



Teacher performance contracting and student outcomes: An analysis of the comprehensive learning environment in public primary schools in Kakamega County, Kenya

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<https://doi.org/10.51867/scimundi.5.2.30>

ABSTRACT

The pursuit of quality education is a global imperative, leading governments to adopt various performance management systems within the public sector. The Teachers Service Commission (TSC) in Kenya put the Performance Contract (PC) policy into effect in 2012 through the Teacher Performance Appraisal and Development (TPAD) tool. This was done to improve teacher performance and accountability. A key component of this framework is the creation of a Comprehensive Learning Environment (CLE), aimed at fostering child-friendly schools. However, over a decade after its implementation, empirical evidence remains scarce and inconclusive regarding the direct impact of teacher achievement in this specific PC target on tangible pupil learning outcomes. This study investigated the effect of teachers' achievement in the PC target for the comprehensive learning environment on three critical pupils' learning outcomes—academic achievement (measured by KCPE scores), retention rates, and completion rates—in public primary schools in Kakamega County. This research is based on the tenets of New Public Management (NPM) theory. A correlation research design with a concurrent mixed-methods approach was employed. Through multistage random sampling, 82 schools were selected from the county's 13 sub-counties. Quantitative data were collected via structured questionnaires from head teachers and teachers, covering the six-year period from 2018 to 2023. This evidence was supplemented by qualitative data from in-depth interviews with five key informants, including TSC officials and curriculum support officers. Quantitative data were analyzed using Pearson's correlation and multiple linear regression, while thematic analysis was applied to qualitative data. The results revealed weak and statistically non-significant associations between comprehensive learning environment target achievement and KCPE performance ($r=0.295$; $p=0.540$), retention rates ($r=0.630$; $p=0.180$), and completion rates ($r=0.326$; $p=0.528$). Subsequent regression models confirmed that the CLE target was not a significant predictor of any of the learning outcomes ($p>0.05$), explaining only a minimal portion of their variance. Qualitative insights indicated that the PC appraisal process was frequently regarded as a bureaucratic formality, with significant resource limitations, teacher shortages, excessive workloads, and the constraints of the TPAD tool recognized as principal obstacles to achieving an effective learning environment. The study concludes that, within the context of Kakamega County's public primary schools, teacher achievement in the comprehensive learning environment performance target, as currently implemented and measured, has no statistically significant effect on pupil learning outcomes. The study strongly recommends that the government and the TSC move beyond policy formulation to ensure the adequate provision of physical, financial, and human resources necessary for the effective implementation of the CLE. The study also advises a critical review of the TPAD tool to make it more holistic, context-sensitive, and practical. Future research should explore the effect of this target on broader learning outcomes such as pupils' communication skills, creativity, problem-solving, and critical thinking abilities.

Keywords: Comprehensive Learning Environment, Learning Outcomes Performance Contracting, Target Achievement, Teacher Appraisal, TPAD, Kenya

I. INTRODUCTION

The global shift towards New Public Management (NPM) has compelled governments worldwide to adopt performance-oriented reforms in the public sector, aiming to enhance efficiency, accountability, and service delivery (Hood, 2012). Performance Contracting (PC) stands as a cornerstone of these reforms, serving as a management tool designed to measure organizational and individual performance against predetermined targets and objectives (Nyongesa & Van der Westhuizen, 2023). The underlying premise is that by setting clear targets, employees can direct their efforts more effectively towards achieving institutional goals, thereby optimizing resource use and output (Okech, 2017).



In Kenya, the education sector, a critical arm of public service, has not been immune to these reforms. The Teachers Service Commission (TSC), the body mandated to manage the teaching service, launched Performance contracting for teachers in 2012. This initiative was, in part, a response to damning reports from the Kenya Education Sector Support Project (KESSP) 2005-2010, which highlighted systemic failures including poor governance, declining learning outcomes, a lack of teacher professionalism, and unacceptable levels of teacher absenteeism (Government of Kenya [GOK], 2012). The PC policy was thus introduced as a strategic intervention to rectify these deficiencies and reinvigorate the quality of education.

