

## HIGHER ORDER THINKING SKILL (HOTS): EFL STUDENTS' LEVELS AND CHALLENGES IN WRITING DISCUSSION SECTIONS OF THESES

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Article Info	Abstract
<b>Article History</b> Received: August 2023 Revised: September 2023 Published: October 2023	<i>HOTS is essential to be owned by English education students, especially in writing discussion because it made them being critical in writing their discussion. Thus, this study aims to determine the level of HOTS in writing the discussion section of the thesis, the difficulties faced by students in criticizing research results in the discussion section of the thesis and the challenges faced by the thesis supervisor lecturers in guiding students to write critical discussions. This study was motivated by complaints from students who experienced difficulties in writing the discussion section of the thesis, so it was necessary to do research on this matter. One alternative solution that can be done is the implementation of students' HOTS in writing, so that students can better critique the results of research data analysis in the discussion section. This study applies case studies which are part of qualitative research. The samples of this study were 5 student thesis discussions from the University of Bengkulu English Language Education study program. This study uses writing rubrics and interview guides as research instruments. The data obtained was analyzed qualitatively by applying several stages such as data reduction, data presentation and drawing conclusions. The result showed that students implemented HOTS in writing their discussion, but only in the level of analyzing and evaluation. Students could not reach the level of creating. Another result showed that students faced problems in writing their discussion, either technical problems, language problems, or content problems. It is the same as what happened to the lecturer supervisors. They got challenged in guiding students in writing their discussions. Their challenges were students' language ability in writing, time management, ideas, and sources.</i>
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### INTRODUCTION

Academic writing is an activity that involves ideas which are then put into scientific writing (Emilia, 2010). Academic writing is also something that must be done by students, either vocational, undergraduate or postgraduate students. Especially now, students are required to be able to think at a high level or think critically so they can produce good work (Aqariza, 2019). In particular, English Language Education students are highly demanded to have a research plan to complete a quality thesis because it will have an output in the form of publication in an accredited and reputable national or international journal. Therefore, Higher order thinking skills/HOTS are needed in building quality student research planning activities. According to Singh, Singh, Mostafa, & Singh (2018), HOTS has an important role in encouraging students to write. In addition, HOTS is able to stimulate students to be able to analyze, evaluate and create something.

Writing a thesis is a challenge, especially for undergraduate students, this is because at this stage they are just starting to learn to write. This is in line with the research by Bitchener and Basturkmen (2006) who stated that students faced difficulties in writing their discussion of the thesis. They had positive perception on it. The phenomenon of difficulty in writing the discussion section of the thesis is of course faced by students of the English Language Education study program at the University of Bengkulu, students naturally experience difficulties in writing the discussion section in their thesis. This is due to the difficulty in criticizing the research results they have obtained. In addition, based on the distribution of a questionnaire distributed by researchers to students who are heading to semester 4 in January 2021, most students are still classified as C2 and C3 categories, which are still in the lower-order thinking category. This of course will spur researchers to anticipate these problems in order to increase the number of graduates in their respective study programs.

Many previous studies have conducted research in the field of Higher Order Thinking Skills (HOTS) on writing skills. In 2008, Elser conducted research on HOTS, where he found that HOTS was able to improve high school students' writing skills. This was then also carried out by Klimova (2013) who conducted a literature study that discussed the identification of LOTS and HOTS which increased students' academic writing skills. Similar research was also carried out by several studies in 2019, they found that questions or writing activities that led to HOTS were able to increase students' academic scores in academic writing (Sopiani, Said & Ratnawati, 2019; Zahro, 2019; Lustyantje, Arung, & Fitriani, 2019). In 2020, several studies also resulted in an increase in students' academic writing abilities due to the implementation of HOTS applied by the teacher to students (Saragih & Simarmata, 2020; Sianturi, Silalahi, & Purba, 2020), but in the same year, there were differences in the results of the research conducted by Fauziya, Ahmadi, & Yani (2020), where the results of their research show that HOTS is not able to increase students' academic scores in writing.

