lecturers should assign students to write the readings that they do not cover in class, and to ask students to write expressively in response to texts (reading logs, summary/response notebooks). (2) For failure to reconstruct arguments of what students read, the lecturers should assign summary writing and have students make outlines, flowcharts, or diagrams of articles. (3) for failure to adapt to different kinds of discourse, the lecturers should explain their own reading process: when they skim, when they read carefully, when they study a text in detail, and so forth; explain how their own reading process varies when they encounter different genres of text, how to read a textbook versus a primary source, how to read a scientific paper, how to read a poem; and so forth (Dorothy & Ferguson, 2011).

The way to teach writing of scientific papers is reviewed by many researchers. Smedt and Keer found no significant differences between peer-assisted and individual writing practices. The peer assisted writing in education is more **effective**. Step-by-step learning is carried out with the following steps: (1) the teacher mentions the goals and motivates students to learn, (2) the teacher gives examples and writing strategies, (3) students practice writing and the teacher provides feedback; (4) the teacher concludes the lesson (Smedt & Keer, 2018). People tend to produce their best work when they enjoy what they are doing.

Research paper writing remains an uninteresting and unexciting activity for many university students (**Bernardo, 2010**). They may not have realized its indispensable value in their respective disciplines and target workplaces. Hence, teachers must provide more enticing and more motivating classroom-based writing tasks to spur students’ interest in producing varied academic texts. It is in this light that this paper proposes a number of “fun tasks” that teachers may use as their pre-writing tasks, lesson spring boards or enrichment exercises when they teach the rudiments of academic writing or

research paper production. The use of these “fun tasks” is based on the premise that cultivating students’ interest in research largely depends on the creativity of the teachers and the appeal of classroom activities and that learning could better take place when students are motivated and when they enjoy the learning process at the same time. Bernardo (2010) designs the following fun task to improve students’ writing skill: (1) *Library Hunt*, is an interesting way for students to get familiar with the library; (2) *Solve that Gobbledygoo*: is an exciting way to teach the concept of conciseness and brevity reckoned to be an important writing skill; (3) *Nosebleed*: the exercise likewise teaches the students to write not to impress but to express ideas by dissuading them from using high-sounding words; (4) *Survey Says*: this activity provides students with initial experience of gathering pertinent data; through this exercise, the students are also introduced to simple data analysis; (5) *Go APA Online*, is an interesting web-based activity that allows students to use online learning resources and teaches the students how to document references and write in-text citations using the APA style (Bernardo, 2010).

Every lecturer has a different teaching method. Lengeling and Malarcher created games to improve students’ writing skills. They argue that games will benefit students in the following aspects: (1) in the *affective* aspect, games increase motivation, and provide fun learning experience; (2) in the *cognitive* aspect, games provide reinforcements and opportunities for review and extension tasks; (3) in the *adaptability* aspect, games provide easy adjustment for age, level, and interests, involve all four skills, and require minimum preparation after development (Lengeling & Malarcher, C, 1997). Caldwell teaches academic writing with the following conventional steps: (1) drawing the students’ attention to the necessity of redeveloping the basics of their writing; (2) involving them in a number of practical writing exercises; (3) giving them feedback; (3) dedicating the first fifteen minutes of each period for quick revision (Caldwell, 2011).

Aside from using certain teaching method, innovation in teaching academic writing can also be done by utilizing digital technologies. Arlina & Melor stated that mobile learning can be integrated into academic writing by using it with several writing approaches which complement the pedagogical advantages in mobile devices. Perhaps the future will bring electronic Ateliers in the form of online tutors or computer programs that instruct new writers one-on-one (Arlina & Melor, 2015).

Writing capability of the research paper cannot be assessed using objective test. Hence, new development instrument should be used as an alternative or authentic assessment. The authentic assessment is the instrument to measure students’ performance comprehensively. This method is also used for measuring theoretical methodology and feasibility of the writing research paper. Due to of this, the authentic assessment has been used by many scholars at the project learning based. This method is measured whether the students can create a project with their chosen topic, prepare a report, and present their products to evaluators (DiMartino & Castaneda, 2007). According to Eby (1998), authentic assessment is a task that mostly enables students to use their cognitive processes besides showing them what they have learn and what they do (Eby, 1998). Authentic assessment, or sometimes also called performance assessment, appropriate

assessment, alternative assessment, or direct assessment, contains such techniques as written texts, portfolios, checklists, teacher observations, and group projects (Olfos & Zulantay, 2007).

