

Rwanda's Competence-Based Curriculum Has Promoted Environmental Sustainability and Gender Equity

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1. ABSTRACT

Rwanda's 2015 curriculum reform shifted from a traditional, content-centered approach to a learner-centered Competence-Based Curriculum (CBC), emphasizing skills, values, attitudes, creativity and real-life application. This study investigated whether the CBC has strengthened graduating students' awareness and application of environmental sustainability and gender equity compared to the previous Knowledge-Based Curriculum (KBC).

A mixed-methods survey was conducted among 96 Rwandan high-school graduates (45% recent CBC; 55% older KBC) from 13 secondary schools across 6 districts. Results show that CBC graduates reported higher awareness of environmental sustainability (mean = 4.80 vs. 2.66) and gender equity (mean = 4.81 vs. 4.20). The study concludes that the CBC is more effective than the previous curriculum in promoting these principles.

2. INTRODUCTION



Background

- 2015: Rwanda reformed the high-school curriculum to a learner-centered CBC.
- Shift from knowledge acquisition to competencies, values, attitudes and real-life application.



Research objective

- To investigate whether Rwanda's transition to the CBC has improved students' competencies in environmental sustainability and gender equity.



Research question

- How do environmental sustainability and gender-equity awareness differ between graduates educated under the CBC and those educated under the previous KBC?

3. METHODOLOGY



Study design

Mixed-methods comparative study



Participants

96 graduates (45% CBC, 55% KBC) from 13 schools in 6 districts



Data collection

Google Forms
5-point Likert scale
+ open-ended questions



Analysis

Quantitative & qualitative

Interpretation of mean scores (Likert scale)

4.50–5.00	3.50–4.49	2.50–3.49	1.50–2.49	0–1.49
Very high	High	Moderate	Low	Very low

