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Relationship Analysis of Professional Competencies & Student Learning Outcomes - A Case Study of Kepler College

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Abstract

This study investigated the relationship between professional competencies i.e., time and task management as measured by on-time attendance, assignment submission rates, and student learning outcomes at Kepler College. The quantitative research design and secondary data from 587 students across the 2022-2024 academic years were used. To analyze and assure data validity and accuracy, descriptive, correlation, validity, reliability and regression analysis were used. The findings showed a moderate positive correlation between the compiled measure, professional competencies (ProfComp) and student performance rates. Confirming this was the regression analysis which also revealed that higher professional competency was associated with better performance outcomes, although the impact model explained a small variance that suggested other factors play a big role. The study showed that students need to develop time and task management skills to achieve academic success and professional readiness. Despite the reliability analysis showing room for improvement in the internal consistency of the measures, the study ultimately proved that professional competencies have a moderate statistically significant impact on students' performance at Kepler College. With a population of 587, the mean attendance was at 96%, reflecting students' commitment and engagement in showing up for classes on time. The low standard deviation of 3.67 indicates that attendance rates are highly consistent across the students. The findings presented a positive relationship between students' attendance, timely submission, and performance which implies that as professional competencies increase, performance rates also tend to improve. Thus, it confirms that there's a potential chance that students who had higher attendance and submission rates to have also experienced higher performance rates than those who otherwise didn't. Despite the reliability

Keywords: Competency, Professionalism, Timeliness, Students' performance, Learning outcomes, and Education.

1. Introduction

There are many factors that affect students as they transition into the workforce. According to Aydin (2017) some of these are personal such as perception,

actions, attitudes and personal values, which individuals can control and change. In response, Kepler College is teaching students these personal values and soft skills, which act as foundational

building blocks for professionalism as they move into their corporate phases. These skills have shown a positive impact on students' learning outcomes, especially during independent and group projects to meet academic requirements.

Twehues, (2013) highlights the role of time management in undergraduate success, explaining that students need to manage their time effectively to balance academic requirements, extracurricular activities and career related employment. Poor time management, often resulting from role overload, leads to increased stress and reduced academic performance. Another essential metric adding to the mix is task management, which also plays a big role in students' academic success. According to Claessens *et al.* (2007) task management, which involves planning, prioritizing and executing specific academic activities, is directly linked to students' ability to meet deadlines and maintain academic integrity. Students who develop strong time management skills can control their schedule, reduce stress and achieve higher academic outcomes. So, both time and task management are essential competencies for students who want to succeed in higher education.

Moreover, students need practices that support cognition, motivation and strategic learning. Broadbent, (2015) discusses Zimmerman's Three-Phase Model, focusing on the forethought phase, which has two components: task analysis and self-motivated beliefs. During task analysis, learners break down tasks and plan how they will approach them using goal setting and strategic planning to achieve their objectives. This study emphasizes the importance of professional competency skills in students' overall academic performance. In this context professional competency is measured through two parameters: time and task management - evaluated in the forms of on-time class attendance rates (time management) and submission rates (task management).

2. Literature of Review

The underlying structure of this literature review relies on current educational theories and methodologies to assess the impact of professional competencies such as time and task management - in terms of punctuality and meeting deadlines on the performance of students.

Additionally, it explores key frameworks on how expected learning outcomes are achieved by students and the implications associated with students' submissions and attendance rates e.g., not showing up of classes or late/missed submissions and classes, and factors driving the contrary given how the students perceive and approach time.

Time & Task Management Skills on Students' Academic Achievement

College students are usually involved in both academic and extracurricular activities. Therefore, it becomes very important to include time and tasks management in their daily routine in order to balance the two effectively. Failure to this is what results in cases of stress, burnouts etc. and negatively impact their levels and quality of performance in academics and life, shares Vences, (2015). This emphasizes the importance of effective management of time and tasks in achieving success in life and academics. As higher education institutions prepare students for the competitive market after academics, they are reminded to include planning and time management in early stages in students' academics in order to hone their skills.

