# EFFECT OF PARENTS' EDUCATION LEVEL ON PARENTAL INVOLVEMENT IN THE IMPLEMENTATION OF COMPETENCE-BASED AGRICULTURE CURRICULUM IN PUBLIC PRIMARY SCHOOLS IN GATANGA SUB-COUNTY, KENYA

**Naphtaly Wainaina Wambui.**
Student, Department of Agricultural Education and Extension, Egerton University, Kenya.
**Dr. Mary M. Waiganjo.**
Lecturer, Department of Agricultural Education and Extension, Egerton University, Kenya.
**Dr. William Orora.**
Lecturer, Department of Curriculum Instruction and Educational Management, Egerton University, Kenya.

**©2026**

**International Academic Journal of Social Sciences and Education (IAJSSE) | ISSN 2518-2412**

**Received:** 4th June 2026

**Published:** 2nd July 2026

Full Length Research

**Available Online at:** https://iajournals.org/articles/iajsse_v2_i4_339_360.pdf

**Citation:** Wambui, N. W., Waiganjo, M. M., Orora, W. (2026). Effect of Parents' Education Level on Parental Involvement in the Implementation of Competence-Based Agriculture Curriculum in Public Primary Schools in Gatanga Sub-County, Kenya. *International Academic Journal of Social Sciences and Education (IAJSSE), 2*(4), 339-360.

## ABSTRACT

**Background:** Parental involvement is central to the implementation of Competence-Based Education, especially in practical learning areas such as agriculture. This study examined the influence of parents' education level on parental involvement in the implementation of the competence-based agriculture curriculum in public primary schools in Gatanga Sub-County, Kenya.

**Methods:** The study adopted a descriptive research design and a quantitative approach. The target population comprised Grade Six pupils, their parents or guardians, and agriculture teachers in public primary schools in Gatanga Sub-County. The accessible population was 1,592 respondents, consisting of 786 pupils, 786 parents or guardians, and 20 agriculture teachers. Stratified random sampling was used to group respondents into pupils, parents or guardians, and teachers. Simple random sampling was then used to select schools and respondents, while parents or guardians of the selected pupils were included in the study. The final sample size was 220 respondents, comprising 105 pupils, 105 parents or guardians, and 10 agriculture teachers. Data were collected using structured questionnaires and analyzed using descriptive statistics and dummy-variable regression.

**Results:** The findings showed that parents with basic education reported the highest mean involvement score, M = 3.69, SD = 0.86, followed by parents with post-graduate education, M = 3.60, SD = 1.59. The regression model was not statistically significant, $F(4, 86) = 1.816$, $p = .133$, and parents' education level explained 7.8% of the variation in parents' self-reported involvement, $R^2 = .078$.

**Conclusion**: Parents' formal education level did not have a statistically significant influence on their involvement in the implementation of the competence-based agriculture curriculum. Schools should therefore recognize both formal and informal parental knowledge when planning parent engagement activities.


**Key words;** Parental Education Level, Parental Involvement, Competence-Based Education, Agriculture Curriculum, Public Primary Schools.

## INTRODUCTION

Parental involvement remains an important part of learner development because learning does not take place only within school walls (Epstein, 2018). In the context of competence-based education, the role of the parent becomes more visible because learners are expected to demonstrate knowledge, skills, values, and attitudes in real-life situations. Agriculture is one of the learning areas where this expectation is direct because learners may be asked to observe crops, prepare simple gardens, identify farm tools, keep records, or apply concepts learned at school within the home environment. These activities create a direct link between

the classroom, the household, and the community, making parental involvement important in the implementation of the competence-based agriculture curriculum (Akala, 2021).

The shift from a strongly examination-oriented education system to Competence-Based Education in Kenya was meant to support practical learning, skill development, and learner-centered education. The reform asks schools, teachers, parents, and communities to support the child as a whole person rather than focusing narrowly on test scores. Akala (2021) explains that competency-based reforms in Kenya are tied to wider concerns about educational relevance and learner preparation for social and economic life. Amutabi (2019) also argues that the competence-based curriculum places attention on skills and values that are useful beyond school. This shift makes parent-school partnerships more important, especially in rural and semi-rural settings where local knowledge and daily practice can support learning (Akala, 2021; Amutabi, 2019). “

Agriculture is a suitable subject through which to examine parent involvement because it combines school knowledge with community practice. Karani et al. (2021) note that agriculture education in Kenya requires institutional readiness, practical teaching approaches, and learning resources. Njura et al. (2020) further show that agricultural teaching approaches are connected to wider concerns such as food security and practical life skills. In a sub-county such as Gatanga, where agriculture forms a major part of community life, parents may possess farming knowledge even when they do not have advanced formal education. This makes parents’ education level an important variable because formal schooling may shape school communication and confidence, while local agricultural experience may also support learner participation (Karani et al., 2021; Njura et al., 2020).

The global literature has often linked parental education to learner outcomes and parental engagement. Ates (2021) found that parental involvement and academic achievement are positively related, and education level is commonly treated as one of the factors that can influence how parents support learning. Boonk et al. (2018) reviewed evidence on parental involvement indicators and concluded that involvement can be reflected through home support, communication, expectations, supervision, and school participation. These indicators suggest that parents with more schooling may find it easier to help with assignments, communicate with teachers, and interpret curriculum demands, although the relationship may depend on the nature of the subject and the kind of support required (Ates, 2021; Boonk et al., 2018).

In many education systems, school participation has traditionally been measured by visible activities such as attending meetings, visiting school, volunteering, paying fees, and communicating with teachers. Goodall and Montgomery (2014) argue that it is useful to move from a narrow view of parental involvement toward a broader idea of parental engagement. This broader view recognizes that many parents support education at home in ways that teachers may not always observe. This distinction is important in agriculture education because a parent may not attend every school meeting, but may still help a child

plant vegetables, identify pests, care for animals, select seeds, or learn the meaning of responsible work (Goodall & Montgomery, 2014).