The legal framework for PC in the teaching service is anchored in the TSC Act (2012), which provides for the monitoring of teacher performance and conduct. Unlike the previous inspection-based appraisal system, the current PC framework, guided by the Teacher Performance Appraisal and Development (TPAD) tool introduced in 2016, establishes performance targets in a participatory manner between the teacher and supervisor (TSC, 2017). Teachers are evaluated on five key performance standards: Professional Knowledge and Practice, Comprehensive Learning Environment, Teacher Conduct and Professionalism, Professional Development, and Participation in a Professional Learning Community. The creation of a Comprehensive Learning Environment (CLE)—conceptualized as a child-friendly, safe, inclusive, and supportive space—is considered fundamental to fostering positive learning outcomes. The implicit assumption of the PC policy is that the achievement of these set targets would directly translate into improved teacher performance and, consequently, enhanced educational outcomes for learners.

However, despite over twelve years of PC implementation, its impact on tangible learning outcomes remains ambiguous and a subject of scholarly debate (Camilleri, 2021; Darling-Hammond et al., 2022). In Kakamega County, for instance, pupil learning outcomes have shown a pattern of stagnation or slight fluctuation, as illustrated in Table 1. Concurrently, reports of teacher indiscipline, including absenteeism and other professional misconducts, persist (Table 2), raising questions about the efficacy of the PC system in addressing the very issues it was designed to solve.

Table 1

Learning Outcomes of Kakamega County Public Primary Schools over the Period 2018-2023

Year	Mean score (out of 500 Marks)	Pupil Retention rates (%)	Pupil Completion rates (%)
2018	248	75.2	82.6
2019	249.6	81.4	84.5
2020	264	83.6	81.4
2021	255.7	81.4	84.6
2022	261.2	83.3	83.2
2023	257.8	82.7	84.1

Source: Kakamega County Education Office (2023)

Table 2

Number of Primary School Teacher Discipline Cases Reported Over the Period 2018-2023 in Kakamega County

Discipline Case	2018	2019	2020	2021	2022	2023
Desertion of duty	32	30	10	6	26	29
Absenteeism	15	13	6	-	21	18
Alcohol abuse	15	18	-	18	16	12
Insubordination	23	18	-	11	24	19
Sexual Molestation of learners	59	64	7	23	49	55
Others	13	9	-	10	13	11
Totals	157	152	23	68	152	152

Source: Kakamega County TSC Unit (2023)

1.1 Statement of the Problem

The Kenyan education landscape is populated with progressive policies aimed at revolutionizing learning outcomes, including the Competency-Based Curriculum (CBC), the Basic Education Act (2013), and the National Education Sector Strategic Plan (NESSP). The Teachers' Performance Contract (PC) policy is a central pillar in this architecture, intended to be a lever for improving teacher performance and, by extension, educational quality. Supported by the TSC Act (2012) and the TPAD tool (2016), the policy aims to systematically review teaching standards, evaluate performance, and promote continuous professional development. Yet, a glaring disconnect exists between policy intentions and on-the-ground realities. In Kakamega County, key indicators of educational quality have remained



stubbornly static. The mean score in the Kenya Certificate of Primary Education (KCPE) has hovered around the 250-mark out of 500 for years, while pupil retention and completion rates have plateaued at approximately 80% and 84% respectively, falling short of national aspirations. This stagnation persists even as teachers undergo annual PC appraisals. This contradiction underscores a critical gap in understanding: the specific effect of teachers' achievement in discrete PC targets, particularly the Comprehensive Learning Environment, on measurable pupil learning outcomes remains largely unknown. This study, therefore, seeks to bridge this gap by empirically investigating the relationship between teacher achievement in the CLE target and pupils' academic achievement, retention, and completion in public primary schools in Kakamega County. The findings are crucial for providing evidence-based feedback to the TSC and policymakers for refining the PC policy to achieve its intended goals.

1.2 Research Objective

The primary objective of this study was to establish the effect of teachers' achievement in the comprehensive learning environment PC target on pupils' learning outcomes in public primary schools in Kakamega-County.

1.3 Research Question

The research question that guided the study was: What is the effect of Teachers' achievement in the comprehensive learning environment PC target on pupils' learning outcomes (academic achievement, retention rates, and completion rates)?

