

Task value as a predictor of academic achievement among form three students in Meru County, Kenya

Authors

Munanu Ruth Ncororo,
Student, Kenyatta University, Education Psychology Department, P.O Box 43844-00100, Nairobi,
Kenya, munanuruth@yahoo.com

Dr. Wawire Chrispus Koinange,
Education Psychology Department, Kenyatta University, P.O Box 43844-00100, Nairobi, Kenya,
wawire.chrispus@ku.ac.ke

Dr. Ireri Anthony Muriithi,
Education Psychology Department, Kenyatta University, P.O Box 43844-00100, Nairobi, Kenya,
anthonyireri@gmail.com

ABSTRACT

Academic achievement is the ultimate goal of any education system. The grades the students achieve at the end of any system are useful for the stakeholders for many purposes. Therefore, any factor that affects the academic achievement of learners is very critical. Reviewed studies on academic achievement have indirectly cited economic backgrounds, cultural factors, parental involvement, administrative factors, and school structural environments, as some of the predictors of academic achievement. Students' inner motivational resources have not been addressed. The purpose of the current study was therefore to establish how task value predicts academic achievement among form three students in Meru County, Kenya. The study was based on Expectancy-Value Theory (EVT). The theory emphasizes on the inner motivations of learning behavior and it is useful in understanding the value the learners attach to their academic tasks. Task value causes achievement behavior among learners leading to success. The study used convergent parallel mixed methods design. The target population was all the form three students in public secondary schools in Meru County, Kenya. The accessible population was form three students from the 15 public secondary schools selected into the study. Multistage sampling was used, that is, purposive, cluster, and random sampling. Quantitative data were collected using task value scale and students' academic achievement proforma. Data were collected, coded, entered into the computer, and analyzed using SPSS version 25. The Pearson's product moment correlation coefficient showed evidence of significant positive relationship between task value and academic achievement ($r(813) = .61, p < .05$). Regression analysis showed that task value accounted for 37% ($R^2 = .37, p < .05$) of the variations of academic achievement. The prediction weights of the domains of task value on academic achievement were computed and utility task value emerged the

best predictor of academic achievement. Qualitative data were collected using focus group interview. The results of the study lead to the conclusion that task value was a predictor of academic achievement. The study findings led to the recommendation that, all the stakeholders in education – the parents, teachers, and policy makers – should together aim at fostering high task value to enhance positive academic achievement among secondary school students in Kenya.

Key words: Task value, utility task value, interest task value, cost task value, attainment task value, academic achievement, form three students

Background of the study

Academic achievement refers to the scores that students attain in their examinations. The scores measure the academic success of students. Academic achievement is utilized by various education stakeholders for a myriad of purposes including placement into higher education institutions and career. In addition, academic achievement of students is used as a critical factor in evaluation of the success of any education system. In line with this, students are expected to exert efforts to achieve high scores in their tests. Poor academic achievement is therefore a concern for every stakeholder in the education of any nation.

Academic achievement in the Kenya Certificate of Secondary Education (KCSE) remains dismal in Meru County. The outcry has been heard from researchers, politicians and other community leaders. While giving a press statement, the Cabinet Secretary in the ministry of education in the county lamented that the number of candidates who attained the minimum university entry qualification of Grade C+ and above in 2020 KCSE rose slightly from the previous years (Ministry of Education, 10 May, 2021), yet the margin was very small and the performance was still very discouraging. The leaders in Meru County were contending with the fact that only a few 2019 KCSE candidates attained grades to take them to the university. The county risked losing their share in the lofty careers and jobs that required university education, all due to that declining performance in KCSE in Meru County (Dibondo, 2020). Earlier on, the Governor Meru County had lamented that KCSE results of 2017 were a shame to the county (Mutethia, 2018). The governor said that Meru County was the second last county in the nation, beaten even by the marginalized counties in 2017 KCSE results.

For the learners to achieve academically, there is great need for them to have high task value. Task value refers to the extent to which the student perceives the academic task as useful to them (Cennet, 2021). When students consciously value their academic tasks, they become autonomous and control their learning environment positively, develop problem solving skills, they get organized, dutiful, and, devote their efforts toward achieving academic success (Carter, et al., 2012). Task value is one of the achievement motivation constructs known to predict academic achievement even beyond ones intelligence (Ricarda, et al. 2019). This achievement motivation behavior arises from the value the students attach to their learning tasks. Such students end up doing

very well academically. Hence, it is necessary to assess how this variable, task value, predicts academic achievement among the form three students in Meru County.

