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Re-projetando a Abordagem das Habilidades de Pensamento de Ordem Superior (HOTS) para Estudantes de Escrita Acadêmica

Re-designing the Higher Order Thinking Skills (HOTS) Approach for Academic Writing Students

Rediseño del enfoque de habilidades de pensamiento de orden superior (HOTS) para estudiantes de escritura académica

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Resumo

Este estudo foi conduzido para identificar os requisitos de aprendizagem, condição objetiva e design de aprendizagem da escrita acadêmica com base na abordagem Habilidades de Pensamento de Ordem Superior (HOTS) que cursou a Faculdade de Letras e Artes na Universidade Estadual de Jacarta. Utilizou abordagem qualitativa, quantitativa e método de base com o procedimento inclui a realização de pesquisa inicial (pré-desenvolvimento), concepção de design de aprendizagem escrita acadêmica, examinando e revisando o resultado do projeto de aprendizagem escrita acadêmica e exame de eficácia. O resultado mostrou que os requisitos do aprendizado da escrita acadêmica indicam uma lacuna entre a exigência do aluno e a situação de aprendizagem. Depois, o pesquisador também realizou a segunda pesquisa para resolver a condição. A segunda pesquisa é o desenvolvimento de ferramentas de

aprendizagem na forma de plano de programa de aula semestral, plano de aprendizado de unidade e descrição do material de ensino. Depois de realizar o exame de eficácia, está provado que a aprendizagem de escrita acadêmica baseada no HOTS é eficaz. Assim, o resultado deste estudo é recomendado para o processo de redação acadêmica na universidade.

Palavras-chave: pesquisa e desenvolvimento; HOTS; projeto de aprendizagem; escrita acadêmica; universidade

Abstract

This study was conducted to identify learning requirements, objective condition, and learning design of academic writing based on Higher Order Thinking Skills (HOTS) approach which took in Language and Arts Faculty in Jakarta State University. It used qualitative, quantitative approach and ground method with the procedure includes conducting initial research (pre-development), designing academic writing learning design, examining and revising the result of academic writing learning design and effectiveness examination. The result showed that the requirements of academic writing learning indicate a gap between student's requirement and learning situation. Afterward, the researcher also conducted the second research to resolve the condition. The second research was learning tools development in the form of semester lecture program plan, unit learning plan and teaching material description. After conducting the effectiveness examination, it was proven that academic writing learning based in HOTS is effective. Thus, the result of this study was recommended for academic writing process in university.

Keywords: research and development; HOTS; learning design; academic writing; university

Resumen

Este estudio se realizó para identificar los requisitos de aprendizaje, la condición objetiva y el diseño de aprendizaje de la escritura académica basada en el enfoque de Habilidades de Pensamiento de Orden Superior (HOTS) que tomó en la Facultad de Lenguaje y Artes de la Universidad Estatal de Yakarta. Utilizó un enfoque cualitativo y cuantitativo y un método básico con el procedimiento que incluye realizar una investigación inicial (predesarrollo), diseñar el diseño de aprendizaje de escritura académica, examinar y revisar el resultado del diseño de aprendizaje de escritura académica y el examen de efectividad. El resultado mostró que los requisitos del aprendizaje de la escritura académica indican una brecha entre los requisitos del estudiante y la situación de aprendizaje. Posteriormente, el investigador también realizó la segunda investigación para resolver la afección. La segunda investigación es el

desarrollo de herramientas de aprendizaje en forma de plan de programa de conferencias semestrales, plan de aprendizaje de unidad y descripción del material de enseñanza. Después de realizar el examen de efectividad, se demuestra que el aprendizaje de escritura académica basado en HOTS es efectivo. Por lo tanto, el resultado de este estudio se recomienda para el proceso de escritura académica en la universidad.

Palabras clave: investigación y desarrollo; HOTS; diseño de aprendizaje; escritura académica; Universidad

1. Introduction

Writing skill in university is very important for students since the assignments often require students to write. Based on its function, writing activity in university has many advantages, such as; (1) students recognize their potential skill, improve many ideas by thinking, acquire, obtain and master information concerning with the topic that will be written, (2) students can organize ideas systematically and express it explicitly, (3) students can observe and measure their ideas objectively, (4) students will easily resolve problems, motivate themselves to actively learn and (5) students will be able to think and to speak in orderly manner (Akhadiah, Arsjad & Ridwan, 2003).

