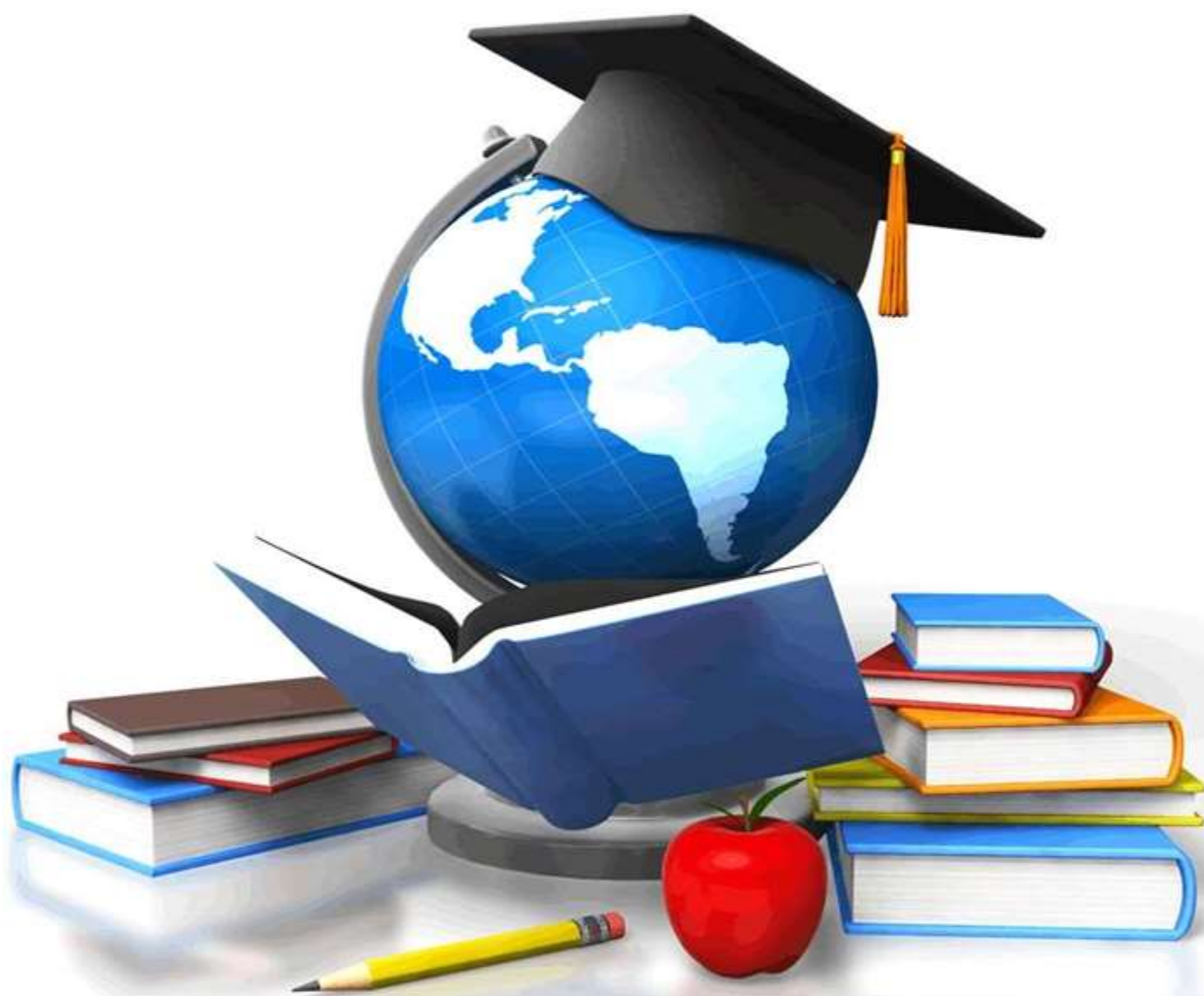


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**Influence of Institutional Moral and Academic Support on the Performance of
Final Qualifying Supplementary Examination among January/February 2026
Candidates at Kenya Medical Training College**



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Influence of Institutional Moral and Academic Support on the Performance of Final Qualifying Supplementary Examination among January/February 2026 Candidates at Kenya Medical Training College

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Abstract

Purpose: Moral and academic institutional support has been a critical factor in academic recovery after the first failure of examination. Supplementary examination candidates in Kenya Medical Training College (KMTC) face a decisive moment in terms of psychosocial pressure conditions in the absence of consistent instructional support. This research, performed under the guidance of the Theory of Student Retention by Tinto was aimed at identifying how institutional moral and academic support can affect the performance of final qualifying supplementary examinations of January/February 2026 candidates at KMTC.

