

CORRELATION BETWEEN EFL STUDENTS' ACADEMIC ACHIEVEMENT AND EPISTEMIC BELIEFS IN RELATION TO EDUCATIONAL PSYCHOLOGY COURSE

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Article Info	Abstract
Article History Received: August 2024 Revised: October 2024 Published: January 2025	<i>Educational psychology course and the epistemic beliefs of prospective teachers play a role in forming a competent teacher. While there is substantial literature exploring teachers' epistemic belief, its interplay with course studies by prospective English teacher remains unclear. This research provides a novel understanding on the interplay of epistemic beliefs with educational psychology course, and achievement of prospective English teacher by integrating an explanatory sequential mixed methods design. Using quantitative survey to collect GPA (Grade Average Points), epistemic beliefs and perception of educational psychology, this study involve 102 EFL students at Brawijaya University through convenience sampling. Descriptive statistical and correlation analysis conducted in the first stage reveal their epistemic was moderate and their perception was high, and only between their epistemic beliefs and perception was found a strong correlation. Through confirming or disconfirming sampling, representative from the first stage participated in qualitative phase for semi-structured interview, resulting in justification of their positive perception and confirmation of the interconnection with epistemic beliefs. Findings imply there is a need to comprise aspects of high epistemic beliefs to have a more positive educational psychology course, that encourage adequate developmental feedback, active learning environments, inclusive advocacy, and student self-efficacy.. The high interest in unlisted content in the current module implies the need for material relevance of the course. The implication is for EFL teacher education to reconsider the content in educational psychology with students' epistemic beliefs in order to equip English education students to become effective teachers.</i>
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INTRODUCTION

Educational psychology for teacher education has been perceived as important subject as to prepare them to be effective teachers (Poulou, 2005; Woolfolk Hoy, 2000), that is consistently studied by prospective English teachers and is widely applied in higher educational institutions. As one of the fundamental courses to take for English education students, it was taught in many ways with many types of contents covering theories of learners' psychological development (Schwartz et al., 2023). The role of educational psychology here seems to focus on preparing prospective teachers to apply those theories, which unreasonable to expect that students can immediately use their understanding and abstract concepts to solve real-world problems if teachers do not give them the opportunities and resources to do so in the classroom. Moreover, the highlight of shortcomings in their teaching in terms of, for example, an overly theoretical curriculum that emphasized theoretical views over fundamental concepts would encourage students to contend with theoretical challenges that might appear more applicable to scholars instead of prospective

educators (Alvarez et al., 2018). This currently has become discussions point questioning the relevance of the content learned in educational psychology to what is needed to prepare the English education students to become a teacher.

With the aim of educational psychology, this course should be also able to develop their intention to teach, which is also perceived important. One of the considerations is that it was found that more intentional instructors will be better at adapting their teaching practices to new contexts and sustaining the improvements they want to see (Michael Putman et al., 2009). Acknowledging the critical role of intentional teaching, it is reasonable to aim as this competence can develop during the process of them becoming a teacher. We might look at the competence of English education students through their academic achievement. However, we should not limit into it because the results of studying course like Educational Psychology course for English education students teaching has not yet been able to see in the current time yet we still can focus on aspects that influence the way they will teach, such as individual differences (Geerlings et al., 2018; Lu'mu et al., 2023).

Studies indicate that individual differences is one of the aspects that have influence in prospective teachers' teaching (Geerlings et al., 2018; Lu'mu et al., 2023; Yadollahi, 2015). Some types of it was revealed by some research such as age (Sackett et al., 2017), teaching experience (Murphey & Falout, 2012), and gender and those aspects, for example, was found to affect the way EFL teachers teach by utilizing technology in the language classroom (Yadollahi, 2015). Another examples are knowledge and skills (Sackett et al., 2017) which can be in the form of the ability in processing information and achieve tasks (Elif et al., 2016) or personality (Biedron & Pawlak, 2016 ; Woods & Hampson, 2010) and it can change over time by some factors. For English education students, factors that might influence their individual differences include the way they are taught (Elif et al., 2016), the way they learn (Zhang et al., 2023) and their epistemic belief (Kardash & Howell, 2000; Rosenberg et al., 2006). With this in mind, we could argue that educational psychology course might have consideration with the epistemic beliefs of English education students.