A study by Wilson *et al.* (2021) also highlights the role of both time and task management in academic success. They found out that training time management skills in schools significantly improved students' ability to allocate time effectively in their assigned academic tasks. This was because students were not only able to understand the tasks and responsibilities given but also the steps and processes, they can use to optimize their efforts and time spent on each task. Same case was observed by Rashid *et al.* (2020) who found out a positive correlation between students' time management behaviors and their cumulative GPA. This emphasizes the importance of planning and prioritization in academic achievement. Another companion of time management is task management which is defined as the process of successfully planning, setting priorities, and finishing particular tasks (Zhao *et al.*, 2024). They investigated the relationship between academic success and students' self-management techniques and came to the conclusion that task management affects academic performance. This is because the findings demon-

strated that students who performed better academically had better task management abilities. These students had higher self-efficacy that was gained from their understanding and experience with tasks and time commitment requirements; thus, having leverage in terms of level of input needed to complete them. Thus, including both time and task management training and competencies helps students to meet the demands of their academics and also their overall performance.

Long-term Goal Setting & Disciplined Routines on Students' Academic Journeys

The trajectories of students' academics are influenced by the long-term goal setting and disciplined routines initially made. Yusuff, (2018) conducted a study at King Faisal University that revealed that the pharmacy students who engaged in personalized goal setting and study planning realized higher academic performance compared to those that did not. They were able to visually and realistically define what and when they wanted to accomplish in the end, which made their academic journey less nuanced and the set milestones more relatable and achievable, gaining the confidence as they progressed. In another large-scale field experiment, Dobrony *et al.* (2019) evaluated the impact of online goal-setting intervention among first-year students. The research found no significant effect on GPA or course credits, but the highlights underscored from the research emphasized how complex of a process it was and the essence of translating goal-setting exercises into measurable academic improvements. This revealed that additional support mechanisms should be adopted such as specific study routines, practices, and behaviors that help aid students to really actualize and align their goals towards the intended outcomes. Further, this idea was pounded by Koteles, (2020) who in his study revealed the effects of goal setting on student engagement in science classrooms. The study found that students who set and monitored their goals demonstrated increased engagement, self-awareness, and academic achievement. From these findings, while the direct impact of goal setting on measurable outcomes like GPA may vary or negligible, the underlying positive influence on student engagement and motivation is initially set by having a goal-

oriented framework and mindset, which inherently paves way for the willingness and ability to seek more practical steps like disciplined routines to help aid the actualization of the set goals. Thus, it underscores the value of incorporating structural setting practices into educational frameworks.

Students' Beliefs on Time Influencing Their Learning Outcomes

The way students perceive time management and its impacts on their tasks significantly influence their learning outcomes. Lobos *et al.* (2021) investigated the relationship between students' learning beliefs, time spent on learning platforms, and academic performance during the COVID-19 pandemic. They found out that students with positive beliefs about their learning capabilities and perceived outcome from it invested more time in their academic activities and achieved higher performance levels. The beliefs herein are strongly tied to set behaviors and planning, including goal setting that impacts how they allocate and utilize their time for learning. A study conducted by Martinez-Montegudo *et al.* (2018) on the impact of academic goals profiles on students' performance revealed that students who had set higher achievement goals demonstrated superior time management skills and learning strategies. This can be explained that these high performing students had a clearer perception of the time, commitment, effort, and skills required to successfully achieve the set goals having gone through the goal setting process. Additionally Marise, (2024) further shares the importance of setting learning goals over performance goals citing that the students who had invested more of their time in mastering content rather than merely achieving higher grades had gravitated towards perceiving and managing their time more effectively. This resulted in deeper learning and better academic outcomes.

Yusuff, (2018) also highlighted that the students who engaged in personalized goal setting and study planning developed better time management skills, which contributed to improved academic performance. This reinforces the notion that students' beliefs and planning regarding time allocation are crucial for academic success. Positive perceptions and proactive time management strategies are consistently linked to

higher academic achievement, emphasizing the need for educational intervention that fosters these skills.