Students' study period in university, especially in Jakarta State University, remains long time. One of the factors is the lack of academic writing skill. Therefore, academic writing development is necessary. Academic writing tools development in this study refers to Bloom & Madaus's concept (1981) that classified thinking ability in learning process from Low-Order-Thing and High-Order-Thing called as Blomm's Taxonomy. This process starts from *Remember/Knowledge* phase, a basic phase limited in knowing and remembering information. The second phase is *Understanding* phase which means that students should understand the information obtained (Bloom, Madaus, & Hastings, 1982). Then, the third phase is *Apply* phase or called as phase of applying the information learnt. After applying the information, student will go forward to the *Analyze* phase in which students analyze the information cause and the information problem. The last phase is *Evaluate* phase or the measurement stage toward the information with obtained solution. Thus, in this case, Higher Order Thinking Skill (HOTS) is a problem solving skill, critical thinking, creative thinking, arguing and decision making ability. The achievement of these stages is not clearly visible in students yet, especially in academic writing. As a result, the expectation to finish the study

period on time is still doubtful. This condition is in line with some previous researches in academic writing. It can be seen in several things such as the receptive rather than productive attitude tendency (Setiadi & Piyakun, 2018), the principle of translating language into transcription (Nurhajati, 2018), the beginning of writing (Naibaho, 2019), the lack of mastering information and technology (Oktarina, Emzir, & Rafli, 2017) and the lack of writing competition and collaboration (Camens, 2011). Hence, this study was conducted to observe and improve the design of academic writing learning, especially for university students.

To notice the State of the Art (SoTA) in this study, the researcher contemplated some previous studies. Klinova (2011) showed that the need of critical thinking is necessary in academic writing process. Furthermore, the same research conducted by Vong & Kaewurai (2017) applied critical thinking learning model to train students in Cambodia. Yee, et al. (2015) highlighted about the importance of HOTS in university learning. In addition, the study conducted by Suhadi, et al. (2016) provided a conclusion that technology has important role in education to increase priority, and stimulate and motivate students to learn method applied by the lecturer. Similar to the previous studies, this study is relevant because it uses Higher Order Thinking Skills (HOTS) approach and focused on redesigning the HOTS method applied in students of university level.

Afterward, the study done by Raedts, et al. (2017) drew a conclusion that the students' academic writing performance is better while using explicit instruction video rather than implicit instruction video. Again, this study is relevant because it discusses about academic writing but using two different types of video to train academic writing skills. Later, Klien & Boscolo (2016) covered five things related to the application of HOTS, including: (1) the use of path analysis, writing influenced learning process; (2) the use of cognitive strategy, writing as learning tool, (3) writing with different genres shows that argumentative essays can be applied to all disciplines, and trends also shows focus changing from transcription to be attaching figures and graphics; (4) social aspect influences the using of writing as teaching method; and (5) the importance of Students' Thinking Skills Framework to improve HOT skill in writing. Indeed, this research is relevant for writing activity as learning. In line with this, another research done by Ganapathy & Kaur (2014) produced a conclusion that Thinking Skill Framework (TSF) had an important role to enhance students' HOTS will be implied in the improvement of creating ideas and creative thinking in writing process in order to be more effective. Hence, this study is relevant because it discusses Higher Order Thinking Skills

(HOTS) and revolves on writing skills. The last, Prain & Hand (2016) produced a conclusion that cultural and social aspects have an important role in learning because both of them form group or individual identity in writing style. Similarly, this research is relevant because it examines writing activity.

In addition, this study focuses on academic writing learning tool development based on Higher Order Thinking Skill (HOTS) applied to the students of Language and Art Faculty in State University of Jakarta, Indonesia. Further, the study is offering on (1) the need of academic writing learning (2) the objective condition process of academic writing learning (3) the method design of academic writing learning based on Higher Order Thinking Skills (HOTS), (4) the expediency of academic writing learning model design based on HOTS from experts and users (lecturers and students), and (5) the effectiveness of Indonesian language academic writing learning.

