

KEMI Journal of Educational Leadership and Management

KJELM

[ISSN 3079-4048]

Volume: 2 Issue: 3 | Nov-2026

Educational culture and student ownership of learning in the context of CBC implementation: An empirical study across fifteen schools in Kakamega County, Kenya

Henk van Woudenberg[1], **Erik Denissen**[1], **Elvis Omondi Kauka**[2], **Rose Atieno Opiyo**[2], **Bill James Ouda**[2], **Peter de Waal**[1], **Caroline Wekullo**[2]

Student Ownership of Learning Foundation, Netherlands[1]*, Masinde Muliro University of Science and Technology, Kenya*[2]

Corresponding Author Email: henkvanwoudenberg@gmail.com

Cite this article in APA
https://doi.org/10.68147/9ffe520a

Copyright: ©2026 by the author(s). Open access under CC BY.

Abstract

This study examined the relationship between Educational Culture and Student Ownership of Learning during the implementation of the Competency-Based Curriculum (CBC) in fifteen schools in Kakamega County, Kenya. Building on an earlier theoretical study, it investigated how CBC implementation influences educational culture and, consequently, learners' ownership of their learning. A mixed-methods approach was adopted, involving fifteen schools purposively selected to represent diverse educational contexts. Data were collected using two complementary instruments: the We Own The School (WOTS) game to assess Educational Culture and the Student Ownership Questionnaire to measure learners' perceived ownership of learning. The findings revealed a meaningful relationship between Educational Culture and Student Ownership of Learning, with considerable variations across participating schools. Schools characterised by greater learner participation, shared responsibility and opportunities for personal development generally demonstrated stronger levels of student ownership. Additionally, learners undertaking CBC reported higher levels of ownership compared to those following the previous curriculum. These findings suggest that CBC has the potential to strengthen learner autonomy, participation and responsibility for learning. However, curriculum reform alone does not guarantee increased ownership, as its effectiveness is influenced by institutional culture, pedagogical practices and the broader school environment. The study concludes that fostering student ownership requires

supportive educational cultures that promote active learner engagement and shared responsibility. It highlights the importance of aligning curriculum implementation with school-level organisational practices and learner-centred approaches. Further longitudinal research is recommended to establish how the relationship between Educational Culture and Student Ownership of Learning evolves as CBC progresses into higher grades.

Key terms: Competency-Based Curriculum (CBC); Educational Culture; Student Ownership of Learning; We Own The School (WOTS); Masinde Muliro University of Science and Technology (MMUST)

1.0 Introduction

Kenya's curriculum reform provides the policy context for this study. The Basic Education Curriculum Framework introduced a competency-based approach in which learners are expected not only to acquire knowledge and skills, but to apply them in real-life situations. It identifies seven core competencies: communication and collaboration, self-efficacy, critical thinking and problem solving, creativity and imagination, citizenship, digital literacy, and learning to learn (Kenya Institute of Curriculum Development [KICD], 2019).

These ambitions raise a further question: what happens to them in everyday school practice? A national curriculum may define competencies and learning outcomes, but schools differ in their pedagogical practices, relationships, leadership and the ways in which responsibility for learning is distributed. The implementation of CBC therefore also raises questions about how learners themselves experience their learning and about the educational culture of schools.

In an earlier conceptual study, Kauka and Van Woudenberg (2026) explored this relationship. They brought together three concepts — Competency-Based Curriculum (CBC), Educational Culture and Student Ownership of Learning (SOL) — and proposed Educational Culture as an important school-level context, connecting curriculum intentions with students' actual learning experiences.

The present study takes this proposition into the empirical domain, using data collected in fifteen schools in Kakamega County in 2026. It investigates whether patterns across CBC and earlier curriculum cohorts, school Educational Cultures and learners' experiences of Student Ownership of Learning are consistent with the proposed relationship between CBC implementation, Educational Culture and ownership. In this account, Educational Culture is the proposed connecting school-level context through which curriculum reform may be reflected in learners' experiences.

Within this framework, Student Ownership of Learning refers to the extent to which learners experience themselves as active owners of their own learning. It is understood as a qualitative dimension of the learner's learning experience rather than as a specific teaching method, pedagogical strategy or individual learner characteristic. Educational Culture concerns the shared values, beliefs, norms, relationships and practices that characterise everyday educational life within a school. The SOL taxonomy distinguishes six Educational Cultures representing different orientations within educational practice (Kauka & Van Woudenberg, 2026).

The conceptual relationship underlying the present study can therefore be represented as follows:

This sequence is a conceptual model, not a claim of a simple causal chain. Curriculum reform takes place within existing schools, with their own histories, organisational arrangements, leadership practices, pedagogical traditions and relationships. Educational Culture therefore cannot be treated as an automatic product of CBC implementation, nor can Student Ownership of Learning be attributed to curriculum reform alone. The model instead provides a way of investigating whether the relationships proposed

theoretically can be observed in empirical school data.

Since the publication of the conceptual article, implementation has entered a new phase. In 2026, the first cohort entered Grade 10 in Senior School under the competency-based reform. Official Ministry of Education communication increasingly uses the term Competency-Based Education (CBE) for the wider education system (KICD, 2026; Ministry of Education, Republic of Kenya, 2025).

In this article, the term Competency-Based Curriculum (CBC) refers to the broader Kenyan educational reform, encompassing changes in curriculum structure and content as well as pedagogical approaches, teaching practices and assessment. In this sense, CBC is understood to include the wider educational transformation also referred to as Competency-Based Education (CBE).

The empirical study was conducted through the ongoing partnership between Masinde Muliro University of Science and Technology (MMUST) and the Foundation for Student Ownership of Learning (SOL). An exploratory research round involving five schools in Kakamega County was conducted in 2025 by the same research team from SOL and MMUST. In 2026, the research was expanded to fifteen schools. Data collection took place in March and April 2026 and combined the WOTS (We Own The School) instrument, which maps Educational Culture from the perspectives of learners, teachers and school leadership, with the Student Ownership Questionnaire, which measures six dimensions of students' experienced ownership of learning. Structured session notes provided qualitative information to support interpretation of the quantitative findings.