In Kenya, parental involvement is also supported by policy expectations. The Basic Education Act, 2013 requires schools to work with parents and communities in addressing school needs and supporting learners. Under competence-based education, parents are expected to take a more active role in learner tasks, practical activities, and continuous support. Amunga et al. (2020) argue that the teacher-parent relationship is a key part of curriculum success in Kenya. Mwarari et al. (2020) also observe that parental involvement in the implementation of the competency-based curriculum has both challenges and opportunities, including unclear expectations, work schedules, and the cost of materials (Amunga et al., 2020; Mwarari et al., 2020; Republic of Kenya, 2013).

In Gatanga Sub-County, parents' education level is important because it may influence how parents understand curriculum instructions, communicate with teachers, assist with assignments, and guide practical agriculture tasks at home. However, competence-based agriculture also values practical knowledge, and this may allow parents with different formal education backgrounds to support learners in meaningful ways. The focus on parents' education level is therefore justified because it tests whether formal schooling actually predicts involvement in a practical curriculum area, or whether involvement can occur across education categories when schools recognize both academic and local forms of knowledge (Goodall, 2021; Karani et al., 2021; Kim, 2018).

## Statement of the Problem

Ideally, parents at all education levels should be able to support learners in the competence-based agriculture curriculum. The curriculum is practical, home-oriented, and linked to everyday life. It should therefore provide an opportunity for parents to participate through direct assistance, local examples, farming experience, encouragement, and provision of simple materials. Schools should also be able to recognize both academic and non-academic forms of parental knowledge so that all parents feel capable of contributing to learner development (Akala, 2021; Amunga et al., 2020).

In practice, however, parental involvement in competence-based learning remains uneven. Some parents attend meetings and provide resources, while others are less visible in school activities (Ates, 2021). Some parents understand formal curriculum language and communicate confidently with teachers, while others may avoid school engagement because they feel less educated or less able to assist. Hornby and Blackwell (2018) explain that barriers to parental involvement may include parent-related factors, school-related factors, family circumstances, and social attitudes. In rural contexts, these barriers may combine with income pressures, work demands, distance from school, and lack of clarity about what parents are expected to do (Goodall, 2021; Hornby & Blackwell, 2018).

The problem is that education level is often treated as a strong predictor of parental involvement, but this assumption may not hold in practical agriculture learning. A parent with basic education may still possess strong farming skills, while a parent with university education may have limited time or limited direct experience with agriculture. Evidence is therefore needed to determine whether parents' education level actually influences parental involvement in agriculture curriculum implementation in Gatanga Sub-County. Without such evidence, schools may design parent engagement strategies based on assumptions that exclude parents with lower formal education, even when those parents have valuable practical knowledge (Goodall & Montgomery, 2014; Kim, 2018).

### Research Objective

The objective of the study was to assess the influence of parents' education level on their involvement in the implementation of competence-based agriculture curriculum in public primary schools in Gatanga Sub-County, Kenya.

### Research Hypothesis

**$H_0$**: There is no statistically significant influence of parents' level of education on their involvement in the implementation of competence-based agriculture curriculum in public primary schools in Gatanga Sub-County, Murang'a County, Kenya.

## LITERATURE REVIEW

This section reviews theoretical and empirical literature relating to parental education level and parental involvement in curriculum implementation. It begins with Epstein's model of parental involvement, then discusses the concept of parental involvement in competence-based agriculture learning, and finally reviews studies on parental education level and involvement. The review supports the study objective and explains why the relationship needs to be examined within the Gatanga context.

### Theoretical Literature Review

Epstein's model of parental involvement provides the main theoretical foundation for this study. Epstein (2018) explains that school, family, and community partnerships are important for improving learners' educational experiences. The model identifies several forms of involvement, including parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community. These forms show that parental involvement is not a single action. It is a set of practices through which parents support learner growth, interact with schools, participate in school decisions, and help learners continue learning outside the classroom.

The model is relevant to competence-based agriculture because it values both school-based and home-based support. In agriculture, learning at home can be as important as formal school attendance. A parent may help a learner observe germination, water plants, identify soil types, feed poultry, or complete a practical assignment. Such activities fit the learning-

at-home dimension of Epstein's model. Communication is also important because parents need to understand assignment instructions, assessment expectations, and the kinds of resources required. Where communication is weak, parents may be willing to help but may not understand what the school expects.

Epstein's model also helps explain why formal education level may not be the only condition for involvement. A parent who has limited formal schooling may still be active in parenting, learning at home, and community collaboration. In contrast, a parent with higher education may not be able to attend meetings or support practical work if time and work demands are high. Therefore, the model encourages a broad understanding of involvement. It supports the view that schools should create several pathways for parents to participate, rather than assuming that all involvement must take the form of academic tutoring or formal school attendance.

A second useful perspective is the ecological view of child development. Bronfenbrenner (1977) argued that children develop within systems of relationships involving the family, school, community, and wider society. From this view, parental education level is part of the family environment, but it interacts with other factors such as household resources, school expectations, cultural values, community knowledge, and teacher communication. The ecological perspective therefore supports a context-sensitive interpretation of parental involvement. In Gatanga, the local agricultural environment may provide a strong learning resource, meaning that practical community knowledge can partly reduce the advantage normally associated with higher formal education.

### Parental Involvement in Competence-Based Agriculture Curriculum Implementation

Parental involvement refers to the active participation of parents or guardians in supporting their children's education. In competence-based learning, involvement includes attending school meetings, communicating with teachers, helping with practical tasks, monitoring assignments, providing learning materials, guiding learners at home, and encouraging positive attitudes toward school. Boonk et al. (2018) note that parental involvement indicators differ across studies, but many of them relate to home support, expectations, communication, and supervision. In agriculture education, these indicators must be interpreted in relation to practical learning because learners may need support with tasks that are performed outside the classroom.