2. Literature Review

The comprehension of academic and non-academic writing frequently becomes a discussion for students and academicians. It is due to the definition between academic and non-academic texts are more differentiated into fiction and non-fiction works. Those restrictions change the meaning of academic texts referring to certain type written scientifically through scientific methodological process. On other words, writing academically means writing scientifically such as writing articles, essay, thesis, ethnography, monograph and any other types of researches (Badley, 2009).

Generally, academic texts are often called as works containing and examining certain issues with scientific conventions (Priyanto, Thoyibi, & Susanda, 2008). Scientific convention refers to scientific work using scientific method to discuss the issue, presenting the study using standard language and scientific rules, and using objective scientific principles, logic, empiric, systematic, straightforward, clear and consistent. Therefore, academic writing skill is a language skill must be mastered by students because they can express their ideas, thoughts, and feelings and improve their thinking power and creativity in writing. Costam stated that writing and thinking are the process done jointly and continually (Costa, 2018).

Thus, academic writing, in this research, is writing skill in employing ideas obtained from researches findings. Particularly, this research focuses on Scientific Work Preparation

Course that gives definitions and mastering to students about the procedures of making a proposal based on academic applicable rules.

The learning process of academic writing concerns with other supporting and influencing factors, including: lecturer, social system, curriculum and students. A learning process will run well when the lecturer has commitment, attitude and behave professionally which is supported by students' personality, social system in learning process and good teaching planning (Zais, 1976). Furthermore, Alwasilah (2007) also emphasized the factors in learning that concerned each other, such as: teaching, learning, instruction, and curriculum. Teaching is the reflection of teachers' personality system who behaves professionally. Then, learning is the reflection of students' personality system showing behavior concerning with given assignments. Meanwhile, instruction is social system where the teaching and learning take place. Indeed, Curriculum is social system that culminates in a plan for teaching. However, learning process also need supporting strategy, such as: study plan, timing, writing situation, motivation, structure distribution, interaction between students and advisors collaboration (Alwasilah, 2007).

3. Methodology

This study applied qualitative and quantitative approach. The objectivity of product quality is performed by validity triangulation by experts and users (lecturers and students). Quantitative approach was used to examine the instruments requirement design and activity design. The examination was done by three major powers, including: the properness by experts, the perception of peer lecturer as instructors and the perception of students as users.

This study used ground and developing method, including content analysis, survey, expert's review and design validation. The procedure used was four stages from Borg & Gall's procedure (1983), are: (1) preliminary research, (2) planning and improving learning design, (3) design evaluating, revising and validating, and (4) examining the effectiveness of result of learning design.

This research was conducted in Language and Art Faculty in Jakarta State University, Indonesia. The consideration of study field due to the university has teacher programs. Academic writing products are the result of research using *Bahasa* (Indonesian language) but the 10 pages summary should be written in appropriate language based on their major, such as: *Bahasa*, English, French, Arabic, Teutonic, Japanese and Mandarin.

Further, the data source in this research was obtained from students and lecturers in Academic writing course, learning experts and learning documents. The data was collected through observation, interview and questionnaire. The instrument used was questionnaire with Liket scale tools. The analysis were divided into three, they are (a) data analysis from experts, (b) data analysis during product trial, and (c) data analysis of t-test.

4. Result

4.1 Preliminary Research

The first step taken in this stage was a field study, which is doing survey to obtain real overview about academic writing process in university. The things to do were surveys to university management, some academic writing lecturers, education staff, students and university environment. The survey included lecturers' competence, lecturers' lesson plan, lecturers' mastery of syllabus, learning materials, teaching method, learning design, approach and teaching method, university tools, class atmosphere, students' condition and attitude towards language learning. The preliminary research result is the requirement becoming the base to develop academic writing learning design based on Higher Order Thinking Skills (HOTS).

The objective condition of academic writing learning applied by lecturers showed that lecturers basically have not given the students wide space and opportunity to find topics that can be developed into scientific transcriptions based on students' ability and interest.

Thus, the result of document analysis and interview with lecturers and students concerning to academic writing learning objective condition can be concluded as: (1) the purpose of academic writing applied by lecturers was not appropriate with curriculum and syllabus, but the learning material content arranged by lecturer was hardly understood by students, (2) learning stage done based on semester lesson plan did not make students felt that academic writing was not appropriate with students' necessity. Therefore, learning process applied by lecturers needs to be revised and adjusted based on students' learning need. As a result, students can learn academic writing appropriately with learning objective set.