The timing of the study is important. Data were collected during a transition in Kenya's curriculum reform. At the time of data collection, CBC had been implemented in Grades 8–10, including the first Grade 10 cohort in Senior School, while Grades 11–12 followed the previous curriculum. The participating schools included Junior Secondary Schools (Grades 8–9) and Senior Secondary Schools (Grades 10–12), allowing comparison of CBC cohorts in Grades 8–10 with Grades 11–12 following the previous curriculum. This phased implementation of CBC provides a valuable opportunity to compare students' experiences of ownership across different grades and educational phases. In particular, the inclusion of Grade 10, where students follow CBC within the Senior Secondary School environment, allows us to examine differences in Student Ownership of Learning in relation to both curriculum and educational setting.

1.1 Statement of the Problem

The implementation of a competency-based curriculum is intended to change more than curriculum content. Its ambitions concern what learners are able to do with knowledge and skills and, more broadly, how they participate in learning. Whether these ambitions become visible in everyday school practice depends on the context in which implementation takes place. Schools may work within the same national reform while differing substantially in pedagogy, leadership, relationships, expectations and the distribution of responsibility for learning.

Kauka and Van Woudenberg (2026) proposed Educational Culture as a way of understanding this school-level context and hypothesised that schools with more developed Educational Cultures would report higher levels of Student Ownership of Learning. That proposition was theoretical. The central problem addressed in the present study is therefore whether this expected relationship can be identified empirically across a larger and more diverse group of Kenyan schools.

The study therefore empirically explores the proposed relationship among CBC implementation, Educational Culture and Student Ownership of Learning. It compares curriculum cohorts and school contexts and examines the association between Educational Culture and reported ownership. These converging patterns can support or challenge the conceptual proposition, but do not by themselves demonstrate a causal effect of implementation or establish a statistical mediation pathway.

1.2 Objectives of the Study

The study has four objectives:

To examine Educational Culture across fifteen schools in Kakamega County.

To assess students' experience of Student Ownership of Learning.

To investigate the relationship between Educational Culture and Student Ownership of Learning.

To explore patterns of Student Ownership of Learning across CBC and earlier curriculum cohorts during the phased implementation of CBC.

1.3 Research Question and Hypothesis

The central research question, formulated in the preceding conceptual article, is:

How are patterns of Student Ownership of Learning across curriculum cohorts and schools related to Educational Culture during the implementation of Competency-Based Curriculum in Kakamega County?

The corresponding hypothesis is:

Schools characterised by Educational Cultures that are further developed according to the SOL taxonomy are expected to report higher levels of students' experienced Student Ownership of Learning during the implementation of Competency-Based Curriculum.

2.0 Literature Review

2.1 Theoretical Foundations and Integration

The distinctive contribution of Student Ownership of Learning (SOL) theory lies in its integration of established educational and psychological perspectives into a coherent, layered and concentric model. At its centre is the learner's personal experience of ownership, surrounded by the personal, learning, school and societal contexts. This arrangement distinguishes the experience itself from the conditions and environments in which it develops, and allows their relationships to be examined (Van Woudenberg, 2023).

The SOL framework integrates theoretical perspectives associated with Deci and Ryan (self-determination and motivation), Conley and French (student ownership and self-regulated learning), Csikszentmihalyi (flow), Pierce and colleagues (psychological ownership), Piaget and Vygotsky (constructivist approaches), and MacBeath (distributed leadership and school culture). These influences are identified here to make the intellectual foundations of SOL visible; their detailed analysis and integration are presented in SOL – The Theory (Van Woudenberg, 2023), rather than repeated in the present empirical study.

A second theoretical stage connected this model to Kenya's Competency-Based Curriculum (CBC) and the philosophy of Ubuntu (Kauka & Van Woudenberg, 2026), drawing on the Kenyan curriculum framework (Kenya Institute of Curriculum Development, 2019), analyses of CBC reform (Kimanzi, 2021; Ogwora, 2022), and research relating school culture to curriculum reform (Grgić & Jutzi, 2024). The present study forms a third, empirical stage: it examines how Educational Culture relates to students' experience of ownership across fifteen schools, without presuming that the intended effects of curriculum reform have already occurred.

The theoretical foundations outlined above are elaborated in Van Woudenberg (2023) and Kauka and Van Woudenberg (2026). The following sections summarise the elements of those frameworks most directly relevant to the present investigation.

2.2 The SOL Theoretical Model

The original SOL framework distinguishes five interconnected layers: Personal Experience, Personal Context, Learning Context, School Context and Societal Context (Van Woudenberg, 2023). At the centre is the learner's personal experience of ownership. Moving outward, the framework identifies the personal conditions surrounding the learner, the context in which learning is organised, the culture and organisation of the school, and the wider societal context. The strength of this layered model is that it separates the experience of ownership itself from the contexts that may affect that experience. Student Ownership of Learning is therefore not treated as the result of a single intervention, teaching method or learner characteristic, but as an experience situated within several interacting contexts.

Within the Personal Experience layer, Van Woudenberg (2023) identifies six indicators of experienced ownership: sense of responsibility, flow experience, intrinsic motivation, creativity, constructive learning and psychological ownership. Together, these indicators describe different aspects of the experience that learning is personally meaningful and belongs to the learner. These six indicators also form the theoretical basis for the Student Ownership Questionnaire used in the present empirical study. Figure 1 illustrates the position of the learner at the centre of these interconnected contexts, with CBC situated in the Learning Context and Educational Culture in the School Context.

Figure 1. An integrated conceptual framework illustrating the SOL layers in relation to the implementation of Competency-Based Curriculum. Source: Kauka and Van Woudenberg (2026), adapted from Van Woudenberg (2023).