In addition to research on HOTS which leads to improving students' ability to write, there is also previous research on HOTS in developing modules and student worksheets in writing. Destianingsih (2016) & Singh, Singh, Singh, Mostafa, & Mohtar (2018) developed modules and worksheets for students' writing activities. The results of their research indicated that the module for HOTS in writing subjects or courses was effectively used by teachers and lecturers in teaching writing. Therefore, having the tasks or activities listed in the module can increase learner creativity in writing using HOTS (Singh, Singh, Mostafa, & Singh, 2018; Aquariza, 2019). The formulation of the problem in this study is as follows: (1) What is the Higher Order Thinking Skill (HOTS) level of English Education students in writing the thesis discussion section?; (2) What are the difficulties faced by students in criticizing research results in the discussion section of the thesis?; (3). What are the challenges faced by thesis supervisor lecturers in guiding students to write critical discussions?.

## **RESEARCH METHOD**

### **Research Design**

This study used a mixed-method research method with a sequential design. Mixed method research is research that does not only use a quantitative approach, but also qualitative. This research begins with quantitative research followed by qualitative research. In other words, this research is combined research where the quantitative design uses quantitative descriptive, while the qualitative design uses qualitative descriptive (Creswell, 2014; Ary, et al. 2010; Heigham & Croker, 2009). Therefore, to answer research questions regarding the HOTS level in English Education students, the difficulties faced by students in criticizing research results in the discussion section of the thesis and the challenges faced by the thesis supervisor lecturers in guiding students to write critical discussions, it is necessary to use this research design.

## Research Participants

The present research draws upon a dataset comprising thesis discussions conducted by five language education students in the academic years 2021 and 2022. This selection of data was deliberate and strategic, primarily guided by the observable trend in the number of English education theses produced during these particular years, which justified the inclusion of this specific time frame. Furthermore, the research also incorporates the perspectives and experiences of approximately five students enrolled in the English Education Study Program who had successfully completed their thesis examinations, as well as insights from three thesis supervisors actively involved in guiding and evaluating these students. The methodological approach employed for participant selection in this study was characterized by purposive sampling. This technique was chosen with clear objectives in mind, namely, to assess the students' HOTS in their written expressions, to investigate the challenges encountered by students when critically evaluating research findings in the discussion section of their theses, and to delve into the obstacles faced by thesis supervisors who play a crucial role in guiding students toward producing analytically rigorous discussions. By adopting purposive sampling, the research aimed to meticulously identify and engage with participants who could provide valuable insights and perspectives related to the targeted research questions. In doing so, the study sought to contribute to the understanding of the intellectual and pedagogical dimensions of thesis discussions in language education, shedding light on both the student and instructor perspectives, and enhancing our grasp of the challenges and opportunities inherent in this academic endeavor.

## Instruments

To obtain data, the instruments to be used were checklist or rubrics and interviews. As for measuring the HOTS level of master students in writing discussion for the Master of English Education, the researchers used the HOTS rubric which consists of indicators of analysis (C4), evaluation (C5) and creation (C6). Meanwhile, to measure the obstacles both students and lecturers face, the researchers used an interview guide to answer these research questions. These instruments were appropriate for this research because it could obtain the research objectives. For data collection, The procedures for this research were (1) The researchers asked permission from university leaders, faculties, and departments of the English Language Education study program at the University of Bengkulu; (2) The researchers collected 5 samples of thesis discussion; (3) The researchers collected data using a rubric to determine the students' HOTS level in writing; (4) The researchers conduct interviews with lecturers and students.