4.2 Development Planning and Academic Writing Learning Design

The analysis of learning necessity in academic writing was divided into eight aspects: (1) academic writing component; (2) syntax; (3) social system; (4) writing stage and format of students' research report; (5) method or strategy used by lecturers in teaching academic writing; (6) supporting systems; (7) evaluation systems; and (8) publication or dissemination.

The result showed that all components through questionnaires were needed by students. It could be seen on the necessity score obtained in every component of academic writing learning from students and lecturers placed in the stage of "very need" position (79%). Reliability test using *Alpha Cronbach* obtained reliability coefficient up to 0.91 which showed that the questionnaire had high reliability level because it was appropriate with reliability coefficient. Thus, it could be concluded that lecturers and students towards need to improve the academic writing learning. In addition, there are three major elements in the design development of academic writing learning; including the aspects of: competence, implementation and evaluation.

4.3 Evaluation, Revision and Validation of Learning Design

After preliminary design of academic writing learning designed, then the preliminary design of academic writing was assessed by peer review. The result of peer review towards developed learning design shows that the instrument reliability obtained was equal to 0.875. The result was obtained from the criteria of reliability coefficient, as: coefficient > 0.9 perfect reliability, 0.8 – 0.7 high reliability, 0.6 – 0.69 low reliability, and <0.6 lowest reliability (Cohen, Manion & Morrison, 2007). Thus, the result can be concluded that academic writing learning product with HOTS approach developed has higher reliability r = 0.875.

4.4 The Effectiveness Test of Academic Writing Learning based on HOTS

The revision of the developed-academic writing learning design using HOTS approach consist of problem sorting ability that will developed by scientific works topics, creative thinking ability, critical thinking ability, arguing ability and making conclusion ability. The revision of academic writing development product in stage 1 referred to HOTS approach.

Principally, the base frameworks of learning tools designed did not change substantially on some cases, such as: (1) competence component, (2) implementation

component, and (3) evaluation component. However, after being observed thoroughly, based on peer comments/advice, it could be revised.

The following points are the outline learning content, are:

a. Competence component

1) Learning objective: to increase students' theoretical competence and academic writing practice.
2) Learning material including (1) academic writing ability definition; (2) the correlation between academic writing ability and others; (3) thinking in a good language both inductive and deductive; (4) the essence of academic writing, and its definition, characteristics, objectives; (5) academic transcript type; academic transcript advantage, the difference between academic transcript and other transcription; (6) academic writing preparation: academic writing steps, collecting information for academic writing; (7) academic writing technique and scientific thinking ability: how to choose title, literature review, make papers' design, arrangement of sentences become paragraph; (8) academic writing: academic writing procedure, academic writing systematic and arrangement; academic writing appropriate with target reader, (9) academic paper writing format: text parts' writing format, chapter and sub chapter, citation, footnote, and bibliography; (10) effective academic writing presentation, and (11) practice of writing academic paper.
3) Learning activity.

The steps of learning activity can be seen in table 1 below:

Table 1. Learning activity steps

No	Learning Steps	Explanation
A	Introduction	
	1. Explain the course objectives, course activity and evaluation 2. Divide students into groups based on the criteria set by lecturer 3. Give assignments to each students to discuss an issue and make is as research	

	problem or academic writing focus	
B	Core activity	
	1. Students apply concept and theory as reference in academic writing 2. Students solve the problem based on academic writing rules 3. Students produce academic writing products	

Source: Own Study

Table 1 above showed the learning activity steps which consisted of introduction and core activity. This was important to know the steps while doing learning activity.

4) Source, tools and media

The sources, tools and media used in the learning process included books or writing scientific papers, articles, research result, LCD and laptop.