II. LITERATURE REVIEW

2.1 Theoretical Framework

This study is grounded in the principles of New Public Management (NPM) theory. Pioneered by scholars like Hood (2012), NPM represents a paradigm shift in public administration, advocating for the importation of private sector management techniques into the public sector to enhance efficiency, competitiveness, and accountability. This theory emphasizes results-based management, performance measurement, and a focus on output and outcomes rather than mere procedural compliance.

Performance Contracting is a quintessential NPM tool (Mutahaba, 2011). It embodies the NPM ethos by setting clear, measurable targets for public servants and holding them accountable for achieving these targets. In the context of this study, the TSC's implementation of PC for teachers is a direct application of NPM principles. The intention is to make the teaching service more efficient and effective by clearly defining expectations (the PC targets), regularly monitoring progress (through TPAD appraisals), and theoretically linking target achievement to improved service delivery (quality education and learning outcomes). The CLE target, with its focus on creating a specific, learner-centered environment, can be seen as an NPM-inspired attempt to standardize and measure a key qualitative aspect of the educational process.

2.2 Empirical Literature on Comprehensive Learning Environments

A Comprehensive Learning Environment (CLE), often synonymous with the concept of Child-Friendly Schools (CFS), is an educational setting that holistically prioritizes the well-being, safety, and overall development of the learner. It transcends academic instruction to create a supportive, inclusive, and stimulating atmosphere where children feel physically and emotionally secure, valued, respected, and motivated to learn (Cobanoglu & Sevim, 2019). Key elements include adequate physical infrastructure (e.g., well-ventilated classrooms, safe sanitation), child-centered pedagogical methods, an inclusive curriculum, and school policies that actively protect children's rights and promote non-discrimination (Boruett et al., 2021). Such environments are designed to nurture not only cognitive development but also emotional resilience, social skills, and physical health, thereby fostering attributes like creativity, critical thinking, and life skills.

Theoretically, a well-established CLE positively influences learning outcomes through multiple pathways. It stimulates children's innate curiosity and engagement, fosters a strong sense of belonging, and provides the necessary conditions for active and cooperative learning (Xiao et al., 2023). By reducing barriers such as fear, discrimination, and disengagement, a child-friendly environment enhances students' psychosocial well-being and intrinsic motivation, which are critical precursors to improved academic performance (Boruett et al., 2021). Physical attributes like flexible seating and access to learning materials aid concentration, while pedagogical approaches rooted in dialogue and mutual respect deepen the learning experience.



In Kenya, the CLE concept was formally endorsed through the Basic Education Act (2013) as a strategy to address persistent quality issues in education (Nthenge, 2017). However, a chasm exists between policy aspiration and practical implementation. Studies indicate that the Ministry of Education and the TSC were ill-prepared to fully operationalize child-friendly schools. A significant challenge is the glaring resource constraint. Schools in Kakamega County, emblematic of many in developing nations, contend with dilapidated infrastructure, a severe shortage of learning materials, overwhelming pupil enrollment, and critical teacher understaffing (TSC, 2019). As noted by Amadi and Nwogu (2023), in low-income or underfunded contexts, creating and sustaining such environments becomes impractical.

Furthermore, the TPAD tool used to assess the CLE has been critiqued for its limitations. It does not comprehensively capture all dimensions of a child-friendly environment, particularly the more subjective aspects like emotional support and the quality of teacher-student relationships (Wanjiku et al., 2024). The definition of what constitutes "child-friendly" is also culturally mediated, and a lack of context-specific adaptation can limit the effectiveness of standardized practices (Xiao et al., 2023). Additionally, CLEs emphasize flexibility, which often clashes with the rigid, exam-oriented culture that prioritizes performance in standardized tests like the KCPE (Kagama & Irungu, 2018). These systemic and contextual challenges potentially mediate the relationship between a teacher's PC target achievement in CLE and the actual learning outcomes of pupils, suggesting that the assumed direct link may be overly simplistic.

III. METHODOLOGY

The study was conducted in Kakamega County, located in Western Kenya. The county hosts a total of 899 public primary schools staffed by 10,145 TSC-employed teachers according to Kakamega County TSC Unit in 2019. The study adopted a correlation research design, coupled with a concurrent mixed-methods approach. This design was deemed appropriate as it allowed for the collection of both quantitative and qualitative data to comprehensively examine the relationships between variables and to triangulate findings.