Methodology: Cross-sectional research design was applied and the target population included 12,000 undergraduate students that qualify to take the January/February 2026 supplementary exams, of which 197 study participants were selected purposely. Data collection was conducted in the form of a drop-and-pick structure questionnaire with 184 responses that became usable (response rate of 93.4). The quantitative data analysis was carried out by calculating descriptive statistics (means and standard deviations) and bivariate regression analysis with a critical value of 0.05.

Findings: Findings indicated that the respondents mainly agreed that institutional support structures were significant, with a composite mean of 3.687 (SD = 0.843). Regression was used to establish that the institutional moral and academic support have a strong positive and significant impact on supplementary examination performance ($R^2 = 0.492$, $B = 0.673$, $p < 0.001$).

Contribution to Theory, Practice and Policy: The research highly recommends formalization of organized remedial programmes, institutionalization of personalized tuition, and incorporation of guidance and counselling service in the supplementary examination cycle

Key Words: *Institutional Support, Moral and Academic Support, Supplementary Examination, Kenya Medical Training College, Performance*

INTRODUCTION

Supplementary tests are important in the academic process since they offer students who have failed the first test a second chance to prove their competence. Nevertheless, learning recovery is not achieved by providing an opportunity to resist the exam only. Supplementary performance in the international higher education environment is directly related to the quality and the access to the institutional support system, including teaching dedication, individualized education, and psychosocial mentorship and advising (Davis et al., 2024; McLaughlin, 2025).

In Sub-Saharan Africa, the performance in terms of supplementary examination is often undermined by lack of specific academic help, the presence of a large number of students in a classroom, unstable presence of lecturers, and absence of psychosocial services (Kibuuka et al., 2024; Oketch et al., 2021). Candidates who fail on the first attempt usually replicate the failure without any systematic remediation and faculty support (Letseka, 2010). In Kenya Medical Training College (KMTC), the proportion of supplementary examination candidates who do not achieve the minimum 50 percent pass mark is constant, and it remains a major issue of concern among academic managers because of its effect on the institution as a whole.

The existing studies have found lecturer involvement, individualized learning, and counselling support as the major within-institutional predictors of academic recovery. Stanca (2006) showed that the attendance of an instructor has a strong correlation with student achievement, whereas RAND Corporation (2015) and Pane et al. (2017) note that individualized learning strategies result in a significant difference in student achievement. Besides, guidance and counselling programmes have also been associated with better academic performance and attendance, especially when effectively designed and made available (Lapan et al., 1997; Goodman-Scott et al., 2018).

Nevertheless, in the light of this body of evidence, there very little empirical research done on how institutional moral and academic support have a specific impact on supplementary examination performance within the KMTC institutions. This paper fills this gap by investigating the role played by institutional moral and academic support in determining the performance of the KMTC supplementary examination candidates on the January/February 2026 examination cycle.

LITERATURE REVIEW

Lecturer Class Attendance and Work Commitment

Regular attendance and work commitment by lecturers is a major determinant of academic success of the candidates. Frequent interaction by instructors provides an effective delivery of learning content and clarification of challenging concepts on time, thus providing an enabling environment in which supplementary candidates can learn. Credé et al. (2010) confirmed a positive interaction between the timeliness of the instructor and academic success of the student and underlined the key role of faculty commitment. Likewise, Stanca (2006) identified a major impact of attendance on academic success, meaning that the candidates are best served by scheduled instructor-led sessions. Rodgers (2001) observed that the connection between attendance and performance might

be mediated by the level of motivation among students, an implication that institutional commitment should be supplemented with intrinsic student activity.