5) Assessment

To notice the students' achievement in this course, lecturers gave assessment and evaluation on process and result. Learning assessment tools included were: (a) assessment rubric, (b) porto-pholio, (c) observation sheet, and (d) learning journal.

b. Implementation component

In implementation complement, lecturers' role wasto guide students both individual and group. Meanwhile, students collected information appropriate with discussed-issue, conducted a research and obtained problem solving and explanation.

c. Evaluation component

Evaluation component is assessment process and result. Assessment process was done by pedagogical activity using assessment rubric while the result assessment was through assessment sheet of group discussion, assessment paper of individual assignments, test of academic writing result, analyze and evaluate problem solving process. In this stage, lecturers helped students to conduct evaluation and reflection of the process used in academic writing. Then, students planned and prepared arranged-academic paper to be presented in the class. Revision result of learning design in academic writing with HOTS approach is presented in following figure 1 below:

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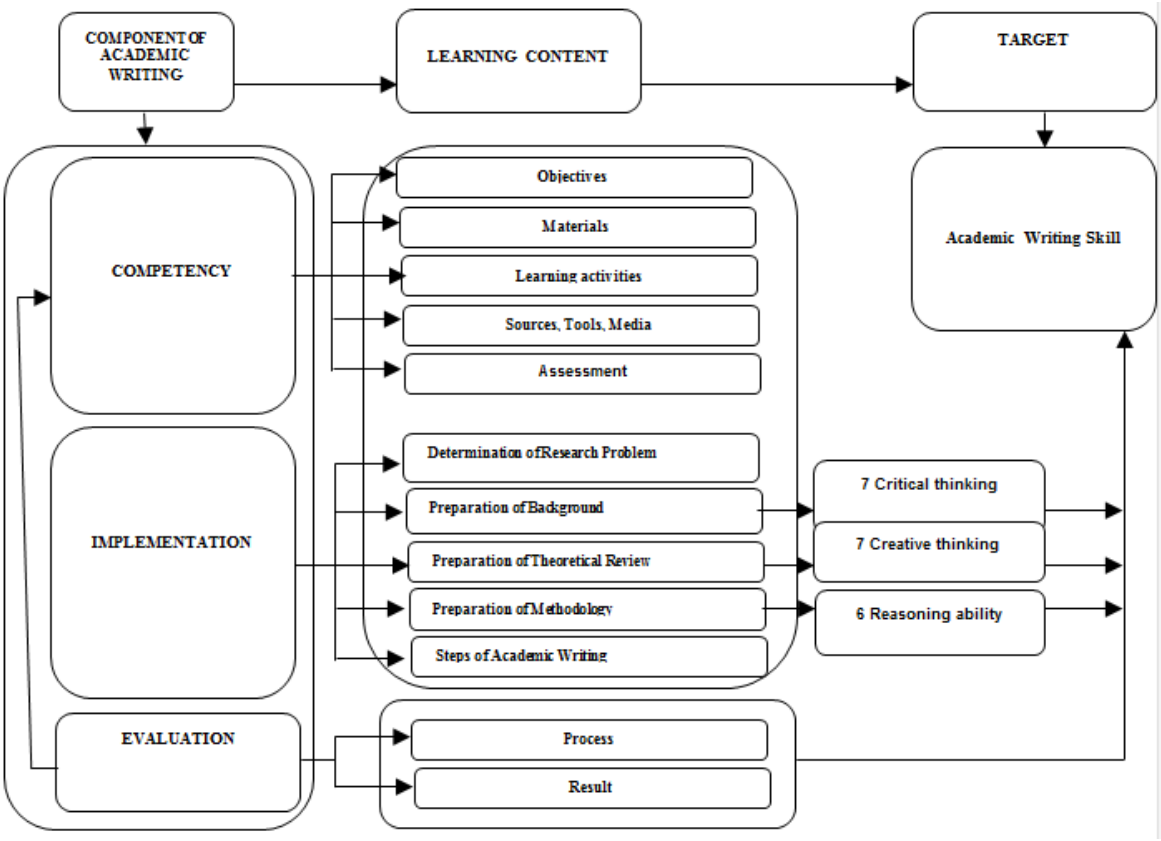
Figure 1. The second design of academic writing learning.



Source: Own Study

The second academic writing learning design in figure 1 established academic writing learning based on HOTS, including: creative and critical thinking, thinking ability. Reference that became the basic principle to improve academic writing learning tools with HOTS approach, were: (1) learning tools are series of learning activities emphasizing on the focus and issue that will be observed by students scientifically, (2) academic transcript is scientific transcript based on the truth of rational logic and scientific truth, (3) academic writing is a complex process by involving mental and physical aspects to convey particular objectives in textual form by utilizing various acceptable writing styles based on convention, (4) academic writing teaching and learning activity is an activity set based on syllabus and curriculum, (5) academic writing learning based on HOTS is a learning involving students, (6) critical and creative thinking is necessary to acquire adequate academic writing skills.