Most studies in the county seeking to explain the reason for the dismal academic achievement, cited lack of parental involvement in their children education (Githinji, et al., 2016; Mwirichia, 2016; Mwirigi, et al., 2017; Thuba, et al., 2017). Other studies blame it on family backgrounds, mentioning impoverished family environment as the precursors of poor academic achievement (Muyalo, 2017). These factors are all outside the learner. The current study sought to explore how task value of students, an inner achievement motivational construct, predicted academic achievement. The hypothesis that was tested was “There is no significant prediction equation of task value on academic achievement among form three students in Meru County”.

The Purpose of the Study

The main purpose of this study was to establish the extent to which task value predict academic achievement among form three students.

Objectives of the study

- i. Determine the relationship between task value and academic achievement.
- ii. Establish the prediction equation of task value on academic achievement.

Theoretical Framework: Expectancy-value Theory (Eccles & Wigfield, 2002)

The theory was developed by Eccles Jacquelynne (Eccles & Wigfield, 2002). Expectancy-value theory (EVT) posits that achievement related behavior is a function of the expectancies of success and the inherent value attached to a task. Students choose the behavior with the largest combination of the expected success and value. Eccles and Wigfield (2002) defined task value as the reason the student has for engaging in an academic task. They argued that expectancies and values interact to predict important academic outcomes such as continued interest and engagement, and consequently academic achievement. Eccles and Wigfield categorized task value into: Utility, describing the perceived usefulness of the task in meeting current and future goals; attainment, describing the importance and relevance of the task to the personal worth; interest/intrinsic, referring to the pleasure in engaging in the task; and cost, referring to the negative consequences, effort needed, and the forgone opportunities in engaging in a task.

According to Eccles (2011), students’ achievement-related choices, and academic achievement are direct functions of their expectation for success and their subjective task value. They say that task value predicts decisions for enrollment, time invested in learning, and educational aspirations the students have, all of which predict academic achievement. Since expectancy-value model links task value to academic achievement behavior and achievement, it may be appropriate in guiding understanding of relationship between task value, and academic achievement among form three students in Meru County, Kenya.

The conceptual framework



Figure 1: The interaction between the variables

Methodology

The study used a convergent parallel mixed methods research design authored by Creswell (2014). Both quantitative and qualitative data, were collected at a single phase, analyzed separately, and results compared. Mcleod (2017) supports use of quantitative methods in establishing general laws of relationships about behavior. Almalki (2016) supports use of qualitative data for enhancement and clarification of any inconsistencies and contradictions that may arise with the quantitative data. Task value questionnaire, academic achievement Proforma and guided focus group interview were used for data collection. The sample was 813 respondents for the questionnaire and 29 for guided focus group discussion form three students from 15 secondary schools in Meru County. The respondents were aged 15 – 22 years and average of 17.8 years. The researcher liaised with the principals and class teachers of the sampled schools for data collection.

Results of the Study

a. Descriptive statistics

The highest task value score was 125 while the lowest was 62.00 giving a range of 63.00 points. The mean score for task value was 94.07 with standard deviation of 11.28 meaning that the students indicated high task values. The skewness was -.157 and the kurtosis was .221

Table 1

Descriptive Statistics of Academic Achievement by Levels of Task Value

Level	<i>N</i>	%	<i>M</i>	<i>SD</i>	<i>SE</i>
Low Task Value	26	3.1	17.6	8.43	1.65
Average Task Value	284	34.9	34.2	12.52	.74
High Task Value	503	62.0	46.7	10.87	.48
Total	813	100	41.4		

N =813

Table 1 indicates that most students scored highly in task value, that is, 503 (62 %) had high task value. The same respondents that had high task value scores had equally higher scores in academic achievement compared to the other groups ($M = 46.7\%$, $SD = 10.87$). Those who had average task value were 284 (34.9 %) and their academic achievement scores were ($M = 34.2$, $SD = 12.52$). The

