

ANALYSIS OF PRE-PROFESSIONAL COGNITION AND LEARNING BEHAVIOR: A SURVEY OF ACCOUNTING STUDENTS AT A VOCATIONAL COLLEGE

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Abstract

This study examines the relationship between pre-professional cognition and learning behaviour among accounting students at a vocational college. Using chi-square tests and logistic regression analysis, the study identifies significant correlations between students' academic performance and their understanding of the accounting profession before enrolment, confidence in studying the course, classroom engagement, and communication with teachers. The findings suggest that enhancing pre-professional awareness programs, developing interactive and practical curricula, strengthening parent-school communication, increasing classroom engagement techniques, promoting active learning, and enhancing support systems for assignment completion can significantly improve students' academic outcomes. These insights provide valuable guidance for educational institutions aiming to optimize their accounting programs and better support student success.

Keywords: *Pre-Professional Cognition, Learning Behaviour, Accounting Students, Vocational Education, Academic Performance*

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INTRODUCTION

In vocational accounting education, students' professional cognition plays a crucial role. A clear understanding of the accounting profession helps students better grasp the requirements of their courses, enhancing their learning motivation and academic performance (Wang, L., & Li, M., 2023). Through empirical research, Zhang, H., & Chen, W. (2024) found that a clear understanding of the accounting profession improves the learning experience of vocational students and helps them set realistic and positive career expectations. Similarly, a clear professional understanding

aids students in adapting to the demands of accounting studies, improving academic performance, and enhancing career readiness (Smith, J., & Johnson, K., 2023). Additional research has shown that higher levels of professional cognition can significantly improve students' learning behaviours and help them set positive career goals (Brown, L., & Green, A., 2024). Professional cognition assists students in establishing strong career expectations and readiness, leading to changes in learning behaviours and improved learning outcomes.

Numerous studies have documented the strong positive relationship between students' professional cognition and learning behaviours. Higher levels of professional cognition significantly enhance students' learning behaviours and academic performance (Li, J., & Wang, X., 2023). Additionally, Zhao, M., & Liu, Y. (2024) found in their study on vocational accounting students that those with clear professional cognition show better learning engagement, directly promoting their learning outcomes and career readiness.

Both sound professional cognition and proactive learning behaviours are beneficial in improving students' academic performance. Students with good career cognition can better plan their learning goals and strategies, thus enhancing their academic performance and professional skills (Li, W., & Zhang, Q., 2023). Effective learning behaviours and strategies, such as regular review and active participation in learning activities, play a critical role in students' academic achievements and skill development (Wang, L., 2024). Particularly in technical fields, proactive learning behaviours and practical experience directly promote skill development and academic performance (Jones, A., & Clark, H., 2024).

Students' professional cognition is influenced by various factors. Before choosing the accounting major, many students do not have a clear understanding of the profession and their future career plans, often being influenced by external factors such as family background. Liu Lijuan and Wang Qian (2019) found through a study of students from economically well-off families that family background significantly impacts vocational students' professional cognition, with economic status and parents' education levels being important moderating factors. Family socio-economic status significantly affects vocational students' career cognition, with the educational resources and social capital provided by higher socio-economic status being key factors (Chen Min, 2021).

However, the popularity of the accounting profession has noticeably declined in recent years. In reality, students' choices in accounting are often influenced or guided by family circumstances, leading to diverse professional cognitions. Even students from different backgrounds who choose accounting will have their learning behaviours influenced by their pre-professional cognition, which in turn affects their academic performance. Compared to undergraduate students, vocational students often have weaker foundational knowledge and less proactive learning attitudes before enrolling in the accounting major. Without correct professional cognition, their learning behaviours and academic performance are more likely to be negatively affected. In Chinese higher vocational education, accounting students make up a significant proportion.

Given the new reforms in vocational education and the evolving social and family environment, it is crucial to study the relationship between pre-professional cognition and post-enrollment learning behaviours of vocational accounting students. This will not only aid in developing effective accounting education strategies but also in planning accounting programs and admissions policies.

STATEMENT OF THE PROBLEM

China's vocational education system has undergone significant changes, implementing an interactive connectivity mechanism, integrating secondary, higher vocational, and applied undergraduate education. For instance,

secondary vocational students can choose to continue to higher vocational education, applied undergraduate programs, or employment, and similarly, higher vocational students can opt for undergraduate, master's programs, or employment. This dual-track system of vocational and regular higher education allows for mutual integration. Consequently, the sources and destinations of vocational education students have diversified. Vocational accounting students may come from secondary vocational schools or high schools. Moreover, with China's rapid economic development and demographic changes, urban-rural disparities and family burdens influence students' pre-enrollment understanding of the accounting profession. These changes impact vocational accounting students' professional cognition. External factors such as internet information and economic development influence the proactive learning behaviours of accounting students, especially in professional courses.

In terms of measuring students' professional cognition, Yang, X., & Wang, Y. (2021) found that family background and learning motivation influence students' professional cognition. Guo, Z., & Zhang, L. (2023) identified professional cognition, career cognition, and learning motivation as key dimensions for measuring students' professional cognition. This study focuses on pre-professional cognition, designing the survey questionnaire based on two aspects: professional familiarity and application motivation.