METHOD

Research Design

This study employed the quasi-experimental design specifically the equivalent time series with the the control group design (Neuman, 2011). The treatment was given continuously in accordance with research paper writing steps starting from formulating a title, writing a research paper, and research paper seminar. The quasi-experiment research design can be seen in Table 1.

Table 1
Research Design

Variation	Year	M	I		R		S		S	
Control	2017	X	X	O1	X	O2	X	O3	X	O4
Experimental	2018	X1	X2	O1	X3	O2	X4	O3	X5	O4

where the variables written in Table 1 can be listed as follows.

O1= Title grade (creativity, theme, and method)	X1 = treatment 1	M=motivation
O2= Grade of oral examination on pre-research paper	X2 = treatment 2	I=inspiration
O3= Grade of research methodology comprehension	X3 = treatment 3	R=realisation
O4= Grade of research paper presentation	X4 = treatment 4	S=early solution
X= Course grade (conventional)	X5 = treatment 5	S=last solution

Research Process

The research was conducted in the even semester of the academic years 2017 and 2018. The location of this studied was at the Department of the Culinary Arts of Vocational Education, Faculty of Engineering, Yogyakarta State University. A set of treatments was given to sample students for one semester for 16 weeks. The research was conducted according to the following time shown in Table 2.

Table 1
Research Procedure

Activity	Weekly meeting
1. Motivation & Inspiration	1-4
2. Map of Research Titles	5-6
3. Realization	7-9
4. Solution in oral exam	10-13
5. Theory Examination	14
6. Performance test	15-16

Sample

The sample of the study were established using the simple random sampling technique. The control group consisted of the students taking Educational Research Methodology course in the even semester of 2017 without the MIRS approach. Meanwhile, the treatment group consisted of the students taught in the even semester in 2018 employs the MIRS approach. The framework of research sample is presented in Table 3.

Table 3
Framework of Research Sample

	The control group (2017)		The treatment group (2018)	
	N	N	N	N
Class A	49	45	38	37
Class D	38	35	42	37
Total	87	80	80	74

Data Collection Tool

The data were collected using the documentation of research paper. The research paper was assessed using several methods, including oral examination, rubric of the students' performance, and constructed response test. The data collection was conducted through the following steps as follows. 1).The data of students' performance are assessed based on: (a) the research titles, (b) the research methods, and (c) the topics chosen by students. 2).Students' comprehension level on research method is measured using paper and pencil (PP) test formed constructed response (CR). 3).Oral examination is used to examine the feasibility of the pre/pra-research papers. 4).The students' performance of the research presentation is assessed using the rubric.

Data Analysis

The collected data were analysed using descriptive statistics and independent sample t-test. The descriptive statistic is used to generally describe the writing title creativity, the research topic, and the research method used. Independent sample t-test is used to examine the effectiveness of the MIRS approaches in term of the writing students' capability improvement. The experimental result is effective if the group of the treatment obtains higher average of the writing capability. In this condition, the alternative hypothesis (H_a) is proven or accepted significantly. The input data of the independent sample t-test is resulted from the assessments, including oral examination, constructed response (CR), and the presentation of the research paper between the treatment and control classrooms.

RESULTS

The results of the research paper analysis are classified into 4 parts, namely: (1) the research topics and the research methods; (2) pre-research paper writing skill; (3) comprehension the theory of research methodology and (4) presentation of the research plan performance

Research Topic Mapping

The research topic of this paper is mapped two categories, including teaching and learning subject and culinary subject. The teaching and learning subject is composed into five topics, including vocational teacher, character, learning strategies, learning media, learning outcomes. The culinary subject is composed into four topics, including culinary business, culinary marketing, culinary art, and culinary nutrition. The research topic is presented in Table 4.

Table 4
The Research Paper Topics

No	Topics	The Control Group		The Treatment Group	
		N	%	n	%
1	Teaching and learning				
	a. Vocational teacher	8	10	13	17.57
	b. Character	0	0	2	2.7
	c. Learning strategies	12	15	1	1.35
	d. Learning media	18	22.5	19	25.68
	e. Learning outcomes	2	2.5	2	2.7
2	Culinary		0		0.00
	a. Culinary business		0	3	4.05
	b. Culinary marketing	21	26.25	4	5.41
	c. Culinary art	4	5	9	12.16
	d. Culinary nutrition	15	18.75	21	28.38
	Total	80	100	74	100.00

In this paper, the students who follow the subject are divided into similar number. Shown in Table 4, the research topic of learning media is the highest taken by students for teaching and learning subject, whereas the research topic of culinary nutrition is the highest taken by students for culinary subject.