The school context is particularly important for the present research. In the original SOL theory, school culture is described as the way in which a school community gives practical meaning to ownership of learning. The framework distinguishes six school cultures: Formal, Pragmatic, Strategic, Incremental, Competent and Cultural (Van Woudenberg, 2023). Importantly, the original taxonomy is not presented as a simple 'good-better-best' sequence or as a necessary development route. It is intended primarily as a way of identifying and discussing different school cultures in relation to ownership of learning. The original theoretical document explicitly raises the empirical question of whether a relationship exists between these school cultures and the ownership of learning experienced by learners. Figure 2 summarises the six Educational Cultures and their main characteristics. In the Kenyan CBC context, however, Kauka and Van Woudenberg (2026) use the six cultures more explicitly as a developmental sequence. Within this application, the direction associated with CBC is towards the Incremental, Competent and Cultural Educational Cultures, with the Competent and Cultural Educational Cultures most closely reflecting the intended CBC orientation.

Figure 2. The SOL taxonomy of Educational Cultures. Adapted from Kauka and Van Woudenberg (2026).

Kauka and Van Woudenberg (2026) developed this earlier SOL theory further in relation to the implementation of CBC in Kenya. In that article, the school-level concept is framed as Educational Culture and positioned as the connecting context between curriculum intentions and students' experienced ownership of learning. This development is important for the present study. Educational Culture and Student Ownership of Learning remain distinct concepts: Educational Culture concerns the values, beliefs, norms, relationships and practices shaping educational life within the school, whereas Student Ownership of Learning concerns the learner's experience of learning. The theoretical proposition examined in the present empirical study is that differences in Educational Culture may be associated with differences in students' experienced ownership of learning.

2.3 Conceptual Framework

Competency-Based Curriculum provides the wider context in which this relationship is examined. CBC seeks to develop learners who are able to apply knowledge, skills, values and attitudes in meaningful situations. From the perspective developed by Kauka and Van Woudenberg (2026), this raises a question that cannot be answered by curriculum design alone: to what extent do learners actually experience the intended changes in their everyday learning?

The conceptual framework connects three levels:

CBC represents the national curriculum reform and its educational intentions. Educational Culture represents the school-level context in which these intentions are translated into educational practice. Student Ownership of Learning represents the learner-experience dimension: how students themselves experience their position and responsibility within learning.

Educational Culture therefore occupies a connecting position in the framework. Schools implementing the same national curriculum may differ in leadership, relationships, pedagogical practice, professional collaboration and the distribution of responsibility. Such differences may influence how curriculum reform reaches the learner. Research on school culture and curriculum reform more generally supports the importance of this school-level context; Grgić and Jutzi (2024), for example, connect school culture with the successful implementation of curriculum reform.

The proposed relationship is explicitly relational rather than causal. The framework does not assume that CBC causes a particular Educational Culture, or that a more developed Educational Culture automatically causes higher Student Ownership of Learning. Instead, it proposes that schools characterised by more developed Educational Cultures are expected to provide conditions in which students are more likely to experience ownership of their learning (Kauka & Van Woudenberg, 2026).

This distinction is particularly relevant in the Kenyan context. Curriculum reform takes place in schools with existing histories, organisational structures, leadership practices, resources and relationships. Educational Culture is therefore both a context for curriculum implementation and something that may itself develop during a period of educational reform. The empirical question is how the relationships anticipated by the conceptual framework manifest themselves in actual school data.

2.4 Empirical Context and Research Gap

Existing literature on CBC implementation in Kenya has primarily addressed curriculum design, competencies, assessment, teacher preparation and the broader challenges associated with implementation. Kimanzi (2021) discusses CBC as a major Kenyan educational reform, while Ogwora (2022) examines its foundations and principles from a philosophical perspective. The theoretical review by Kauka and Van Woudenberg (2026) concluded that considerably less attention has been given to how curriculum reform is experienced by learners themselves and to the role Educational Culture may play in connecting curriculum intentions with that experience.

The relational character of learning is also relevant within the Kenyan and wider African context. The earlier theoretical framework draws on Ubuntu as a humanistic perspective in which individual development takes place through relationships with others and participation in a community. From this perspective, learning is not simply an individual acquisition of knowledge and competencies. Learners develop understanding, values, attitudes and competencies through interaction with other learners, teachers and their wider environment (Abdi, 2022; Ngubane & Makua, 2021). This provides a broader philosophical basis for examining Student Ownership of Learning not as individual independence, but as an experience that develops within educational relationships and communities.

The first SOL–MMUST research round in Kakamega County in 2025, involving five junior and senior secondary schools, provided an initial empirical basis for investigating these relationships. The exploratory findings indicated variation between schools in both Educational Culture and Student Ownership of Learning and suggested an association between the two. The 2026 research expanded the study from five to fifteen schools and broadened the range of school types and educational contexts represented.

The present study therefore addresses a specific empirical gap. While the theoretical relationship between CBC, Educational Culture and Student Ownership of Learning has been formulated, it has not yet been examined systematically across a larger group of Kenyan schools. In particular, empirical evidence remains limited concerning how differences in Educational Culture relate to differences in students' experienced ownership of learning, and how these patterns should be interpreted during the ongoing implementation of CBC.

The study consequently moves from the theoretical proposition developed by Kauka and Van Woudenberg (2026) to an empirical investigation across fifteen schools. It examines Educational Culture and Student Ownership of Learning as distinct but related phenomena and examines how the relationship proposed by the theoretical framework manifests itself in the empirical data.

3.0 Methodology

3.1 Research design

This study combined quantitative measurements with qualitative observations to explore the relationship between the implementation of Competency-Based Curriculum (CBC), Educational Culture and Student Ownership of Learning in schools in Kakamega County, Kenya. The qualitative observations were used primarily to contextualise findings and provide school-level feedback, rather than as a separate systematically analysed qualitative dataset.