Why Students Skip Classes

As the essence of time and task management has been illuminated, it is also worth delving into the intricacies propelling students' lack of, partial, or late class attendances. Class attendance is a significant factor in academic success, yet many students frequently skip classes, nonetheless. Well, at least for various reasons. An article from Miljkovic *et al.* (2015) highlights common reasons for absenteeism, including lack of interest in the subject, health issues, family obligations, work commitments, and mental fatigue. These factors highlight the multifaceted nature of class attendance challenges that impair students' attendance capacities ranging from items within to outside their influence. In Scotland, post-COVID-19 educational disruptions have led to increased absenteeism. A report by The Scottish Sun, (2025) indicates that 41% of secondary students were missing at least 10% of the school year, attributing this trend to the pandemic's impact on student's perception of school importance and increased behavioral issues. A similar case was observed in Australia where school attendance rates declined leaving 40% of students missing significant class times (The Australian, 2024). The article reports that phenomena such as "school can't" increased cases of homeschooling, and challenges faced by indigenous and economically disadvantaged students further contributed to the trend. This introduced another inhibiting factor, i.e., school fees as another contributing factor to missed attendance. Marbouti *et al.* (2018) shares that the scheduled time of classes is another factor that plays a role in students' attendance rates. The findings from their study were that students who enrolled in early morning and late Friday afternoon classes reported lower attendance and final grades than students in other sections.

3. Methodology

This study used a Quantitative research design to analyze the relationship between professional competencies and student learning outcomes at Kepler College. This approach was chosen to establish measurable patterns and correlations between these variables.

Research Design and Approach

Quantitative research design was chosen as appropriate for this study since it assists in identifying measurable patterns and relationships. This facilitates a simpler and easier way of objectively observing how professional skills-based expectations influence academic achievement and progress (Bhandari, 2020). This report builds on existing research, which shows how significant professional skills – such as time management, ethics, and problem-solving – assist in learning success and preparedness for work after graduation (OECD, 2019). It borrows the ideas and frameworks of competency-based education systems (a model that the school herein uses), which are focused on the mastery of these specific skills and behaviors as success measures of learning outcomes (Gervais, 2016). A case study methodology was used to gain a close look at Kepler College as a bounded system. Collectively, this framework helps find the relationship between demonstrated professional competencies and students' academic outcomes as tested on 587 students of the academic years 2022-2024 i.e. Kepler College's BAPM¹ (cohorts 2022 & 2023) and SNHU² (2024 cohort).

Data Collection Methods & Analysis Techniques

This research uses secondary data on students' performance records sourced from Kepler College's office of the registrar. It encompasses metrics such as students' attendance records, assignment submissions timelines, and overall performance of students in all modules attended in the academic years (aforementioned). On the technique used to analyze the data herein, descriptive statistics technique was used to summarize students' performance data against the professional competencies' metrics. Supplementarily, a correlation analysis, validity and reliability tests were also performed to validate the findings and insights drawn from this data.

Definition of Operational Variables

Stanford University (n.d.) describes professional competencies as the skills, knowledge, and abilities that allow one to thrive in a work environment that is dynamic or thorough in their careers. Such skills are usually desirable and sought after by professional societies and organizations, and they include hard skills (technical competency) as well as soft skills

(personal and professional traits). This research focuses on professional skills, in particular soft skills like time and task management and it does stress particular significance on timely attendance by students and timely submission of course work, which are integral learner expectations at Kepler College.

At Kepler College as outlined in the student handbook, on-time final submission means timely completion and submission of formative and/or summative assessments. Students must comply with at least 85% of all deadlines in a course, such as assignments, quizzes, and projects. Meeting deadlines consistently demonstrates high responsibility and good time and task management – important components of professional competencies. On the other hand, failure to meet deadlines for no understandable reasons adversely affects a student's assessment in the time management framework. Similarly, punctual class attendance is a key indicator of professional ability. Students here are expected to arrive a minimum of five minutes before the scheduled commencement time for approved attendance recording and a demonstration of effective time management. Attendance is tracked cumulatively throughout the semester, and students must achieve a minimum 85% attendance record to be allowed to sit for final examinations. Falling below the mark disqualifies students from examinations and jeopardizes their progression in studies.