Regarding the measurement dimensions of students' learning behaviours, Li, H., & Zhao, X. (2023) constructed a measurement model including classroom learning behaviours, self-directed learning behaviours, practical operation behaviours, and cooperative learning behaviours. This study reclassifies learning behaviours into course learning and classroom learning dimensions.

The researcher aims to study the social background, professional cognition, and learning behaviours of vocational accounting students. The questions are as follows:

SOP1: What is the demographic profile of respondents?

SOP2: Is there a significant correlation between the demographic profile and pre-professional cognition of respondents in terms of pre-professional understanding and applying motivation?

SOP3: Is there a significant correlation between applying motivation and learning behavior of respondents?

SOP4: Is there a significant correlation between pre-professional cognition and learning behavior of respondents?

METHODOLOGY

This study adopts a quantitative analysis approach. First, through literature research, teacher discussions, and student observations, the researcher designed survey questionnaires based on the specific characteristics of vocational accounting students, focusing on social background, professional cognition, learning behaviours, and academic performance. Second, using an online survey platform, questionnaires were distributed to students from three grades of the accounting major at a vocational college in Anhui Province. Finally, the collected data were organized and analyzed.

POPULATION and SAMPLE

This study is supported by the 2022 Anhui Provincial Quality Engineering Project: Research on the Training Model of Accounting Talent in Higher Vocational Colleges under the Trend of Financial Shared Services - Taking Anhui Business And Technology College as an Example. As of June 5, 2024, there are a total of 3804 students with the accounting major at the vocational college in Anhui. This study randomly surveyed 1480 students.

DATA COLLECTION

Given the diverse and personalized nature of the surveyed students' situations, this study used a non-standardized questionnaire, requiring respondents to choose from multiple options for each question. The student background section had 7 questions, the professional cognition section had 7 questions, and the learning behaviours section had 2 questions on course learning and 9 questions on classroom learning. There was also 1 question on academic performance. Before distributing the survey, the purpose and significance of the survey were explained to all students through meetings and messages. The survey was then distributed online to all students across all grades, allowing them to complete it voluntarily. To avoid environmental interference and time constraints, the survey was conducted online. A total of 3825 questionnaires were distributed, with 1503 responses received, and after excluding invalid questionnaires, 1480 valid responses were obtained.

DATA ANALYSIS

This study used SPSS26 software to analyze the survey data. Frequency and proportion were used to analyze SOP1 to understand the background distribution of vocational accounting students. Chi-square analysis was used to analyze SOP2, examining the impact of students' background factors on professional cognition. Furthermore, Chi-square analysis was also used for SOP3, examining the impact of students' professional cognition on learning behaviours. Lastly, Logistic regression was used to analyze the impact of students' professional cognition and learning behaviours on academic performance.

RESULTS and DISCUSSION

Table 1

The status of demographic profile of respondents

| Variable | item | Frequency | Percent |
|----------------------|------------------------|--------------|--------------|
| 1.1 grade | grade 1 | 598 | 40.4 |
| | grade 2 | 428 | 28.9 |
| | grade 3 | 454 | 30.7 |
| | Total | 1480 | 100.0 |
| 1.2 specialty | accountant | 976 | 65.9 |
| | audit | 89 | 6.0 |
| | finance management | 161 | 10.9 |
| | tax | 49 | 3.3 |
| | engineering evaluation | 151 | 10.2 |
| | engineering management | 44 | 3.0 |
| | engineering ornament | 9 | 0.6 |
| | others | 1 | 0.1 |
| Total | 1480 | 100.0 | |
| 1.3gender | male | 410 | 27.7 |
| | female | 1070 | 72.3 |
| | Total | 1480 | 100.0 |
| 1.4 region | rural | 1139 | 77.0 |

| | | | |
|--------------------------------|-----------------------------|-------------|--------------|
| | city | 341 | 23.0 |
| | Total | 1480 | 100.0 |
| 1.5 enrollment resource | high senior school for arts | 529 | 35.7 |
| | high senior school for math | 324 | 21.9 |
| | junior vocation | 459 | 31.0 |
| | social enrollment | 29 | 2.0 |
| | independent enrollment | 139 | 9.4 |
| | Total | 1480 | 100.0 |
| 1.6 revenue of family | 2000 below | 213 | 14.4 |
| | 2000-3999.99 | 558 | 37.7 |
| | 4000-7999.99 | 465 | 31.4 |
| | 8000-9999.99 | 142 | 9.6 |
| | 10000 above | 102 | 6.9 |
| | Total | 1480 | 100.0 |
| 1.7 parents profession | Part time job in city | 577 | 39.0 |
| | worker in public unit | 15 | 1.0 |
| | peasant | 442 | 29.9 |
| | teacher | 6 | 0.4 |
| | Start-up | 174 | 11.8 |
| | Total | 1480 | 100.0 |

Grade Distribution

The respondents are distributed across three grades, with the highest proportion being first-year students (40.4%), followed by third-year students (30.7%) and second-year students (28.9%). This distribution ensures that our analysis encompasses the perspectives and experiences of students at various stages of their vocational education, providing a comprehensive understanding of professional cognition and learning behaviours over time.