Two complementary research instruments were used: the "We Own The School" (WOTS) game and the Student Ownership Questionnaire. WOTS was used to explore the educational culture within the participating schools, while the questionnaire was used to measure students' perceived ownership of their learning. Combining the two instruments allowed the study to examine Student Ownership of Learning in relation to the educational cultural context in which it develops.

3.2 Participating schools and students

Fifteen schools in Kakamega County participated in the study. The schools represented a variety of educational contexts and included schools offering junior and/or senior secondary education. They were not selected through a random or statistically representative sampling procedure.

The composition of the group was deliberately weighted towards senior-secondary schools: approximately one third of the participating schools represented primary/junior-secondary settings and two thirds senior-secondary settings. This emphasis reflected the stage of Kenya's curriculum transition at the time of the study. In 2026, the first cohort entered Grade 10 in Senior School under CBC. Senior-secondary schools were therefore of particular interest for examining how the transition to CBC was becoming visible in Educational Culture and Student Ownership of Learning. At the same time, the inclusion of primary/junior-secondary settings provided a relevant point of comparison with learners who had already experienced CBC in the preceding grades.

The participating schools also differed in characteristics such as national/public/private status, boys/girls/mixed composition, and rural/urban location. These characteristics were not analysed as

separate variables. The theoretical point of departure of the study is that differences in school characteristics and context are reflected in the Educational Culture that develops within a school. Educational Culture was therefore used as the principal school-level lens through which contextual differences between schools were examined.

The fifteen participating schools had a combined enrolment of approximately 7,450 students. In total, 2,343 questionnaire responses were recorded across grades, of which 1,905 came from Grades 8–12, the grades included in the comparative analysis. The total school enrolment should not be interpreted as the eligible sampling population or used to calculate a response rate.

3.3 Research instruments

We Own the School (WOTS)

WOTS is a structured dialogue-based instrument developed by Stichting Student Ownership of Learning (The SOL Foundation) to explore Educational Culture from the perspectives of learners, teachers and school leaders. It uses gamification as a relatively novel and accessible approach to data collection, combining individual choices with group dialogue and making the emerging pattern visible to participants during the session.

WOTS is played in separate groups of learners, teachers and school leaders, normally consisting of six participants. Participants respond individually to a series of statements describing characteristics of Educational Culture. For each statement, they indicate both the Educational Culture they experience in their school at present (Here and Now) and the Educational Culture they would prefer (Future). Their individual choices are represented by tokens placed on the game board, making the emerging pattern visible as the session progresses.

The individual choices provide the quantitative WOTS data and simultaneously serve as the starting point for dialogue. Participants explain their choices and discuss similarities and differences in their experiences and perspectives. The purpose is not to formulate a common group position or to reach consensus. The main observations and conclusions arising from the discussion are recorded as qualitative data.

At the end of each session, the completed game boards are photographed and the individual placements and discussion notes are recorded for subsequent processing. The WOTS results are subsequently entered into SOL's Power BI data environment, where the quantitative and qualitative information can be aggregated and analysed at group and school level.

Student Ownership Questionnaire

Whereas WOTS focuses primarily on the Educational Culture surrounding the learner, the questionnaire focuses on the learner's own experience of ownership. The two instruments therefore approach Student Ownership of Learning from different but complementary perspectives.

The Student Ownership Questionnaire was used to collect quantitative data on students' perceived ownership of their learning. The questionnaire addresses six indicators of Student Ownership of Learning: sense of responsibility, flow experience, intrinsic motivation, creativity, constructive learning, and psychological ownership. The questionnaire was subjected to psychometric analysis by KBA Nijmegen, an independent Dutch educational research institute (Smeets, 2023). Based on the findings, the original 41-item questionnaire was refined by removing four items related to Growth Mindset, resulting in the final 37-item version used in this study. The analysis provided evidence of the instrument's reliability, although its psychometric properties have not been independently assessed in the Kenyan context.

3.4 Data collection procedure

Each of the fifteen schools participated in a research visit during which both instruments were administered.

During each school visit, one WOTS research session was organised, with three distinct groups—learners, teachers and school leaders—working simultaneously using stakeholder-specific sets of statements. This provided multiple perspectives on the Educational Culture of each school while keeping the three participant groups distinct.

The Student Ownership Questionnaire was administered to students in randomly selected complete classes across different relevant grades. The minimum sample size for each school was determined using a sampling guideline based on the number of students enrolled in the relevant grades. The same research instruments and procedures were used across the schools to support comparability.

The school visits were conducted by two trained supervisors per school. Prior to data collection, the supervisors participated in a one-week training programme provided by SOL on how to instruct participants, facilitate WOTS and collect and record data consistently. The training emphasised enabling participants to contribute anonymously, without bias and from their own experience. Standardised materials and procedures were used during the research visits. Members of the Steering Committee supported and supervised this process.

3.5 Data processing and analysis

The Student Ownership Questionnaire measured ownership at the individual learner level. Individual questionnaire scores were aggregated into school-level means for the analysis of the relationship between Educational Culture and Student Ownership of Learning. These school means were then compared with the corresponding school-level WOTS profiles. The quantitative questionnaire data were also analysed to identify patterns across participating schools and grade levels, with particular attention to the transition from the previous curriculum to CBC.

The quantitative WOTS data were analysed at group and school level. Facilitators' structured discussion notes and key remarks were used primarily to interpret results and prepare feedback for individual schools; they were not subjected to a separate systematic qualitative analysis.

The qualitative session notes highlighted recurring aspirations for greater learner participation in decision-making, stronger collaboration among learners, teachers and school leaders, more learner-centred teaching, and opportunities for creativity, critical thinking and problem-solving. Participants also raised communication, shared responsibilities and learning facilities. These themes help contextualise the quantitative WOTS profiles, especially participants' descriptions of desired future practices; they are not presented as evidence that these practices were already established. No school-identifying quotations are reported.

The combined WOTS and Student Ownership Questionnaire data were processed by the Steering Committee and the MMUST administration and analysed using SOL's Power BI data environment. This enabled comparison of the different data sources at school and cohort level.