The competence-based agriculture curriculum expects learners to apply knowledge in real settings. This requirement makes parents important because they are close to the learner's daily environment. A learner can practice agriculture skills at home when there is a garden, farm, livestock, or even a small container garden. Parents can also provide local examples that help the child understand soil management, crop care, animal care, weather observation, and responsible use of farm resources. This kind of support may not require advanced schooling. It may instead require interest, time, patience, and familiarity with agricultural practice.

Parental involvement is also associated with improved learner motivation and better school-family relationships. Hanif and Alwi (2019) argue that parental involvement can affect academic performance by improving learners' confidence, discipline, and learning behavior. Jeynes (2018) emphasizes that school leaders can encourage parental involvement by building welcoming structures and guiding parents on how to support learning. These ideas suggest that involvement is partly shaped by how schools define and invite participation. If teachers only invite parents who can help with academic language, parents with less formal education may feel excluded. If teachers also invite parents to share farming knowledge, more parents may participate.

The Kenyan curriculum context gives parental involvement particular importance. Akala (2021) presents the CBC reform as a major change in Kenyan education, while Amutabi (2019) shows that the reform has implications for development and the future of education. Amunga et al. (2020) argue that the teacher-parent relationship is part of the success equation for the competency-based curriculum. Mwarari et al. (2020) identify both perceived challenges and opportunities in parental involvement in CBC implementation. These studies support the idea that schools need practical strategies for involving parents in ways that respond to curriculum demands and family realities.

Agriculture curriculum implementation may face challenges linked to resources and teacher preparedness. Karani et al. (2021) reviewed institutional preparedness for teaching competence-based agriculture in Kenya and showed that practical learning requires materials, teacher capacity, and supportive school environments. Ndambuki et al. (2024) also examined teacher preparedness in competence-based agriculture and highlighted the need for adequate preparation. Since agriculture requires practical tasks, schools cannot depend only on teachers and classrooms. The home and community must become part of the learning environment. Parents therefore need to be seen as partners who provide local knowledge, supervision, and support.

### Parents' Education Level and Parental Involvement

Parents' education level refers to the highest level of formal education attained by a parent or guardian. In this study, the education categories were no formal education, basic education, college level, university education, and post-graduate level. Education level is often viewed as an important family factor because it may influence literacy, confidence, understanding of school systems, ability to assist with homework, and communication with teachers. Parents with higher education may also have stronger expectations for their children and may feel more comfortable interacting with school staff.

Ates (2021) found a positive relationship between parental involvement in education and academic achievement. Although that study was broader than the present one, it supports the idea that parental involvement is an important pathway through which family background can influence learner development. Kena et al. (2015) reported that parents with higher education were more likely to participate in school activities in the United States.

Roksa and Kinsley (2019) also showed that family support is important for academic success among low-income students. These studies suggest that formal education can help parents understand school expectations, support academic tasks, and maintain stronger educational aspirations for their children.

However, the relationship between parental education and involvement is not always direct. Goodall (2021) warns against deficit discourses that blame parents rather than examining how school systems invite or discourage involvement. This point is important because lower formal education should not automatically be interpreted as low commitment. Parents may care deeply about their children's education but may lack confidence in formal school settings, may feel judged by teachers, or may not understand academic language. They may also be more active at home than at school. Therefore, education level may influence the form of involvement rather than the overall level of commitment.

Kim (2018) reviewed qualitative research on parental involvement in developing countries and showed that parental engagement is shaped by local conditions, poverty, social expectations, and the relationship between families and schools. In many contexts, parents contribute through providing resources, moral guidance, monitoring attendance, and encouraging learners, even when they cannot provide academic tutoring. Kambona (2025) similarly found that in Sub-Saharan Africa, parents commonly support learning through home guidance, provision of materials, communication with teachers, and monitoring school attendance, but their participation may be limited by low income, literacy barriers, and weak school-parent structures. These findings point to the need for a broad understanding of parental involvement in African education settings.

The reviewed literature shows that parental involvement is widely valued and that education level is often considered an important predictor of involvement. However, three gaps remain. First, much of the literature links parental involvement to general academic achievement rather than to curriculum implementation in a practical subject such as agriculture. Second, several studies have been conducted outside Kenya or outside rural agriculture-based communities. Third, evidence from competence-based agriculture in public primary schools remains limited. This study therefore addresses a specific empirical gap by examining the influence of parents' education level on parental involvement in the implementation of the competence-based agriculture curriculum in Gatanga Sub-County.

## Conceptual Framework

The conceptual framework for this study linked parents' education level to parental involvement in the implementation of the competence-based agriculture curriculum. Parents' education level was the independent variable and was measured through five categories: no formal education, basic education, college level, university education, and post-graduate level. Parental involvement was the dependent variable and was measured using parents' self-reported support for agriculture learning. The support areas included attending meetings where the agriculture curriculum is discussed, participating in

agriculture-related co-curricular activities, providing teaching and learning resources for agricultural projects, lending a hand or sharing knowledge when invited by the school, and helping children carry out agricultural activities at home.