Research conducted at Cavendish University in Uganda showed that a good relationship between lecturer and student is a good indicator of good academic performance among the students by the faculty; this is because they are always eager to engage in activities with their students as opposed to just being physically present in the classroom (Munguiko et al., 2025). However, Bratti and Staffolani (2013) observed that the impact of attendance on performance could vary across disciplines; therefore, even though the commitment of lecturers works well, in any specific case, it depends on the context.

Personalized Tuition and Instruction

Personalized tuition removes the need to have uniform educational experiences, thus increasing learning outcomes. RAND Corporation (2015) noted that personalized learning methods produced substantial gains in mathematics performance, and Pane et al. (2017) concluded that students in a personalized learning environment realized statistically significant higher gains in comparison with the traditional one. Walkington (2013) determined that the interest and performance of the students improved when given individualized problem-solving activities. These results are especially applicable to the supplementary candidates whose learning needs are particular and have gaps in their knowledge, which can be vastly different in comparison with students in standard instruction.

Nevertheless, Bulger (2016) encourages against the over-use of the personal approach; he emphasizes that collaborative learning opportunities should be maintained. Per Kirschner et al. (2006), inadequately structured personalized learning environment where there is less guidance, can become a significant obstacle to learning. Chingos and Whitehurst (2012) also concluded that there is no substantial difference in performance in certain situations and the effectiveness of personalized tuition is strongly dependent on the quality of the implementation and student attribute. The implication to KMTC is that individualization of tuition has to be well organized and coordinated with the faculty to produce significant results.

Guidance and Counselling Services

The provision of guidance and counselling services in the educational institutions is instrumental towards helping the candidate improve academically and personally. In a study by Lanan et al. (1997), students in schools that had a fully implemented counselling programmes, had better grades and their education was seen to be more relevant. Goodman-Scott et al. (2018) established that academic performance is improved with low student to counsellor ratios, implying that the presence of easily accessible counselling services is helpful to candidates. Brigman and Campbell (2003) also noted that the interventions in counselling based on the improvement of social skills resulted into improved academic performance.

The importance of counselling increases in the supplementary exam case when the candidates are likely to feel psychologically upset, lose self-esteem and feel stigmatized after failing the first attempt (Tinto, 1975, 2012). Brown and Trusty (2005) observed that the quality of implementation and student interest in counselling defines its effectiveness, while Whiston et al. (2011) reported that the effects could differ depending on the type of intervention. In the case of supplementary candidates, the psychosocial support and academic guidance would be necessary to regain the academic identity and motivation.

THEORETICAL FRAMEWORK

This paper is grounded on the Theory of Student Retention developed and presented by Vincent Tinto (1975) and elaborated in the following literature (Tinto, 1987, 2012). The theory states that academic and social integration into the institutional environment is the important factor that defines student persistence and academic success. Academic integration is characterized by purposeful interaction with formal and informal academic environments, such as interaction with the faculty, quality of teaching, and access to education support (Nuuyoma & Sing, 2025).

This model of Tinto is especially suitable in the case of the supplementary examination because candidates are the students who are under the threat of dropping out after failing their exams. The standard of institutional moral and academic assistance offered in the remedial period has a direct impact on the level of academic reintegration that such candidates would undergo. Academic reintegration in terms of supportive teaching, academic assistance in personalized format, and counselling that is structured are all mechanisms that can either strengthen or weaken the commitment of the candidates to their programmes and their chances of success in exams.

Although Tinto has been critiqued on creating a model that focuses on individual integration rather than structural and socioeconomic factors, and is initially developed in traditional residential university institutions, this model is applicable when context-specific changes are introduced to the models of vocational and African learning institutions (Castro-Montoya et al., 2025; Nuuyoma and Sing, 2025). The model offers a rationalized theoretical perspective to the interpretations of how institutional support is a mediating mechanism in supplementary performance.

This study endeavored to address the following research hypothesis:

H₀₂: Institutional moral and academic support has no significant influence on performance of final qualifying supplementary examination among January/February 2026 candidates at Kenya Medical Training College.