The research paper titles are mapped based on quality level, research method and main topic. The indicators of research papers' quality are grouped into four categories: (1) duplication titles; (2) replication titles; (3) innovation titles, and (4) creative titles. The results of the document analysis of the research papers' titles submitted by the students are reported in Figure 1.

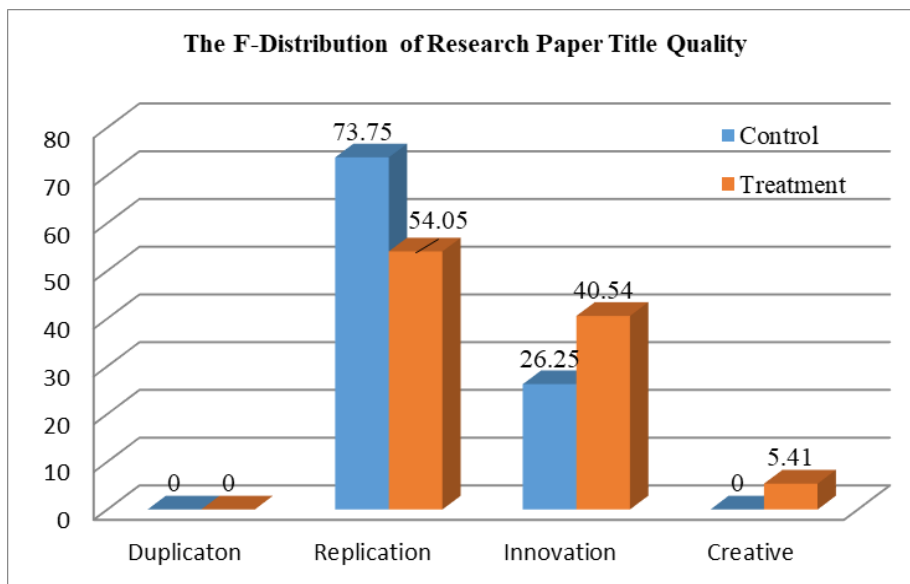


Figure 1
The Frequency Distribution of Research Paper Title Quality

Several indicators of the research papers can be elaborated as follows. Based on the results, there are no duplicative or imitative titles on the student papers both before and after MIRS approach is applied. The replicative titles are the higher one in the student paper. Before the MIRS approach is applied, the title’s replication is 73.75% titles, yet after the MIRS is applied in the classroom, the replication of the title decreases becoming 54.05%. The indicator of students’ innovation is low before employing the MIRS method (26.25%) and increasing significantly after using the MIRS approach (40.54%). Another indicator is creative research title. This indicator also increases value after the MIRS is applied on the classroom.

Shown in Figure 1, it can be stated that the MIRS approach is very important to increase the quality of research title. This conditions inspire students either to formulate or to create new idea written on their research titles. The analytical description is obtained by several research methods. They can be shown in Table 5 and are used by the students of Culinary Arts of Vocational Education Program.

Table 5
Types of Research Method Used by Students

No.	Type of Research	The Control Group		The Treatment Group	
		f	%	f	%
1.	Explanatory Survey	28	35	25	33.78
2.	Comparative Survey	3	3.75	7	9.46
3.	Correlational Survey	6	7.5	8	10.81
4.	Research & Development (R&D)	12	15	19	25.68
5.	Classroom Action Research	15	18.75	1	1.35
6.	Quasi-experiment	3	3.75	0	0.00
7.	Evaluation	6	7.5	3	4.05
8.	Case Study	7	8.75	10	13.51
9.	Document Analysis			1	1.35
	Total	80	100	74	100.00

Shown in Table 5, explanatory survey method has the highest value comparing with others and the explanatory survey method becomes the interest method for students. The other methods with also high values are the Research & Development (R&D) and the Classroom Action Research. Comparing to the two methods, the students' interest with the R&D method increases 10.68% and the students' interest with the Classroom Action Research decreases 17.7% in 2018. This condition is plausible due to supporting technologies in researching and developing of the learning media growing rapidly, such as internet, android operating systems, and others. Other contrary, the students' interest with the classroom action research decreases significantly because several requirements should be completed by students. Teachers agreement and preparing time in school are become two problems for students who will take this research method.