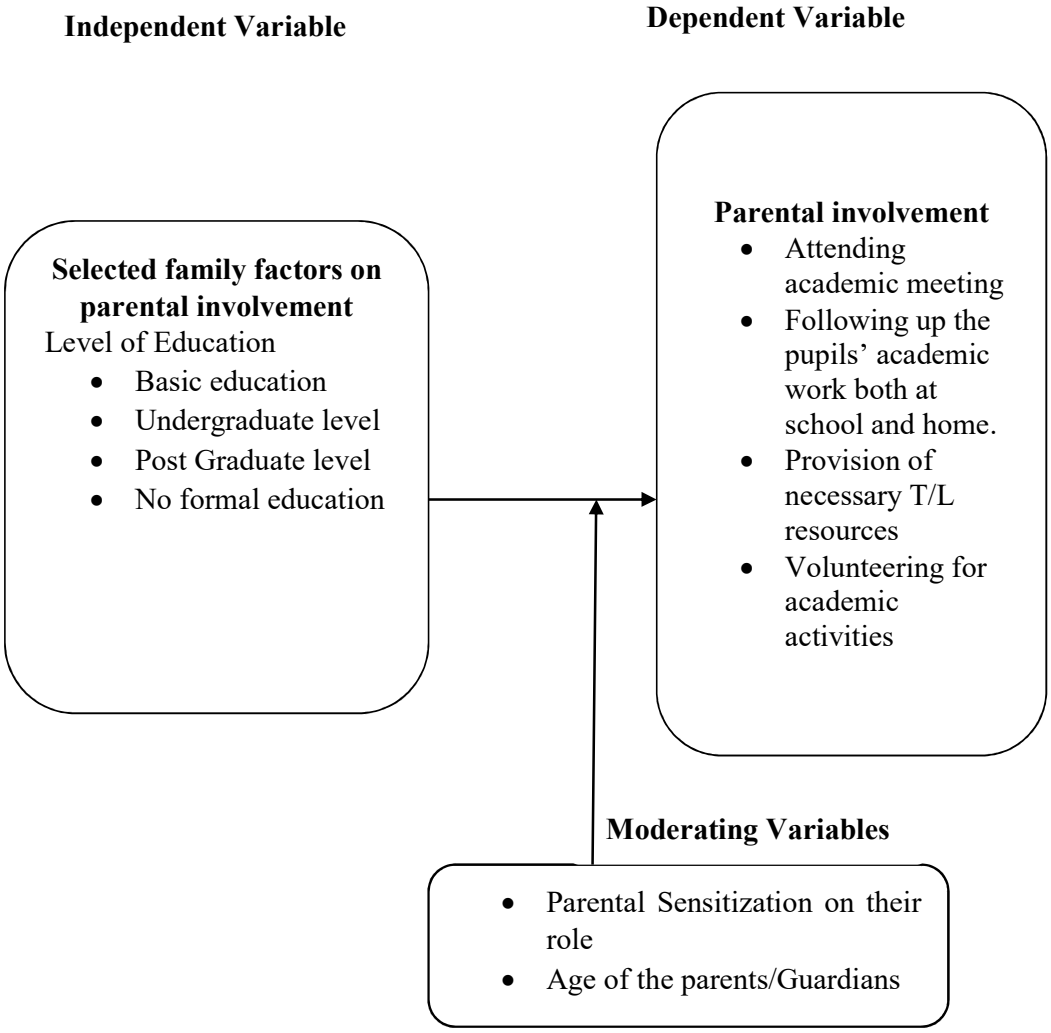


*Figure 1: Conceptual Framework*

## RESEARCH METHODS

The study was conducted in public primary schools in Gatanga Sub-County, Murang'a County, Kenya, and focused on parents' education level and parental involvement in the implementation of the competence-based agriculture curriculum. The methodological presentation reports the research design, target population, sampling procedure, data collection, validity and reliability, data analysis, and ethical considerations.

## Research Design

The study adopted a descriptive research design and a quantitative approach. The design was suitable because the study sought to describe parents' education levels, measure their involvement, and test whether education level significantly influenced involvement. Descriptive research also allowed the researcher to collect data from several respondent categories at one point in time and summarize the responses using frequencies, percentages, means, standard deviations, and regression analysis. The use of a quantitative approach was appropriate because the main objective required statistical testing of a relationship between a categorical independent variable and a continuous involvement score.

## Location and Target Population

The study was conducted in Gatanga Sub-County of Murang'a County, Kenya. Gatanga is a suitable setting for the study because agriculture is a major economic activity in the area and the competence-based agriculture curriculum is closely related to the daily experiences of many families. The target population comprised Grade Six pupils, their parents or guardians, and agriculture teachers in public primary schools in the sub-county. Grade Six pupils were selected because they had already experienced the competence-based curriculum and could provide information on parental support. Parents or guardians were selected because they were the main focus of the study. Agriculture teachers were included because they could report on how parents participated in school-based agriculture activities. The accessible population consisted of 786 Grade Six pupils, 786 parents or guardians, and 20 agriculture teachers in the selected public primary schools, giving a total accessible population of 1,592. A stratified sampling approach was used to ensure representation of key respondent groups. The final sample consisted of 105 pupils, 105 parents or guardians, and 10 teachers. Out of these, 90 pupil questionnaires, 91 parent questionnaires, and 10 teacher questionnaires were returned, giving a total response of 191 questionnaires and an overall response rate of 86.8%. The regression analysis for the education objective used the 91 valid parent responses because parents' self-reported involvement was the dependent variable.

## Research Instruments

Data were collected using structured questionnaires for parents, learners, and agriculture teachers. The parent questionnaire contained demographic items on gender, age, highest level of education, marital status, relationship with the pupil, household income, wage type, and occupation. It also included Likert-scale items measuring parental involvement in the implementation of the competence-based agriculture curriculum. The involvement items addressed attendance at agriculture curriculum meetings, participation in co-curricular activities involving agriculture, provision of resources for agricultural projects, willingness to share knowledge or help when invited by the school, and assistance with agricultural activities at home.

The teacher questionnaire captured teachers' perceptions of parental involvement and selected family factors. For the education-level objective, teacher perception items included

whether educated parents were usually in attendance during academic meetings, whether parents understood school programs, whether parents understood the importance of agriculture studies, and whether parents could understand most of the work given to their children based on learner feedback. The learner questionnaire captured learners' perceptions of the support they received from parents or guardians in agriculture learning. These additional responses helped to give context to the main parent-based analysis.

### Validity and Reliability

Validity was addressed through review of the research instruments by the supervisors before data collection. The review examined whether questionnaire items represented the study constructs and whether the items were clear for the target respondents. The instruments were also piloted in Kandara Sub-County, a neighboring area within Murang'a County. The pilot helped identify whether the questions were understandable and whether respondents could answer them without difficulty. The instruments were found suitable for the main study.