Low task value respondents were only 26 (3.1 %) and had the least scores in academic achievement ($M = 17.7$, $SD = 8.43$). This shows that the higher the task value the higher the academic achievement of students.

b. Hypothesis Testing

The null hypothesis was, “There is no significant prediction equation of task value on academic achievement among form three students in Meru, County Kenya”. This hypothesis was tested using linear regression analysis. The results showed that task value explained 37% ($R^2 = .37$) of the variations of academic achievement. The correlation between task value and academic achievement was ($r(813) = .61$, $p < .05$). The null hypothesis was therefore rejected at 95% level of confidence ($p < .05$). Analysis of variance was computed to find out whether there were statistical differences in academic achievement by the levels of task value. The results are presented in Table 2.

Table 2

ANOVA of Academic Achievement by Levels of Task Value

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p.</i>
Between Groups	43880.4	2	21940.2	168.5	.00
Within Groups	105491.8	810	130.2		
Total	149372.1	812			

Note. $N=813$; *SS* = sum of Squares; *df* =degrees of freedom; *MS* = Mean squares; *F* = critical value of F

The data in Table 2 show that there was statistically significant difference in academic achievement of learners with different levels of task value ($F(2,810) = 168.5$, $p < .05$). The academic achievement mean scores of low, average, and high task value students were not equal. To determine which groups had the differences, post hoc analysis of academic achievement based on task value levels was computed and the results presented in Table 3.

Table 3

Post Hoc Analysis of Academic Achievement based on Task Value Levels

(I) Task Value Level	(J) Task Value Level	<i>MD (I-J)</i>	<i>SE</i>	<i>p</i>
Low task value	Average task value	-16.56	2.33	.00
	High task value	-29.13	2.29	.00
Average task value	Low task value	16.56	2.33	.00
	High task value	-12.57	.85	.00
High task value	Low task value	29.13	2.30	.00
	Average task value	12.57	.85	.00

Note. $N = 813$; *MD* = Mean Difference, *SE* =Standard Error, $p = <.05$

The post hoc analysis in Table 3 shows that there were differences between the six pairs of task value levels. However the biggest differences were between the low task value and high task value

(-29.13), and between the high task value and the low task value (29.13) pairs. This implies that task value has great influence on the academic achievement of learners in form three.

Four supplementary null hypotheses in line with the four domains of task value were formulated from H_{04} , for in-depth analysis. They were as follows:

- $H_{0.1}$ There is no significant prediction equation of interest task value on academic achievement among form three students in Meru County, Kenya.
- $H_{0.2}$ There is no significant prediction equation of utility task value on academic achievement among form three students in Meru County, Kenya.
- $H_{0.3}$ There is no significant prediction equation of attainment task value on academic achievement among form three students in Meru County, Kenya.
- $H_{0.4}$ There is no significant prediction equation of cost task value academic achievement among form three students in Meru County, Kenya.

The four supplementary hypotheses were tested using multiple regression analysis. The results are as presented in Table 4.

Table 4

Correlation Matrix of the Domains of Task Value with Academic Achievement

Variable	Sig.	1	2	3	4	5
1. AA	.00	1.00				
2. ITV	.00	.46	1.00			
3. UTV	.00	.60	.57	1.00		
4. CTV	.00	.58	.70	.83	1.00	
5. ATV	.00	.52	.56	.88	.66	1.00

Note: N =813; AA = Academic Achievement, ITV = interest Task Value, UTV = Utility Task Value, CTV = Cost Task Value, ATV = Attainment Task Value

According to the data in Table 4, utility task value had the highest correlation with academic achievement ($r(813) = .60, p = .05$), followed by cost task value ($r(813) = .58, p = .05$), followed by attainment task value with ($r(813) = .52, p = .05$), while Interest Task Value had the least correlation ($r(813) = .46, p = .05$). The model indicated that the four domains of task value jointly explained 39% ($R^2 = .39$) of academic achievement. Following the results, the four supplementary hypotheses were rejected. Beta coefficient was computed to determine the predictive weights of each of the four domains of task value on academic achievement. The results are presented in Table 5.