3.6 Ethical considerations

The research was designed to examine patterns at group, grade and school level rather than to assess individual participants. WOTS generated group-level data, and the Student Ownership Questionnaire was administered without recording students' names.

The data were processed and reported in a way that did not identify individual students. The participating schools were involved in the research in cooperation with Masinde Muliro University of Science and Technology (MMUST) and Stichting Student Ownership of Learning (SOL).

The participating schools are identified in this publication by the codes School A to School O. Their names are not reported, including in the presentation of school-level findings, in order to protect institutional confidentiality and to avoid linking individual schools publicly to particular Educational Culture profiles or Student Ownership of Learning scores. Where relevant to the analysis, the school type and curriculum context are reported. The original school names are retained only in the internal research records and in the project reports shared with the participating schools.

Prior to the school-based data collection, the required research authorisations were obtained. The research was authorised by the National Commission for Science, Technology and Innovation (NACOSTI), followed by research authorisation from the Ministry of Education, State Department for Basic Education, Kakamega County, and the Teachers Service Commission (TSC), Kakamega County. These authorisations permitted the research team to conduct the study in the participating schools.

4. Research Findings and Discussion

This chapter presents the main findings from the WOTS sessions and the Student Ownership Questionnaire across the fifteen participating schools. The results are organised around four questions: how Educational Culture was experienced in the present and envisaged for the future; how students experienced Student Ownership of Learning; how the CBC and KCSE cohorts differed; and how Educational Culture was related to ownership at school level. The analysis examines whether the patterns support the proposition that CBC is associated with Educational Culture and students' experience of ownership. Because this study was conducted during an ongoing curriculum transition, that influence is interpreted through converging patterns across curriculum cohorts, grades and schools, while alternative contextual explanations are considered where necessary.

4.1 Educational Culture Across the Fifteen Schools

The combined WOTS results from learners, teachers and school leadership reveal a diverse pattern of Educational Cultures across the fifteen participating schools.

In the Here and Now, 53.0% of all placements were associated with the Incremental, Competent and Cultural Educational Cultures, while 47.0% were associated with the Formal, Pragmatic and Strategic Educational Cultures. The Competent Educational Culture accounted for 21.6% of the placements, followed by the Incremental Educational Culture (20.7%). Pragmatic (17.0%), Formal (16.3%) and Strategic (13.7%) were also substantially represented, while Cultural accounted for 10.7%.

The Future profiles reveal a clear aspiration towards the Competent and Cultural Educational Cultures. Together, these two cultures increased from 32.3% in the Here and Now to 55.2% in the Future. The Competent Educational Culture increased from 21.6% to 30.1%, while the Cultural Educational Culture showed a stronger increase, from 10.7% to 25.1%.

In contrast, the Formal Educational Culture declined from 16.3% to 5.3%, and the Pragmatic Educational Culture from 17.0% to 6.2%. The Strategic and Incremental Educational Cultures remained relatively stable.

Overall, the combined share of the Incremental, Competent and Cultural Educational Cultures increased from 53.0% in the Here and Now to 75.2% in the Future, representing a difference of 22.2 percentage points.

These findings suggest that participants across the fifteen schools aspire to educational environments characterised by greater collaboration, shared responsibility, professional trust and a stronger sense of collective ownership. The particularly strong increase in the Cultural Educational Culture indicates an aspiration to move beyond improvements in teaching and learning practices towards a school culture in which ownership is embedded in shared values, relationships and everyday educational life.

The Future profiles represent aspirations rather than evidence of changes already achieved. Nevertheless, the substantial difference between the Here and Now and Future profiles provides a meaningful indication of the direction in which participants would like their schools to develop.

Figure 3. Combined WOTS Educational Culture profiles across fifteen schools and all three stakeholder groups: Here and Now and Future. Source: SOL–MMUST Power BI results (2026).

4.2 Student Ownership of Learning

The cohort-level profile also showed a consistent ordering of the six ownership dimensions. Psychological ownership received the highest score at 7.97, followed by constructive learning at 7.84 and sense of responsibility at 7.65. Intrinsic motivation scored 7.49, flow 7.18 and creativity 7.05. The average across the six dimensions was approximately 7.5. The first three dimensions thus scored higher than the three dimensions that depend more strongly on internally driven engagement and opportunities for autonomous or creative learning.

Figure 4. Average scores on the six indicators of Student Ownership of Learning across all fifteen schools (Grades 8–12).

This pattern is broadly consistent with the earlier five-school study. Learners commonly reported that they felt connected to their learning, constructed understanding actively and accepted responsibility for outcomes. They reported somewhat less experience of learning as intrinsically motivating, deeply absorbing or creatively open. One possible interpretation is that schools may support responsibility and purposeful participation without yet offering equally strong conditions for sustained flow and creativity.

Across Grades 8-12, the mean Student Ownership of Learning score for the fifteen schools was 7.58 on a ten-point scale. This cohort-wide result indicates that students generally reported a substantial experience of ownership, while leaving room for further development, particularly in the lower-scoring dimensions.

School averages ranged from 6.70 to 8.36, demonstrating meaningful variation in how learners experienced ownership. School J recorded the highest average, followed by Schools E, F, H and A. Schools G and N recorded the lowest averages. These differences are considered after the combined cohort pattern and help to clarify how curriculum and school context interact.

The overall average was slightly lower than the 2025 five-school average of 7.74. This difference should not be read as a decline over time, because the 2026 sample was larger and included ten additional schools, several of which were senior secondary schools following the KCSE curriculum. For the five founding schools alone, the 2026 average was 7.76, almost identical to the 2025 cohort average. A reliable longitudinal conclusion would require comparable school-level data collected with the same procedure in successive years.

