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# Investigating the 5P Model (Presage, Perception, Process, Pedagogy, Product) in Accounting Learning Process at Higher Education

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## *Abstrak*

*Pembelajaran akuntansi perlu menjawab kebutuhan pekerjaan saat ini yang mengutamakan keterampilan digital. Namun masih banyak mahasiswa akuntansi yang belum memahami sepenuhnya tentang pelajaran dasar akuntansi. Hal itu dipengaruhi oleh beberapa faktor. Oleh karena itu penelitian ini bertujuan untuk menganalisis hubungan antara jenis kelamin, persepsi siswa terhadap pembelajaran akuntansi, pendekatan pembelajaran, penggunaan e-learning, dan hasil belajar akuntansi. Penelitian ini menggunakan penelitian kuantitatif dengan pendekatan korelasional. Sampel penelitian adalah 266 mahasiswa akuntansi pada tahun pertama. Kuesioner disebarkan secara online menggunakan platform Google Forms. Uji-t independen digunakan untuk memungkinkan peneliti menguji hipotesis membandingkan persepsi siswa laki-laki dan perempuan. Analisis regresi digunakan untuk mengetahui hubungan antar variabel. Berdasarkan hasil penelitian ditemukan bahwa perbedaan gender tidak berpengaruh signifikan terhadap persepsi siswa tetapi menunjukkan adanya hubungan antara persepsi siswa, pendekatan pembelajaran, penggunaan e-learning, dan hasil belajar akuntansi. Penggunaan pendekatan mendalam pada pembelajaran akan meningkatkan peran e-learning terutama pada kompleksitas materi yang diberikan. Sebaliknya, kemudahan penggunaan e-learning dapat mempengaruhi pemahaman akuntansi. Temuan penelitian ini memberikan pandangan bahwa perguruan tinggi di Indonesia perlu terus mengembangkan aplikasi e-learning yang disediakan sebagai media pembelajaran dalam kegiatan pedagogi. Penelitian ini berimplikasi pada pendidik akuntansi untuk merancang dan mengimplementasikan program pendidikan yang menarik mahasiswa untuk mempelajari mata kuliah akuntansi dan mengembangkan keterampilan akuntansinya.*

***Kata kunci:*** *Jenis kelamin, persepsi siswa, pendekatan pembelajaran, e-learning, hasil belajar akuntansi.*

## Abstract

Accounting learning needs to respond to current work needs that prioritize digital skills. But there are still many accounting students who do not fully understand about basic lessons in accounting. It was influenced by several factors. Therefore this study aims to analyse the relationship between gender, student perceptions of accounting learning, learning approaches, use of e-learning, and accounting learning outcome. This study use quantitative research with a correlational approach. The samples were 266 accounting students in the first year. The questionnaires were distributed online using the Google Forms platform. The independent t-test was used to allow researchers to test the hypothesis of comparing male and female students perceptions. Regression analysis is used to determine the relationship between variables. Based on the results, it was found that gender differences did not have a significant effect on student perceptions but showed a relationship between student perceptions, learning approaches, use of e-learning, and accounting learning outcomes. The use of a deep approach in learning will increase the role of e-learning, especially on the complexity of the material provided. In contrast, the ease of using e-learning can affect the understanding of accounting. The findings of this study provide the view that universities in Indonesia need to continue to develop the application of e-learning provided as learning media in pedagogical activities. This research has implications for accounting educators to design and implement educational programs that attract students to study accounting courses and develop their accounting skills.