The academic writing learning based on HOTS were analyzed and evaluated by academic writing experts who obtained adequate result with average 4.25 assessments. Meanwhile, the

assessment result of students' perception was very proper with 4.48 score developed and lecturers' perception was on 4.35 position.

4.5 The Effectiveness of Academic Learning Design based on HOTS

The effectiveness of this model development was by calculating, normality test, homogeneity test, test result and t-test:

1) Normality, homogeneity and Pre-test result

   Normality result of pre-test data using formula 1 K-S simple (One-Sample Kolmogorov Smimov Test) on SPSS 24 version was to notice whether the pre-test data was normal or not. The effectiveness test of pre-test normality test obtained 1.230 results. From this number, it can be concluded that trial pre-test data in small group were categorized as normal because that number is higher than p-output number of 0.05. The data concluded that pre-test data effectiveness test was categorized as normal because number of 0.515 is higher than p-output number of 0.05. Moreover, the result of academic writing pre-test of more than 15 pretest respondents obtained the highest data score, which was 55 and the lowest was30 with following details: 1 respondent (4 %) with 30 score, 9 respondents (36%) with 45.7 score, 7 respondents (28%) with 48 score, 3 respondents (12%) with 50 score and 5 respondents (20%) with 55 score. The description of pre-test descriptive statistical calculation was1110, mean was 44.25anddeviation standard was3.888.

2) Normality, Homogeneity test and post-test result.

   The post-test normality test of small group resulted number 1.239. Thus, it can be concluded that post-test data of effectiveness test was normal because number 1.239 were higher than p-output number which was 0.05. Post-test homogeneity test result produced 0.767 number which means that post-test effectiveness test data are normal because it was higher than p-output number of 0.05. Further, academic writing pre-test result, from 25 respondents on post-test effectiveness test, obtained the highest score data of 89 and the lowest score was 77 with following details: 1 respondent (4%) with 77 score, 3 respondents (12%) with 75 score, 5 respondents (20%) with 79.50 score, 5 respondents (8%) with 86 score, 6 respondents (24%) with 87.50 score and 3 respondents (12%) with 89 score. Post-test descriptive statistic calculation obtained 1988 of total score, mean is 80.55, and 4.558 division standard.

3) Individual upgrading score

The pre-test and post-test of individual score result showed improvement which can be seen in table 2 below;

Table 2. Individual upgrading score.

Pre-test Mean N=15	Post-test Mean N=25	t-count	t-table	
			a=0.05	a=0.01
44.25	80.55	49.589	1.708	2.787

Source: Own Study

Table 2 above showed that in the small group trial, the pre-test mean value was 44.25 and post-test was 80.55 with t_{count} for 49.589 and t_{table} for 1.708 with significant level of 95% (a=0,05). Hence, it means that t_{count} value is higher than t_{table} value.

While the T-test calculation result showed in table 3 below:

Table 3. T-test calculation result

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of Difference				
				Lower	Upper			
Effectiveness test post-test Effectiveness test pre-test	35.468	3.908	.787	33.749	36.971	49,589	24	.000

Source: Own Study

Table 3 above showed that $T_{count,}$in this research obtained 49.589 score. As the result, it is higher than t_{table} with significant level of 95% (a=o,05).Hence, it can be concluded that learning using HOTS gave impact to boost academic writing competence significantly toward average score.

4) Hypothesis Test

From the calculation of t-test, Ha which was learning using HOTS give the significant average increase toward average score academic writing in Indonesian language of Language and Art Faculty students in Jakarta State University was accepted while Ho was rejected.

5. Discussion

The analysis result of Lesson Plan showed academic writing competency was mean to observe students' ability in; (1) mastering proposal making procedures appropriate with academic regulation and (2) the stage of learning is applied based on Semester Lesson Plan, but the students still feel that learning activity is not appropriate with their need. Moreover, in this 21st century, students are required to master, such academic writing skill. As the result, students can think critically, creatively, innovatively, collaboratively, communicatively and able to solve problems supporting productivity. Thus, learning is expected to be in higher level on cognitive, affective and psychomotor aspects.