Although there is discussion of the importance of aspects that shape prospective teachers' individual differences, and there is literature in their epistemic beliefs, so far no attention has been paid to English education students' epistemic beliefs in relation to educational psychology course whereas epistemic beliefs itself are related to educational psychology (Puspitasari et al., 2019). Given the gaps in understanding the complex association between epistemic beliefs, perceptions of educational psychology courses, and academic achievement among English education students, this study offers a fresh take on the interplay of this field. In addition, this investigation seeks to uncover how their epistemic beliefs are connected to their view of this course including how they perceive contents of this course. To address this objective, the following research questions were proposed: What is the relationship between English education students' academic achievement, epistemic beliefs, and their perception of educational psychology course? And How do English Education students perceive the educational psychology course?

Literature Review

EFL Students' Achievement and Epistemic Belief

(Greene et al., 2018) 's review present evidence that epistemic cognition could predict academic achievement from primary to postgraduate education. Their analysis present a positive findings that both epistemic cognition and academic achievement are correlated. This forms a strong basis for theoretical framework of this study as this underscores the importance of investigating epistemic cognition for prospective English teacher education.

According to (Li et al., 2024), academic achievement refer to the scale of educational goals achieved by students which usually assessed through metrics such as cumulative grade

point average(CGPA) or continuous evaluation and usually students with high achievements have opportunities for career prospects and high income. Pandey & Kumar(2020)described several factors that influence students' academic achievement. Some of them are students' attitudes, learning and teaching methods, and teachers' teaching skills and abilities. It indicates that students' own learning outcomes can be influenced by their beliefs and academic environment.

Existing literature studies the interplay domain of EFL students' achievement and EFL from various aspects including their achievements in specific English language skills to their academic performance. One study examined the correlation between EFL students' reading achievement, epistemic beliefs and their critical thinking (Amatullah et al., 2021). It was found to have a strong correlation from English education students. Another study examining the relationship between speaking achievement and EFL students epistemic beliefs found that there is a positive medium correlation between these two variables (Emaliana & Rohmah, 2020; Muluallem et al., 2022). This study highlights the prediction that if EFL students' epistemic beliefs are high, their speaking performance will also increase. Both of these studies use domain-specific measurement of epistemic beliefs which are for English education students, humanities field. These studies highlight the association of EFL achievement in specific skills with epistemic beliefs.

Educational Psychology Course and Teacher Education

Teacher need to understand the atmosphere and behaviour of their students which is a complex process because human behaviour is not a constant aspect so when this behaviour and circumstances change, it is the teacher who must attempt this situation with the right approach (Karim, 2022). Thus, educational psychology becomes crucial as it is a study that investigates the fundamental theories of learning and teaching, with a focus on teacher-student interaction and psychological phenomena in the process (Duan, 2023). From this perspective, it is significant to assist teachers in understanding students so teachers will have the ability to organize the class to be more positive rather than fill it with punishment for behaviour that is unforeseen. With this, the association of educational psychology with teacher education should develop appropriate adaptations so that can foster expectations of good achievements in their future teaching

Positive adjustment might begin by understanding students' perspectives on the course. Perception involves sensory experience and one of its key dimensions is its liability to the influence perceiver's beliefs or theoretical dimensions (Audi, 2018; Poulou, 2005). It is admissible to conceive that by knowing the perceptions about this course, not only assessing the effectiveness and usefulness of the course but also involving their beliefs about things related to learning. This serves as a framework which helps the present exploration.

EFL students' epistemic beliefs and perception towards a course

There are several terms recognized in several related sources in epistemic beliefs, such as epistemic cognition, epistemological beliefs, epistemological resources, individual epistemologies, epistemological reflection and reflective judgment (Derakhshan et al., 2021). Epistemic beliefs are often referred as someone's beliefs about the of knowledge, the criteria for the learning, and the comprehension of knowledge (Aditomo, 2018). In other words, epistemic beliefs may be defined as beliefs of individuals about the essence of learning and knowledge. The term epistemic beliefs, derived from the word epistemology, is mostly associated with educational psychology (Puspitasari et al., 2019). The epistemic beliefs dimensions of certain knowledge, simple knowledge, omniscient authority, and fixed ability introduced by (Schommer, 1990), form the fundamental model used for this study and guide focus discussion.

Educational psychology is a study that investigates the fundamental theories of learning and teaching, with a focus on teacher-student interactions and psychological phenomena in the process (Duan, 2023). Many studies have explored the interplay between students' epistemic beliefs and the viewpoint of the course they learn which may include the way they are taught and their conception of what they learn. Study by Sariçoban & Kırmızı, (2021) found that the dimensions of ability to learn and source of knowledge from epistemic beliefs were associated with instructional preferences of prospective EFL teachers. With regard to how course teaching is carried out, was perceived by students, the quantitative data shows that constructive teaching methods correlate with dimensions of teacher engagement.