4.3 CBC and KCSE Cohorts

The most pronounced curriculum-related pattern appeared between grade groups. Learners in Grades 8, 9 and 10, who were following CBC, scored consistently higher across the six dimensions of Student Ownership of Learning than learners in Grades 11 and 12, who remained under the previous curriculum.

The profile peaked at Grade 10. The consistency of the difference between the CBC grades and the KCSE grades is in line with the expectation that CBC contributes to a stronger experience of Student Ownership of Learning, while not by itself establishing a causal effect of the curriculum.

Figure 5. Student Ownership of Learning by grade and indicator across the full cohort. Source: SOL–MMUST Comparative Research Report 2026.

This interpretation is strengthened by the position of Grade 10. An additional contextual factor is the organisational and physical location of the different school phases. Grades 8 and 9 are generally situated within primary or junior-school settings, whereas Grades 10–12 are situated within senior-secondary schools. Differences between these groups may therefore partly reflect differences in pedagogical climate associated with these school settings, rather than curriculum alone. Grade 10 is particularly informative in this respect: these learners followed CBC but were already situated within the senior-secondary school environment. They nevertheless scored above Grades 11 and 12 under the previous curriculum. At cohort level, the six CBC or junior-secondary schools had an average ownership score of 7.73, compared with 7.47 for the nine KCSE senior-secondary schools. The difference of 0.26 points is in the expected direction and is consistent with a CBC-related contribution to a stronger experience of Student Ownership of Learning.

The Grade 10 measurement was taken only about five weeks after these learners had entered the new curriculum setting, so a novelty effect may have amplified the peak. The organisational and physical separation between lower and higher secondary education may also have influenced the broader grade pattern through differences in pedagogical climate. However, Grade 10 provides an important point of comparison because these learners combined CBC with the senior-secondary school setting. Even with these qualifications, the combined pattern across Grades 8, 9 and 10 is consistent with an influence of CBC on students' experience of ownership. Repeated measurement will help establish whether this pattern follows the CBC cohorts over time.

Differences between schools add nuance to this overall result. Variation within both curriculum groups was larger than the difference between their averages. Scores among the CBC schools ranged from 6.70 to 8.02, while those among the KCSE schools ranged from 6.80 to 8.36. School J, a KCSE senior-secondary school, recorded the highest ownership score in the full cohort, while School G, a CBC primary and junior-secondary school, recorded the lowest. The association between CBC and Student Ownership of Learning therefore varies between schools. Educational Culture and everyday teaching practice may help explain why similar curriculum intentions are experienced differently in different school contexts.

4.4 Relationship Between Educational Culture and Ownership

At school level, the Here and Now upper-phase percentage was positively associated with the mean Student Ownership of Learning score. The Pearson correlation was statistically significant ($r = 0.614$, $n = 15$, $p = 0.015$, two-tailed; 95% CI [0.148, 0.857], calculated using Fisher’s z-transformation). Schools with a larger share of placements in the Incremental, Competent and Cultural Educational Cultures tended to report higher mean ownership scores. The correlation analysis used school-level indicators: the school mean ownership score and the proportion of Here and Now WOTS placements in these three Educational Cultures. The observed association should not be interpreted as an individual-level relationship. The relatively wide confidence interval reflects the limited number of participating schools; the association does not establish causality.

The relationship was visible at both ends of the distribution. School J, a senior-secondary school, and School E, a primary and junior-secondary school, combined relatively high upper-phase percentages with high ownership scores. At the lower end, Schools G, N and M combined lower upper-phase percentages

with some of the lowest ownership scores. The general pattern therefore supported the hypothesis that more developed Educational Cultures are associated with stronger Student Ownership of Learning.

The correlation must be interpreted carefully. First, the number of schools was small. Second, the upper-phase percentage reduced six distinct Educational Cultures to a single composite indicator. This was useful for showing the general direction and strength of the relationship, but it did not capture the full Educational Culture profile of each school. Third, correlation does not establish the direction of influence. A more developed Educational Culture may support ownership; learners who experience greater ownership may also contribute to cultural development; and both may be affected by other features of the school.

The study hypothesis was that schools characterised by Educational Cultures that are further developed according to the SOL taxonomy would report higher levels of Student Ownership of Learning during the implementation of CBC. The positive relationship between the share of Incremental, Competent and Cultural Educational Cultures and ownership supports this hypothesis and strengthens the theoretical argument that Educational Culture is an important school-level context connecting curriculum intentions with learners' experience. The remaining variation shows that this relationship takes different forms across school contexts and is shaped by how the curriculum is enacted in practice.

Figure 6. Relationship between the Here and Now upper-phase share and Student Ownership of Learning at school level.

4.5 Convergence and Divergence

Most schools broadly followed the general pattern: lower-phase WOTS profiles tended to coincide with lower ownership scores, while more developed upper-phase profiles tended to coincide with higher scores. Two schools showed particularly informative divergence.

School F, a primary and junior-secondary school, combined a relatively low Here and Now upper-phase percentage of 38% with a high ownership score of 7.99. Its dominant Educational Culture was Pragmatic, while the Competent Educational Culture was secondary. This suggests that learners can report considerable ownership even when the combined school profile remains relatively formal or transitional. The strong difference between teachers' present and future profiles at this school may indicate that the school community was in a period of active transition. The available data do not show whether the high ownership score reflected learner resilience, recent curriculum change, particular teaching practices or another contextual factor.

School N, a senior-secondary school, presented a different form of divergence. Its overall ownership score was 6.80, among the lowest in the cohort, while its teacher profile included a relatively strong Cultural Educational Culture. The organisational WOTS session was not conducted at this school, so its combined Educational Culture profile was less complete than those of most other schools. Even with that limitation, the contrast raises an important question: a professionally ambitious staff perspective associated with the Cultural Educational Culture may not yet be experienced by learners in their daily learning environment.

These exceptions do not invalidate the overall relationship. They show why the WOTS game and the questionnaire are complementary. WOTS brings together the perspectives of learners, teachers and school leaders on educational culture, whereas the questionnaire records learners' individual experience of ownership. Convergence between the instruments strengthens the interpretation of a school-level pattern. Divergence identifies a gap that may be especially relevant for dialogue and school development.