Table 5*Beta Coefficient of Task Value Domains on Academic Achievement*

Variable	β	p
Constant	-24.45	.00
Interest task value	.11	.00
Utility task value	.38	.00
Cost task value	.20	.00
Attainment task value	-.01	.86

 $N = 813$

The data in Table 5 presents utility task value ($\beta = .38$, $p < .05$) as the best predictor of academic achievement. It was followed by cost task value ($\beta = .20$, $p < .05$), and interest task value ($\beta = .11$, $p < .05$). It was concluded that Utility task value, cost task value and interest task value were significant positive predictors of academic achievement. Attainment task value was a non-significant predictor of academic achievement ($\beta = -.01$, $p > .05$).

$$\hat{y} = -24.45 (AA) + .11 (ITV) + .38 (UTV) + .20 (CTV) - .01 (ATV)$$

Where AA is academic achievement, ITV is interest task value, UTV is utility task value, CTV is cost task value and ATV is attainment task value

Discussion of the Findings

A study by Al-Harthy and Aldhafri (2014) in Sultan Qaboos University found out that both task value and self-efficacy significantly correlated with the students' Grade Point Average (GPA) among university students. This agrees with the findings of Lawanto (2014) who reported on how students' perception of course material in terms of importance, utility, and interest is related to their self-regulated learning (SRL) skills and project performance in a web-intensive undergraduate learning environment, characteristics that led to high performance scores in their academic tasks. Though these two studies were done in the university, they are a pointer that once students perceive their academic tasks as important, they devise ways of succeeding in the task. This agrees with Lawanto (2014) who postulated that, motivated students, explore and extend their knowledge and skills, showing increased effort, persistence and adaptive emotional reactions when faced with difficulties. These learning behavior are the pre-requisites of high academic achievement.

In Kenya, Patricia et al. (2019) carried out a study to find out the relationship between task value and academic performance of 300 orphans in Bondo Sub-county. They found a weak but positive correlation between task value and academic performance among orphaned secondary school students. The students recorded high task value where some considered learning activity as instrumental in meeting their future goals. These results agrees with those of Mucherah and Stahl (2014) who compared students' reading motivation and achievement among middle school learners from Kenya and the United States. Regression analyses showed that task value predicted reading achievement among both the U.S. and Kenyan learners. This is a clear indication that cultural

differences withstanding, students' task value is critical to students' performance in their academic tasks.

Research literature shows clearly that task value is a predictor of academic achievement. Achievement motivation constructs of which task value is one, energizes and directs learners' behavior toward achievement (Liem et al., 2008). This energy becomes an important determinant of academic success. This might be due to the fact that task value predicts other positive learning behavior which in turn leads to positive academic achievement. For example, Liem et al. (2008) found out that both Self-efficacy and task value predicted students' goal orientation, with task value being the more predictive for mastery goal adoption. Mastery goal adoption is known to lead to high academic achievement.

Conclusions and Recommendations

The study indicated that task value predicts academic achievement among form three students in Meru County. The study therefore recommends that the stakeholders take upon themselves an intentional effort to help increase learners' value towards their academic tasks in order to raise the academic achievement. The learners in the sub-county schools are more than any other category yet they live in the most vulnerable environments from primary school to secondary schools. Intervention can be done by carrying out targeted provision of learning facilities and facilitation of goal setting among the learners to raise their task value.

References

- Al-Harthy, I., & Aldhafri, S. (2014). The relationship among task-value, self-efficacy and academic performance in Omani students at Sultan Qaboos University. *International Review of Social Sciences and Humanities*, 7 (2), 15-22.
- Almalki, S. (2016). Integrating quantitative and qualitative data in mixed methods research: Challenges and benefits. *Journal of Education and Learning*, 5(3), 288-296.
URL: <http://dx.Doi.org/10.5539/jel.v5n3p288>.
- Carter, C.P. et al. (2012), "Measuring student engagement among elementary students: Pilot of the student engagement instrument – elementary version", *School Psychology Quarterly*, 27(2), 61-73. <http://dx.doi.org/10.1037/a0029229>.
- Cennet, S. (2021). The Relation between task value, test anxiety and academic self-efficacy: A moderation analysis in high school geography course. *Participatory Educational Research (PER)*, 8(1), 265-278. <http://www.perjournal.com> ISSN: 2148-6123
- Dibondo, D. (2020, January 8). Worrying trends; Meru leaders urged to reverse poor KCSE exam performance. *Correspondence Eastern Region*.
<https://www.the-star.co.ke/counties/eastern/2020-01-08>
- Eccles, J. S. (2005). Subjective task value and the Eccles et al. model of achievement related choices. <https://www.researchgate.net/publication/233895975>
- Eccles, J., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109–132. <https://doi.org/10.1146/annurev.psych.53.100901.135153>.