4. RESULTS

Figure 1. Participant distribution

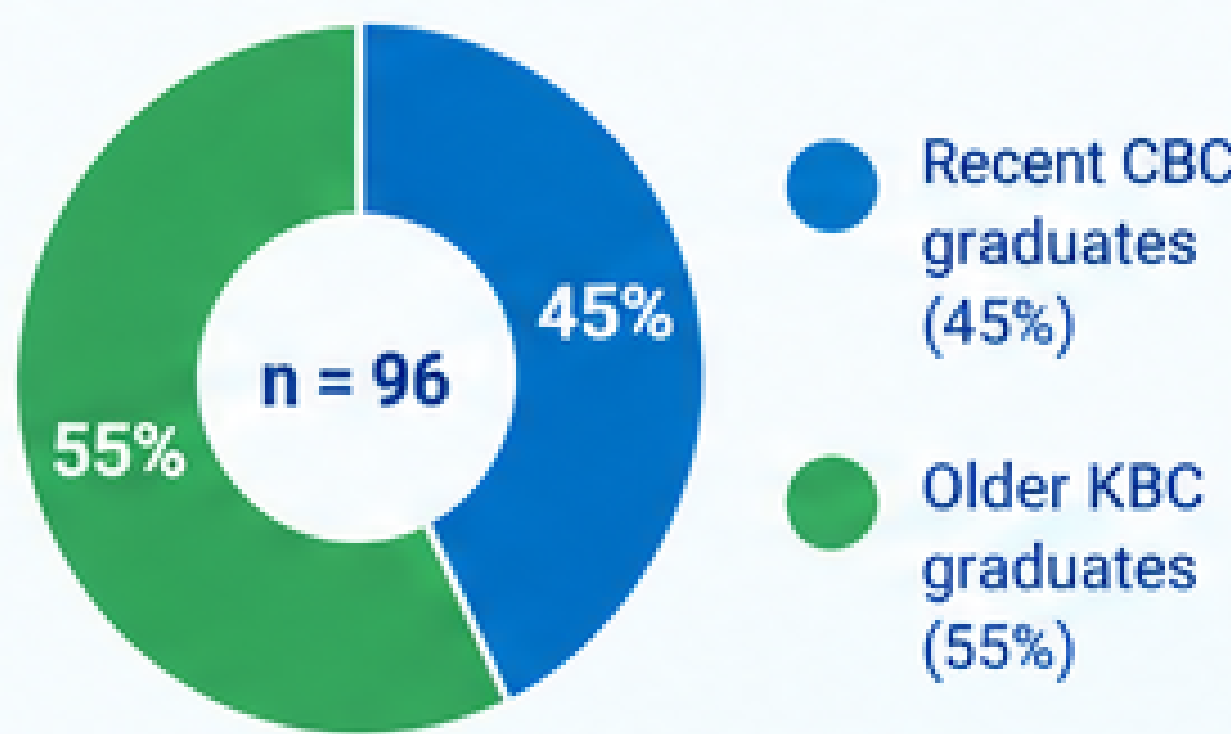


Figure 3. Curriculum comparison

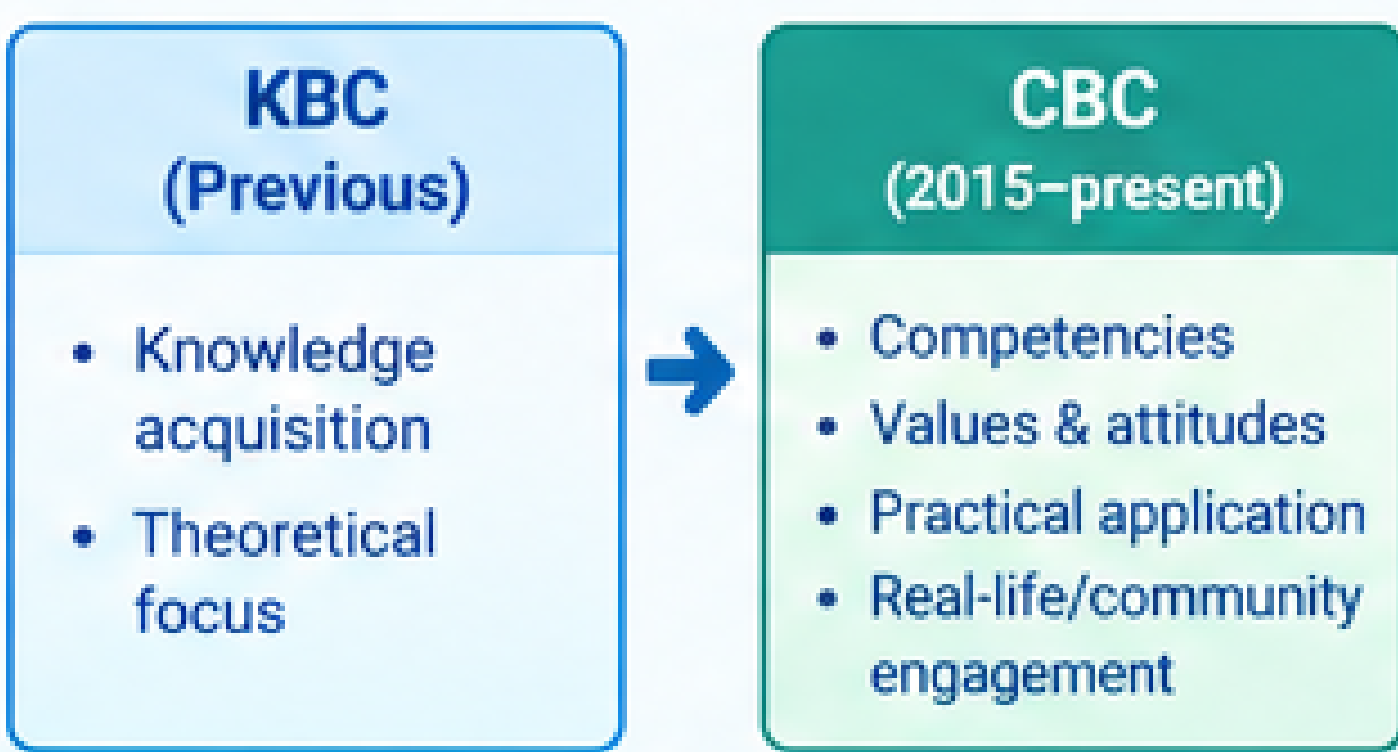


Figure 2. Overall mean scores for environmental sustainability and gender equity



Top environmental sustainability findings (mean score)

Recent/CBC graduates	Older/KBC graduates
1. Biking/walking for short trips 4.90	1. Reusing items 2.93
2. Solar panels importance 4.88	2. Tree-cutting approval 2.93
3. Biodegradable vs non-biodegradable waste 4.87	3. Biodegradable packaging 2.86
	Planting ≥5 trees annually 1.20 (very low)

Top gender-equity findings (mean score)

Recent/CBC graduates	Older/KBC graduates
1. Involve all family members in decisions 4.88	1. Report gender-based violations 4.62
2. Report gender-based violations 4.87	2. Equal education opportunities 4.52
3. Inclusive language & behaviour 4.85	3. Support peers regardless of gender 4.48

Qualitative insights

- Recent/CBC graduates
- School recycling programs
 - Rainwater harvesting
 - Environmental clubs & practical projects
 - Peer advocacy and classroom debates (gender equity)

- Older/KBC graduates
- Recognized importance of gender equity
 - Less exposure to hands-on sustainability activities
 - Noted knowledge gaps in environmental practices

5. DISCUSSION

- CBC graduates showed higher awareness of environmental sustainability (4.80 vs. 2.66) and gender equity (4.81 vs. 4.20).
- Gender-equity awareness was high in both groups, with a slight increase among recent graduates (4.20 vs. 4.81).
- Findings align with the CBC's emphasis on practical application, project-based learning, creativity, problem-solving, community engagement and learner participation.
- However, gaps remain: limited public awareness, insufficient resources, challenges in implementing projects, and need for continuous teacher professional development.

6. CONCLUSION



The CBC is more effective than the previous KBC in promoting environmental sustainability and gender-equity principles among graduating students.



Environmental sustainability
2.66 → 4.80



Gender equity
4.20 → 4.81

Overall, the study supports learner-centered, competency-based education that connects classroom knowledge with real-life application.

7. RECOMMENDATIONS



- Strengthen teacher professional development.
- Embed more sustainability-related practical activities.
- Expand community outreach for older graduates.
- Strengthen collaboration between government, schools, businesses and communities.
- Address high student-to-teacher ratio (support teacher education programs).



8. STUDY LIMITATION

Conducted within a limited timeframe; no interviews with education professionals and government leaders.



KEY TAKEAWAY

The CBC is associated with substantially higher reported environmental-sustainability awareness and higher gender-equity awareness among recent Rwandan high-school graduates.