4.6 Discussion

Taken together, the findings are consistent with the proposition that CBC is associated with changes in Educational Culture and Student Ownership of Learning. Learners in the CBC grades reported higher ownership than learners in the KCSE grades, the profile showed higher scores in Grades 8-10 than in Grades 11-12, and schools with a larger share of Incremental, Competent and Cultural Educational Cultures in the Here and Now tended to report stronger Student Ownership of Learning. The convergence of these findings suggests that CBC-related differences may be becoming visible both in Educational Culture and in learners' experience of ownership. The size and form of these differences vary between schools, and the present study does not establish a simple causal effect.

The findings also show that curriculum reform and cultural development cannot be treated as the same process. The difference between CBC and KCSE averages was smaller than the variation within each curriculum group. A CBC school could show low ownership, while a KCSE school could show high ownership. Formal adoption of a new curriculum may create opportunities for learner-centred practice, but schools differ in the extent to which these opportunities become part of everyday teaching, relationships and decision-making.

Educational Culture may therefore be understood as an intermediate context rather than as a simple causal mechanism. It is the setting in which curriculum intentions are interpreted and enacted, and in which learners experience more or less space for ownership. The positive correlation of $r = 0.614$ supports this relational interpretation. The cases of School F and School N show that the translation from the shared Educational Culture to the individual learner's experience of ownership can remain incomplete or uneven.

The distinction between the Here and Now and Future profiles is equally important. The strong aspirational movement towards the Incremental, Competent and Cultural Educational Cultures demonstrates that school communities broadly recognise the direction associated with competency-based and ownership-supportive education. Aspiration alone does not constitute implementation, but it can provide a basis for school dialogue, planning and repeated monitoring. Future measurements can determine whether the 22.2-point aspirational gap narrows and whether changes in Educational Culture are accompanied by changes in the six dimensions of Student Ownership of Learning.

The study's exploratory design places limits on how precisely CBC-related differences can be separated from other factors. The analysis involved fifteen schools, no multivariate controls were applied, and the research captured one period during a national curriculum transition. Differences in age, school type, leadership, teaching practice, resources and implementation history may have strengthened or weakened the observed relationship. An important contextual factor is the organisational and physical location of the school phases: Grades 8 and 9 are generally situated within primary or junior-school settings, whereas Grades 10–12 are situated within senior-secondary schools. Differences in pedagogical climate associated with these settings may therefore have contributed to the grade pattern. Grade 10 is particularly informative because it combines CBC with the senior-secondary setting, although its peak may also include a novelty effect. Longitudinal research is therefore needed to establish whether the observed patterns follow CBC cohorts over time and under different school conditions.

5.0. Conclusion and Recommendations

5.1 Conclusion

This study examined the relationship between Educational Culture and students’ experienced ownership of learning in the context of the implementation of Competency-Based Curriculum (CBC) in fifteen

secondary schools in Kakamega County. The findings support the study hypothesis: schools characterised by more developed Educational Cultures reported higher levels of Student Ownership of Learning. At school level, a larger share of placements in the Incremental, Competent and Cultural Educational Cultures was associated with a higher mean ownership score. The positive correlation was moderate to strong ($r = 0.614$) and shows a clear relationship between Educational Culture and Student Ownership of Learning across the participating schools.

The results also show a marked difference between curriculum and grade groups. Learners in Grades 8, 9 and 10, who were following CBC, reported higher ownership across the six dimensions than learners in Grades 11 and 12, who remained under the previous curriculum. The profile peaked at Grade 10. This pattern is consistent with the expectation that CBC contributes to stronger Student Ownership of Learning, but the present data do not yet distinguish the effect of the curriculum from the effect of educational phase and school setting. Grades 8 and 9 are generally situated within primary or junior-school settings, whereas Grades 10–12 are situated within senior-secondary schools. These settings may differ in pedagogical and didactical traditions and in Educational Culture, independently of CBC. The higher scores in the lower grades may therefore reflect both curriculum implementation and differences associated with the organisational and physical school setting. The Grade 10 result is particularly relevant because these learners followed CBC while already being situated within the senior-secondary environment.

The WOTS findings add a school-level perspective to these learner results. Across the fifteen schools, 53.0% of the Here and Now placements were in the upper phase of the SOL taxonomy. In the Future profiles, this share increased to 75.2%. This 22.2 percentage-point difference does not demonstrate that cultural change has already occurred, but it shows a broadly shared aspiration towards more collaborative, competence-oriented and ownership-supportive Educational Cultures. The convergence between this direction and the higher ownership scores found in several schools strengthens the interpretation that Educational Culture is an important context through which curriculum intentions become visible in learners' everyday experience.

The relationship was not identical in every school. Relatively high ownership could occur alongside a less developed combined Educational Culture profile, while a more developed profile was not always matched by equally high learner ownership. These differences show that curriculum implementation and cultural development take shape within the specific context of each school. They also confirm that Educational Culture and Student Ownership of Learning are related but distinct phenomena, each of which needs to be examined in its own right.

Taken together, the findings support the hypothesis that more developed Educational Cultures are associated with stronger Student Ownership of Learning. They also show that the higher ownership scores coincide with the implementation of CBC in the lower grades. This convergence supports the theoretical proposition that Educational Culture is the school-level context connecting curriculum intentions with learners' experience of ownership. However, the current comparison cannot yet determine how much of the difference between grade groups is attributable to CBC and how much reflects differences between the organisational and pedagogical settings of lower and higher secondary education. The Grade 10 results provide an important point of comparison because CBC and the senior-secondary setting coincide in this cohort, but they do not by themselves resolve the question. The combined use of WOTS and the Student Ownership Questionnaire provides a sound basis for testing this relationship through continued monitoring as CBC progresses into the higher grades.

