

Predictors of Students' Performance in Accounting 1 at Romblon State University

Sherryll M. Fetalvero, Emelyn F. Montoya, Tomas T. Faminial, Errol S. Foja, Ma. Jessica F. Cabato, Bless Faith F. Andal, and Jerome F. Fesalboni

ABSTRACT

In Romblon State University (RSU), the surge of enrolment but low cohort survival rate in the BS Accountancy program calls for an urgent review of its admission policies. This study analyzed whether gender, school type, academic track, senior high school report card grade, Overall College Admission Test (CAT) Score and its subject components (Science, English, Mathematics and Filipino), and abstract reasoning can significantly predict students' performance in Accounting 1. Correlation between accounting grade in senior high school and final grade in Accounting 1 in college was also determined. Multiple linear regression was employed in analyzing registration data and test results from 79 students with complete information out of 139 target respondents. Results showed that English CAT Score ($\beta = 0.34$, $p = 0.001$), academic track ($\beta = 0.32$, $p = 0.001$) and Abstract Reasoning Test Score ($\beta = 0.31$, $p = 0.002$) can predict the performance of students in Accounting 1 but there was no significant relationship between accounting grade in senior high school and final grade in Accounting 1 in college ($r = 0.21$, $n = 55$, $p = 0.12$). The significant predictors are reflective of the important intellectual skills and competencies the accounting profession requires such as analytical, problem-solving and strategic critical thinking skills. The University may consider these factors in updating their admission policy to the program.

Keywords: *predictors of final grade in Accounting 1, College Admission Test scores, abstract reasoning, English proficiency, ABM strand or track*

INTRODUCTION

With the free tuition policy in the State Universities and Colleges (SUCs), there is an increase in student's enrolment in Romblon State University (RSU). More students also intend to take up BS Accountancy program in the University. Despite this increase, the University's capacity in terms of instructors and classrooms remains limited, and it is necessary to determine which student is more eligible and probable to succeed in the program. It is also assumed that enrolling ineligible students and failing to recruit the most capable candidates wastes resources and has a long-term negative impact on the program.

Romblon State University currently utilizes the result of the College Admission Test (RSUCAT) and the

High School grade point average as criteria for admission. It is assumed that these criteria positively predict student's performance in the university. To ensure the accuracy of admission decisions, it is necessary to research the predictive validity of these two standards. RSU administers locally developed exams that assess students' abilities in the following subjects: math, English, Filipino, and science. The fundamental notion is that a high school student with a high admission test score and a high grade point average will do well in university.

Different countries have conducted extensive research into the predictive validity of government national examinations on students' prospective academic performance in various contexts. Many research findings from studies on predictive validity performed over the last several years can be observed in Rothstein (2004), Cooter et al. (2004), and Geiser and Santelices (2007). According to Geiser and Santelices (2007), high school grade point average best predicts freshman grades. In addition, they claimed that the result has implications for policy on student admissions, arguing for a greater importance on high school grade

✉ fetalverosherryll@gmail.com

College of Business and Accountancy, Romblon State University,
Odiong, Romblon

Received 15 October 2023; Revised 7 December 2023; Accepted 14 December 2023



over standardized test scores. Elert (1992) examined numerous investigations on the validity of various predictors of academic achievement and found out that high school GPAs were twice as accurate as standardized entrance test scores in predicting college success. Using three decades of longitudinal data, Cooter et al. (2004) established in an empirical investigation on the predictive validity of grades that slight variances in number grades are statistically significant, and the magnitude of predictive validity and the ability to identify at-risk students in schools is dependent on evaluation methods such as the use of number grades and pass/fail (PF) systems.

Predictive validity is defined as the accuracy with which test data can predict a future criterion score. When an examination is utilized to forecast the probability of some impending performance, predictive validity is crucial. It signifies the degree to which prospective performance on the criterion can be projected based on past test performance (Crocker & Algina, 1986; Messick, 1989).

Aside from demographic variables such as ethnicity and gender, predictive validity studies have focused on two clusters: cognitive and non-cognitive predictors (Fan, Li, & Niess, 1998; Schwartz & Washington, 2002). Cognitive predictors include college entrance test scores and high school academic performance, whereas non-cognitive predictors relate to personality characteristics (such as dedication to studies, self-directedness, self-motivation, and social skills) and environmental factors (such as size of schools, parental education, location of schools, and socioeconomic status) (Wolfe & Johnson, 1995; Barnett, 2003; Mulvenon, Stegman, Ganley, & McKegman, 2002). This investigation, however, is limited to cognitive predictors only.

The Department of Accountancy of the College of Business and Accountancy in Romblon State University Main Campus has been facing problems on the cohort survival rate of the BS Accountancy students and the University's percentage of passing in the Certified Public Accountant Licensure Examination (CPALE). As a remedy, the Department intends to evaluate the

current admissions procedures for the accounting program. This is to determine the validity of each of the admission requirements.

Given that university entrance examination scores and high school GPA are extremely important factors for admission to tertiary education and consequently have significant after-effects for students, it is essential to determine whether these two variables accurately predict student performance in Accounting 1.

This study's findings may assist the Admission Unit of the university and the Department of Accountancy in determining whether high school grades and university entrance Exam scores are accurate predictors of Accounting 1 students' academic performance. It could aid in the development of future admissions policies and, ideally, improve cohort survival rates and CPALE passing performance.

This study analyzed whether gender, school type, academic track, senior high school report card grade, Overall College Admission Test (CAT) Score and its subject components (Science, English, Mathematics and Filipino), and abstract reasoning are significant predictors of students' performance in Accounting 1 at Romblon State University in Odiongan, Romblon, Philippines. For those who took the Accountancy and Business Management (ABM) track in senior high school, a correlation between their grade in Fundamentals of Accounting and their final grade in Accounting 1 was also determined.

METHODOLOGY

Admission test scores such as the total score and the component scores (Science, English, Mathematics and Filipino), the SHS report card average and profile variables like gender, type of school graduated and SHS academic track of 139 BS Accountancy students at Romblon State University from school years 2018-2019 and 2019-2020 were requested from the offices of the University Registrar and Admissions and Testing. Their grades in Accounting 1 was secured from their instructor. A 100-item standardized Abstract Reasoning test was administered to those who were currently

Table 1. Descriptive Analysis of the Quantitative Variables (n=79)

Variable	Mean ± Standard Deviation
Final Grade in Accounting 1	80.96 ± 6.12
SHS Report Card Average	93.28 ± 2.06
RSU CAT Overall Score	106.92 ± 13.44
English CAT Score	25.18 ± 4.90
Science CAT Score	25.90 ± 4.81
Filipino CAT Score	26.91 ± 3.57
Math CAT Score	28.94 ± 5.91
Abstract Reasoning Test Score	70.87 ± 13.77
Grade in Fundamentals of Accountancy and Management (for ABM, n=55)	90.56 ± 3.53

Table 2. Model Summary

R	R square	Adjusted R Square	Std. Error of the Estimate
0.62	0.38	0.36	4.91

Table 3. ANOVA Table for the Significance of the Regression Model

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	1108.85	3	369.62	15.33	0.000
Residual	1808.04	75	24.11		
Total	2916.89	78			

Table 4. Coefficients

Independent Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
Constant	56.57	3.82		14.81	0.000
Abstract Reasoning Test Score	0.14	0.04	0.31	3.28	0.002
English CAT Score	0.42	0.12	0.34	3.62	0.001
Academic Track	4.96	1.43	0.32	3.46	0.001

Dependent Variable: Final Grade in Accounting 1

enrolled in the program because this test was not part of the RSU-CAT. Ethical considerations were observed in data collection to ascertain the anonymity of the respondents.

After preliminary screening, only 79 respondents (57.66%) aged 16 to 19 years old had complete data which were needed for subsequent analysis. Of these, 64 were females, 61 were from public senior high schools and 55 were graduates of the ABM track. Pearson product-moment correlation coefficient and multiple stepwise linear regression were used to analyze the data. Categorical variables such as gender (0 = female, 1 = male), school type (0 = private, 1 = public), and academic track (0 = non-ABM, 1 = ABM) were transformed into dummy variables to enable regression analysis (Muijs, 2004).

RESULTS AND DISCUSSION

The mean and standard deviation of the numerical variables measured in this study are shown in Table 1.

Regression Analysis on the Predictors of Final Grade in Accounting 1

Multiple linear regression analysis particularly the stepwise method was used to assess the ability of the variables such as gender, Type of SHS graduated, Academic Track, SHS Report Card Average, RSU CAT Overall Score and its component subject areas (English, Science, Filipino and Math) and Abstract Reasoning Test Score to predict the Final Grade in Accounting 1. The analysis resulted in three regression models, the third one is shown in Table 4 with English CAT Score ($\beta = 0.34$, $p = 0.001$), academic track ($\beta = 0.32$, $p = 0.001$) and Abstract Reasoning Test Score ($\beta = 0.31$, $p = 0.002$) recording statistically significant beta values. The regression model was significant, $F(3,75) = 15.33$,

$p = 0.000$ (Table 3) explaining a total variance of 38% (Table 2) in the grade in Financial Accounting 1.

Correlation Between FAM and Accounting 1 Grades among ABM Graduates

Using Pearson's product-moment correlation coefficient, the relationship between FAM grade and Accounting 1 grade among ABM graduates was investigated. The relationship between the two variables was not significant, $r = 0.21$, $n = 55$, $p = 0.12$. Figure 1 shows that their FAM grade back in senior high school explained only a small amount of variance (4.4%) in their final grade in Accounting 1 in college.

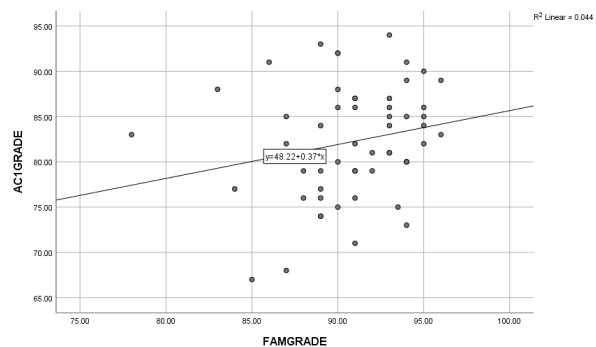


Figure 1. Scatterplot between FAM and Accounting 1 Grades among ABM Graduates

Significant Predictors of Final Grade in Accounting 1

The subsequent sections discuss English proficiency, ABM track and abstract reasoning as among the significant predictors of students' final grade in Accounting 1.

English Proficiency. English proficiency is singled out as a requirement for an applicant to be

accepted in the BS Accountancy Program (CMO 3, s. 2007) because the medium of instruction is English. In Accounting 1 for example, where topic revolves around the accounting cycle, students are expected to have a good level of English comprehension to understand the process of identifying, analyzing and recording the accounting transactions of a company. As opposed to common notion that mathematical ability and performance in accounting subjects are directly and positively related (Shaban, 2015; Buba & Umar, 2015), this was not supported by the findings of the current study maybe because students at Romblon State University can use calculators in accounting classes aside from the fact that the mathematical computations in this subject are mostly limited to MDAS. However, results of the current investigation supported the idea that English proficiency is a predictor of students' performance in accounting (Steenkamp, Baard & Frick, 2009; Buba & Umar, 2015; Ryan, Bhattacharyya, Stratilas & Goela, 2016; Modise, 2017; Sebrina, Serly & Taqwa, 2018; Velasco, 2019).

ABM Track. The Accountancy, Business, and Management (ABM) strand of the K-12 curriculum focuses on the fundamental concepts of financial management, corporate operations, business management, and everything that must be accounted for. As such, it is expected that students from this track would do well in College Accounting. Nonetheless, CMO 105, section 2017 allows all Grade 12 graduates to enter college beginning with the 2017-2018 academic year, irrespective of the strand or track taken in Senior High School; therefore, no Grade 12 graduate shall be rejected when applying for college entrance examinations in tertiary education institutions. In this study, 24 students were from non-ABM strands. Literature claims that students who had Accounting as a school subject, such as the introduction of basic accounting in senior year of high school, had a higher Accounting 1 grade point average (Steenkamp, Baard & Frick, 2009; Arquero, Byrne, Flood & Gonzales, 2009; Alanzi, 2015; Papageorgiou, 2017; Marinaccio, 2017; Onay & Benligiray, 2018). These previous findings are supported by the current study.

Abstract Reasoning. In CMO 3, s. 2007, among the intellectual skills required of a prospective accountant are analytical, problem-solving and strategic critical thinking skills. This set of abilities closely resembles abstract reasoning abilities, which, according to Cattell (1963), are associated with fluid intelligence, the capability to swiftly reason with information to solve new, unusual problems, regardless of prior knowledge. This ability is considered independent of learning, experience, and education. In this case, abstract

reasoning is a significant predictor of performance in Accounting 1.

Grade in SHS Accounting does not Predict Grade in Accounting 1 in College

As discussed in the previous section, prior exposure to an accounting subject can positively affect one's performance in Accounting. But for those who took the ABM track, their previous grade in accounting subject did not significantly predict their grade in Accounting 1 in college. Based on feedbacks and informal interviews with students, the researcher presupposed that this gap may be due to the qualification of teachers handling accounting subjects in senior high schools. There have been reports that they were not Certified Public Accountants, others were not even graduates of business courses. Moreover, the topics for the Fundamentals of Accountancy and Management were not fully covered, not even the accounting cycle.

CONCLUSION

Cohort survival rates in BS Accountancy programs in most State Universities and Colleges in the Philippines are declining as students move to higher curriculum levels calling for the need to identify essential characteristics to ensure students' potential for survival and optimization of the government's resources. This investigation highlights that English proficiency of BS Accountancy applicants, the articulation of their senior high school track to the BS Accountancy program and their abstract reasoning skills are factors that can predict the performance of RSU college students in Accounting 1. These factors are reflective of the important intellectual skills and competencies the accounting profession requires such as analytical, problem-solving and strategic critical thinking skills. However, their accounting grade in senior high school does not predict their accounting grade in college. The University may consider these factors in updating its admission policy to the program.

ACKNOWLEDGMENT

The authors acknowledged Romblon State University (RSU) through its Research, Extension and Training Unit for funding this research project, Dr. Eddie G. Fetalvero for the mentorship and guidance on research methodology and data analysis, and the RSU Registrar's and Admissions and Testing Offices for their assistance in gathering the secondary data for this research.

AUTHORS' CONTRIBUTIONS

Conceptualization, S.M.F. and E.S.F.; methodology, S.M.F., T.T.F. and E.F.M.; software, S.M.F. and J.F.F.; formal analysis, S.M.F., E.S.F., T.T.F., and E.F.M.; resources, S.M.F., T.T.F. and E.F.M.; data curation, S.M.F., M.J.F.C., B.F.F.A. and J.F.F.; writing—original draft, S.M.F.; writing—review and editing, E.S.F. and J.F.F.; visualization, S.M.F.; supervision, E.F.M. and T.T.F.; project administration, S.M.F.; funding acquisition, S.M.F. and E.M.F. All authors have read and agreed to the published version of the manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