Reliability was assessed using Cronbach's alpha. The parent questionnaire produced alpha values above the accepted threshold of 0.70 for all relevant constructs. The alpha value for the level of education construct was 0.79, while the alpha value for parental involvement in competence-based agriculture was 0.84. These values indicate acceptable internal consistency. The teacher questionnaire also produced alpha values above 0.70, including 0.81 for level of education and 0.83 for parental involvement in competence-based agriculture. The learner questionnaire had an alpha value of 0.77 for parental involvement. These results confirmed that the instruments were reliable for the main analysis.

### Data Collection Procedure and Ethics

The researcher obtained the required institutional approvals before collecting data. Permission was sought from relevant education offices and school administrators. Questionnaires were administered to teachers, parents, and learners. Teachers completed their questionnaires at school, while parent data were collected during Parent's Day to improve participation and response rate. Learner questionnaires were administered with support from school personnel to ensure that learners understood the process and felt comfortable.

Ethical considerations were observed throughout the study. Respondents were informed about the purpose of the research, participation was voluntary, and confidentiality was assured. The questionnaires did not require personal identifiers such as names or national identification numbers. Data were handled in aggregate form so that individual parents, learners, teachers, and schools could not be identified in the final report. Consent and assent procedures were also observed for learner participation.

### Data Analysis

The completed questionnaires were checked for completeness and consistency. Valid responses were coded and entered into SPSS for analysis. Frequencies and percentages were used to summarize categorical information such as parents' education levels. Means and

standard deviations were used to summarize parental involvement scores. The dependent variable was the parents' self-reported involvement score, computed from the parent involvement items. The independent variable was parents' level of education.

Because parents' education level was categorical, dummy-variable regression was used. Parents with no formal education were used as the reference category. The comparison categories were basic education, college level, university education, and post-graduate level. The overall regression model was used to determine whether parents' education level had a statistically significant influence on parental involvement. The F-statistic and model p-value were used to test the hypothesis at the .05 significance level. Regression coefficients, t-values, and p-values were used to interpret the contribution of each education category in relation to the reference group.

Before hypothesis testing, diagnostic checks were reviewed. Normality of residuals was assessed using normal probability plots. Homoscedasticity was tested using the Breusch-Pagan test. The education-level model produced a Breusch-Pagan statistic of $\chi^2 = 4.002$, $p = .055$, which was above .05 and therefore supported the assumption of constant error variance. Multicollinearity was assessed using variance inflation factor values. For the education-level model, VIF values ranged from 1.451 to 4.205, which were below the commonly used threshold of 10. These diagnostic results supported the use of regression analysis for the education-level objective.

## RESULTS AND DISCUSSION

This section presents the results for the education-level objective. The section begins with the response rate, followed by the distribution of parents by education level, descriptive results for parental involvement, teacher perceptions relating to parents' education level, descriptive statistics for parental involvement by education level, regression results, and discussion of the findings.

### Response Rate

The study achieved a strong overall response rate as shown in Table 1. Out of 220 questionnaires distributed to pupils, parents, and teachers, 191 were returned, giving an overall response rate of 86.8%. Parents returned 91 out of 105 questionnaires, giving a parent response rate of 86.7%. This response rate was adequate for the education-level analysis because the regression model used parents' self-reported involvement as the dependent variable.

*Table 1: Response Rate*

| Category of Respondents | Sample Size | Returned Questionnaires | Response Rate (%) |
|---|---|---|---|
| Pupils | 105 | 90 | 85.7 |
| Parents | 105 | 91 | 86.7 |
| Teachers | 10 | 10 | 100.0 |
| Total | 220 | 191 | 86.8 |

*Source: Researcher (2026)*

## Parents' Education Level

As shown in Table 2, 50 parents, representing 54.9%, had basic education. A further 26 parents, representing 28.6%, had college-level education. Parents with no formal education and university education each formed 6.6% of the sample, while post-graduate parents formed 3.3%. These results show that most parents had some level of formal schooling, but only a small proportion had university or post-graduate education.

*Table 2: Distribution of Parents by Highest Level of Education*

| Highest Level of Education | Frequency | Percentage |
|---|---|---|
| No formal education | 6 | 6.6 |
| Basic education | 50 | 54.9 |
| College level | 26 | 28.6 |
| University education | 6 | 6.6 |
| Post-graduate level | 3 | 3.3 |
| Total | 91 | 100.0 |

*Source: Researcher (2026)*

The distribution is important because it shows the educational profile within which parental involvement in agriculture learning took place. The dominance of basic education suggests that many parents may not have advanced academic training, yet they may still have strong practical knowledge of agriculture. In a rural and agricultural community, this background can support competence-based agriculture learning even where parents may not be highly educated in formal academic terms.

## Parents' Self-Reported Involvement in Competence-Based Agriculture Curriculum

Parents reported moderate to high involvement in the implementation of the competence-based agriculture curriculum as shown in Table 3. The highest-rated item was helping children carry out agricultural activities at home, M = 3.78, SD = 1.26. This finding is important because it shows that home-based practical support was a major form of involvement. Parents also reported regular attendance at academic meetings where the agriculture curriculum was discussed, M = 3.48, SD = 1.28, and willingness to lend a hand

or share knowledge when invited by the school, M = 3.45, SD = 1.28. The composite mean was 3.44, SD = 1.04, showing a moderate level of overall involvement.