Kepler College's learning objectives place a priority on quantifiable academic achievement, which to a great extent is measured by students' adherence to attendance and on-time submission of assignments. A non-compliance with the minimum 85% attendance requirement - such as remaining more than 15 minutes outside the classroom during class hours results in a student being marked absent, and a repetition of this might result in disqualifying a student from final examination in case their attendance rates fall below the expected (85%) threshold, hence placing the student at higher risk for course failure. Similarly, students who are unable to meet 90% on-time submission of formative assessments are not permitted to conduct summative assessments, hence lowering their chances for course completion. Although Kepler Colleges allows considerations for absences and late assignments under certain circumstances, the school Universe PG | www.universepg.com

emphasizes the need to show personal responsibility in time management as a crucial part of academic success. It has been discovered that students who receive special approvals tend to continue performing poorly academically, and thus the need to maintain these professional standards for maximum learning outcomes.

Sources of Data

The focus area of study was two cohorts, 2022 & 2023 at Kepler College pursuing Bachelor of Arts in Project Management, and 2024's, which recently completed the Foundation Program. This group's selection was because of their prior interaction and exposure to the learning system and professional competencies facilitated by the school, i.e., class attendance, time management, tasks submissions etc., as required by the modules taken i.e., Fundamentals of Professionalism, Business Mathematics, Critical Thinking, Ethical Problem Solving, Communications Skills, Technology, etc.

Assumptions & Limitations

There's a strong reliance on secondary data in this research, which may lack some detailed qualitative insights into the underlying cause of behavior recorded. Additionally, there's a possibility to demonstrate an outstanding or low academic performance without necessarily being as a result of the applied school's professional competencies or lack of it thereof – implying other external factors coming into play and influencing the outcome realized. Lastly, the data, analysis metrics, and findings collected, and outcomes inferred as solemnly specific to Kepler College, and hence may not be applicable as a generalization to other different contexts, especially those that do not use a similar professional competency framework.

4. Results & Discussion

This section presents the findings of the study on the relationship between professional competencies and student learning outcomes at Kepler College. Quantitative analysis was conducted using descriptive statistics, diagnosis tests, correlation, and regression analysis to explore the strength and direction of the relationship between the two variables. The results are interpreted in light of existing literature on com-

petency-based education and student performance. Key patterns, implications and validity tests are discussed to provide a comprehensive understanding of the study’s outcomes.

Descriptive Statistics

For succinct analysis, descriptive statistics were computed for the four variables: Submission Rate, Attendance Rate, Performance Rate and Professional Competencies (ProfComp). Note that: the ProfComp variable is introduced as a composite measure derived from submission and attendance rates (weighted average). On average, results show that students submit about 84-95% of all required coursework on

time - accounting for the calculated disparities (see **Table 1**). This implies that the students show a considerably higher ability to effectively manage their tasks and time. Moreover, the small disparity (5.51) further stresses that most students exude this similar behavior and are consistent. In Wang, (2022) work on mining submission patterns and academic outcomes, he revealed that a lower submission rate negatively impacts overall performance as consistent submission is often correlated and an indicator of better learning outcomes – the insights were used to successfully detect at-risk students.

Table 1: Descriptive Statistics.

Variable	Mean	Std. Dev.	Population
Submission Rate	89.44	5.51	587
Attendance Rate	96.28	3.67	587
Performance Rate	76.76	5.45	587
ProfComp	92.86	3.41	587

The mean attendance was at a high of 96%, reflecting students’ commitment and engagement in showing up for classes on time. With a low standard deviation of 3.67, it’s an indication that attendance rates are highly consistent across the students. This variability is influenced by factors such as study habits, prior knowledge, teachers’ effectiveness, motivation, career choice etc., shares Briones *et al.* (2022). In performance, the results show an average of 71-81% (**Table 1**) - accounting for the low s.d. (5.45). There’s a low variability in performance, suggesting that almost all the students have their performance in this range. At Kepler College, the pass rate is capped at 67% and thus comparatively, both the lower and higher percentiles of this range demonstrate a higher-than-expected threshold, which is satisfactory and shows significantly demonstrated professional competency (students’ skills that sum up to their abilities to successfully submit and attend classes on time) as undoubtedly revealed by the Prof Comp stats (see **Table 1**) – 92.86, so does that the lowest standard deviation of 3.41 confirm. This suggests that students who maintain high submission and attendance rate are better equipped with the skills and knowledge required for professional success – aligning with previous research highlighting the importance of consistent

engagement in fostering academic success and professional readiness (Quynh *et al.*, 2021).