A multistage sampling technique was utilized. In the first stage, all 13 Sub-Counties in Kakamega County were included. In the second stage, 82 public primary schools were randomly selected from these Sub-Counties. The head teachers of the selected schools were automatically enrolled as respondents. Additionally, one teacher from each of the 82 schools was randomly selected for participation. This provided quantitative data from 164 respondents. For qualitative insights, five key informants were purposively selected: Kakamega County TSC Director, two Sub-County TSC Directors, and two Curriculum Support Officers (CSOs). These individuals were chosen for their direct involvement in the implementation and appraisal of the teacher PC policy.

Data collection employed structured questionnaires for head teachers and teachers, designed to gather data on target achievement and learning outcomes for the period 2018-2023. Semi-structured interview guides were used for the key informant interviews to garner in-depth perspectives on the PC process. The data collection instruments were pre-tested in the neighboring Lugari Sub-County to ensure validity and reliability, achieving a Cronbach's alpha coefficient of 0.820.

Quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS) Version 27. Descriptive statistics (frequencies, means, and standard deviations) were computed. Inferential statistics, namely Pearson's Product-Moment Correlation and Multiple Linear Regression, were used to test the relationships and predictive power between the CLE target and learning outcomes. Qualitative data from interviews were transcribed and analyzed thematically using N-Vivo version 14 software, identifying recurring patterns and themes. Ethical clearance was obtained from the Department of Education Administration and Planning of Masinde Muliro University, and a research permit was secured from the National Commission for Science, Technology, and Innovation (NACOSTI).

IV. RESULTS & DISCUSSION

4.1 Sociodemographic Characteristics of Respondents

The profile of the participating schools and respondents is summarized in Tables 3 and 4. The data reveals that the vast majority of schools in the sample were day schools (98.8%) and mixed-gender (98.8%). The leadership was predominantly male, with 74.4% of headteachers being male, and a significant proportion (50%) were in the 41-50 years age bracket, indicating a mature and experienced leadership corps. Similarly, the teaching workforce had a higher proportion of males (61%), and over half (58.5%) had extensive experience, having served for more than 16 years. A



critical finding was the prevalent understaffing, with 65.9% of schools lacking 3 to 5 teachers as per the Curriculum Based Establishment, a factor that would profoundly impact the ability to create a comprehensive learning environment.

Table 3
Sociodemographic Characteristics of Head Teachers

	Variable	Count	Frequency
Type of school	Day	81	98.80%
	Boarding	1	1.20%
	Total	82	100%
Sex of Head teacher	Male	61	74.40%
	Female	21	25.60%
	Total	82	100%
Age category	30-40 years	8	9.80%
	41-50 years	41	50.00%
	Above 50 years	33	40.20%
	Total	82	100%
Experience as Head teacher	1-5 years	21	25.60%
	6-10 years	34	41.50%
	11-15 years	21	25.60%
	Above 16 years	6	7.30%
	Total	82	100%
Category of school	Mixed	81	98.80%
	Girls	1	1.20%
	Total	82	100%
Period which school has done KCPE examination	5-9 years	1	1.20%
	10-14 years	17	20.70%
	15-20 years	63	76.80%
	Above 20 years	1	1.20%
	Total	82	100%
Understaffing level	3-5 Teachers	54	65.90%
	More than 5 teachers	28	34.10%
	Total	82	100%

Table 4
Sociodemographic Characteristics of Teachers

	Variable	Count	Frequency
Type of school	Day	81	98.80%
	Boarding	1	1.20%
	Total	82	100%
Sex of the teacher	Male	50	61%
	Female	32	39%
	Total	82	100%
Age category	30-40 Years	8	9.80%
	41-50years	41	50.00%
	Above 50 years	33	40.20%
	Total	82	100%
Experience as a teacher	1-5 years	6	7.30%
	6-10 years	19	23.20%
	11-15 years	9	10.90%
	Above 16 years	48	58.50%
	Total	82	100%



4.2 Trends in Comprehensive Learning Environment and Learning Outcomes

The mean scores for the CLE target and the three learning outcomes over the six-year period (2018-2023) are presented in Table 5. The data shows a steady increase in KCPE mean scores from 263.87 in 2018 to 288.70 in 2023. In contrast, the scores for the CLE target, pupil retention rates, and completion rates showed fluctuation without a clear upward trend, suggesting a disconnect between the CLE target achievement and the trajectory of these outcomes.