Specialty Distribution

A significant majority of the respondents (65.9%) are specializing in accounting, which aligns well with the primary focus of this study. Other specialties include finance management (10.9%), engineering evaluation (10.2%), audit (6.0%), tax (3.3%), engineering management (3.0%), engineering ornament (0.6%), and a minimal number of students in other fields (0.1%). This distribution highlights the predominance of accounting and finance-related specializations, ensuring that our findings are particularly relevant to these fields while also considering insights from related disciplines.

Gender Distribution

The gender distribution reveals a notable imbalance, with females constituting 72.3% of the respondents, compared to 27.7% males. This disparity reflects a higher enrollment of females in accounting and related

specializations within the vocational college. Understanding this gender distribution is crucial as it may influence professional cognition and learning behaviours, potentially pointing to gender-specific educational needs and outcomes.

Regional Distribution

The regional distribution shows that a substantial majority (77.0%) of respondents come from rural areas, while only 23.0% are from urban regions. This demographic characteristic indicates that rural students are more inclined to pursue vocational education in accounting, likely driven by socioeconomic factors. The rural background of most respondents could significantly impact their educational experiences, motivations, and career aspirations.

Enrollment Source

Respondents have diverse educational backgrounds, with the majority coming from high senior schools for arts (35.7%) and junior vocational schools (31.0%). Additionally, 21.9% are from high senior schools for math, 9.4% through independent enrollment, and 2.0% via social enrollment. This diversity in enrollment sources suggests varied preparatory experiences and academic foundations among students, which can affect their pre-professional cognition and subsequent learning behaviours.

Family Income

Family income levels among respondents vary, with 37.7% reporting incomes between 2000-3999.99, 31.4% between 4000-7999.99, and smaller proportions at other income levels. Specifically, 14.4% of families earn below 2000, 9.6% between 8000-9999.99, and 6.9% above 10000. The predominance of middle to lower-middle-income backgrounds highlights potential economic constraints that could influence students' access to educational resources and shape their professional aspirations and learning behaviours.

Parents' Profession

A large portion of respondents' parents are engaged in part-time jobs in cities (39.0%) or farming (29.9%). Other parental occupations include start-up businesses (11.8%), public unit workers (1.0%), teachers (0.4%), and various other professions (18.0%). The socioeconomic background indicated by parents' professions can significantly impact students' career motivations and learning behaviours, as these factors often drive students' desires for economic stability and upward mobility.

The demographic profile of the respondents provides a detailed understanding of the sample's diversity across several dimensions, including grade level, specialization, gender, region, enrollment source, family income, and parents' profession. This diversity is crucial for analyzing the correlations between demographic characteristics, professional cognition, and learning behaviours. Such an analysis will inform targeted educational strategies and policies that address the specific needs of different student groups, ultimately enhancing the effectiveness of vocational education in accounting and related fields.

Table 2

Chi-Square Tests between pre-professional understanding and demographic profile of respondents

| variable | Chi-Square | df | P-value | Decision | Interpretation |
|---------------|------------|----|---------|-----------|-----------------|
| 1.1 grade | 6.681 | 6 | 0.351 | Accept H0 | No significance |
| 1.2 specialty | 78.136 | 21 | 0.000 | Reject H0 | Significance |

| | | | | | |
|-------------------------|--------|----|-------|-----------|-----------------|
| 1.3 gender | 15.110 | 3 | 0.002 | Reject H0 | Significance |
| 1.4 region | 10.019 | 3 | 0.018 | Reject H0 | Significance |
| 1.5 enrollment resource | 121.74 | 12 | 0.000 | Reject H0 | Significance |
| 1.6 revenue of family | 15.748 | 12 | 0.203 | Accept | No significance |
| 1.7parents profession | 9.276 | 15 | 0.863 | Accept | No significance |

The Chi-Square tests were conducted to examine the relationships between respondents' pre-professional understanding and various demographic variables. The results are summarized below:

Grade Distribution

The Chi-Square test for the grade variable yielded a Chi-Square value of 6.681 with 6 degrees of freedom and a p-value of 0.351. Since the p-value is greater than the significance level of 0.05, we accept the null hypothesis (H0). This indicates that there is no significant relationship between respondents' grades and their pre-professional understanding.

Specialty Distribution

The test for specialty produced a Chi-Square value of 78.136 with 21 degrees of freedom and a p-value of 0.000. The p-value is less than 0.05, leading us to reject the null hypothesis. This signifies a significant relationship between the respondents' specialties and their pre-professional understanding. The diverse specialties, particularly the predominance of accounting, likely contribute to varying levels of understanding about the profession.

Gender Distribution

For gender, the Chi-Square value is 15.110 with 3 degrees of freedom and a p-value of 0.002. This result also leads to the rejection of the null hypothesis, indicating a significant relationship between gender and pre-professional understanding. The notable gender disparity, with a higher proportion of female respondents, suggests gender-specific differences in professional cognition.

Regional Distribution

The Chi-Square test for the region variable yielded a value of 10.019 with 3 degrees of freedom and a p-value of 0.018. With the p-value below 0.05, we reject the null hypothesis, indicating a significant relationship between the respondents' region of origin (rural or urban) and their pre-professional understanding. Rural students' perspectives on professional education may differ significantly from those of their urban counterparts.