METHODS

Research Design

The research design used was cross-sectional research design to investigate the influence of institutional moral and academic support on performance of final qualifying supplementary examination among January/February 2026 candidates at KMTC. This design enabled the

determination of the relationship between the study variables at one time in a quantitative manner.

Study Location

The research was done in eight KMTC campuses namely; Kisumu, Nairobi, Nakuru, Mombasa, Nyeri, Kakamega, Embu and Garissa. KMTC is the main state-owned institution of higher learning in Kenya in the field of health training and with a population of more than 60,000 certificate, diploma, and higher national diploma students.

Participants and Sample

Qualified undergraduate students who would be taking the January/February 2026 final supplementary examinations were the target population. A sample size of 197 students using purposive sampling was found to be appropriate to address the study objectives as it would give relevant information. Out of 197 questionnaires given, 184 completed, returned forms were usable, constituting a 93.4% response rate.

Data Collection Tool and Procedures

Data were gathered through a structured Likert-scale questionnaire with the drop-and-pick method of data collection. The institutional moral and academic support scale comprised 6 items and registered the Cronbachs alpha of 0.961, which is excellent internal consistency. Informed consent, briefing on participants rights, voluntary participation and no psychological harm assurance were some of the major considerations that made in formal authorization letters before the data collection took place.

Data Analysis

The quantitative data were subjected to descriptive statistics (mean and standard deviation) and inferential statistics (Pearson correlation and simple linear regression) with a critical value of 0.05 with the help of SPSS version 25. The model of bivariate regression was as follows: $Y = \beta_0 + \beta_1 X_1 + e$, where Y is the result of supplementary examination and X_1 is institutional support in terms of morals and academic practices.

RESULTS

Descriptive Statistics on Institutional Moral and Academic Support

The results of the descriptive statistics of the six questions measuring institutional moral and academic support are provided in Table 1. The general composite mean of 3.687 (SD = 0.843) demonstrates that the respondents were generally in agreement that the institution offers significant support that can lead to improved examination results.

Table 1: Descriptive Statistics on Institutional Moral and Academic Support

Statements on Institutional Moral and Academic Support	Mean	Std. Dev
The lecturers consistently attend scheduled remedial classes	3.59	1.057
The lecturers' work commitment influences my understanding of course material	3.57	1.133
I often receive personalized tuition or one-on-one academic support from our instructors	3.61	1.060
I believe that personalized instruction is more effective than traditional lecture methods for my learning style	3.87	1.016
Guidance and counseling services contribute to improved examination outcomes	3.71	1.002
I frequently participate in academic counseling sessions or guidance programs offered by the institution	3.77	1.063
<i>Moral and Academic Support</i>	<i>3.687</i>	<i>.843</i>

The respondents believed that lecturers were committed to their work by attending classes regularly and being prepared to teach ($M=3.59$), and that the commitment of their lecturers to work determined their knowledge of the course content ($M = 3.57$). One-on-one or personalized academic support received a positive rating ($M = 3.61$) which contributes to showing that there exists some level of individualized academic support present in an institutional setting. There was also the highest agreement among the respondents that they better learn through personalized instruction than through traditional lecture-based instruction ($M = 3.87$), and indication that the study respondents view their additional examination requirements as specific and best served by individualized, learner-focused interventions. There was also a positive rating in participation in guidance and counselling programmes ($M = 3.77$) and guidance/counselling services ($M = 3.71$) were also seen to be involved in better examination results. All these results imply that the teaching-related services, and the psychosocial support services, are perceived by the candidates as services that can be relevant to better performance.

Correlation Analysis: Institutional Moral and Academic Support and Supplementary Examination Performance

Table 2 shows Pearson correlation among institutional moral support and academic support with supplementary examination performance.