*Table 3: Parents' Self-Reported Involvement in Competence-Based Agriculture Curriculum*

| Statement | Mean | SD |
|---|---|---|
| I help my child(ren) in carrying out various agricultural activities at home. | 3.78 | 1.26 |
| I regularly attend academic meetings in the school where the agricultural curriculum is discussed. | 3.48 | 1.28 |
| I am happy to lend a hand or share my knowledge when the school invites parents to help out in agricultural activities. | 3.45 | 1.28 |
| I provide the necessary teaching and learning resources needed for agricultural projects. | 3.36 | 1.30 |
| I participate in or attend co-curricular activities that involve agriculture. | 3.14 | 1.30 |
| Composite mean | 3.44 | 1.04 |

*Source: Researcher (2026)*

The pattern in Table 3 supports the idea that parental involvement in agriculture is strongly home-based. Parents were most involved in helping children with agricultural activities at home. This may reflect the practical character of agriculture and the availability of farming experiences in the home environment. The lowest mean was recorded for participation in co-curricular activities involving agriculture. This suggests that parents may be more available for home support than for formal school activities, possibly because of work schedules, distance, or limited invitations from schools.

## Teachers' Perceptions of the Influence of Parents' Education Level

Teachers provided additional context on how education level appeared to shape parental involvement as shown in Table 4. Their responses showed that teachers tended to observe higher attendance among educated parents, M = 3.70, SD = 1.25. Teachers also moderately agreed that most parents were able to understand school programs, M = 3.20, SD = 1.03. However, the mean scores were lower for parents' understanding of the importance of agriculture studies, M = 2.80, SD = 0.92, and parents' ability to understand most of the work given to children, M = 2.60, SD = 1.07. The composite mean was 3.08, SD = 0.81, suggesting a moderate teacher perception that education level influences involvement.

*Table 4: Teachers' Perception of Parents' Education Level and Involvement*

| Statement | Mean | SD |
|---|---|---|
| I have observed that the educated parents are the ones who are usually in attendance during academic meetings. | 3.70 | 1.25 |
| Most of the parents are able to understand school programme. | 3.20 | 1.03 |
| The parents understand the importance of Agriculture studies. | 2.80 | 0.92 |
| The parents in the school are able to understand most of the work given to their children based on feedback from the learners' work. | 2.60 | 1.07 |
| Composite mean | 3.08 | 0.81 |

*Source: Researcher (2026)*

The teacher findings show a useful contrast. Teachers appeared to notice educated parents more often during academic meetings, but this did not necessarily mean that parents with lower education were not involved at home. The lower score on understanding learner work also indicates that teachers may need to provide clearer guidance to parents, especially where tasks involve curriculum language or written instructions. This supports Goodall's (2021) warning that schools should avoid treating parents as deficient when the real issue may be communication and support structures.

## Parental Involvement by Education Level

The descriptive statistics for parental involvement by education level did not show a simple pattern in which involvement increased with higher education. Parents with basic education reported the highest involvement score, M = 3.69, SD = 0.86. Parents with post-graduate education followed closely, M = 3.60, SD = 1.59. Parents with college-level education had a mean of 3.18, SD = 1.07, while parents with no formal education had a mean of 3.00, SD = 1.49. Parents with university education reported the lowest mean involvement score, M = 2.93, SD = 1.39. The overall mean was 3.44 (SD = 1.04) as shown in Table 5.

*Table 5: Descriptive Statistics for Parental Involvement by Level of Education*

| Education Level | N | Mean | SD |
|---|---|---|---|
| No formal education | 6 | 3.00 | 1.49 |
| Basic education | 50 | 3.69 | 0.86 |
| College level | 26 | 3.18 | 1.07 |
| University education | 6 | 2.93 | 1.39 |
| Post-graduate level | 3 | 3.60 | 1.59 |
| Total | 91 | 3.44 | 1.04 |

*Source: Researcher (2026)*

The pattern in Table 5 is important because it challenges the expectation that parents with higher formal education will always be more involved. The highest mean was recorded

among parents with basic education, which may reflect the practical character of the agriculture curriculum. Many parents in this category may be active in farming or may have direct knowledge of agricultural activities. The low mean among university-educated parents may be linked to factors not captured by education level alone, such as work schedules, time limitations, or living arrangements. The relatively high standard deviations among parents with no formal education and post-graduate education also show that involvement varied within these categories.

## Regression Results

Dummy-variable regression was conducted to test whether parents' education level significantly influenced parental involvement as shown in Table 6. Parents with no formal education served as the reference category. The comparison categories were basic education, college level, university education, and post-graduate level. The overall regression model was not statistically significant, $F(4, 86) = 1.816$, $p = .133$. The model explained 7.8% of the variance in parental involvement, $R^2 = .078$, with an adjusted $R^2$ of .035. Therefore, parents' education level did not have a statistically significant influence on parents' self-reported involvement in the implementation of the competence-based agriculture curriculum.

***Table 6: Regression Results for Parents' Level of Education and Parents' Self-Reported Involvement***

| Predictor | B | SE B | β | t | p |
|---|---|---|---|---|---|
| Constant | 3.000 | 0.419 | | 7.161 | < .001 |
| Basic education (vs no formal education) | 0.688 | 0.443 | .329 | 1.552 | .124 |
| College level (vs no formal education) | 0.177 | 0.465 | .077 | 0.381 | .704 |
| University education (vs no formal education) | -0.067 | 0.592 | -.016 | -0.113 | .911 |
| Post-graduate level (vs no formal education) | 0.600 | 0.726 | .103 | 0.827 | .411 |

*Note. $R = .279$, $R^2 = .078$, adjusted $R^2 = .035$, $F(4, 86) = 1.816$, $p = .133$. Source: Researcher (2026).*

The coefficient for basic education was positive, $B = 0.688$, $t = 1.552$, $p = .124$, meaning that parents with basic education reported higher involvement than parents with no formal education. However, the difference was not statistically significant. The coefficient for college-level education was also positive but not significant, $B = 0.177$, $t = 0.381$, $p = .704$. Parents with university education had a slightly lower involvement score than parents with no formal education, $B = -0.067$, $t = -0.113$, $p = .911$, but this difference was also not significant. Parents with post-graduate education had a positive but non-significant coefficient, $B = 0.600$, $t = 0.827$, $p = .411$. Since all p-values were greater than .05, none of the education categories significantly predicted parental involvement.