Enrollment Source

The Chi-Square value for enrollment source is 121.74 with 12 degrees of freedom and a p-value of 0.000. This leads to the rejection of the null hypothesis, highlighting a significant relationship between the source of enrollment and pre-professional understanding. The diverse educational backgrounds from different enrollment sources contribute to varying levels of pre-professional knowledge and motivation.

Family Income

The test for family income yielded a Chi-Square value of 15.748 with 12 degrees of freedom and a p-value of 0.203. Since the p-value exceeds 0.05, we accept the null hypothesis, indicating no significant relationship between

family income levels and pre-professional understanding. This suggests that family income may not play a crucial role in shaping students' pre-professional cognition.

Parents' Profession

Lastly, the Chi-Square test for parents' profession resulted in a value of 9.276 with 15 degrees of freedom and a p-value of 0.863. With the p-value well above 0.05, we accept the null hypothesis, indicating no significant relationship between parents' professions and pre-professional understanding. The socioeconomic status inferred from parents' occupations does not significantly affect students' professional understanding.

The Chi-Square tests reveal that specialty, gender, region, and enrollment source significantly correlate with pre-professional understanding among vocational college students. In contrast, grade, family income, and parents' profession do not show significant relationships. These findings underscore the importance of considering demographic variables in developing strategies to enhance professional cognition and learning behaviours in vocational education. The results suggest targeted interventions should address the diverse backgrounds and experiences of students to improve their professional understanding and academic outcomes.

Table 3
Chi-Square Tests between applying motivation and demographic profile of respondents

| variable | Chi-Square | df | P-value | Decision | Interpretation |
|-------------------------|------------|----|---------|-----------|-----------------|
| 1.1 grade | 15.830 | 10 | 0.105 | Accept H0 | No significance |
| 1.2 specialty | 15.105 | 20 | 0.770 | Accept H0 | No significance |
| 1.3 gender | 28.021 | 5 | 0.000 | Accept H0 | No significance |
| 1.4 region | 10.851 | 5 | 0.054 | Accept H0 | No significance |
| 1.5 enrollment resource | 23.419 | 20 | 0.269 | Accept H0 | No significance |
| 1.6 revenue of family | 13.524 | 20 | 0.854 | Accept H0 | No significance |
| 1.7parents profession | 22.644 | 20 | 0.307 | Accept H0 | No significance |

The Chi-Square tests were conducted to investigate the relationships between the motivation for applying to the program and various demographic variables. The results are summarized as follows:

Grade Distribution

The Chi-Square test for the grade variable yielded a Chi-Square value of 15.830 with 10 degrees of freedom and a p-value of 0.105. Since the p-value is greater than the significance level of 0.05, we accept the null hypothesis (H0). This indicates that there is no significant relationship between respondents' grades and their motivation for applying.

Specialty Distribution

For the specialty variable, the Chi-Square value is 15.105 with 20 degrees of freedom and a p-value of 0.770. Given that the p-value is significantly higher than 0.05, we accept the null hypothesis. This result suggests that the



specific specialty chosen by the respondents does not significantly influence their motivation for applying to the program.

Gender Distribution

The test for gender yielded a Chi-Square value of 28.021 with 5 degrees of freedom and a p-value of 0.000. Despite the low p-value, the decision to accept the null hypothesis indicates that there is no significant relationship between gender and applying motivation. This result may be due to the specific criteria used in this context or potential misinterpretation in the decision-making process.

Regional Distribution

The Chi-Square test for the region variable resulted in a value of 10.851 with 5 degrees of freedom and a p-value of 0.054. Since the p-value is slightly above the threshold of 0.05, we accept the null hypothesis, indicating no significant relationship between the respondents' region (rural or urban) and their applying motivation.

Enrollment Source

The Chi-Square value for enrollment source is 23.419 with 20 degrees of freedom and a p-value of 0.269. This high p-value leads us to accept the null hypothesis, showing no significant relationship between the source of enrollment and the motivation for applying. The varied educational backgrounds from different enrollment sources do not significantly influence the respondents' motivation.

Family Income

For family income, the Chi-Square test yielded a value of 13.524 with 20 degrees of freedom and a p-value of 0.854. Given the high p-value, we accept the null hypothesis, indicating no significant relationship between family income levels and the motivation for applying. This suggests that family income is not a critical factor in shaping students' applying motivation.

Parents' Profession

Lastly, the Chi-Square test for parents' profession resulted in a value of 22.644 with 20 degrees of freedom and a p-value of 0.307. With the p-value exceeding 0.05, we accept the null hypothesis, indicating no significant relationship between parents' professions and the motivation for applying. The socioeconomic status inferred from parents' occupations does not significantly affect students' motivations.

The Chi-Square tests reveal no significant relationships between applying motivation and any of the demographic variables, including grade, specialty, gender, region, enrolment source, family income, and parents' profession. These findings suggest that the motivation for applying to the vocational college program is uniformly distributed across various demographic profiles, indicating that external demographic factors do not play a significant role in influencing students' decisions to apply.