Table 2. Correlation between Moral and Academic Support and examination performance

		Moral and Academic Support	Supplementary examination performance at KMTC
Moral and Academic Support	Pearson Correlation	1	.702**
	Sig. (2-tailed)		.000
	N	184	184

** . Correlation is significant at the 0.01 level (2-tailed).

Moral and academic support at an institutional level showed a high degree of positive relationship with supplementary examination performance ($r = .702, p = .000$). This means that those candidates who have a feeling that lecturers are highly committed, provide personalized academic support and have guidance and counselling services are more likely to report high performance in supplementary examinations. This observation aligns with the argument proposed by Tinto on the importance of academic integration and, in specific, the importance of teaching, supervising, and positive faculty interaction to enhance persistence and success in academic failure.

Regression Analysis

In Table 3, the regression analysis was done to determine whether the institutional moral and academic support is predictive of the supplementary examination performance.

Table 3. Regression on Institutional Moral and Academic Support and Examination Performance

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.702 ^a	.492	.489	.5780		
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.915	1	58.915	176.340	.000 ^b
	Residual	60.806	182	.334		
	Total	119.722	183			
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.348	.192		7.034	.000
	Moral and Academic Support	.673	.051	.702	13.279	.000

a. Dependent Variable: Supplementary examination performance at KMTC

b. Predictors: (Constant), Moral and Academic Support

The summary of the model indicates that there is a strong positive correlation ($R = .702$). The percentage of variance in the additional examination performance attributed to institutional moral and academic support was 49.2 ($R^2 = .492$; Adjusted $R^2 = .489$). The error of the estimate was .5780. The ANOVA findings supported the fact that the regression model is statistically significant, $F(1, 182) = 176.340$, $p < .001$, meaning that the predictor has a significant explanatory power. The coefficients table shows that moral support and academic support have a positive and significant impact on performance ($B = .673$, $SE = .051$, $b = .702$, $t = 13.279$, $p < .001$). The null hypothesis was rejected; hence, institutional moral and academic support is an effective and powerful predictor of the supplementary examination performance at KMTC.

DISCUSSION

Lecturer Commitment and Remedial Class Attendance

The ratings in the respondents on the lecturer attendance and work commitment were ranked positively with the mean of 3.59 and 3.57 respectively. Such results are consistent with the rest of the literature that confirms the idea that the presence of an instructor and regular interaction can be linked to enhanced student achievement (Stanca, 2006; Credé et al., 2010). In the supplementary examination environment, the continuous attendance by lecturers in the remedial period can help the candidates review the challenging areas, clarify the concepts in good time and have an enhanced understanding of previous areas of failure. Nevertheless, the results of the focus group discussion identified a critical conflict because whereas survey data indicated moderate-positive views of lecturer commitment, qualitative descriptions were prone to irregular instructor attendance, ambiguity of the timetable, and absence of content delivery tailoring in remedial classes. The participants reported that they felt like orphans who had no discernible academic focus. This gap implies that although the commitment levels of the lecturers are appreciated and are seen to be present at some level, the actualization of the same in the extra-curricular setting is uneven and poorly organized.

Personalized Instruction and Its Perceived Effectiveness

The highest valued aspect in the support scale was the belief of personalized instruction as more effective than traditional lectures ($M = 3.87$), and the aspect of being given actual personalized/one-on-one academic support was a little less ($M = 3.61$). This disparity between the perceived value and the reported availability is high. It implies that KMTC supplementary students are aware of the fact that they need one-on-one, specific training but do not always get it. These results are aligned with those of RAND Corporation (2015) and Pane et al. (2017) that showed that personalized learning results in significant academic gains, provided it is implemented correctly. This gap was supported by the qualitative results: the participants said that one-on-one support was practically absent in the campuses, and one of the respondents mentioned that there was no system to make appointments with a lecturer. It means that the possibilities of personalized instruction as a recovery tool are not fully implemented in KMTC.

Guidance, Counselling, and Psychosocial Support

The respondents rated the guidance and counselling services positively both in the aspect of attendance in such programmes ($M = 3.77$) and perceived contribution to examination results ($M = 3.71$). These results are consistent with evidence that properly applied counselling programmes lead to better academic output and participation (Lapan et al., 1997; Goodman-Scott et al., 2018). Nonetheless, as found in the focus group discussions, guidance and counselling services were relatively deficient at the remedial period. Participants said they did not receive structured psychosocial support when reporting back to failure after initial failure despite a universal recognition of the emotive impact of the failure of examination. Candidates reported stigmatizing language by lecturers and this added misery and decreased intentions to obtain academic help. These qualitative results highlight a rather crucial institutional deficiency: on the one hand, the importance of counselling in the eyes of the candidates; on the other hand, the lack of systematic provision of this specific support in the form of a part of the additional support system.

Overall Influence of Institutional Support on Supplementary Performance

The regression finding supports the fact that institutional moral and academic backing is a robust, independent predictor of supplementary examination performance ($R^2 = .492$; $B = .673$; $p = .001$). These results align with the theory of academic integration by Tinto (1975, 2012) who believes that sustaining persistence and success in the wake of failures is facilitated by supportive teaching, supervision, as well as meaningful institutional interaction. They are also consistent with empirical support that structured remedial programmes and institutional support services can have a high impact on the probability of additional examination success (Hassan, 2023; Stanca, 2006). The institutional moral and academic support was also a notable independent predictor ($B = .323$, 2.336 , $p = .000$) in the multiple regression model alongside the study habits and socio-economic factors explaining 71.5 percent of the variance in supplementary performance ($R^2 = .715$). This instance brings out the interpretation that supplementary performance is not only a result of the individual study effort, but also dependent on the institutional conditions in which remediation may be provided.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The research finding is that institutional moral and academic support is a critical and independent predictor of supplementary examination performance among candidates of January/February 2026 at KMTC. The favorable reputation of lecturer's commitment, personalized teaching, and guidance and counselling service is largely linked with improved performance on examinations. Notably, that there is a gap between the value attached to institutional support and its actual provision, in the light of the qualitative data, shows that supplementary success is partially an institutional product in the case of the quality, consistency, and order of the support environment. The null

hypothesis was thus rejected: there is statistically significant and positive effect of institutional moral and academic support on the supplementary examination performance.

Recommendations

KMTC ought to formalize organized remedial programmes with special schedules, well-defined learning outcomes and lecturer responsibility systems directed towards supplementary candidates. In conjunction with this, individual or small group tailored academic assistance should be institutionalized by structuring them as schedulable consultation periods and peer-mediated learning frameworks that have priority on past failed studies. Guidance and counselling services must also be part of the supplementary cycle, not optional, and must start with formal debriefing sessions right after the results are announced, and run through the remedial period with resilience-building and anti-stigma interventions. The psychosocial vulnerability of supplementary candidates should be sensitized to academic faculty, and institutional policies be explicitly against the use of stigmatizing language and in favor of supportive engagement practices. Lastly, the future research ought to consider longitudinal designs to monitor the long-term effects of institutional support interventions on pass rates supplementation, including the views of lecturers and campus administrators to give a more in-depth picture of the support climate.

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Ethics Approval

The Ethics Review Committee of Amref International University Graduate School provided formal approval of the ethics. The research was carried out in line with the Commission for University Education (Approval Number/ID: 25/4181271; Reference: AMIU/ARP/784-2). All the participants were informed about the informed consent and it was explained to them about their rights, the voluntary nature of participation, and the lack of psychological harm.