**Keywords:** Gender; student perceptions; learning approach; e-learning; accounting learning outcomes.

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## 1. INTRODUCTION

Discussions related to learning cannot be separated from the learning model. The learning model is one of the determining factors in the success of a learning activity (Lynn, 2016; Sari et al., 2018). Learning models widely known and applied include the 3P learning model, which consists of presage, process, product; presage describes the characteristics of individuals or students in learning, which can be in the form of expectations in participating in learning gender, or majors and backgrounds. At the same time, the process explains how the learning process is. Then the product is a result of the learning process that has been carried out (Bi et al., 2020; Duff & Mladenovic, 2014). At first, the 4P learning model was developed by (Marzuki et al., 2020). They used *Perception*, which explains a students' perception of a lesson, and *Pedagogy*, which refers to learning strategies or designs. Based on the results of the initial survey related to students' accounting understanding in the first year at the Faculty of Economics, *Universitas Negeri Semarang*, it was found that 52% of students did not understand accounting well, 37% were neutral, and only 11% of students could understand accounting well. These data indicate that more students do not understand accounting well. Understanding Introduction to Accounting materials is the basis for understanding financial accounting, accounting practicum, financial management, public sector accounting, management accounting, and budgeting. Students will take these materials in the next semester, which is the basis for understanding the next accounting material. The study refers to using the 4P learning process (Presage, Perception, Process, Pedagogy) (Marzuki et al., 2020). The novelty of this research is the addition of the Product variable (Coertjens et al., 2016) so that the learning process model is the 5P model (Presage, Perception, Process, Pedagogy, Product) as making changes to the pedagogy indicators by using e-learning as a learning medium (Asif et al., 2020; Sugahara & Dellaportas, 2018). Product in the form of outcome learning results from the learning process determined by Presage, Perception, Process, Pedagogy (Coertjens et al., 2016). Presage describes the characteristics of individuals or students participating in learning, which can be in the form of expectations or expectations in participating in a lesson, gender, major, and background. Perception describes a students' perception of a lesson; process explains the learning process by determining a learning approach by the characteristics of students and materials. Those two categories are assessed in the learning approach, called the deep and surface approaches. Pedagogy refers to pedagogy in the learning process, which is assessed from e-learning in online learning. There is a relationship between gender, student perceptions of accounting learning, learning approaches, use of e-learning, and student learning outcomes (Chopra et al., 2019; Muniasamy & Alasiry, 2020). Gender affects perception in the learning approach, where female students tend to have negative perceptions of accounting learning in a more organized manner but have a higher fear of failure than male students (Alanzi & Alfraih, 2017; Duff & Mladenovic, 2014). Student perception of a lesson significantly influences the learning approach, which refers to deep learning, surface learning, and learning expectations (Frick et al., 2020; Malan, 2020; Watty et al., 2016). The general orientation perception of learning also relates to the learning approach and the learning environment (Hao et al., 2020).

Students' positive perception is that learning accounting is not just memorizing through the given learning media but can implement it (deep learning) (Marzuki et al., 2020). Meanwhile, students with negative perceptions tend to study using a surface learning approach (Gunesekera et al., 2019). Previous research has examined how students approach the learning process. Students take different approaches to learning; this approach affects the quality of their learning and academic success (Lynn, 2016). The learning approach will affect the selection of the learning design (pedagogy) applied (Gentile et al., 2020). Learning activities using e-learning learning designs can affect academic success. There is a significant influence between the use of e-learning on learning outcomes, where through e-learning,

students can get a better learning experience (Chopra et al., 2019). This study aims to analyze the relationship between the 5P indicators, e.i. gender, student perceptions, learning approaches, use of e-learning, and student learning outcomes in the accounting learning process. The research contributes especially in education by being a reference for educators in learning certain subjects taught to students according to their field of expertise or competence. Furthermore, it is expected to be used as a reference in evaluating and assessing appropriate learning models, especially accounting learning to be applied to students who are not majoring in accounting. The findings of this study provide the view that universities in Indonesia need to continue to develop the application of e-learning provided by universities or e-learning used by lecturers as learning media in pedagogical activities for learning. This research has implications for accounting educators to design and implement educational programs that can attract students to study accounting courses and contribute to the development of accounting skills. This study also encourages accounting educators to design pedagogical methods to instil a positive perception that learning accounting is fun, interesting, and important by using e-learning in the teaching and learning process, especially for today's conditions. The limitations of this study are the lack of diversity in the sample because it only comes from one university and the imbalance between male and female respondents. Then, the research only focuses on applying the 5P learning model for accounting students. The limitations of this study are due to the lack of references obtained by researchers and the limited time of the study.

## 2. METHODS

It is a type of quantitative research with a correlational approach to testing the hypothesis. The correlational research approach is used to detect how variations in a research variable are related to variations in one or more other variables that are not causal. The population of this study was accounting students, *Universitas Negeri Semarang*, who were learning Introduction to Accounting courses in the first year as many as 374 students. In this study, the sampling technique used is the calculation with the *Slovin* formula. The results of the sample calculation using the *Slovin* formula with an error tolerance level of 5% indicate that the minimum sample size for this study is 266 students. Learning outcome is the result and satisfaction of the learning process implemented. Learning outcome has several indicators, there are general education, personal and social development, higher order thinking, and satisfaction (Panigrahi et al., 2018). Gender is measured by the difference in mindset between female and male students; the indicator is the difference in the gender of students. A students' perception is a students' perception of the accounting teaching and learning environment. The indicator of this variable is the perception of the subject, the perception of the lecturer, and the atmosphere of the learning process (Marzuki et al., 2020). The Learning Approach is a process that describes individual differences in the quality of learning and is said to affect learning outcomes. The indicators are surface approach and deep approach (Coertjens et al., 2016). The use of e-learning refers to pedagogy in the learning process with fun, interesting, and user-friendly indicators (Marzuki et al., 2020).