5.2 Implications for Policy and Practice

The findings imply that the implementation of CBC should not be assessed only through curriculum

coverage, learning materials or formal compliance. Whether learners experience greater responsibility, motivation, creativity and psychological ownership also depends on how the curriculum is interpreted within the school. Leadership, relationships, teaching practice, collaboration and the distribution of responsibility all influence whether the intentions of CBC become part of everyday educational practice.

Schools should therefore be supported to examine both their Educational Culture and learners' experience of ownership. The difference between the Here and Now and Future WOTS profiles can provide a starting point for structured dialogue among learners, teachers and school leaders. Such dialogue can help schools identify where current practices support ownership, where aspirations are shared and where the perspectives of different groups diverge. The results should be used for reflection and development rather than as a ranking of schools or a judgement on individual teachers.

For policy makers and organisations supporting CBC implementation, the findings point to the importance of sustained school development alongside curriculum reform. Professional learning should address not only new curriculum content and assessment requirements, but also learner participation, collaborative learning, teacher–student relationships and shared responsibility for learning. Monitoring arrangements should include the learner perspective and should recognise that schools begin the reform from different cultural and organisational starting points. The combined WOTS and Student Ownership Questionnaire methodology may also offer a starting point for exploring how CBC implementation could be monitored across a wider range of Kenyan schools; its suitability for national monitoring has not been established by the present study.

5.3 Recommendations for Further Research

Continued longitudinal research is central to the interpretation of these findings. As CBC progresses into the higher grades, the WOTS sessions and Student Ownership Questionnaire should be repeated in the same schools. This will make it possible to examine whether the higher ownership scores and the more developed Educational Culture profiles follow the CBC cohorts as they move from primary or junior-school settings into senior-secondary schools. This transition offers a particularly informative test of the two possible influences identified in the present study. If relatively high ownership is sustained as CBC cohorts enter the senior-secondary setting, the case for a CBC-related influence will be strengthened. If ownership changes substantially with the transition in school setting, this would point to a stronger role for differences in Educational Culture and pedagogical climate between the two school phases.

The Grade 10 peak requires particular attention in this longitudinal design. At the time of data collection, these learners had followed the new curriculum in their new school setting for only about five weeks. Their high scores may therefore reflect a novelty effect or the enthusiasm associated with entering a new educational phase. Repeated measurement of this cohort is needed to establish whether the peak is sustained, declines as the new setting becomes familiar or develops further as CBC implementation matures.

Future studies should also include a larger number of schools and, where possible, schools from other counties. A broader sample would allow the influence of school type, gender composition, resources, leadership and local context to be examined more systematically. In-depth case studies of schools that follow the overall pattern and schools that diverge from it could clarify how curriculum intentions are translated into classroom practice. Collecting comparable school-level data for the six ownership dimensions would further strengthen the evidence base for using the SOL instruments to monitor CBC implementation and support school development over time. The broader SOL–MMUST research programme has identified nationwide monitoring as a longer-term ambition (see Chapter 7, "Towards a Monitoring Instrument for CBC Implementation," of the SOL–MMUST Comparative Research Report, 2026). Assessing the methodology for this purpose would require dedicated studies of validity, reliability,

comparability across school contexts and the practical feasibility of implementation at scale.

References

1. Abdi, A. A. (2022). Freireian and Ubuntu philosophies of education: Onto-epistemological characteristics and pedagogical intersections. Educational Philosophy and Theory, 54(13), 2286–2296. https://doi.org/10.1080/00131857.2021.1975110
2. Grgić, M., & Jutzi, M. (2024). Linking school culture to successful curriculum reform. Education Sciences, 14(6), Article 558. https://doi.org/10.3390/educsci14060558
3. Kauka, E. O., & Van Woudenberg, H. (2026). Student ownership of learning and competency-based curriculum: A conceptual framework for CBC implementation in Kenya. Kenya Journal of Educational Leadership and Management, 2(2).
4. Kenya Institute of Curriculum Development. (2019). Basic education curriculum framework: Nurturing every learner's potential. https://kicd.ac.ke/wp-content/uploads/2019/08/BASIC-EDUCATION-CURRICULUM-FRAMEWORK-2019.pdf
5. Kenya Institute of Curriculum Development. (2026). Grade ten curriculum designs. https://kicd.ac.ke/cbc-materials/curriculum-designs/grade-ten/
6. Kimanzi, J. K. (2021). Revisiting education reform in Kenya: A case of Competency-Based Curriculum (CBC). Social Sciences & Humanities Open, 3(1), Article 100107. https://doi.org/10.1016/j.ssaho.2021.100107
7. Ministry of Education, Republic of Kenya. (2025, December 21). Status of the ongoing placement of Grade Nine learners in Senior Schools [Press statement].
8. Ngubane, N., & Makua, M. (2021). Ubuntu pedagogy: Transforming educational practices in South Africa through an African philosophy—From theory to practice. Inkanyiso: Journal of Humanities and Social Sciences, 13(1), 1–10.
9. Ogwora, E. T. (2022). Critical analysis of the foundation and the principles of competency-based curriculum in Kenya: A philosophical perspective. Research Journal in Comparative Education, 3(2), 20–31.
10. Smeets, E. (2023). Enquête 'Eigenaarschap van leren': Verslag van psychometrische analyse. KBA Nijmegen.
11. Van Woudenberg, H. (2023). SOL – The theory: Ownership of Learning – Conceptual Framework. Student Ownership of Learning. https://www.studentownership.com/.cm4all/uproc.php/0/SOL%20-%20The%20theory%20-%20Ownership%20of%20Learning%20-%20Conceptual%20Framework%20-%20Eng-%20Full%20version_1.pdf
12. Van Woudenberg, H., Steering Committee of MMUST, & CBC Team of SOL. (2026). SOL–MMUST comparative research report 2026: Fifteen schools, Kakamega County (Version 2). Foundation for Student Ownership of Learning and Masinde Muliro University of Science and Technology.