Research Paper Writing Skill

To investigate the student writing skill, the oral exams are used to measure writing capability of the research paper. There are four main questions to measure writing capability of the research paper. These four questions are related to (1) the research problems, (2) research purposes, (3) method, including research subject, data collection, and data analysis, and (4) research originality. Evaluation of this research paper is very important to examine the quality of the paper, particularly relating with the student honesty. It is due to many plagiarism in the writing subject previously. The score of the writing skill is using standard number (10 – 100), and then that score is converted into the alphabet score for A (>85), A- (81-85), B+ (76-80), B (71-75), C+ (66-70), dan C (61-65). The analysis results of the oral examination are presented in Figure 2.

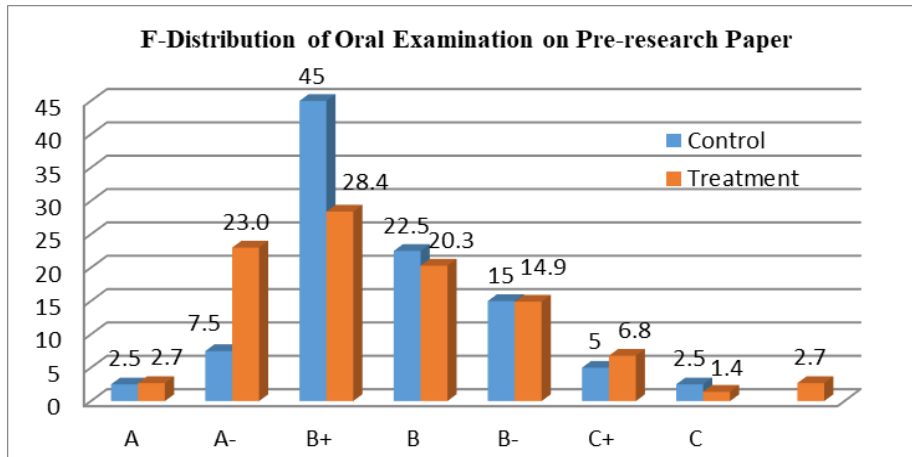


Figure 2
Distribution of Oral Examination on Pre-research Paper

There are 7.5% of the students in the control group and 23% of the students in the treatment group who achieved grade A- in the oral examination. After the examination, the students were given a chance to revise and improve their research papers. The revision results were tested on research paper presentation. The assessment was done using a performance test by three lecturers.

The Performance in Writing Research Paper

The writing performance is measured from (1) introduction; (2) literature review; (3) methods; (4) writing organization; and (5) presentation. The result of performance test is presented in Figure 3.

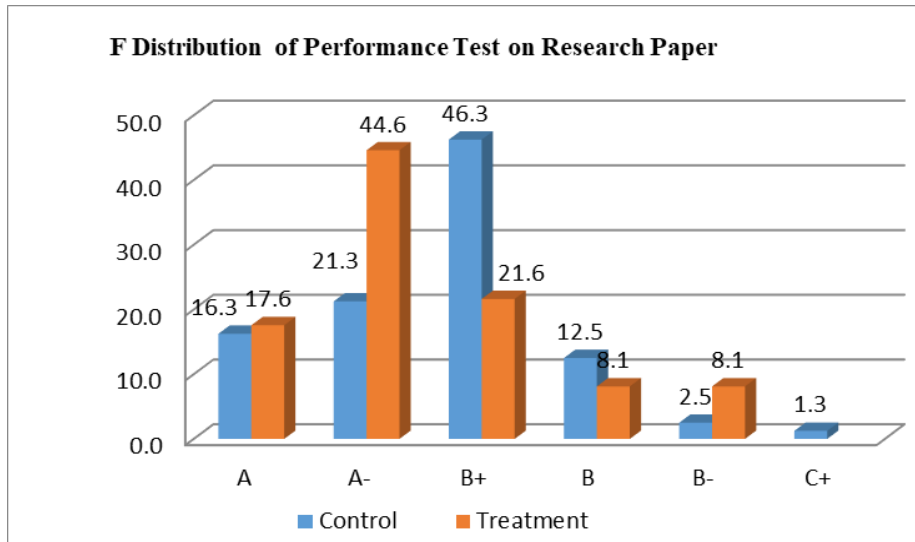


Figure 3
Frequency Distribution of Performance Test on Research Paper

There are 21.25% of the students in the control group and 44.6% of the students in the treatment group who achieved grade A-. This result shows that the MIRS approach can improve grades in performance tests on research paper.