Based on these results, the null hypothesis was retained. The study concluded that parents' level of education did not have a statistically significant influence on their involvement in the implementation of the competence-based agriculture curriculum in public primary schools in Gatanga Sub-County. Although descriptive differences existed, they were not strong enough to support the claim that formal education level determined parental involvement.

## Discussion of Findings

The findings show that parents' education level did not significantly influence parental involvement in the implementation of the competence-based agriculture curriculum. This result is important because it challenges a common assumption in education research. Many studies suggest that highly educated parents are more likely to support school activities because they understand school systems, communicate better with teachers, and have stronger academic confidence. Ates (2021), Boonk et al. (2018), Kena et al. (2015), and Roksa and Kinsley (2019) all provide support for the broader view that parent education and family support matter for learner outcomes and parental engagement. However, the current finding shows that this relationship can vary by subject, context, and type of involvement being measured.

One explanation is that the competence-based agriculture curriculum values practical knowledge. Parents in Gatanga may possess agricultural skills from daily experience even when they have limited formal education. A parent with basic education may know how to prepare land, plant crops, manage seedlings, identify pests, care for livestock, and guide children through routine agricultural tasks. Such knowledge can be directly useful for agriculture assignments and home projects. Therefore, lower formal education does not necessarily prevent meaningful involvement. In this context, the practical nature of agriculture may reduce the gap between parents with higher and lower levels of formal schooling.

The descriptive results support this interpretation. Parents with basic education recorded the highest mean involvement score. This group formed more than half of the parent sample, meaning that their involvement played a major role in the overall pattern. The high involvement among parents with basic education suggests that they may feel close to the subject matter and may be willing to guide learners through home-based agricultural tasks. This supports the broader view of parental engagement proposed by Goodall and Montgomery (2014), who argue that parent support should be understood beyond school attendance or formal academic help.

The teacher perception results add another layer to the discussion. Teachers moderately agreed that educated parents were often the ones attending academic meetings. This suggests that visible school-based participation may still be influenced by formal education. Parents with more education may feel more comfortable attending meetings, asking questions, and speaking to teachers. However, the regression results show that education level did not

significantly predict parents' total self-reported involvement. This difference indicates that school-based visibility should not be treated as the whole meaning of involvement. Some parents may be less visible at school but active at home.

The finding also aligns with the logic of Epstein's model of parental involvement. Epstein (2018) identifies learning at home as one of the major forms of involvement. In agriculture, learning at home may be especially powerful because the home environment may provide real farming experiences. Parents can support learners by giving instructions, demonstrating tasks, supervising practical work, and encouraging responsibility. These activities may be performed by parents with different levels of formal education. Therefore, the result does not weaken the importance of education. It instead shows that parent engagement in practical subjects should be interpreted broadly.

Another possible explanation relates to time and occupation. Higher education may be associated with formal employment and time constraints. A university-educated parent may have the knowledge and confidence to understand curriculum expectations, but may have limited time to attend meetings or help with practical home projects. In contrast, parents with basic education may be more directly involved in farming or informal work near the home, which may make it easier for them to help children with agricultural tasks. Future research could examine how education level interacts with work patterns, occupation, and time availability.

The finding has important implications for schools. Teachers should not assume that parents with lower education are unable to support the agriculture curriculum. Instead, schools should identify the kinds of knowledge parents already possess and create structured ways for parents to contribute. For example, parents can be invited to demonstrate local farming practices, provide examples from their farms, support home projects, or participate in school garden activities. Such strategies can help schools build inclusive engagement systems that value practical knowledge as well as formal schooling.

The results also suggest that parent communication should be simple and practical. If parents are expected to help with agriculture assignments, schools should give clear instructions that all parents can understand. This may include using local language where appropriate, providing examples, giving step-by-step guidance, and explaining how parents can help without doing the work for the learner. Clear communication can reduce anxiety among parents with lower formal education and can improve the quality of home-based support.

The non-significant regression result should not be interpreted to mean that education level has no value. Formal education can still help parents read instructions, communicate with teachers, and understand curriculum goals. However, in this study, its influence was not strong enough to predict overall involvement statistically. The result therefore points to the need for a balanced view. Education level may shape some forms of involvement, especially school meetings and written communication, but it may not determine practical home support in agriculture.

The finding is also useful for policy. Competence-based education depends on active family participation, but policy and school practice should avoid designing involvement in ways that favor only educated parents. Parent engagement materials should be accessible to parents with different literacy levels. Schools should recognize home-based activities as valid evidence of involvement. This can reduce exclusion and make competence-based agriculture more community-centered. Such an approach is consistent with the wider purpose of competence-based education, which is to connect learning to real life and to recognize skills that learners can apply in their surroundings.

## Conclusion

The study examined the influence of parents' education level on parental involvement in the implementation of the competence-based agriculture curriculum in public primary schools in Gatanga Sub-County, Kenya. The descriptive findings showed that involvement varied across education categories, with parents with basic education reporting the highest mean involvement and parents with university education reporting the lowest mean involvement. However, the regression results showed that these differences were not statistically significant. The overall model was not significant, $F(4, 86) = 1.816$, $p = .133$, and the null hypothesis was retained.

The study concludes that parents' formal education level did not significantly determine their involvement in competence-based agriculture curriculum implementation. This conclusion is meaningful because agriculture is a practical subject in which parents can contribute through local farming knowledge, supervision, encouragement, and home-based support. Parents without advanced formal education may still support learners effectively when the curriculum tasks are linked to everyday agricultural practice. Therefore, schools should not treat formal academic credentials as the main measure of parental capacity to support agriculture learning.

## Recommendations

First, schools should design parent involvement strategies that recognize practical farming knowledge. Parents with basic or limited formal education should be encouraged to support home-based agriculture activities and share local examples that enrich learner understanding.