## Data Analysis

Quantitative research data were analyzed by using descriptive statistics using simple calculation. Meanwhile, research data from this qualitative instrument were analyzed qualitatively using theory from Miles, Hiberman & Saldana (2014) which consists of data reduction, data presentation, drawing conclusions. First, data reduction which is reducing the data based on data collected from existing instruments, namely interviews. In this case, the reduced data must have things that are directly related to the existing research questions, namely the factors and constraints of writing student proposals. Second, the presentation of data is a continuation of data reduction. In presenting, researchers must present data from the analysis results that are structured, logical, and in accordance with the answers to the research questions. The data presentation must be interesting, if necessary, the existing data presentation is made in the form of a data description. The final stage is drawing conclusions. In drawing conclusions, researchers must provide conclusions on the data that has been reduced and presented, whether answering questions or not. This is very important because

the conclusion of the data is the final result which is the responsibility of the researcher to the reader or the general public.

## RESEARCH FINDINGS AND DISCUSSION

### Research Findings

#### *The Higher Order Thinking Skill (HOTS) Level of English Education Students in Writing the Thesis Discussion Section*

Based on the checklist, the HOTS level can be seen in Table 1.

Table 1  
Students' HOTS Level

Participants	HOTS		
	Analyzing (C4)	Evaluating (C5)	Creating (C6)
S1	80	20	0
S2	60	0	0
S3	85	20	0
S4	67	60	0
S5	40	40	0

From The data from the 1, it can be seen that most students are in the level of Analyzing (C4). However, the way the students described the analysis is still in the average level. the students have actually analyzed their research results by comparing their research results with other similar previous studies. However, those students only showed the finding similarities not showing the implications of their findings. Some parts of students' discussions that show their analysis are as follows:

*This finding was in line with the finding by Hmouma (2014), in which the component of noun phrase error that students often did was in the noun (head). In addition, the finding was also supported by the finding from Novianti (2018), in which the result of her research was that the students often wrote noun phrases that contained head errors (Tania, Documentation, 2023)*

*This was supported by Lumban (2018), who stated that the second-highest of noun phrase error was a misordering error, because the students in senior high school were still confused to write the noun phrase in the appropriate structure or correct placement; for example, they wrote "house big" instead of "big house". (Tania, Documentation, 2023)*

*The research finding indicated that the teachers may did not know the teaching strategies in teaching speaking proposed by Kayi, Brown and Tornburry. Teachers might applied those strategies only based on students' level, students' condition and material in the class. It is supported by Anjaniputra (2013) he said that teacher used strategies of teaching speaking in accordance with students' characteristic and level of proficiency (Hamidah, Documentation, 2023)*

*However, teacher did not use several steps in implementation of several strategies in teaching speaking. For example, teacher did not divide students into group of 4 people in the implementation of discussion strategy. It might because teaching duration is not enough for teacher to use all the steps in discussion strategy. It is supported by the previous research from Maryanti (2021) she found that duration of teaching English considered very insufficient by teachers because the material and students learning targets required by the curriculum were too many (Hamidah, 2023)*

The Thesis statement is clear, however, most students mixed more than one topic sentence in one paragraph.

*The first objective of this research is to find out the components of noun phrase errors that are often made by Indonesia University of Education and Bengkulu University students in the introduction parts of their undergraduate theses..... The result showed that the most..... The researcher and some of the researchers obtained the same findings, namely, that the component error that the students often made in the noun phrase was head error (Tania, Documentation, 2023)*

*This study was aimed to find out the rhetorical moves and their steps in RA introduction sections of different journal SINTA's ranking. In general, the result shows that 1) all accredited journal articles have applied all of the 3 rhetorical moves in writing research article introduction sections, and 2)..... The first finding was related to the rhetorical moves found in RA introductions of different SINTA's ranking. It shows that all research article introductions in different journal rankings have implemented 3 moves proposed by Swales' (2004) (Sari, Documentation, 2023)*

Since the topic sentences are mixed in one paragraph, then the organizations of the paragraphs are not good as well. Some students have made clear thesis statement, and there are supporting sentences that show the facts or arguments from the writer. For example:

*Moreover, twelve strategies were not used by English teachers. The finding indicated that some strategies were not practical in speaking class. It is supported by Razi (2020) he said that there were only some strategies are applicable to be used every day such as drilling, discussion and play games. It is also supported by previous research from Anjaniputra (2013) which revealed that the teacher's strategies in teaching speaking skills were cooperative activities, creative tasks, role play and drilling. In this current research, drilling was used by teachers in teaching speaking. It implicated that drilling strategy was practical in speaking class (Hamidah, Documentation, 2023)*

*Furthermore, teachers did not use the twelve strategies from twenty speaking strategies proposed by Kayi, Brown and Tornburry. It might happen because those strategies were not relevant with the material in the textbook. It is supported by Nabilah (2019) she said that the strategies applied by teacher were based on the material which will be taught by the teacher and the students' background. It means only several strategies were chosen by teacher in teaching speaking in the classroom (Hamidah, Documentation, 2023)*

Moreover, some students are poor in poor level of Evaluation (C5). They have drawn conclusions and stated the limitations, but they have not put any factual explanations that support the conclusion. However, there is a student who is not able to evaluate the weaknesses of the research that has been conducted and there is a student

*The study's limitations could be found in this research. Firstly, the limitation of this research would be that the data samples in this research only contained small portions of the theses, namely, the introduction sections of undergraduate theses. Then, the limitation of this research was the total length of the research study, which implied that not all of the writings could be included in the study. Finally, this research just analyzed about noun phrase, not about verb phrase, adverbial phrase, or the others (Tania, Documentation, 2023)*

*From the discussion, there are 2 main conclusions that can be gained: first; 1) All different journals SINTA's ranking have realized the importance of using all the 3 rhetorical moves in writing introduction sections. It indicates that the journal articles have achieved the purposes of introduction sections by establishing a research background, stating the research problem, and presenting present work, and 2) Almost all the journal articles regardless of Sinta's rank have applied each step in each move, except step 7 of move 3 that wasn't used by all RA introduction sections. It shows that the completeness of steps is also influenced the clarity of research articles based on the functions of the introduction sections. Hence, the more complete the steps used, the more it will be able to display the functions of the introduction section (Gray, 2018, p. 2). (Sari, Documentation, 2023)*

Finally, there are no students in the level of creating (C6). All of the students cannot describe any new findings of their research in detail, and there is no information on details of the procedure as a recommendation to improve the weaknesses of the research process.

*The Challenges faced by students in criticizing research results in the discussion section of the thesis*

Based on the results of the interview, students faced several problems in writing their discussion parts. The problems were difficult to compare and contrast the findings with the previous studies, language problems, technical problems, evaluate their findings, and explore their new findings. The details challenges can be seen in Table 1.

Table 2  
The Interview results

Students	Result of interview (Interview transcript)	Explanation
1	I think my challenge sir when writing discussion is evaluating the findings because I have to discuss the what is the real finding and new finding and finding out similarity and dissimilarity with the theory and previous studies	Student was difficult to compose their discussion especially to relate their findings and theory
2	Sure sir, I have a challenge in writing my discussion. My paragraph between one paragraph and another paragraph is jumping. I mean it does not have good coherence and cohesion. Besides, I am difficult to start my writing and interpret well my discussion, even though I have impleteneted HOTS, but it is only about analysis	The student had challenges in terms of cohesive and coherence in writing paragraph and giving interpretation
3	My language ability is not good. My writing is not good. That's why I can not write discussion with good composition sir. But, I learn and learn to improve my writing	language compoetence is one of the challenges for student to write good discussion
4	I did not know exactly the steps in writing good discussion. I just discuss my finding without deep interpretation. My grammar is also poor because when writing I also did mistakes in terms of grammar. Then, my diction is limited	the student had problems in terms of writing good discussion. Besides, the the student also had language skill problem, such as grammar and vocabulary
5	In my mind, the problem was about the time, because I am busy to work, so I did not have a time write and criticize my discussion section. Then, my writing is not too bad, I know my language ability limitation in writing. I am difficult to start my discussion writing because I have no enough idea to write	time, language ability, idea were problems that faced by the student in writing discussion. The student felt that to begin his or her writing, is not easy as people think because to get good idea is often hard to be implemented in writing discussion

*The Challenges Faced by Thesis Supervisor Lecturers in Guiding Students to Write Critical Discussions*

Based on the result of interviewing three lecturers, several challenges in supervising students in writing critical discussion can be seen in excerpt 1, 2, and 3.

Excerpt 1

Usually, the problem, sometimes **the students do not know exactly what kind of problems they need to explore in the study**. And also to get the good approach or maybe to get the appropriate ways of doing the study. Therefore, we need to let them maybe read more, explore more about things that they are interested to do. But we need also to give guidance to do it on the right path to avoid them from doing something wrong. **Maybe they take the wrong step, they take the wrong instrument, they take the wrong approach, etc. Besides, the students did not how to write good discussions.** (Lecturer 1).

Excerpt 1 displays that Lecturer 1 faced challenges from the students who did not know the research problems. Then, the students may take the problems in terms of instruments and research methodology. Then, the students did not how to write good discussions.

#### Excerpt 2

Sometimes they do not know exactly **what is the problem related to the study**. They just get the title from others and **they don't build the problem from the construct**. We call it a construct, the core point of the problem itself. Therefore, their ability to expand the topics is also limited. But if they know well exactly about the core problem of their study, we can say that they will do more. They can expand it well better than if they don't know it.

Some about **the time** I think. Notable challenges about the time, the time between me and my supervisees (Lecturer 2).

Excerpt 2 shows that in guiding students in writing critical discussion, the lecturer is difficult to guide because the students did not know the real problem of their study. Then, their ability is limited to exploring their discussion. In addition, the lecturer faced time problems to the students because the students were very busy working.

#### Excerpt 3

My challenge is when I have to check their discussion. Several students just describe their findings without comparing them with the previous studies. Several students were difficult to find out previous studies which have the same as their study. Then, some students had a lack of ability in writing discussions (lecturer 3).

Excerpt 3 displays that lecturer 3 had a challenge in terms of students' ability in writing discussions. It is because some students did not have enough competence to write discussions due to a lack of sources and ability.

### Discussion

#### *The Higher Order Thinking Skill (HOTS) Level of English Education Students in Writing the Thesis Discussion Section*

Based on the result, the majority of students were at the level of analyzing (C4) for HOTS. It means that most of the students have implemented HOTS in writing their discussion, especially analyzing. The students could analyze the findings that have been obtained, and package the research results in the form of arguments accompanied by comments on the research results. Even though, their arguments were not perfect. Besides, the thesis could clearly be complete and reflect the main points. The information is also logically organized. Furthermore, students also implemented evaluating (C5) in writing their discussion, even though, the frequency is lower than analyzing. They implemented even though, it is not strong enough because several students could identify the weakness of the research. There is also one student could not do that from thesis of Bengkulu University

because it is difficult for the student. For the creating (C6), there is not student who achieves it because to gain this level is so hard for students. The students could not be able to explain the new findings of their research in detail. Then, they could not provide details of the procedure as a recommendation to improve the weaknesses of the research process.

The finding is in line with study conducted by Sopiani, Ratnawati, Said (2019) who found that students implemented HOTS in their writing. However, it is not clearly written, which HOTS level is dominantly used by the students. Several studies also just implemented HOTS without giving information about in what category the students in HOTS itself. They just focused on their academic writing abilities of the students. The results showed it could improve their academic writing (Saragih & Simarmata, 2020; Sianturi, Silalahi, & Purba, 2020), while other studies showed that it is improved their ability Fauziya, Ahmadi, & Yani (2020).

#### *The Challenges faced by students in criticizing research results in the discussion section of the thesis*

Several students faced several challenges in criticizing research results in the discussion section of the thesis. Those were difficult to find ideas to start writing discussion, sources or previous studies, coherence and cohesion of the paragraph, explore new finding, connect to the theory, and poor writing skill. First, some students were hard to begin writing discussions because they did not gain an idea for writing. They did not know what must be written in the first paragraph of the discussion section. Even though, their research questions have been answered and cleared to be discussed. Second, finding previous studies or theories related to the study becomes one of the problems. Some students could not interpret and discuss their findings which are related to their studies. They are not able to write it in discussion sections because of limited theories and previous studies. Third, some students had a problem regarding cohesion and cohesive in paragraphs. It means that they could not organize their idea within paragraphs and among paragraphs.

In this part, they could not write their paragraph logically and structurally. Fourth, several students were not easy to explore new findings because they did not have enough ideas. Thus, they got stuck in writing. Fifth, some students were hard to connect with the theory because sometimes, they did not know how to discuss their findings and then, try to relate to the theories. Even, some students did not use theory in writing their discussion. Sixth, several students had poor ability in writing. They did mistakes in terms of grammar, mechanical, and vocabulary. Several students just used google translate, so sometimes, the meaning of the text is not good. This findings are almost in line with the Swarni (2016) who found that students were difficult to write result and discussion chapter because they were hard to arrange and develop a sentence due to lack of vocabulary and grammar.

#### *The Challenges Faced by Thesis Supervisor Lecturers in Guiding Students to Write Critical Discussions*

Several thesis supervisors or lecturers faced challenges in guiding students to write critical discussions. Those were students' language ability, ideas, content, and time problems. The first, lecturer found that several students had poor language ability in writing discussions. They were lack of vocabulary or diction, poor grammar, and mechanics in writing their discussions. Thus, they were difficult to start their writing. This finding was in line with Byrne (1995) and Wahid & Sudirman (2023) who stated that linguistic problem was a problem for students in writing. The students must practice to anticipate it. The second challenge was about ideas. The lecturer guided students to write the discussion section, but some students got stuck with ideas in writing their discussion. The lecturer asked them to read a lot of sources and saw the literature review in their thesis as a guideline for looking at the

theories and previous studies if they want to match their finding with the theories. However, the result showed that some students were still not easy to organize their ideas in their mind into their writing. This second challenge is the idea or paragraph organization became challenge for students and lecturer in writing (Astiantih & Akfan, 2023; Dari et al., 2022; Fadli et al., 2022). They did not know how to organize idea into paragraph, theme in discourse, topic and supporting ideas in writing. The third problem was about the discussion content. In this part, lecturer felt difficult to guide students in writing the content of discussion because some students had low ability in writing.

To write good discussion is not as easy as students' think. Students did not only have good ability in English, but also they must have good content to be written in their discussion. Lecturer found that students were hard to interpret their findings and connect to the theories and previous studies. The last problem was time management because lecturer schedule and students were not matching during consultation. Some students were busy to work, thus, they did not have enough time to write their discussion and meet their supervisors. This challenge was dissimilar with the previous studies or theories who conveyed that the challenge in writing can be cognitive, linguistic and psychological factors (Mundriah & Parmati, 2016). Regarding all those challenges, this finding is almost the same as Djatmika, Prihandoko and Nurkamto (2021) who found several challenges by supervisors in guiding students in writing. Those were lack of time, ineffective communication, and difficult to collect data.

## CONCLUSION

Based on the results, it can be concluded that most of students were in the level of analysis in writing their discussion, then followed by evaluation level. There is no student who categorized in the creative level. Furthermore, students faced challenges in writing their discussion. Those were finding idea, theory, sources or previous studies, coherence and cohesion of the paragraph, explore new findings, and writing skill. Besides, Lecturer also faced challenges in guiding students in writing their critical discussion. Those were students' language skill, discussion content and time. This research has limitations in terms of sample size because the sample was only five thesis, five students and two lecturers. Thus, it can be recommended for further researcher to get more sample of the study.

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