The data collection technique was a survey using a data collection instrument in a questionnaire. The questionnaires were distributed online using the *Google* Forms platform. The questionnaire contains statements regarding the five existing research variables, using a Linkert scale of 1-7. The results of filling out questionnaires from respondents were obtained using SPSS 23.0, which was then analyzed. The independent t-test was used to allow researchers to test the hypothesis of comparing male and female students' perceptions, and regression analysis to determine relationship between variables. Furthermore, correlation analysis between variables is used to determine and measure the relationship between two

variables. With this method, it can be determined how strong the relationship between previously unknown variables. Next, the coefficient of determination test is used as information about the suitability of a model. It is calculated to determine the extent to which the compatibility of several independent variables in multiple linear regression equation models can simultaneously explain the dependent variable. The regression analysis determines the cause-and-effect relationship between one variable and another. Regression analysis is also used to understand related variables to determine the forms of these relationships. Based on the development of the hypotheses, the relationship of each variable can be described as a systematic chart of the research framework as shown in Figure 1.

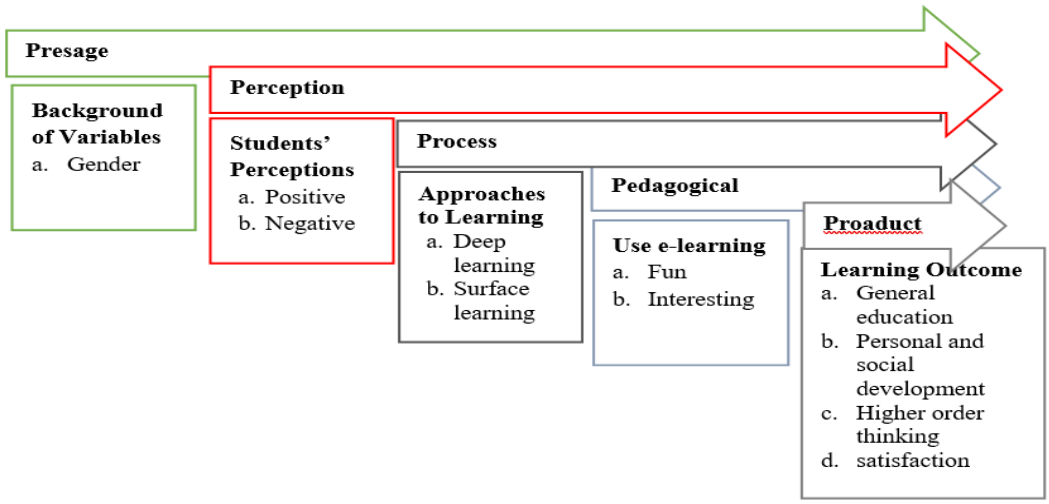


**Figure 1.** Research Framework

## 3. RESULTS AND DISCUSSION

### Result

There are 266 respondents from the questionnaires that have been distributed. Furthermore, data from respondents were tested according to research needs. The first test is the reliability test to find out whether the research questionnaire that will be used to collect data on research variables is reliable or not. The questionnaire is reliable; it will get the same results if the questionnaire is re-measured. The reliability test results show that students' perception, learning approach, use ae-learning, and accounting learning outcome have a Cronbach Alpha value of more than 0.6, so the questionnaire data is reliable. The descriptive analysis results showed that the total respondents were 266 students consisting of 106 male students or 39% and 160 female students or 61%.