Table 5

Mean Scores of Comprehensive Learning Environment PC Target and Learning Outcomes (2018-2023)

Year	Comprehensive Learning Environment PC Target	KCPE Scores	Retention Rates	Completion Rates
2018	72.78	263.87	75.2	82.6
2019	73.61	272.62	81.4	84.5
2020	76.78	275.58	83.6	81.4
2021	75.93	281.09	81.4	84.6
2022	74.79	283.83	83.3	83.2
2023	73.59	288.7	82.7	84.1

4.3 Association between Comprehensive Learning Environment and Learning Outcomes

The core objective of the study was to examine the relationship between CLE achievement and pupil learning outcomes. The results of the Pearson correlation analysis are summarized in Tables 6, 8, and 10.

4.3.1 Academic Achievement (KCPE Performance)

A weak positive correlation was found between teachers' CLE target achievement and KCPE performance ($r = 0.295$). However, this relationship was not statistically significant ($p = 0.540$) (Table 6). A subsequent multiple linear regression analysis (Table 7) confirmed this, showing that the CLE target score was not a significant predictor of KCPE performance ($\beta = .295$, $p = .540$). The regression model itself was not significant ($F(1,4) = 0.707$, $p = .540$) and explained a mere 8.7% of the variance in KCPE scores ($R^2 = .087$).

Table 6

Association between Comprehensive Learning Environment PC Target Scores Achievement and Academic Achievement

	Comprehensive Learning Environment PC	KCPE Performance
Pearson Correlation	1	0.295
Sig. (2-tailed)	-	0.54
N	6	6

Table 7

Model Summary for KCPE Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.295	0.087	-0.131	7.78

4.3.2 Pupil Retention Rates

The analysis revealed a moderate positive correlation between CLE achievement and pupil retention rates ($r = 0.630$). Despite being the strongest correlation observed, it still lacked statistical significance ($p = 0.180$) (Table 8). The regression model (Table 9) indicated that CLE scores accounted for 39.7% of the variance in retention rates ($R^2 = .397$), yet the model was not statistically significant ($F(1,4) = 4.216$, $p = .180$), and the CLE score was not a significant predictor ($\beta = .630$, $p = .180$).

Table 8

Association between Comprehensive Learning Environment PC Target Scores Achievement and Pupil Retention Rates

	Comprehensive learning environment PC	Retention Rates
Pearson Correlation	1	0.63
Sig. (2-tailed)	-	0.18
N	6	6

**Table 9***Model Summary for Retention Rates*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.63	0.397	0.247	2.942

4.3.3 Pupil Completion Rates

The association between CLE achievement and pupil completion rates was weak and positive ($r = 0.326$) and was not statistically significant ($p = 0.528$) (Table 10). The regression model (Table 11) was also not significant, with CLE scores explaining only 10.6% of the variance in completion rates.

Table 10*Comprehensive Learning Environment PC and Pupil Completion Rates*

	Comprehensive learning environment PC	Completion rates
Pearson Correlation	1	0.326
Sig. (2-tailed)	-	0.528
N	6	6

Table 11*Model Summary for Completion Rates*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.326	0.106	-0.11	1.89

4.4 Qualitative Insights on Implementation Challenges

The qualitative data provided crucial context for the quantitative findings. Key informants uniformly highlighted systemic challenges that cripple the effective implementation of the CLE. The County TSC Director explicitly linked teacher shortages to the problem, stating, *“Attaining a comprehensive learning environment... is a big challenge because of understaffing. With the current shortages of teachers, the teachers are overworked and may not fulfil the different aspects... Some aspects like the psychological care of learners are difficult to attain in such circumstances.”*

Furthermore, deficiencies in the appraisal tool itself were noted. A Curriculum Support Officer remarked, *“It may not be possible to evaluate the holistic approach to learning as aspired by the TPAD tool. Some aspects, such as pupils' emotional well-being, are missing from the evaluation tool.”* This sentiment was echoed by headteachers, who found it difficult to objectively assess some of the CLE criteria. The process was described as having become a routine, bureaucratic exercise rather than a genuine developmental tool.