Furthermore, the results of the needs analysis indicated that all components of learning need to be developed. In other words, learning process need to be strengthen especially at the tertiary level. Through strengthening academic writing learning, in this case writing a research proposal, is expected to improve the quality of learning more effective, efficient, comfortable, and meaningful. Meanwhile, the observations found that lecturers did not understand about HOTS. This could be seen in the formulation of indicators, objectives, learning activities and their assessment in the learning design made, especially in the learning process of academic writing. Therefore, academic writing learning developed must be able to develop and to convert from learning from lower order thinking skills (LOTS) to Higher Order Thinking Skill (HOTS)

Further, the result of peer review found that learning design generally developed well and appropriate. Moreover, learning syllabus had been arranged well and systematically. The Lecture Program Unit is designed using the stages of learning activities following the stages

in learning based on HOTS and expert assessment of documents compiled consisting syllabus, Semester Learning Plan and lesson sheet.

The academic writing phase began from the determination on the problem focus. To solve the problem of research focus, students must master knowledge in accordance with their respective study programs learned previously. The problem solving process is given by lecturers supposed to be able to analyze the ability of students and their readiness to follow the lesson.

During academic writing process based on HOTS, students could think critically refers to research focus which means that students can determine whether a question is true, partly true or wrong. Thus, critical thinking is not merely about the mistakes, but also notices the truth. Further, argumentative and reflective thinking emphasize on decision making about things to do. In the stage of critical thinking academic writing learning, strategy used was *brainstorming* method, opinion exchange both with peer review or lecturers. In the learning and teaching process, lecturers can give incentive assessment if students create a new idea, describe and provide information access easily. This result highlights the study of KliMova (2012) explaining the need of critical thinking in academic writing process (Klimva, 20012). Moreover, lecturers motivate students to participate actively so that academic writing lesson objective produces a scientific paper achieved and gives chance widely to students to express opinion to resolve problems by *e-mail.* Thus, students can understand that academic writing process includes a thought trying to create new and creative ideas.

Similarly, Yee, et. al (2015) in their research entitled “Disparity of Learning Styles and Higher Order Thinking Skills among Technical Students” explained Learning Styles and Higher Order Thinking Skills are important aspects in teaching and learning especially in higher education institution. (Yee, et,al, 2015).

Additionally, academic writing learning processes based on HOTS stimulate students to think creatively or divergently. On other words, students can give various possible responses of the same questions. Creative thinking in academic writing process is seen as a combination of logic and creative thinking based on institution, yet it is still in the condition of thinking process. Moreover, students are given chances to conduct hypotheses logically of a phenomenon and connected it with existing theory. In addition, students also can analytically think to narrate an issue in their paper. As a result, in the last stage in learning is making decision process. Making decision in academic writing in academic writing learning

is an important thing because all writing results obtained from previous processes narrowed into a conclusion. Conclusion is a core of long explanation process, so that it can be a main idea or an answer of a research and a research novelty.

Unless previous needs mentioned, academic writing process based on HOTS also require other five components, such as: (1) language use, (2) mechanical skills, (3) treatment of content, (4) stylistic skills, and (5) judgment skills. The important thing in academic writing process is producing a scientific paper such as academic transcript in Indonesian language with scientific rules using scientific method, standard language and scientific rules.

Thus, in term of language, academic writing is closely related to thinking activities, and both complement each other. Academic writing is influenced by other productive abilities, such as: speaking, reading, listening, understanding vocabulary, diction, sentence effectiveness, use of spelling and punctuation, as well as understanding various types of writing and understanding various types of paragraphs and their development.

6. Conclusion and Suggestion

There are differences in conventional learning outcomes and learning to write academic based on HOTS using high-level thinking in universities in academic writing. On other words, students should use analytical, critical, creative, practical, and intelligence skills in the learning process. Meta-cognitive thinking skills are part of higher-order thinking skills even students can express ideas or ideas clearly, argue well, are able to solve problems, are able to construct explanations, are able to hypothesize and understand complex things become clearer

The researcher recommends further investigating the application of HOTS designs from the results of this study to all language learners. Next, researchers also recommend investigating HOTS's design in terms of reading skills, as well as the influence or correlation of several variables such as improving cognition, affectivity, and interpersonal language learners.

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