**Table 1.** Correlations Among Variables

| Statistic | | Students Perception | Learning Approach | e-learning | Learning Outcome |
|---|---|---|---|---|---|
| Students Perception | Pearson Correlation | 1 | 0.753 | 0.298 | 0.646 |
| | Sig. (2-tailed) | | <0.001 | <0.001 | <0.001 |
| Learning Approach | Pearson Correlation | 0.753 | 1 | 0.261 | 0.623 |
| | Sig. (2-tailed) | <0.001 | | 0.003 | <0.001 |

| Statistic | | Students Perception | Learning Approach | e-learning | Learning Outcome |
|---|---|---|---|---|---|
| Use e-learning | Pearson Correlation | 0.298 | 0.261 | 1 | 0.163 |
| | Sig. (2-tailed) | <0.001 | 0.003 | | 0.066 |
| Accounting Learning Outcome | Pearson Correlation | 0.646 | 0.623 | 0.163 | 1 |
| | Sig. (2-tailed) | <0.001 | <0.001 | 0.066 | |

The Table 1 shows the correlation analysis results between variables used to determine and measure the relationship between variables. This correlation analysis determines whether multicollinearity occurs when the correlation value between variables is more than equal to 0.9. Table 1 shows that the correlation value between variables is less than 0.9, indicating no multicollinearity between variables. Furthermore, from the coefficient of determination analysis, the value of R square is 0.629 (62.9%), which means that students' perceptions influence 62.9% of the differences in learning approaches. In contrast, 37.1% can be influenced by other variables outside the study. The coefficient of determination test is used as information about the suitability of a model. It is calculated to determine the extent to which several independent variables in a multiple linear regression equation simultaneously can explain the dependent variable. Referring to Table 2, the ANOVA F-test, the p-value < .001 is smaller than the alpha value of 0.05, meaning that gender, students perception, learning approach, and use e-learning variables are significant. Thus, the model can be accepted and continued to test each hypothesis.

**Table 2.** Results of Regression for ANOVA

| Model | | Sum of Squares | DF | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3511.029 | 3 | 1170.343 | 70.147 | 0.001 |
| | Residual | 2068.846 | 263 | 16.684 | | |
| | Total | 5579.875 | 266 | | | |

Gender variable was nominal data, so an independent t-test was used to see the relationship between perception and gender. Based on the test results, gender is not a determining factor in students' perceptions of accounting subjects. The t-value ranges from -0.739 to -0.698, and the p-value is more than 0.05, and these values indicate that the results are not significant. Thus, the $H_1$ result is not supported. It shows no significant difference between male and female students regarding their perceptions of accounting learning outcome. Table 3 shows the relationship between gender and students' perception in accounting learning outcome. Furthermore, regression analysis was performed to see further the variables that have a relationship. The hypotheses will be supported if the t-value is more than 1.97897 and the p-value is less than 0.05. As shown in Table 3, there is a significant relationship between students' perceptions and approaches to the accounting learning process. The results showed that students' positive perception had a significant relationship with the deep approach with a t-value of 12.305 and a p-value of < .001. The results of $H_{2a}$ indicate that students who have a positive perception of accounting subjects are more likely to adopt the deep approach.While the relationship between negative perceptions and surface approach shows an insignificant relationship with a t-value of 1.295 and a p-value of 0.198. Thus, the

results of hypothesis $H_{2b}$ are not supported., while $H_{2b}$ means that students who have negative perceptions of accounting subjects do not necessarily adopt the surface approach. The results of $H_{2b}$ are not following previous research, which found that negative perceptions had a relationship with the surface approach.

**Table 3.** Independent t-test

| Levene's test for equality of varians | | | t-test for equality of means | | | |
|---|---|---|---|---|---|---|
| | | | | | 95% confidence interval of the difference | |
| | F | Sig. | t | Sig. (2-tailed) | Lower | upper |
| Positive | | | | | | |
| Equal variances assumed | 0.980 | 0.392 | -0.739 | 0.817 | -0.189 | 0.119 |
| Equal variances not assumed | | | -0.698 | 0.899 | -0.180 | 0.111 |
| Negative | | | | | | |
| Equal variances assumed | 0.293 | 0.723 | 0.494 | 0.794 | -0.072 | 0.103 |
| Equal variances not assumed | | | 0.494 | 0.794 | -0.072 | 0.102 |

Table 4 also shows the results of $H_{3a}$, which show a significant relationship between the deep approach and the role of e-learning, which is indicated by the t-value of 3.464 and p-value < .001. Meanwhile, H3b is not supported because the t-value is -1.868, and the p-value is 0.064. It shows that students who apply the deep approach can understand the role of e-learning and can make good use of it. Meanwhile, students who apply the surface approach cannot understand the role of e-learning and can make good use of it.