Diagnosis Tests

To ensure the quality and credibility of the study results, a series of diagnostic tests were conducted on the collected data. These included validity and reliability tests to confirm the accuracy, consistency, and reflection of the relationship between professional competencies and student performance. A regression analysis was also performed to assess the strength and significance of the predictive impacts.

Validity Test

A validity test was conducted to ensure the accuracy and reliability of the students’ data collected and ascertain the level of reflection of the relationship between professional competencies and student performance since ProfComp encompasses both attendance and submission rates. Pearson Correlation provided the results as seen in **Table 2**. The correlation coefficient (r = 0.250) indicates a moderate positive relationship between Performance Rate and ProfComp. This suggests that as professional competencies increase, performance rates also tend to improve. Thus, it does confirm that there’s a potential

chance that students who had higher attendance and submission rates to have also experienced higher performance rates than those who otherwise didn't.

Table 2: Validity Statistics.

Correlations					
		Performance Rate	Submission Rate	Attendance Rate	Prof Comp
Performance Rate	Pearson Correlation	1	.248**	.092*	.250**
	Sig. (2-tailed)		<.001	.025	<.001
	N	587	587	587	587
Submission Rate	Pearson Correlation	.248**	1	.069	.844**
	Sig. (2-tailed)	<.001		.096	<.001
	N	587	587	587	587
Attendance Rate	Pearson Correlation	.092*	.069	1	.593**
	Sig. (2-tailed)	.025	.096		<.001
	N	587	587	587	587
ProfComp	Pearson Correlation	.250**	.844**	.593**	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	587	587	587	587
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

The significant level ($p < 0.001$) is very low and further confirms that this particular relationship is statistically significant, meaning it is unlikely to have just occurred by chance. In addition, this moderate positive correlation hints that professional competency, i.e., the ability of students to submit and attend class on time, plays a role in determining academic performance. Supporting this inference is the individual correlations shown by submission (0.248) and attendance (0.092) rates towards performance rate. However, it is also evident that all these correlations are not extremely strong, indicating that other factors other than Prof Comp, e.g., study habits, prior knowledge, external

circumstances etc. (as discussed initially) may have also additionally influenced the students' performance rate.

Reliability Test

This section presents the results of the reliability analysis using the Cronbach's alpha coefficient for the combined scales of Performance, Submission, Attendance rates, and ProfComp. This test was conducted to ensure the consistency and stability (how closely related) of the data and provide assurance that the results obtained are reproducible and trustworthy (Gorfoth, 2015).

Table 3: Reliability Statistics.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.634	.682	4

The value reported for the Cronbach's Alpha (standardized) among the four items is 0.682 compared to the regular Cronbach's Alpha 0.634 (See Table 3). Both are below the conventional threshold of 0.7 for acceptable reliability (Taber, 2017), suggesting a moderate reliability but further indicates room for improvement in the internal consistency of the items. The improvement noted after standardization explains that the differences in item variances were affecting the reliability estimate in the original Universe PG | www.universepg.com

calculation, and thus equalizing their contributions helps provide a more accurate assessment of the internal consistency.

Impact of Professional Competencies on Student Performance at Kepler College

This section covers regression analysis results for the key metrics of Model Summary and Coefficients Table with the aim of determining the impact between the two variables, which was performed to help

quantify the relationship between professional competencies and performance rates – this helps to

validate their accuracy and ability to predict outcomes (Beers, 2025).