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REFERENCES

- Bratti, M., & Staffolani, S. (2013). Student time allocation and educational production functions. *Annals of Economics and Statistics*, (111/112), 103–140.
- Brigman, G., & Campbell, C. (2003). Helping students improve academic achievement and school success behavior. *Professional School Counseling*, 7(2), 91–98.
- Brown, D., & Trusty, J. (2005). School counselors, comprehensive school counseling programs, and academic achievement. *Professional School Counseling*, 9(1), 1–15.
- Bulger, M. (2016). Personalized learning: The conversations we're not having. *Data & Society Working Paper*. https://datasociety.net/pubs/ecl/PersonalizedLearning_primer_2016.pdf
- Castro-Montoya, B., Vélez-Gómez, P., Segura-Cardona, A., & French, B. F. (2025). A cultural adaptation of Tinto's student integration theory in undergraduate students of a private university in Colombia. *Cogent Education*, 12(1), 2479384. <https://doi.org/10.1080/2331186X.2025.2479384>
- Chingos, M. M., & Whitehurst, G. J. (2012). *Choosing blindly: Instructional materials, teacher effectiveness, and the common core*. Brookings Institution.
- Credé, M., Roch, S. G., & Kieszczynka, U. M. (2010). Class attendance in college: A meta-analytic review of the relationship of class attendance with grades and student characteristics. *Review of Educational Research*, 80(2), 272–295.
- Davis, J. T., Adams, K., & Morgan, A. (2024). The effect of exam retakes on future exam performance in a large classroom setting. *Advances in Physiology Education*, 48(4), 685–689. <https://doi.org/10.1152/advan.00217.2023>
- Goodman-Scott, E., Betters-Bubon, J., & Donohue, P. (2018). The school counselor's role in tiered support for comprehensive school counseling. In E. Goodman-Scott, J. Betters-Bubon, & P. Donohue (Eds.), *The school counselor's guide to multi-tiered systems of support* (pp. 11–38). Routledge.
- Hassan, M. A. (2023). Remedial education and examination success: Evidence from health professions training. *Journal of Health Professions Education*, 9(3), 45–58.
- Kibuuka, R., Mpsa, F., Atuhairwe, I., Agaba, B., Nakattudde, P., Owusu-Sekyere, S., ... Richard, K. (2024). Factors associated with retakes in health professions courses: A case study of

- five selected universities in Sub-Saharan Africa. <https://doi.org/10.21203/rs.3.rs-5368416/v1>
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work. *Educational Psychologist*, 41(2), 75–86.
- Lapan, R. T., Gysbers, N. C., & Sun, Y. (1997). The impact of more fully implemented guidance programs on the school experiences of high school students. *Professional School Counseling*, 1(1), 6–16.
- Letseka, M. (2010). Open distance learning in South Africa’s educational landscape. *South African Journal of Higher Education*, 24(5), 693–702.
- McLaughlin, J. (2025). The impact of an exam retake policy on student anxiety, academic performance, and long-term learning outcomes in high school settings. *International Journal of Scientific Research and Management*, 13(04), 4048–4058. <https://doi.org/10.18535/ijstrm/v13i04.e102>
- Munguiko, J., Nabirye, R. C., & Kiggundu, R. (2025). Factors influencing academic performance of undergraduate nurses in Uganda. *African Journal of Nursing and Midwifery*, 27(1), 1–18.
- Nuuyoma, E., & Sing, N. (2025). Revisiting Tinto’s Student Integration Theory: A framework for understanding doctoral student attrition and enhancing retention strategies. *International Journal of Research and Innovation in Social Science*, 4(5), 4095–4109. <https://doi.org/10.47772/IJRISS.2025.905000313>
- Owuor, C., Tshombe, D., Musuya, A., & Otieno, G. (2021). Factors affecting students’ assessments performance: Case of Kenya Medical Training College. *African Journal of Education and Practice*, 7(2), 30–49. <https://doi.org/10.47604/ajep.1257>
- Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2017). *Informing progress: Insights on personalized learning implementation and effects*. RAND Corporation. https://www.rand.org/pubs/research_reports/RR2042.html
- RAND Corporation. (2015). *Continued progress: Promising evidence on personalized learning*. https://www.rand.org/pubs/research_reports/RR1365.html
- Rodgers, J. R. (2001). A panel-data study of the effect of student attendance on university performance. *Australian Journal of Education*, 45(3), 284–295.

- Stanca, L. (2006). The effects of attendance on academic performance: Panel data evidence for introductory microeconomics. *Journal of Economic Education*, 37(3), 251–266.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.
- Tinto, V. (2012). *Completing college: Rethinking institutional action*. University of Chicago Press.
- Walkington, C. A. (2013). Using adaptive learning technologies to personalize instruction to student interests. *Computers & Education*, 67, 251–264.
- Whiston, S. C., Tai, W. L., Rahardja, D., & Eder, K. (2011). School counseling outcome: A meta-analytic examination of interventions. *Journal of Counseling & Development*, 89(1), 37–55.



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