**Table 4.** Regression Analysis

| Hypotheses | t-value | Significance | Result |
|---|---|---|---|
| $H_{1a}$: positive perception —› deep approach | 12.305 | 0.001 | Supported |
| $H_{1b}$: negative perception —› surface approach | 1.295 | 0.198 | Not Supported |
| $H_{2a}$: deep approach —› the role of e-learning | 3.464 | 0.001 | Supported |
| $H_{2b}$: surface approach —› the role of e-learning | -1.868 | 0.064 | Not Supported |
| $H_3$: use e-learning —›learning outcome | 7.987 | 0.000 | Supported |

**Discussion**

The learning activities can stimuli and responses as described in neo-behaviorism theory (Cheng, 2020; Frick et al., 2020; Hao et al., 2020). This theory emphasizes that the key to developing a comprehensive learning theory is the factors that explain the complex nature of one's learning process. The variables tested in this study can reflect these factors and reflect the learning phase (Liu & Zainuddin, 2021; Opdecam & Everaert, 2019). This 5P model is analyzed to find out the relationship of each indicator. In neobehaviorism

theory, this is like stimulus-response learning in which a relationship is formed between a stimulus and a reaction based on the effect that gives a certain reaction. Similar to this research, educators carry out the learning process, and students provide responses in the form of perceptions of subjects, approaches to the learning process, awareness of the role of e-learning, to learning outcomes (Gunesekera et al., 2019; Ullah et al., 2016). There is no gender difference in students' perceptions of accounting courses (Krasodomska & Godawska, 2021; Papageorgiou & Callaghan, 2020; Peng & Abdullah, 2018). So that gender is not significantly related to student perceptions. These results follow previous research conducted by (Coertjens et al., 2016). They found that there was also no relationship between gender and student perceptions. The research also found a significant relationship between student perceptions of accounting courses and accounting learning approaches which previous research conducted by (Alfraih & Alanezi, 2016; Herrador-Alcaide et al., 2020; Marzuki et al., 2020). Students detect a stimulus that involves cognition in interpreting sensory information in this perception realm. Students give their perspectives on the accounting lessons to change their knowledge.Positive perceptions are associated with a deep approach to accounting learning. These results are the same as previous research (Abayadeera et al., 2018; Marzuki et al., 2020; Van Oordt & Mulder, 2016). Meanwhile, negative perceptions cannot lead or relate to the surface approach. Students' negative perceptions will also come from negative attitudes that do not affect a good learning outcome (Krasodomska & Godawska, 2021; Tarhini et al., 2017). The learning approach has a significant relationship with the role of e-learning. These results follow previous research that the process was related to pedagogical, which used the terms learning approach and e-learning (Muniasamy & Alasiry, 2020). The deep approach has a relationship with the role of e-learning but does not show the significance of the relationship between the surface approach and the role of e-learning. This result is different from previous research. This difference is due to the use of more advanced technology, meaning that almost all students today are aware of the role of e-learning in the accounting learning process (Braun et al., 2020; Herrador-Alcaide et al., 2020). There is a significant relationship between e-learning and accounting learning outcomes. e-Learning in the accounting learning process is useful and contributes to accounting nowadays; learning is done online by utilizing technology (Chiu, 2021; Sangster et al., 2020). The students have a good general education, personal and social development, higher order thinking, and satisfaction (Panigrahi et al., 2018). There are many learning platforms are used, such as Moodle, *google* meet, zoom, Facebook (Akcaoglu & Lee, 2018), Instagram, quizzes (Ross et al., 2018), and social media (Chopra et al., 2019; Chugh & Ruhi, 2018; Stainbank & Gurr, 2016).

## 4. CONCLUSION

This study has addressed the problems in examining the relationship between gender. Student perception, learning approach, use e-learning, and accounting learning outcome. There was no relationship between gender and student perception. It shows that gender differences do not cause differences in student perceptions of accounting courses. Students, both male and female, can have positive or negative perceptions of accounting learning. It is also concluded that there is a significant relationship between student perceptions of accounting courses and accounting learning approaches. The tests show a relationship between positive perception and the deep approach; positive perceptions lead to a deep approach in learning accounting courses. There is no significant relationship between negative perception and the surface approach. The negative perceptions do not lead to a surface approach. It shows that students who have negative perceptions do not always apply a

surface approach to learning. The research also found that a significant relationship between the deep approach and the role of e-learning. The use of a deep approach in learning will increase the role of e-learning, especially on the complexity of the material provided. However, there is no significant relationship between the surface approach and the role of e-learning; learning with a surface approach does not show a change in the role of e-learning. There is a significant relationship between use e-learning and accounting learning outcomes. The success of the role of e-learning will be able to encourage increased learning outcomes. The ease of using e-learning and the effectiveness of the learning process using e-learning will help students learn.

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