Table 4: Model Summary.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.250 ^a	.062	.061	5.2846
a. Predictors: (Constant), ProfComp				

The R (Multiple Correlation Coefficient) value of 0.250 indicates a moderate positive relationship between the variables with a variance of only 6.2% (R²) in performance rate with respect to the impacts (influence) of the professional competencies. This suggests that while the model has some predictive power, there are likely other factors significantly influencing performance rate that are not accounted for in this model. Moreover, the standard error of the

estimate (5.2846) is moderately high and further confirms the lower predictive accuracy because of the limited explanatory power. This means that there’s a weak relationship between professional competencies and performance rates and thus students might have performed highly not because they submitted and attended classes on time, but for other reasons as earlier discussed.

Table 5: Coefficients.

Coefficients											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	39.752	5.938		6.695	<.001	28.090	51.415			
	(ProfComp)	.399	.064	.250	6.236	<.001	.273	.524	.250	.250	.250
a. Dependent Variable: PerformanceRate											

This part of the regression analysis examines how professional competency (ProfComp) predicts students’ performance rate. The unstandardized coefficient (B = 0.399) indicates that for every one-unit increase in professional competency, the performance rate increases by 0.399 units. This positive coefficient suggests that improvements in students’ professional skills are associated with better performance outcomes. The standard error (0.064) is low and thus suggests that the estimate is precise and dependable. In addition, the standardized coefficient (Beta = 0.250) reflects a moderate positive effect, meaning that professional competencies have a noticeable, though not proportionately high, influence on student performance.

as a threshold for significance, so a much smaller value, as this, strongly suggests that the observed effect is real and unlikely due to chance.

The t-statistics (6.236) and its corresponding p-value (<0.001) show that the relationship between professional competency and performance rate is statistically significant. A p-value lower than 0.05 is typically used

Moreover, the 95% confidence interval for B ranges from 0.273 to 0.524. This interval indicates that if we were to repeat the study multiple times, 95% of the time the effect of professional competency on performance would fall within this range. This reinforces confidence in the reliability and strength of the observed effect. Finally, the correlation values (zero-order, partial, and part) are all 0.250, further confirming a moderate positive relationship between professional competencies and performance. The ‘zero-order’ correlation represents the simple relationship without controlling for other factors, while the ‘partial: and ‘part’ correlations adjust for other predictors (though in this model, we decided to only consider one predictor).

Generally, the regression findings outline that higher professional competency leads to better performance outcomes for students. The relationship is statistically significant, moderate in strength, and consistent across different measures of association, providing strong evidence that developing professional skills positively impacts students' academic success.

5. Conclusion

The research conducted at Kepler College found a statistically significant yet moderate positive correlation between professional competencies – indicated by timely submission and attendance rates, and academic performance among students. Further-more, regression analysis results suggested that an increase in professional competency corresponds to increased performance levels. These results show the importance of these kinds of skills in achieving academic success. Nevertheless, the moderate strength expressed by this association shows that other factors besides professional competencies - like study habits, prior knowledge of the subject matter of assigned tasks, motivation, and interest in the subject - also play an important role in determining student learning outcomes. Notably, the high submission and attendance rates observed overall among Kepler College students suggest a positive institutional emphasis on these competencies. Despite the reliance on one institution and the use of secondary data, the current research provides important empirical evidence that substantiates the positive relationship between professional competencies and academic success in the case of Kepler College. Finally, these findings underscore the value and need to develop time and task management skills to enhance student success in higher education.

These findings inform policy suggestions such as integrating more instructional materials and resources for time and task management into the curriculum, promoting personalized goal setting and study planning sessions for students, and continue to provide support mechanisms for students facing challenges that may affect their attendance and submissions while refining the assessment metrics for professional competencies to enhance their internal consistency.

6. Author Contributions

L.I.: worked directly with Kepler College Registrar's office to acquire the raw data and was responsible for its organization and curation according to the relevant cohorts for the study, contributed to proofreading the manuscript. I.M.: was responsible for the data analysis using SPSS, performed the core statistical analysis, and crafted the first rough draft of the report. D.G. M.: provided the overall guidance, shaped the structure of the paper and contributed to the proofreading and validation of the content. M.O.: performed the final proofreading to ensure linguistic and formatting quality and handled the preparation of the manuscript for submission.

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8. Conflicts of Interest

We, the authors have no financial, professional, or personal conflicts of interest that could have influenced the work reported in this study.

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