- Eccles, J. S., Vida, M.N., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *Journal of Early Adolescence*, 24, 63–77. doi:10.1177/0272431603260919
- Eccles, J. S., Vida, M.N., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *Journal of Early Adolescence*, 24, 63–77. doi:10.1177/0272431603260919
- Eccles, J. S., Vida, M.N., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *Journal of Early Adolescence*, 24, 63–77. doi:10.1177/0272431603260919
- Eccles, J. S., Vida, M.N., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *Journal of Early Adolescence*, 24, 63–77. doi:10.1177/027243160326091
- Githinji, M. G., Kinya, K. R., Mwirichia, S. M., & Mugambi, P. J. (2017). Teacher- parent communication on students' academic performance in public secondary schools in Tigania West Sub-County, Meru County, Kenya. *Journal of Educational Policy and Entrepreneurial Research*, 3(5), 90-95.
- Lawanto, O. (2014). Task value, self-regulated learning, and performance in a web-intensive undergraduate engineering course: How are they related? *MERLOT Journal of Online Learning and Teaching*, 10(1), 57-63.
- Liem, A. D., Lau, S., & Nie, Y. (2008). The Role of Self-Efficacy, Task Value, and Achievement Goals in Predicting Learning Strategies, Task Disengagement, Peer Relationship, and Achievement Outcome. *Contemporary Educational Psychology*. 33 (4) 486-512.
- McLeod, S. (2017). Research methods: Qualitative versus quantitative. *Simply Psychology*. <https://www.simplypsychology.com/qualitative-quantitative.html>.
- Ministry of Education (2021). Press statement for release of the 2020 KCSE examination results by the cabinet secretary, Prof. George, A. O. Magoha.
- Mucherah, W. & Ambrose-Stahl, D. (2014). Relation of reading motivation to reading achievement in seventh-grade students from Kenya and the United States. *International Perspectives in Psychology Research Practice Consultation* 3(3), 154-166 <https://www.researchgate.net/publication/275507345>
- Mutethia, G. (2018, April 9). KCSE exam results for Meru shameful. *The star*. https://www.the-star.co.ke/news/2018/04/09/kcse-exam-results-for-meru-shameful_C1740240. Retrieved 24/12/2018.
- Muyalo, J. M. (2017). *Parent related factors influencing learners' academic performance in Kenya Certificate of Secondary Education in Igembe North Sub- County, Meru, Kenya* (Unpublished Masters' thesis). Kenya: University of Nairobi.

- Mwirigi, F. S., Muthaa, G., Mutisya, S. Ronoh, R. (2017). *Perceived influence of communication at home on secondary school student's academic performance in Meru County Kenya*. (Unpublished doctoral thesis). Nairobi: Maasai Mara University.
- Mwirichia, S. M. (2017). Parental involvement on students' learning at home and its effect on academic performance in public day secondary schools in Tigania West Sub- County, Meru County. *International Journal of Asian Social Science*, 7(2), 161-168.
Doi: 10.18488/journal.1/2017.7.2/1.2.161.168
- Patricia, A. O., Peter, J. O. A., & Pamela, A. R. (2019). Relationship between Task Value and Academic Performance among Orphaned Secondary School Students in Kenya. *International Journal of Psychology and Behavioral Sciences*. 9(3), 47-54.
<http://creativecommons.org/licenses/by/4.0/>
- Ricarda, S., Anne, F. W., Malte, S. & Birgit, S. (2019). The importance of students' motivation for their academic achievement – replicating and extending previous findings.
<https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01730/full>
- Wigfield, A., Tonks, S., & Klauda, S. L. (2016). "Expectancy-value theory," in *Handbook of Motivation in School*, 2nd Ed. eds K. R. Wentzel and D. B. Mielecpesnm Routledge), 55–74. <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01730/full>