RESEARCH METHOD

Research Design

This study employs a mixed methods explanatory sequential research design, meaning that both quantitative, precisely correlational design, and qualitative methodologies are used in our investigation. In order to explain the first phase of the research, the primary phase will gather quantitative data, followed by the second phase which will collect qualitative data (Creswell & Clark, 2018). This design was conducted by first assessing quantitative data, establishing the relationship numerically through a survey, and then qualitatively investigating the logic for the relationship through interviews. The initial phase involves collecting quantitative data from a larger sample to identify patterns and correlations. As the findings address the first research questions, it will guide how the second phase will be conducted such as the sample selection. Next, based on the survey findings, a subset of participants was selected for in-depth qualitative interviews to clarify and explain the statistical results.

Population and Sample

Population in this study are English education students at Brawijaya University, Indonesia. In addition, all participants are Indonesian and learners of English as a Foreign Language (EFL). The target population are those who and had previously been or were currently enrolled in an educational psychology course. Participants were selected in two constructive phases. Through homogenous sampling, this research initially involved 102 participants (79 female, 23 male) for the quantitative stage. Before participating, they were asked for their informed consent to ensure ethical consideration was upheld.

Participants in the second phase are selected from those who had participated in the first stage, and had demonstrated their willingness and ability to participate in this research. To better understand the initial results, confirming and disconfirming sampling was chosen to verify or contradict the findings (Creswell, 2013). This selection was purposive, focusing on participants whose responses were particularly representative from the broader data. Therefore, it involved 2 participants from sophisticated epistemic beliefs as the initial findings lead to this concern. Considering gender bias, both male and female students were included. With this sampling strategy, the selected group can better provide the intended information in detail to expand understanding in depth (Creswell, 2013). While contacting the sample for the interview, one sample expressed their reluctance. Therefore, another sample was invited.

Research Instruments

In addition to collecting students' GPA, this study utilized 2 scales with modification. First, this study utilized the epistemic beliefs scale by Emaliana et al. (2018) consisting of 4 dimensions. For this survey, statements in negative forms were modified into positive and the value is then adjusted. This study also adapted the questionnaire by Liu (2023) for perception toward educational psychology which includes 4 dimensions. This survey, which was for information literacy course, was modified into educational psychology course. That is by

replacing the phrase "Information Literacy Course" to "Educational Psychology Course" along with the competencies listed adjusted to those in the teaching module used by the population.

The modified instruments were then piloted to 20 participants. The instruments were tested for reliability and have been confirmed to be reliable. While the survey passed the reliability test, a number of statements were eliminated as they were found to fail the validity test. The final number of the questionnaire consists of 14 questions in epistemic beliefs scale and 33 statements covering perception of educational psychology addressing all sub dimensions. Testing the modified instruments for reliability and validity to determind if the questions in the survey is clear to be resolved (Creswell, 2013). The questionnaires were distributed through online form which also include section for participants to determine potential contents to include in the educational psychology course. The option includes the 7 contents obtained from the course module shared by one of the course instructors and 9 unlisted content that were comprised from previous studies (Dougherty et al., 2020; Frauman, 2004; Geerlings et al., 2018; Reicher, 2010 Krahenbuhl, 2016; Martin, 2023; Maxwell & Narvaez, 2013; Orabah et al., 2022; Pizzuto, 2020; Rissanen et al., 2018; Schussler, 2020; Spina, 2019). The instruction given was to select 7 contents that they thought should be included in the educational psychology course. The form also included a section for students to openly share comments regarding the course.

As for the qualitative data, it was gathered by interviewing representatives which was guided using the instrument of educational psychology course perception's dimensions which were modified into open questions. All participants were asked about their concern before participating in the study. The interview is audio-recorded and held through online meeting and face-to-face interview, adjusted to the comfort and wishes of the participant.

Data Analysis

For the quantitative data, this research conducted descriptive statistical analysis and correlation following steps by (Creswell, 2013). The process began with data preparation, which involved scoring the data, determining the types of scores to use, selecting a computer program, inputting the data into the program for analysis, and cleaning the data. The scores were based on a scale ranging from 1 (strongly disagree) to 4 (strongly agree). A summed scale was used, where the total score for each participant's responses on the survey was calculated. no missing or disproportionate data were found, ensuring the dataset was complete and reliable for further examination. The data were then entered into the Statistical Package for the Social Sciences (SPSS) program for analysis.

The analysis then start with conducting a descriptive analysis measuring the central tendency was conducted. This analysis was intended to identify students' epistemic beliefs level and perception toward educational psychology course analyzing the overall statistics of each variable and examines each dimension. The interpretation is then established using the 4-scale data interpretation. Then, this study integrated Pearson correlation coefficient to examine the relationship of English education students' achievements and their perception toward educational psychology, students' achievement and their epistemic beliefs, and students' epistemic beliefs and perception of educational psychology course.

Following the initial results in the quantitative data, this study followed Creswell & Clark's (2018) recommended procedure to analyze the qualitative data starting by transcribing audio recordings, checking for accuracy, then reading through the data and adding memos which were then developed into several initial codes. Atlas.ti 24 was integrated for qualitative data management and analysis. The objective of this design is to provide in-depth exploration of specific variable outcomes, using qualitative insights to offer further explanation (Creswell & Clark, 2018). Consequently, qualitative findings can offer comprehensive understandings that complement the quantitative database.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The interplay of Students' Academic Achievement, Level in Epistemic Belief and Perception toward Educational Psychology course

The section present findings of data gathered from the participants, beginning with descriptive statistical overview of the variables. Following this, the correlational results provide an understanding of the central tendencies and variability within the data. This finding highlights the strength and direction of the relationship among variables.

Table 1
Mean score of Epistemic Beliefs' Dimension

No	Dimension	Total Mean	Rating
1.	Certain Knowledge	2.40	Moderate
2.	Fix Ability	3.05	Moderate
3.	Omniscient Authority	2.58	Moderate
4.	Simple Knowledge	2.85	Moderate
	Total	2.72	Moderate

This quantitative descriptive analysis was carried out in the form of reviewing and interpreting data in terms of means and percentages of variables. The results of epistemic beliefs' variable indicate that the total sum of scores across all participants is 2.72. Finding also reflects the overall levels of epistemic beliefs held by students are moderate which is also reflected by the sum of each dimension. Starting from the results of the certain knowledge dimension in table 3, this is rated moderate with a total mean of 2.40. The lowest mean value was the aspect of static definition of learning English to use in the future. The second indicator is students' beliefs that sometimes there is no right or wrong answer to a problem in learning English. In other words, all indicators in this dimension are interpreted from the overall rating as moderate.

Fix ability dimension in Table 1 has a score of 3.05, interpreted as moderate. Furthermore, the highest value is in the statement about the course of a study skills would most likely beneficial in English learning indicating that most students believe that a course that focuses on skills in English plays a big role in their learning. In contrast, the lowest value is in the second statements smart students have to work hard in school to learn English. In short, this indicates that most of participants doubted the role of hard work in learning but rather they see learning success as something offhand.

Table 2
Mean Score of Perception of Educational Psychology Course Dimensions

No	Dimension	Mean score	Interpretation
1.	Level of motivation for Educational Psychology course	3.07	Moderate
2.	Level of efficacy in the Educational Psychology course	3.19	High
3.	Perceptions of the Educational Psychology course	3.18	High
4.	Perception of the most appropriate person for teaching this Educational Psychology course (Others)	3.12	High
5.	Problems in seeking information(Others)	2.99	Moderate
	Total	3.11	High

The next finding is on perceptions of educational psychology course. The scores were summed, yielding a total of 3.11. This score indicates that students' perceptions categorized as high. This variable also shows a diverse pattern in scores across its dimensions. For instance, their motivation and problem solving in seeking information are moderate and the

rest are high. The total mean level of motivation for the educational psychology course was 3.07, interpreting that students were moderately motivated to study educational psychology. More deeply, the highest score is their motivation because they perceive the use of this course for their future positively. In contrast, aspects they took the educational psychology course because of senior's recommendation had the lowest value.

Their self-efficacy in this course was found to be high. The statement of a positive beliefs about using educational psychology competencies effectively in the future occupied the highest mean value while they moderately believe those who take this course are more competent compared to those who do not. This indicates their perceptions are aligned with epistemic beliefs indicators, admitting that smart students study more compare with the average ones. The students' perceptions of educational psychology course were found as positive one. The highest score is about this course's role in supporting their future learning. As for the lowest mean score is regarding the ability to practice their teaching well outside studying the educational psychology. In other words, it indicates that they perceive the educational psychology course to be significant for their learning and the future outcome of this course.

Findings for the correlation of English education students' epistemic beliefs, their academic achievement as well as their perceptions of educational psychology courses, was examined using Pearson product correlation coefficient. First, a two-tailed test of statistical significance was integrated to calculate students' GPA (Grade Point average) and epistemic beliefs. The results of correlation coefficient between was .105 with $p = .292 > 0.01$ (see Table 3) indicating there is no relationship between GPA and epistemic beliefs.

Table 3
Pearson Correlation between GPA and Epistemic Beliefs

Correlation			
		GPA	EB
GPA	Pearson Correlation	1	.105
	Sig. (2-tailed)		.292
	N	102	102
EB	Pearson Correlation	.105	1
	Sig. (2-tailed)	.292	
	N	102	102

Similarly, for result between GPA and perception of educational psychology course, it was found that there is no relationship between the two as the correlation outcome was .070 with $p = .482 > 0.01$. It is presented in Table 4. From the results, it implies that between GPA and epistemic beliefs as well as between GPA and students perception of educational psychology course is not associated.

Table 4
Pearson Correlation between GPA and Perception of Educational Psychology Course

Correlation			
		GPA	Perception
GPA	Pearson Correlation	1	.070
	Sig. (2-tailed)		.482
	N	102	102
Perception	Pearson Correlation	.070	1
	Sig. (2-tailed)	.482	
	N	102	102

On the other hand, correlation coefficient analysis between the epistemic beliefs and perception of educational psychology results to be .309 with $p = .002 < 0.01$ (see Table 5) indicating they are correlated as the result was affirmed to be significant at the 0.01 level. This Pearson correlation coefficient $r = .309$ indicates a positive strong correlation Sarwono (2006) between students' epistemic beliefs and their perceptions of the educational psychology course. It implies that the higher students' epistemic beliefs, their perception tend to be more positive. This range suggests that the true correlation between the two variables is likely to fall within this interval, strengthening the evidence for a positive correlation, although the strength of the correlation may vary. This finding then becomes the consideration for the qualitative exploration for the following phase in this mixed method study.

Table 5
Pearson Correlation between GPA and Perception of Educational Psychology Course

Correlation			
		Perception	EB
Perception	Pearson Correlation	1	.309**
	Sig. (2-tailed)		.002
	N	102	102
EB	Pearson Correlation	.309**	1
	Sig. (2-tailed)	.002	
	N	102	102

Students' View toward Educational Psychology course

This section presents interview results with 2 participants, Rio and Ayu (pseudonym), who were purposively selected and expressed their concern to participate. One student is female and in her second year and the other is male who is in his first year. They were selected based on their high epistemic beliefs' consideration. It aimed at confirming or disconfirming if they also show a perception of educational psychology course positively in accordance with epistemic belief.

Motivation

From their viewpoints, both students stated that they were motivated to study this subject because they were aware of their role as prospective English teachers where this course would be useful for them to learn theories of students' behaviour which they would later apply in the practice of their future careers. In addition, both of them also perceived that the role of lecturers in their motivation for this course is crucial. They explained that their lecturers' way of teaching foster their motivation. This confirmed their perception related to the knowledge authority indicator of epistemic beliefs where students still have a role even though the lecturer has provided very clear explanations during learning. Ayu remarked her experience learning with her lecturer:

"So it was like when I was in class, I really explored it[educational psychology course] with the lecturer, so it seemed like I got a lot of feedback, like oh, it turns out it [dealing with students] can be like this, it can be like this. Then I consulted about the problems I faced when teaching children. How about try[to handle] it like this. It turns out there is something like that [strategy for dealing with it]"

Moreover, Ayu was motivated to learn this course because she was interested in the academic field and saw that this course was related. This is evidence that the connection between one field of sciences and other knowledge is a factor that supports students' motivation in learning. Their motivation for the EP course seemed positive and in line with

the indicator that learning can be done individually by everyone as they have the freedom to explore knowledge.

Self-efficacy

Both participants expressed they feel more competent in educational psychology competence compared to their friends who have not studied this course. From this perspective, we could see it as confirmation in regard to the indicators of epistemic beliefs that learning is ability that can improve over time. Rio elucidated his view:

".....for those who don't really understand this, especially those who don't know how to teach based on learning theories, they will just guess what to apply. While those of us who study it, mainly study the theory, how to apply it, I think I definitely understand much more than they do."

In the following quote, Ayu shared regarding her teaching volunteer:

".....and if I compare it with those who haven't studied educational psychology, maybe they just apply their experience but it's not necessarily 100% successful or not even worked out."

Here, Rio expressed his beliefs that individuals who learn a competency are definitely more capable in its aspect. From Ayu's viewpoint, she conveyed that learning educational psychology is not entirely determined by classroom teaching, but rather that knowledge is simple and can be done through logical experience. It leads the confirmation of her positive perception of educational psychology as a high epistemic beliefs' representative.

Perceptions of educational psychology course

In terms of studying educational psychology, both of them stated that it made them aware of the lifelong learning. Ayu expressed that she realized that anything she learned, from both teachers and books, is useful and she could make use of it forever. Similarly, Rio expressed that educational psychology learning should not only limit for a classroom, but also applicable for society so individuals need to keep learning because many things will definitely change. This indicates a positive confirmation that the definition of one understanding may not be still relevant for the future.

However, in looking at the role of educational psychology competence, the two participants had different views. Rio considered studying this course for students beyond educational realm is not a must but rather is optional. On the other hand, Ayu viewed that all students from any field of study should take this course because it is related to how to interact with humans. In her view, Ayu believed that because human are social creatures, this course can be implemented in a wider social sphere, for example in the community or neighbors not limited into teaching and students as it studies the character and behaviour of human.

The appropriate person to teach educational psychology course

In the discussion regarding appropriate person to teach, both of them shared similar thoughts that academic psychologists are suitable figures to teach educational psychology compared to their academic supervisor. Rio remarked the following:

"...if [taught by] academic psychologist, meaning that maybe much more expert when compared to academic supervisor who focus more on English"

Participants expressed even though their supervisor hold an influential position or has a humble character with good teaching methods, they believed that person with more expertise in the field might be better assist them in learning. This view reveals that the beliefs of knowledge is transmitted by an expert authority arises.

Strategy when facing problems

In exploring their problem-solving in looking for information, both of them said that they solve it independently using available resources such as internet. Ayu conveyed that if

she can find the information she needs, she will do it herself and not burdening others. On the one hand, Rio shared his strategy when it comes to studying:

"First of all, I would definitely try searching on the internet first. Otherwise, maybe I'm stuck, like I have no hope, like I don't know what to do or what to do, [for example] looking at the year and so on, then I will definitely ask my seniors."

This information indicates that students with high epistemic beliefs perceived that information exploration should primarily be done independently first. However, this does not prevent them from involving other people in some situations.

Materials to include in educational psychology course

Interviews with participants also aimed to determine their considerations in selecting the 7 contents they chose, regardless of the final quantitative data results. From the results of the interview, it was found that their consideration was because they knew that these materials are useful for and the knowledge of those is important for their life. The 7 contents Rio chose consists of Jean Piaget's theory of cognitive development; Social, Moral, and Emotional Development; Student Diversity; Educational Psychology: A Foundation for Teaching; Motivating Students to Learn; Lev. Vygotsky 's theory of cognitive development; Behaviouristic learning theory. He conveyed that those contents should be enough to accommodate materials to learn for teaching such as to tolerate and understand student behaviour, to apply it in an appropriate way, and to examine what to do in a specific situation. Rio's consideration was elaborated as follows:

"...because I've only studied a few [materials], so I think those [options I selected] are what I think is suitable. Maybe if I study more [the options I did not select] in the future, the answer might change."

In further investigation, he considered the selection of some content that had not been studied in the current course based on the title. His indication of the possible change could happen at any time was if he had studied the other materials or when he had been exposed to those materials. Meanwhile, the 7 contents Ayu selected are Jean Piaget's theory of cognitive development; Educational Psychology: A Foundation for Teaching; Lev. Vygotsky 's theory of cognitive development; Cognitive Theories of Learning; Skinner's learning conditions; Constructivist learning theory; Behaviouristic learning theory. Ayu's consideration was that she has proven the material she studied in the educational psychology course form a positive outcome in the implementation. It implies that successful implementation makes participants believe that the current materials are reasonable for English education students.

Discussion

The researchers did not evaluate the results of each approach independently because our research procedures allowed qualitative findings to clarify and contextualize quantitative findings. Consequently, we use the findings of two methodological techniques to explain an understanding. The results reveal no correlation between English education students' GPA and epistemic beliefs as well as GPA and perception towards educational psychology course, but what did exist was the correlation between epistemic beliefs and perception of educational psychology course. Findings that English education students' GPA does not correlated with their epistemic beliefs or perceptions of educational psychology course is diverge from the previous study. Unlike the study of Lee & Chan, (2018) which suggested epistemic beliefs was found to have a direct influence on GPA, our research identified no linear association exists. This contrast finding might occur because of the variance in sample, in which their sample was all freshman taking Introduction to Psychology course, while our sample involve students who took Educational Psychology course(Baumgartner et al., 2021)..It is also a distinct discovery with the previous research which examined EFL students' achievement in English skills with a positive correlation with epistemic beliefs (Amatullah et al., 2021;

Emaliana & Rohmah, 2020). With this finding, it implies that when either epistemic beliefs or perceptions towards educational psychology courses increases or decrease, GPA does not tend to increase or decrease and vice versa. Finding of the correlation between students' perception towards educational psychology course and epistemic beliefs has enlightened the subject matter of this study. This is in line with existing literature that in perceiving something, it includes aspects that involve the beliefs of the perceiver (Audi, 2018). As stated by Smith (2001), with beliefs playing a significant role in perception, perception is more than just contingency. With this interplay, teachers are able to infer that by enhancing students' epistemic belief, their perception become more positive. The same way also apply by refining the educational psychology course, students' epistemic beliefs can elevate.

Students with high epistemic beliefs tend to be oriented towards the future, driving their motivation to increase in studying educational psychology. It arises from their awareness of their future career as teachers, in line with Hofer (2016), students with high epistemic beliefs tend to construct their intrinsic motivation in learning. Even though their learning experiences in the class is different, both of them see it as positive. Those who believe that learning should not be completely handled by scientific authorities confirm their awareness of their role as seekers of knowledge themselves. With their high motivation, they successfully manage to have self-control in learning independently. Moreover, it indicates their beliefs about various ways of learning (Tolman, 1949). That is, they do not limit the source of educational psychology understanding from the instructor alone in order to gain knowledge. In this matter, educational psychology course could reform so that it can lead students to become individuals who are future-oriented and allow flexibility in seeking knowledge so that their motivation in learning can also increase.

The same positive view also appears regarding person with more expertise of educational psychology is suitable for teaching this course. That is a person with a professional competence in the field. They believe that the authoritative position or personality and teaching strategy of someone to be an instructor is other than their expertise. The more competent the instructors for the intended field the more appropriate they are to teach (Berliner, 2001). Thus, it is expected to make students a better learner with a more extensive understanding. While expertise here leads to someone who have the competence in the field of educational psychology that are valid as proven by their profession, this is an implication for instructor of the course to dig deeper into mastering competencies in this subject.

The positive perception of the educational psychology course that English education students have reflects its interconnection with their epistemic beliefs. Because their perceptions are affected by their epistemic beliefs, it is important to help enhancing their epistemic beliefs. Factors that influence a course to be more positive include providing positive and adequate formative and developmental feedback, building student confidence and self-esteem, providing an active learning environment that encourage inclusivity (Munna & Kalam, 2021) all way to the instructor of the course themselves. By focusing on these factors, student perceptions for the course can become more positive illustrating the firm accomplishment of learning. This can be done by making the learning process of this course assimilate with aspects of epistemic beliefs such orienting diverse ways to comprehend educational psychology competency in order to conduct learning process which is not handled fully by the instructor. By implementing these adjustments, it can lead to the more sophisticated students' epistemic beliefs so that this course will also be positive as the implementation of learning this course is based on the epistemic beliefs aspects.

. There were different views about the role of this course for non-educational study students where students with volunteer experience perceived as equally important while the other feel that it is not as necessary as for English education students. This relates to the

classification of a field of science according to its role for an individual (Hjorland, 1998). Additionally, it demonstrated that there are factors that influence their beliefs which ultimately influence how a person perceives science (Aikenhead, 1997; Fulmer, 2014; Lindner et al., 2004) which in this case, exposure to real situations in classroom teaching and its implementation in the surrounding environment direct positive perceptions. This highlights the need to orient students how the understanding they learn works while in the real conditions.

A high self-efficacy in educational psychology confirms that through the conception of learning as a mediator, epistemic beliefs has an indirect role in efficacy (Sadi & Dağyar, 2015). When individuals do not have the understanding and competence of educational psychology, then the possible consequence is disparity of treatment in dealing with specific situation in the classroom. Although students believe that learning educational psychology is ubiquitous, there is specific role of taking this course academically. It highlights exposure to new understanding that will be obtained and the ways of learning integrated in this course.

When students study this course, they may experience interaction in class with students or instructor through presentation, case study or discussion. As stated by De Felice et al. (2023), interactive learning functions as boosters for adult human learning because from the cognitive mechanism of students, there are advantages such as eye-contact and gaze, sustained and joint attention, shared intentionality and attunement, stimulus saliency, social arousal, internal motivation, audience effects, common ground, as well as mutual predictions within inter-agent dynamics. This is an implication that the role of learning competencies in educational psychology through this course should be distinctive by offering components that potentially can only be obtained by individuals by taking this course.

Another matter is of self-efficacy in terms of their anxiety. For male participant who are aware of upcoming changes and challenges still have the same anxiety even though they have studied educational psychology. In distinct, female participant conveyed that her anxiety decreased because she is more prepared and experience successful implementation to the class where she taught as a volunteer. This seems to be related to differences in gender and their experiences. Gender roles and experiences themselves are part of individual differences (Murphey & Falout, 2012) which influence their epistemic beliefs. Therefore, this course should employ teaching strategy that allows students to explore related experience as what have been mentioned by Bartimote-Aufflick et al., (2015) that teaching strategy is an influential aspect for students' self-efficacy, thus applying teaching strategy that support their psychological needs in higher education become one of the ways such as sharing personal experience and proposing pair works. This way, they may learn from the real experience both from the instructor and students from different gender. With that, they will potentially reach higher self-efficacy in this course.

There is an understanding that students with sophisticated epistemic beliefs have their own strategies in dealing with problems when learning educational psychology. They will search for solutions independently. Because one of the aspects of epistemic beliefs is source of knowledge, this allows understanding that information can be obtained in various ways. It has a positive impact on individual creativity indirectly as it involves intellectual decision making (Wan et al., 2021). The flexibility in solving problems requires free and structured analysis. If the first strategy fails, then a further strategy must be formulated. Although it shows their flexibility in thinking and solving an issue, the role of the instructor as part of the source of knowledge for students is still needed. This might occur when students are not able to solve with their own strategy so they seek insight from the course instructor. This understanding implies that having high epistemic beliefs also positively affect students' creativity in solving problems they deal with.

In addition, qualitative analysis provides another understanding which shows that the materials contained in the module produce success when applied in their experience as teaching volunteers, causing participants to stick with what they have learned. These factors tend to show that materials that covered in this course should be leveraged more so it also incorporate crucial aspects of educational psychology for pre-English teacher in the future. While this perspective should not generalize the quantitative results as individuals have their own differences and decision consideration (Weinfurt, 2021), it could be refrained that the current materials are crucial to learn as a base understanding of educational psychology while on the other, because educational psychology course is complex, there are other crucial materials perceived significant as well by students. It lead us to implication that the content of this course should be further expanded. That could be by considering the list of contents that this study found was selected by students to include.

As a matter of fact, this strong positive correlation between epistemic beliefs and perception confirms that the higher the students' epistemic beliefs, the more positive their perception of educational psychology course is. This finding is supported by the results of students' perception whose epistemic beliefs are high, sharing their positive views towards educational psychology. Lunn et al., (2014) stated that teachers' individual epistemology influence their acumen in teaching such as their teaching methods, educational program, and classroom assessment approaches. Apart from that, as stated by (Poulou, 2005) that teachers need not to be psychological theorists. Because English education students are expected to become teachers, it would be unreasonable to only equip them with theories if not along with practical understanding as well. With this in mind, findings of the contents to include in educational psychology courses of this could be considered as it is encouraged that the materials of this course need to be leveraged so that it covers other crucial aspects of educational psychology for teaching prospective English teachers.

CONCLUSION

As a matter of fact, this strong positive correlation between epistemic beliefs and perception confirms that the higher the students' epistemic beliefs, the more positive their perception of educational psychology course is. This investigation theoretically contribute to the field of English teaching and educational psychology research as this will enrich understanding and play as reference for novel study in the related field. The findings also practically suggest that course design should incorporate aspects of epistemic beliefs to enhance student learning, encouraging deliberate teaching practices that will benefit their future careers. Apart from that, because English education students are expected to become teachers, it would be unreasonable to only equip them with theories if not along with practical understanding as well. With this in mind, findings of the contents to include in educational psychology courses of this could be considered as it is encouraged that the materials of this course need to be leveraged so that it covers other crucial aspects of educational psychology for teaching prospective English teachers.

Sample in this study was English education students studying at one university in Indonesia with qualitative phase were from those of sophisticated epistemic beliefs only, limiting generalization of results. While this study was unable to recruit samples from representative universities, including those focusing on teacher education programs, future studies may conduct further research on larger population with more varied representative samples. Continued exploration is recommended to find out how students consider contents to study in educational psychology courses.

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