The understanding of Research Methodology

The students' understanding of theories of research methodology was tested using a paper-and-pencil test in the form of CR. The grade distribution of the paper-and-pencil test is presented in Figure 4.

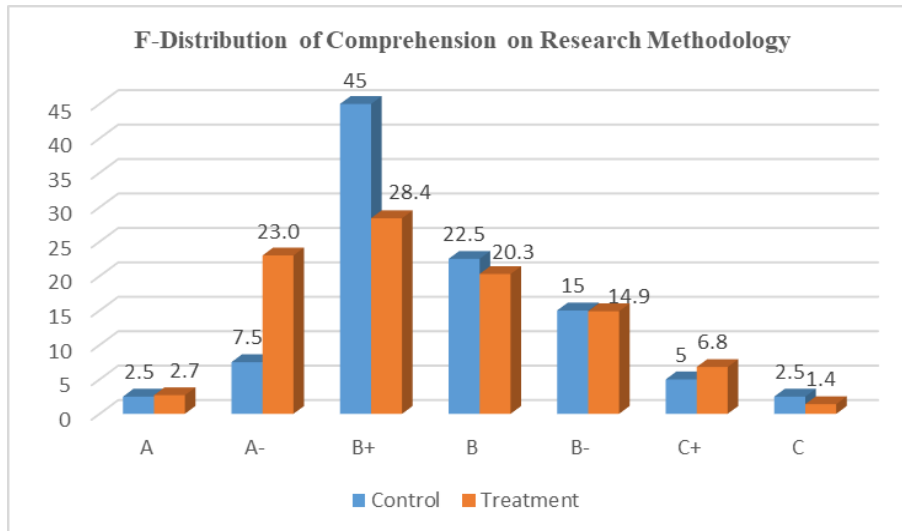


Figure 4
Frequency Distribution of comprehension on research methodology

The result of the CR testing shown in Figure 4. The control group is marked using the blue colour, whereas the treatment group is marked using the orange colour. Based on the Figure 4, the treatment group can be described as follows. The grade “A” increases 0.2 %, the grade “A-“ increases 15.5%, the grade “B+” decreases 16.6%, the grade “B” decreases 2.2%, the grade “B-“ decreases 0.1%, the grade “C+” increases 1.8%, and the grade “C” decreases 1.1%. According to the results, the good grade (“A” and “A-”) of the treatment group increases significantly, whereas the low grade of the treatment group decreases except the grade “C+”. Due to increasing grade of many students in the treatment group, it can be said that the MIRS approach is an effective method to be applied on the classroom, particularly for the subject of academic writing. The analysis of the results can be detailed in Table 8

Table 2
The Analysis Results of Independent Sample t-test

Assessment Results	Group	n	Mean	Levene's Test of Equality of Variances		Independent sample t-test	
				t	Sig.	t	Sig.
Oral Examination on pre-research paper	Control	80	74.95	10.095	.002	-1.503	.135
	Treatment	74	76.5811			-1.482	.141
Paper-and-pencil test on research methodology	Control	80	63.6125	2.363	.126	-3.048	.003
	Treatment	74	68.6216			-3.021	.003
Performance test	Control	80	78.7625	.465	.496	-3.19	.002
	Treatment	74	81.473			-3.184	.002

The variances of each sample were homogeneous if the significance obtained in Levene's Test $>\alpha$ (0.05). The results of the analysis of the independent sample t-test showed that there were significant differences in the paper and pencil test ($p=.003<005$) and the performance test ($p=.002<005$) between the control group and the treatment group. The average value of the oral examination on control group is 74.95 < experimental group 76.58. The average value of paper-and-pencil test on research methodology for control group is 63.61 < treatment group 68.62. The average value of the performance test on the control group 78.76 < treatment group 81.47. Based on the data analysis, it is shown that the MIRS approach is effective method to improve the students' writing capability of the research paper.