4.5 Discussion

The overarching finding of this study is the absence of a statistically significant relationship between teacher achievement in the Comprehensive Learning Environment PC target and pupil learning outcomes in public primary schools in Kakamega County. This null result invites a critical discussion on the complexities of educational reform.

The weak and non-significant correlation with KCPE scores ($r=0.295$, $p=0.540$) suggests that the current conception and measurement of the CLE within the TPAD framework do not directly translate into improved academic performance as measured by standardized tests. This finding partially contrasts with studies like Kamot and Mbirithi (2024), who found a significant effect of the *classroom environment* on exam performance. The discrepancy may lie in the scope; while Kamot and Mbirithi focused on a narrower, perhaps more tangible aspect of the environment, the CLE target in the TPAD is broader and includes elements that are difficult to achieve and measure in resource-poor settings. Our findings align more closely with research that posits that student achievement is influenced by a complex interplay of factors beyond a teacher's immediate control, such as socioeconomic status, home environment, and school-level resources (Darling-Hammond et al., 2022).

The moderate but non-significant correlation with retention rates ($r=0.630$, $p=0.180$) is particularly intriguing. It hints that a supportive and engaging learning environment *could* play a role in encouraging pupils to remain in school, as suggested by Qvortrup and Lykkegaard (2022). However, the lack of statistical significance implies that this potential effect is overwhelmed by other, more powerful forces. The qualitative data points to these forces: poverty, leading pupils to come to school hungry; economic pressures forcing children into labour; and a lack of support for vulnerable learners. These macro-factors lie largely outside the purview of the teacher's PC targets, underscoring the limitations of a policy that places the onus for systemic issues solely on individual teacher performance.



The most compelling explanation for the overall null findings lies in the implementation context, vividly described by the respondents. The triad of severe understaffing, crushing teacher workloads, and inadequate physical and financial resources creates an environment where policy implementation is fundamentally constrained. When teachers are responsible for classes exceeding 60 pupils and are burdened with excessive teaching loads due to understaffing, the capacity to create a "supportive, inclusive, and engaging atmosphere" is severely diminished. This leads to teacher burnout (Skaalvik & Skaalvik, 2020), which directly negatively impacts teaching quality and the very outcomes the PC seeks to improve.

Finally, the limitations of the TPAD appraisal tool itself cannot be overlooked. As criticized by Wanjiku et al. (2024), the tool fails to adequately capture the nuanced, psychological, and relational aspects of a true comprehensive learning environment, such as emotional support and positive teacher-student relationships. When the measurement tool is flawed, the resulting "target achievement" scores may not accurately reflect the reality of the learning environment, further decoupling the PC scores from the actual learning outcomes.

V. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study concludes that, within the prevailing conditions of Kakamega County's public primary schools, teachers' achievement in the Comprehensive Learning Environment performance contract target has no statistically significant effect on pupils' academic achievement, retention, or completion rates. The policy assumption that meeting this target would directly improve learning outcomes is not supported by the evidence from this context. The disconnect is attributed to a combination of severe resource constraints, critical teacher understaffing, overwhelming workloads, and inherent flaws in the appraisal tool used to measure the CLE.

5.2. Recommendations

The National Government and the TSC must prioritize and ensure the adequate and timely provision of financial, human, and material resources. This includes addressing the chronic teacher shortage to reduce pupil-teacher ratios and workload, and providing funds for infrastructure improvement and learning materials. The TSC should undertake a comprehensive review and revision of the TPAD tool, particularly the CLE component. The tool should be made more holistic, incorporating measurable indicators for emotional support and positive relationships. It should also be adapted to be more context-sensitive to the realities of rural and resource-constrained schools.

For purposes of capacity building and sensitization, the parties involved should move beyond a compliance-oriented appraisal to a genuine development-focused process. This involves training teachers and appraisers on the practical steps to create a CLE within their means and sensitizing all stakeholders on the purpose of PC to foster buy-in.

Further research should explore the impact of the CLE on a broader set of 21st-century learning outcomes, such as communication, creativity, and critical thinking skills, which may be more sensitive to the environment than standardized test scores.

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