- Alanzi, K.A. (2015 March). Determinants of students' performance in cost accounting – further evidence from Kuwait. *World Journal of Management*, 6(1), 136-152. <https://doi.org/10.21102/WJM.2015.03.61.11>
- Arquero, J. L., Byrne, M., Flood, B., & González, J. M. (2009). Motives, expectations, preparedness and academic performance: A study of students of accounting at a Spanish university. *Revista de Contabilidad-Spanish Accounting Review*, 12(2), 279-300. [http://dx.doi.org/10.1016/S1138-4891\(09\)70009-3](http://dx.doi.org/10.1016/S1138-4891(09)70009-3)
- Barnett, J., Ritter, G. W., & Lucas, C. J. (2002). Educational reform in Arkansas: Making sense of the debate over school consolidation. *Arkansas Education Research & Policy Studies Journal*, 2(2), 1-21.
- Buba, M. Z., & Umar, R. T. (2015). Effect of mathematics and English language proficiency on academic performance of business education students in financial accounting. *ATBU Journal of Science, Technology and Education*, 3(1), 58-67.
- Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. *Journal of Educational Psychology*, 54(1), 1. <https://psycnet.apa.org/doi/10.1037/h0046743>
- CMO 3 s. 2007. Revised Policies and Standards for Bachelor of Science in Accountancy (BSA), as Amended. CHED. Retrieved from <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.03-s2007.pdf>
- CMO 105 s. 2017. Policy on the Admission of Senior High School Graduates to the Higher Education Institutions Effective Academic Year 2018-2019. CHED. Retrieved from <https://chedrol.com/wp-content/uploads/2019/07/CMO-No.-105-s.-2017-Policy-on-the-Admission-of-Senior-High-School-Graduates-to-the-Higher-Education-Institutions-Effective-Academic-Year-2018-2019.pdf>
- Cooter, R., Erdmann, J. B., Gonnella, J. S., Callahan, C. A., Hojat, M., & Xu, G. (2004). Economic diversity in medical education: the relationship between students' family income and academic performance, career choice, and student debt. *Evaluation & The Health Professions*, 27(3), 252-264. <https://doi.org/10.1177/0163278704267041>
- Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory*. Holt, Rinehart and Winston, 6277 Sea Harbor Drive, Orlando, FL 32887.
- Elert, G. (1992). The SAT, aptitude or demographics? *E-World*. Retrieved from <http://www.hypertextbook.com/eworld/>
- Fan, T. S., Li, Y. C., & Niess, M. L. (1998). Predicting academic achievement of college computer science majors. *Journal of Research on Computing in Education*, 31(2), 155-172.
- Geiser, S., & Santelices, M. V. (2007). Validity of high-school grades in predicting student success beyond the freshman year: high-school record vs. standardized tests as indicators of four-year college outcomes. Research & Occasional Paper Series: CSHE. 6.07. *Center for Studies in Higher Education*.
- Marinaccio, G. T. (2017). The effect of high school accounting on the selection of college major, performance, satisfaction, and retention. *Honors Theses and Capstones*, 353.
- Messick, S. (1989). Meaning and values in test validation: The science and ethics of assessment. *Educational Researcher*, 18(2), 5-11. <https://doi.org/10.3102/0013189X018002005>
- Modise, A.M. (2016). Pedagogical content knowledge challenges of accounting teachers. *International Journal of Educational Sciences*, 13(3), 291-297. <https://doi.org/10.1080/09751122.2016.11890464>
- Muijs, D. (2004). *Quantitative methods in educational research*. Sage.
- Mulvenon, S. W., Stegman, C. E., Ganley, B. J., & McKenzie, S. (2002). Little Rock School District revisited: Is desegregation working. In *annual meeting of the American Educational Research Association*, Chicago.
- Onay, A. & Benligiray, S. (2018). Internal factors affecting student performance in accounting courses at a vocational school. *Sumerianz Journal of Economics and Finance*, 1(3), 82-90.

- Papageorgiou, E. (2017). Accounting students' profile versus academic performance. *A Five-Year Analysis*, 31(3), 209-229. <https://doi.org/10.20853/31-3-1064>.
- Rothstein, J. M. (2004). College performance predictions and the SAT. *Journal of Econometrics*, 121(1-2), 297-317.
- Ryan, S., Bhattacharyya, A., Stratilas, K., & Goela, N. (2012). English language proficiency and learning among Australian international postgraduate accounting students. *The International Journal of Learning*, 18(5).
- Schwartz, R. A., & Washington, C. M. (2002). Predicting academic performance and retention among African American freshmen men. *NASPA Journal*, 39(4), 354-370. <http://dx.doi.org/10.2202/0027-6014.1178>
- Sebrina, N., Serly, V., & Taqwa, S. (2018, July). The Determinant Factors Comprising Students' Performance in The Digital Era. In *First Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2018)*. Atlantis Press.
- Shaban, O. (2015). The relationship between mathematics grades and the academic performance of the accounting students' department (A case study on accounting department students at Al-Zaytoonah University of Jordan). *The European Proceedings of Social & Behavioural Sciences*. <http://dx.doi.org/10.15405/epsbs.2015.05.6>.
- Steenkamp, L. P., Baard, R. S., & Frick, B. L. (2009). Factors influencing success in first-year accounting at a South African university: A comparison between lecturers' assumptions and students' perceptions. *South African Journal of Accounting Research*, 23(1), 113-140. <http://dx.doi.org/10.1080/10291954.2009.11435142>
- Velasco, R. M. (2019). Factors Associated with failure in accounting: a case study of the Omani students. *International Journal of Higher Education*, 8(6), 157-170.
- Wolfe, R. N., & Johnson, S. D. (1995). Personality as a predictor of college performance. *Educational and Psychological Measurement*, 55(2), 177-185. <https://psycnet.apa.org/doi/10.1177/0013164495055002002>