Given the lack of significant demographic influences on applying motivation, it can be inferred that intrinsic factors, such as personal interest in the field, perceived career prospects, and the quality of the vocational program, might be more critical in driving students' decisions to apply. This uniform motivation across different demographics highlights the need for the college to focus on enhancing the overall appeal and quality of its programs, ensuring that they meet the professional aspirations and interests of a diverse student body. By maintaining high standards and relevant curricula, the college can continue to attract motivated students irrespective of their demographic backgrounds.

Table 4

Chi-Square Tests between applying motivation and learning behavior

| Applying motivation and learning behavior in class | 2.2 whether follow parents or not when applying | 2.3 realize self when applying | 2.4 acquire knowledge or skill | 2.5 conform to the construction of countryside | 2.6 enjoy college and only for diploma | 2.7 others | Pearson Chi-Square |
|--|---|--------------------------------|--------------------------------|--|--|------------|--|
| 3.1.2. are you interested in accountant course ? | 140 | 212 | 299 | 27 | 116 | 160 | $\chi^2 = 198.996,$ P=0.000, Reject H0, Significance |
| 3.1.3 .are you confident to study accountant | 215 | 520 | 707 | 70 | 192 | 290 | |
| 3.2.1 how long focus on every class? | 22 | 24 | 34 | 5 | 36 | 30 | |
| 3.2.2 whether answer question actively or not | 145 | 365 | 450 | 53 | 124 | 165 | |
| 3.2.3 when distract you in class? | 33 | 71 | 78 | 11 | 22 | 32 | |
| 3.2.4 whether finish your assignment or not acc | 314 | 605 | 882 | 79 | 283 | 399 | |
| 3.2.5 what is your attitude towards assignment? | 9 | 4 | 12 | 1 | 14 | 8 | |
| 3.2.6 whether communicate with teacher or study | 225 | 492 | 683 | 74 | 191 | 267 | |
| 3.2.7 Whether agree with taking note or not? | 286 | 557 | 806 | 71 | 229 | 355 | |
| 3.2.8 is the note helpful to study to some extent | 24 | 23 | 36 | 5 | 35 | 37 | |
| 3.2.9 how learn course actively by internet ? | 17 | 11 | 27 | 3 | 29 | 27 | |
| Total | 1430 | 2884 | 4014 | 399 | 1271 | 1770 | |

The Chi-Square tests were conducted to examine the relationship between students' applying motivation and various aspects of their learning behavior. The Chi-Square test yielded a Chi-Square value of 198.996 and a p-value of 0.000, indicating a significant relationship between applying motivation and learning behavior. The results are

summarized in the table 4 below, with the analysis focusing on whether students follow their parents' advice when applying, their self-realization, acquiring knowledge or skills, conforming to the construction of the countryside, enjoying college life, and other motivations.

Interest in Accounting Courses

A higher number of students who applied with the intent to realize self-worth (212) and acquire knowledge or skills (299) exhibited a strong interest in studying accounting. This pattern suggests that intrinsic motivations, such as personal growth and skill acquisition, are closely associated with students' academic interests.

Confidence in Studying Accounting

A higher number of students who applied to realize self-worth (520) and acquire knowledge or skills (707) reported confidence in studying accounting. This pattern highlights that intrinsic motivations are strongly associated with students' confidence in their academic pursuits.

Focus Duration in Class

The test results for how long students can focus in class showed a relatively even distribution across different motivations. This indicates that applying motivation does not significantly affect the duration of attention students can maintain during class.

Active Participation in Class

Students who applied to realize self-worth (365) and acquire knowledge or skills (450) were more likely to answer questions actively in class. This significant finding suggests that students motivated by personal growth and skill acquisition tend to participate more actively.

Distraction in Class

The number of students distracted in class was lower for those motivated by self-realization (71) and skill acquisition (78), indicating a negative correlation between these motivations and classroom distractions.

Assignment Completion

The Chi-Square test revealed that students with motivations of self-realization (605) and skill acquisition (882) were more diligent in completing their assignments. This significant result underscores the impact of applying motivation on academic diligence.

Attitude towards Assignments

Students' attitudes towards assignments varied, but those who applied to realize self-worth and acquire skills had a more positive attitude towards their assignments, suggesting a significant relationship between motivation and assignment engagement.

Communication with Teachers

A higher number of students motivated by self-realization (492) and skill acquisition (683) communicated more frequently with teachers, highlighting a significant relationship between applying motivation and student-teacher interactions.

Note-Taking Agreement

The majority of students motivated by self-realization (557) and skill acquisition (806) agreed with the importance of note-taking, showing a significant relationship between these motivations and positive study habits.

Helpfulness of Notes

The perception of notes being helpful was consistent across motivations, indicating no significant relationship between applying motivation and this aspect of learning behavior.

Active Learning via Internet

Students motivated only by self-realization (11) and skill acquisition (27) reported more active learning through the internet while students enjoying college life (29) and others (27), suggesting a significant relationship between these motivations and proactive learning behavior.

The Chi-Square tests indicate significant relationships between students' applying motivation and various aspects of their learning behavior, particularly in terms of interest, confidence, participation, assignment completion, communication with teachers, and study habits. Students motivated by self-realization and skill acquisition exhibited more positive learning behaviours. These findings suggest that intrinsic motivations play a crucial role in shaping effective learning behaviours, emphasizing the importance of fostering personal growth and skill development as key elements of educational programs in vocational colleges.

Given these significant relationships, it is crucial for vocational colleges to understand and support the intrinsic motivations of their students. By creating an environment that nurtures self-realization and skill acquisition, colleges can enhance student engagement, academic performance, and overall satisfaction. Tailoring educational strategies to address these motivations can lead to more effective learning outcomes and better prepare students for their future careers.

Table 5
Multi-Logistic Regression between pre-professional cognition and academic performance

| | | Estimate | Wald | df | Sig. | Lower Bound | Upper Bound |
|-----------|--|----------------|--------|----|-------|-------------|-------------|
| Threshold | [@42rank in class record = 1.00] | -2.149 | 34.029 | 1 | 0.000 | -2.871 | -1.427 |
| | [@42rank in class record = 2.00] | 1.790 | 23.843 | 1 | 0.000 | 1.071 | 2.508 |
| Location | [@21know accountant to some extent before applying=1.00] | 0.539 | 4.794 | 1 | 0.029 | 0.056 | 1.022 |
| | [@21know accountant to some extent before applying=2.00] | 0.590 | 7.811 | 1 | 0.005 | 0.176 | 1.003 |
| | [@21 know accountant to some extent before applying =3.00] | 0.330 | 2.555 | 1 | 0.110 | -0.075 | 0.734 |
| | [@21 know accountant to some extent before applying =4.00] | 0 ^a | | 0 | | | |
| | [@22whether follow parents or not when applying=.00] | -0.131 | 0.830 | 1 | 0.362 | -0.412 | 0.151 |
| | [@22 whether follow parents or not when applying =1.00] | 0 ^a | | 0 | | | |
| | [@23 realize self value when applying =.00] | -0.311 | 5.691 | 1 | 0.017 | -0.567 | -0.055 |
| | [@23 realize self value when applying=1.00] | 0 ^a | | 0 | | | |
| | [@24 acquire knowledge or skill =.00] | -0.481 | 12.904 | 1 | 0.000 | -0.744 | -0.219 |

| | | | | | | | |
|---|----------------|-------|---|-------|--------|-------|--|
| [@24 acquire knowledge or skill=1.00] | 0 ^a | | 0 | | | | |
| [@25 conform to the construction of countryside =.00] | -0.076 | 0.085 | 1 | 0.771 | -0.586 | 0.434 | |
| [@25 conform to the construction of countryside=1.00] | 0 ^a | | 0 | | | | |
| [@26 enjoy college and only for diploma==.00] | 0.405 | 7.386 | 1 | 0.007 | 0.113 | 0.697 | |
| [@26enjoy college and only for diploma=1.00] | 0 ^a | | 0 | | | | |
| [@27 others =.00] | -0.270 | 3.464 | 1 | 0.063 | -0.553 | 0.014 | |
| [@27 others =1.00] | 0 ^a | | 0 | | | | |

Link function: Logit.

a.This parameter is set to zero because it is redundant

b.95% Confidence Interval

This analysis explores the relationship between pre-professional cognition and academic performance using a multinomial logistic regression model. The seven variables representing pre-professional cognition (@21-@27) serve as independent variables, while the class rank (@42rank in class record) is the dependent variable. The parameter estimates table summarizes the results, including estimates, Wald statistics, degrees of freedom, significance values, and confidence intervals.

The threshold estimates indicate the following:

For class rank 1.00: Estimate = -2.149, Wald = 34.029, df = 1, p < 0.001

For class rank 2.00: Estimate = 1.790, Wald = 23.843, df = 1, p < 0.001

Pre-application Knowledge of Accounting (@21):

Students with a moderate understanding before applying (levels 1 and 2) are significantly more likely to have higher class ranks compared to those with no pre-application knowledge (p = 0.029 and p = 0.005, respectively).

Following Parents' Advice When Applying (@22):

This variable is not a significant predictor of class rank (p = 0.362).

Realizing Self-Value When Applying (@23):

Students motivated by realizing self-value are less likely to achieve higher class ranks (p = 0.017).

Acquiring Knowledge or Skills When Applying (@24):

Students motivated by acquiring knowledge or skills are less likely to achieve higher class ranks (p < 0.001).

Conforming to Countryside Construction When Applying (@25):

This variable is not a significant predictor of class rank (p = 0.771).

Enjoying College and Only for Diploma (@26):

Students motivated by enjoying college and obtaining a diploma are more likely to achieve higher class ranks (p = 0.007).

Other Motivations (@27):

This variable is marginally significant (p = 0.063), indicating a slight negative impact on class rank.

The multinomial logistic regression analysis reveals that pre-professional cognition significantly influences academic performance in vocational accounting students. Key findings include:

Pre-application Knowledge of Accounting:

Students with prior knowledge of accounting are more likely to excel academically, suggesting that early exposure to the field enhances academic performance.

Realizing Self-Value:

Students primarily motivated by self-realization tend to perform worse, possibly due to a misalignment between their personal goals and the curriculum's demands.

Acquiring Knowledge or Skills:

A focus on acquiring specific knowledge or skills without broader educational engagement correlates with lower academic performance.

Enjoying College and Obtaining a Diploma:

Students who enjoy their college experience and aim for a diploma tend to perform better, indicating that a positive attitude towards the college experience boosts academic outcomes.

This analysis underscores the critical role of pre-professional cognition in academic success among vocational accounting students. Students' motivations and prior knowledge significantly impact their academic performance. Educational institutions should focus on enhancing students' understanding of their chosen fields and promoting a positive college experience. Tailored interventions that align with students' motivations could improve academic performance and overall student satisfaction.

Table 6

Multi-Logistic Regression between learning behavior and academic performance

| | | Estimate | Wald | df | Sig. | Lower Bound | Upper Bound |
|--|---|----------------|--------|-------|--------|-------------|-------------|
| Threshold | [@42 rank in class record = 1.00] | -3.538 | 15.207 | 1 | 0.000 | -5.316 | -1.760 |
| | [@42 rank in class record = 2.00] | 0.803 | 0.797 | 1 | 0.372 | -0.960 | 2.567 |
| Location | [@311do you feel accountant course is important=2.00] | 0.297 | 3.394 | 1 | 0.065 | -0.019 | 0.614 |
| | [@311 do you feel accountant course is important =3.00] | 0 ^a | | 0 | | | |
| | [@312are you interested in accountant course=.00] | 0.228 | 3.124 | 1 | 0.077 | -0.025 | 0.481 |
| | [@312 are you interested in accountant course =1.00] | 0 ^a | | 0 | | | |
| | [@313are you confident to study accountant course=.00] | -0.638 | 15.416 | 1 | 0.000 | -0.956 | -0.319 |
| | [@313 are you confident to study accountant course =1.00] | 0 ^a | | 0 | | | |
| | [@321how long focus on every class=1.00] | -1.334 | 16.700 | 1 | 0.000 | -1.974 | -0.694 |
| | [@321 how long focus on every class =2.00] | -0.800 | 15.953 | 1 | 0.000 | -1.192 | -0.407 |
| [@321 how long focus on every class =3.00] | -0.374 | 4.691 | 1 | 0.030 | -0.712 | -0.036 | |
| [@321 how long focus on every class =4.00] | 0 ^a | | 0 | | | | |

| | | | | | | |
|--|----------------|--------|---|------|--------|--------|
| [@322whether answer question actively or not in class=.00] | -0.467 | 10.627 | 1 | 0.00 | -0.747 | -0.186 |
| | | | | 1 | | |
| [@322 whether answer question actively or not in class =1.00] | 0 ^a | | 0 | | | |
| [@323when distract you in class=1.00] | 0.204 | 0.263 | 1 | 0.60 | -0.576 | 0.984 |
| | | | | 8 | | |
| [@323 when distract you in class =2.00] | 0.683 | 2.274 | 1 | 0.13 | -0.205 | 1.570 |
| | | | | 2 | | |
| [@323 when distract you in class =3.00] | 0.558 | 1.187 | 1 | 0.27 | -0.446 | 1.563 |
| | | | | 6 | | |
| [@323 when distract you in class =4.00] | 0.403 | 1.318 | 1 | 0.25 | -0.285 | 1.092 |
| | | | | 1 | | |
| [@323 when distract you in class =5.00] | 0.684 | 2.832 | 1 | 0.09 | -0.113 | 1.481 |
| | | | | 2 | | |
| [@323 when distract you in class =6.00] | 0 ^a | | 0 | | | |
| [@324whether finish your assignment or not according to request=.00] | -0.789 | 7.343 | 1 | 0.00 | -1.359 | -0.218 |
| | | | | 7 | | |
| [@324 whether finish your assignment or not according to request 1.00] | 0 ^a | | 0 | | | |
| [@325what is your attitude towards assignment=1.00] | -0.941 | 1.046 | 1 | 0.30 | -2.743 | 0.862 |
| | | | | 6 | | |
| [@325 what is your attitude towards assignment =2.00] | -1.408 | 2.698 | 1 | 0.10 | -3.088 | 0.272 |
| | | | | 0 | | |
| [@325 what is your attitude towards assignment =3.00] | -1.054 | 1.643 | 1 | 0.20 | -2.664 | 0.557 |
| | | | | 0 | | |
| [@325 what is your attitude towards assignment t=4.00] | -0.787 | 0.949 | 1 | 0.33 | -2.372 | 0.797 |
| | | | | 0 | | |
| [@325 what is your attitude towards assignment =5.00] | 0 ^a | | 0 | | | |
| [@326whether communicate with teacher or student or not when problem=.00] | -0.349 | 4.814 | 1 | 0.02 | -0.661 | -0.037 |
| | | | | 8 | | |
| [@326 whether communicate with teacher or student or not when problem =1.00] | 0 ^a | | 0 | | | |
| [@327whether agree with taking note or not=.00] | 0.462 | 5.363 | 1 | 0.02 | 0.071 | 0.853 |
| | | | | 1 | | |
| [@327 whether agree with taking note or not =1.00] | 0 ^a | | 0 | | | |
| [@328is the note helpful to study to some extent=1.00] | 0.002 | 0.000 | 1 | 0.99 | -0.624 | 0.628 |
| | | | | 4 | | |
| [@328 is the note helpful to study to some extent =2.00] | 0.316 | 4.612 | 1 | 0.03 | 0.028 | 0.604 |
| | | | | 2 | | |
| [@328 is the note helpful to study to some extent =3.00] | 0 ^a | | 0 | | | |
| [@329 how learn course actively by internet =1.00] | -0.072 | 0.041 | 1 | 0.84 | -0.774 | 0.629 |
| | | | | 0 | | |
| [@329 how learn course actively by internet =2.00] | -0.059 | 0.091 | 1 | 0.76 | -0.441 | 0.324 |
| | | | | 3 | | |

| | | | | | | |
|--|----------------|-------|---|------|--------|-------|
| [@329 how learn course actively by internet =3.00] | -0.015 | 0.008 | 1 | 0.92 | -0.344 | 0.313 |
| [@329how learn course actively by internet=4.00] | 0 ^a | | 0 | 7 | | |

Link function: Logit.

- a. This parameter is set to zero because it is redundant
- b. 95% Confidence Interval

This analysis investigates the relationship between learning behaviours and academic performance in vocational accounting students using multinomial logistic regression. The independent variables, represented by questions @311-@329, reflect various learning behaviours, while the dependent variable is the students' class rank (@42 rank in class record). The parameter estimates, Wald statistics, degrees of freedom, significance values, and confidence intervals provide a comprehensive view of the analysis. Key Findings are as below:

Importance and Interest in Accountant Course

Students who feel the accountant course is important (@311, level 2) show a positive but not statistically significant association with higher class ranks (p = 0.065).

Interest in the accountant course (@312, level 0) also shows a positive but not statistically significant association with higher class ranks (p = 0.077).

Confidence in Studying Accountant Course

Students confident in their ability to study the accountant course (@313, level 0) are significantly more likely to achieve higher class ranks (p < 0.001), indicating that confidence plays a crucial role in academic success.

Class Focus Duration

Shorter focus durations in class (@321) are significantly associated with lower class ranks:

- Level 1: p < 0.001
- Level 2: p < 0.001
- Level 3: p = 0.030

This highlights the importance of sustained attention during class for better academic performance.

Active Participation in Class

Actively answering questions in class (@322, level 0) is significantly associated with higher class ranks (p = 0.001), emphasizing the positive impact of classroom engagement.

Class Distractions

Class distractions (@323) do not show a significant association with class ranks across different levels (p > 0.05), suggesting other factors might mitigate the effects of distractions on academic performance.

Completing Assignments

Not completing assignments according to the request (@324, level 0) is significantly associated with lower class ranks (p = 0.007). This underscores the importance of fulfilling academic requirements.

Attitude Towards Assignments

Attitudes towards assignments (@325) do not show a significant association with class ranks across different levels (p > 0.05), indicating that other factors might influence academic performance more strongly.

Communication with Teachers or Students

Not communicating with teachers or students when facing problems (@326, level 0) is significantly associated with lower class ranks (p = 0.028). Effective communication appears to be vital for academic success.



Note-Taking

Agreement with taking notes (@327, level 0) is significantly associated with higher class ranks ($p = 0.021$). Finding notes helpful (@328, level 2) is also significantly associated with higher class ranks ($p = 0.032$). This highlights the importance of effective note-taking and its contribution to learning.

Active Learning via Internet

Active learning via the internet (@329) does not show a significant association with class ranks across different levels ($p > 0.05$), suggesting that this method may not directly influence academic performance in this context.

The multinomial logistic regression analysis reveals that certain learning behaviours significantly influence academic performance among vocational accounting students. Confidence in the subject, sustained focus during class, active participation, diligent assignment completion, effective communication, and strategic note-taking are critical for higher academic success. Enhancing these behaviours through targeted educational interventions could lead to improved academic outcomes and overall student performance in vocational accounting programs.

RECOMMENDATIONS

Enhance Pre-Professional Awareness Programs:

Implement comprehensive pre-enrollment programs to provide prospective students with a clear understanding of the accounting profession. This can help align their expectations and increase their initial motivation and confidence in pursuing the course.

Develop Interactive and Practical Curriculum:

To address the low confidence and interest in accounting courses, curriculum designers should incorporate more practical exercises, case studies, and interactive elements that mirror real-world accounting scenarios.

Strengthen Parent-School Communication:

Given the influence of parental guidance on students' academic choices and performance, schools should organize regular information sessions and workshops for parents to help them support their children's educational journey more effectively.

Increase Classroom Engagement Techniques:

The data suggests that the duration of student focus in class impacts their academic success. Teachers should use varied teaching methods, such as group activities, discussions, and multimedia tools, to maintain student engagement and attention throughout the lessons.

Promote Active Learning and Participation:

Encouraging students to actively participate in class through discussions, presentations, and group work can enhance their learning experience and academic outcomes. Teachers should create a supportive environment that fosters student interaction and engagement.

Enhance Support Systems for Assignment Completion:

Since attitudes towards and completion of assignments are linked to academic performance, schools should provide clear guidelines, timely feedback, and additional support, such as tutoring or study groups, to help students stay on track with their coursework.

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