DISCUSSIONS

Comparing between two groups holding in the control group (2017) and the treatment group (2018), the replicating titles decreased by 19.7% while the innovative research papers' titles increased by 14.29%. Once confirmed why many students chose to replicate the titles of the previous research, they said that it was easier for them to conduct research that had been done before. The title of a research paper gives us a glimpse of what method will be used in that particular research. The data on the research method types were analysed using descriptive statistics. Prior to treatment, 19.75% of the students chose to conduct classroom action research. After the treatment, there were 25.68% of the students who chose to conduct R&D. These differences can indicate that there is an increase in the quality of the research paper titles. The students wrote fewer replicating titles and formulated more innovative titles.

Comparing with the previous literature study, GÜNGÖR (2018) studied the students' capability of research paper in his classroom. His study explored the distribution of postgraduate theses and articles on ethical leadership in Turkey based on the quantitative approach. His research method employed were surveys and used scales as data collection tools (Güngör, 2018). In this paper, lecturer inspires using R&D method, so why this method become the highest chosen by students for developing learning digital media. It is in line with the Oleynick studied that the inspiration becomes an important role to obtain the creative ideas in title formulating and research strategies (Oleynick, 2014).

The students of the Culinary Arts of Vocational Education Program are prospective teachers and they are expected to maintain high standard of academic ethics. To maintain the ethical code, the research topics are limited into the vocational and culinary subjects. The teaching and learning topic become the highest chosen by students. The results of this study are supported by Marin (Marín, Duart, Galvis, & Richter, 2018). The main theme is *learning* and around this topic we can identify different aspects that are relevant in this context, like *teaching* (overlapping word between learning and education), *methods*, *strategies*, *course*, *skills* and *students*. In this period, therefore,

learning design and the elements around it are paramount, as can be seen from the literature.

The authentic assessment can be used to measure the capability comprehensively. In this study, three kinds authentic assessment is used, including oral examination, constructed response, and performance test. Through the oral examination, the students who committed plagiarism could be identified because they would not be able to elaborate satisfactorily the research papers they had written. Average scores of the oral examination, constructed response, and performance test of the treatment group is higher score than the control group. This condition is shown that the MIRS approach can improve the understanding of student research methodology in writing research paper.

The authentic assessment has also been studied by Ismail and Birsen in 2016 who gave authentic tasks and group work to the experimental group. The authentic tasks fulfilled by prospective teachers were analysed in accordance with the authentic assessment approach. Moreover, a comparative analysis of the adjusted post-test results based on the pre-test results of the experimental and control groups indicated a statistically significant positive difference in favour of the experimental group (İsmail & Birsen, 2016)

Based on the data analysis, the independent sample of t-test shown that there are no different on the oral examination, on the pre-research paper. This is due to the subjective shortcoming of the authentic assessment. However, this drawback would bring impact on the decreasing of the effectiveness at the oral examination. Some the benefit of this method is also explored and bring the changed students behaviour as follows. (1).Plagiarism can be reduced by teacher's reprimand; (2).The students will know the wrong method on writing research paper from the teacher's feedback. Then, students should revise their research paper for obtaining a good quality of it.

CONCLUSION

The results show that the number of the students who were able to write innovative research papers increased by 14.29% while the number of those who replicated the existing research papers decreased by 19.7%. As many as 35% of the control group conducted survey research and the other 18.75% conducted CAR (classroom action research). As many as 33.78% of the treatment group conducted survey research while the other 25.68% conducted R&D. As many as 26.25% of the control group conducted research on food marketing while 28.38% of treatment group conducted research on food nutrition. The control group's average score of research paper writing is lower than that of the experimental group's with 0.63 score difference on oral examination of pre-proposal and 5.01 score difference on paper and pencil test of research methodology. It can be concluded that MIRS approach is effective for improving writing skill capability.

SUGGESTIONS

The MIRS has been empirically proved as an effective approach to enhance students' ability in research paper writing. Students who have no writing experience indeed need more motivation to get some writing ideas. In the process of writing paper, students still need teacher's guidance to solve problems that students encountered. This approach requires talented and eminent teachers in helping students. Very good results of students' achievement on writing papers will definitely paid teachers' hard work off. Motivation is given by conveying the benefits of completing study on time. The lecturers keep providing inspiration for students until they find problems worthy of research.

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