Second, agriculture teachers should provide clear and simple instructions for take-home tasks. Instructions should explain what the learner should do, what kind of support the parent can give, and how the learner's own work will be assessed. This can help parents at all education levels participate with confidence.

Third, schools should avoid using meeting attendance as the only indicator of parental involvement. Home-based supervision, practical guidance, provision of locally available resources, and learner encouragement should also be recognized as valid forms of involvement.

Fourth, school administrators should organize parent sensitization sessions on the competence-based agriculture curriculum. These sessions should be practical and should show parents how to support learners without requiring advanced academic knowledge.

Fifth, the Ministry of Education and curriculum support agencies should develop parent-friendly guidance materials for practical subjects. Such materials should use simple language and examples that reflect the rural and agricultural contexts in which many learners live.

### Limitations and Suggestions for Further Research

The study was conducted in public primary schools in Gatanga Sub-County and focused on the competence-based agriculture curriculum. The findings should therefore be generalized with caution to other subjects, private schools, urban settings, or other counties. The analysis also relied mainly on parents' self-reported involvement, which may be affected by social desirability. Although teacher and learner responses provided context, the regression model used parent responses only.

Future studies could examine how parents' education level interacts with occupation, income, gender, and time availability. Further research may also compare practical subjects such as agriculture with more text-based subjects to determine whether education level has different effects across learning areas. Qualitative studies could also explore how parents with different education levels understand their roles in competence-based education and how they support children at home.

## REFERENCES

Akala, B. M. M. (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

Amunga, J., Were, D., & Ashioya, I. (2020). The teacher-parent nexus in the competency based curriculum success equation in Kenya. *International Journal of Educational Administration and Policy Studies, 12*(1), 60-76. https://eric.ed.gov/?id=EJ1256326

Amutabi, M. N. (2019). Competency based curriculum (CBC) and the end of an era in Kenya's education sector and implications for development: Some empirical reflections. *Journal of Popular Education in Africa, 3(*10), 45-66.

Ates, A. (2021). The relationship between parental involvement in education and academic achievement: A meta-analysis study. *Pegem Journal of Education and Instruction, 11*(3), 50-66. https://eric.ed.gov/?id=EJ1305014

Boonk, L., Gijselaers, H. J., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review, 24*, 10-30. https://doi.org/10.1016/j.edurev.2018.02.001

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513-531.

Epstein, J. L. (2018). School, family, and community partnerships in teachers' professional work. *Journal of Education for Teaching, 44*(3), 397-406. https://doi.org/10.1080/02607476.2018.1465669

Field, A. (2024). *Discovering statistics using IBM SPSS statistics (*6th ed.). SAGE Publications.

Goodall, J. (2021). Parental engagement and deficit discourses: Absolving the system and solving parents. *Educational Review, 73*(1), 98-110. https://doi.org/10.1080/00131911.2018.1559801

Goodall, J., & Montgomery, C. (2014). Parental involvement to parental engagement: A continuum. *Educational Review, 66*(4), 399-410. https://doi.org/10.1080/00131911.2013.781576

Hanif, F., & Alwi, S. K. K. (2019). Impact of parental involvement on academic performance of students. *Journal of Education and Practice, 10*(12), 106-111.

Hornby, G., & Blackwell, I. (2018). Barriers to parental involvement in education: An update. *Educational Review, 70*(1), 109-119. https://doi.org/10.1080/00131911.2018.1388612

Jeynes, W. H. (2018). A practical model for school leaders to encourage parental involvement and parental engagement. *School Leadership & Management, 38*(2), 147-163. https://doi.org/10.1080/13632434.2018.1434767

Kambona, W. (2025). Exploring parental involvement in early childhood education in Sub-Saharan Africa: A systematic review. *Social Sciences & Humanities Open, 11*, Article 101367. https://doi.org/10.1016/j.ssaho.2025.101367

Karani, A., Miriam, K., & Mironga, J. (2021). Teaching competence-based agriculture subject in primary schools in Kenya: A review of institutional preparedness. International *Journal of Education, Technology and Science, 1*(1), 14-30. https://globets.org/journal/index.php/IJETS/article/view/5

Kena, G., Musu-Gillette, L., Robinson, J., Wang, X., Rathbun, A., Zhang, J., Wilkinson-Flicker, S., Barmer, A., & Dunlop Velez, E. (2015). *The condition of education 2015 (NCES 2015-144)*. U.S. Department of Education, National Center for Education Statistics.

Kim, S. W. (2018). Parental involvement in developing countries: A meta-synthesis of qualitative research. *International Journal of Educational Development, 60*, 149-156. https://doi.org/10.1016/j.ijedudev.2017.07.006

Mwarari, C. N., Githui, P., & Mwenje, M. (2020). Parental involvement in the implementation of competency based curriculum in Kenya: Perceived challenges and opportunities. *American Journal of Humanities and Social Sciences Research, 4*(3), 201-208. https://www.ajhssr.com/wp-content/uploads/2020/03/ZB2043201208.pdf

Ndambuki, R., Robert, R. O., & Karani, A. (2024). An investigation of the teacher preparedness in the implementation of the competence-based agriculture subject curriculum at junior secondary schools in Kenya. *International Journal of Education, Technology and Science, 4*(2), 1873-1892.

Njura, H. J., Kubai, K. I., Taaliu, S. T., & Khakame, S. (2020). The relationship between agricultural teaching approaches and food security in Kenya. *Education Research International*, 2020, 1-18.

Organisation for Economic Co-operation and Development. (2023). *PISA 2022 results (Volume I): The state of learning and equity in education*. OECD Publishing. https://doi.org/10.1787/53f23881-en

Republic of Kenya. (2013). *The Basic Education Act, 2013*. Government Printer."

Roksa, J., & Kinsley, P. (2019). The role of family support in facilitating academic success of low-income students. *Research in Higher Education, 60*(4), 415-436. https://doi.org/10.1007/s11162-018-9517-z

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson.