

An Analysis of Success Rates of Candidates with Hearing Impairment in the Cameroon General Certificate of Education Ordinary Level Examinations (2020–2025)

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Abstract

The academic performance of learners with disabilities in high-stakes examinations is a major concern for inclusive education, especially in sub-Saharan Africa, where many barriers make learning harder for these students. This study looked at the candidate-level success rates of hearing-impaired candidates in the Cameroon General Certificate of Education Ordinary Level (GCE O-Level) examinations from 2020 to 2025. Using secondary data from the Cameroon General Certificate Education Board, the study examined the examination records of all twenty-nine hearing-impaired candidates who sat the exam during this period. A candidate was counted as successful if they obtained at least four subject passes at grades A, B, or C. The results showed a low overall success rate of 34.48%, with yearly rates ranging from 20.00% to 75.00%. English Language had the lowest pass rate of all subjects, at zero percent across all six years, followed by History (0.00%), Citizenship Education (13.79%), and Geography (20.00%). English Language, Citizenship Education, Geography, and Food and Nutrition were identified as the subjects most closely linked to low candidate success. These findings point to a need for closer attention to teaching methods, examination accommodations, and curriculum support for hearing-impaired candidates. However, this study did not test any intervention, so it cannot show which measures would improve outcomes; the suggestions offered are possible directions for future policy and practice, not conclusions demonstrated by the data.

Keywords: hearing impairment, GCE O-Level, candidate success rates, inclusive education, Cameroon, high-stakes examinations, special needs education

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1. Introduction

Across the world, there is a strong commitment to inclusive education. This is set out in the United Nations Convention on the Rights of Persons with Disabilities and in Sustainable Development Goal 4, and it has led to policy reforms aimed at giving learners with disabilities fair access to quality education (United Nations, 2006; UNESCO, 2016). Despite these commitments, students with disabilities in high-stakes examinations still tend to perform below their non-disabled peers. This gap is especially wide in developing countries, where school infrastructure, teacher training, and examination accommodations are often limited (Mitchell & Desai, 2020; Ainscow, 2020). In Cameroon, the General Certificate of Education Ordinary Level examination is a major gateway to further education and formal employment. This makes the performance of candidates with disabilities an issue of both educational fairness and economic opportunity (Tambo, 2018; Ngwa, 2019).

The 2025 GCE O-Level results showed a wide gap in success rates between the general candidate population and candidates with hearing impairment. The national success rate was 78.56%, but the rate for candidates with hearing impairment was only 42.86%, meaning fewer than half of hearing-impaired candidates met the minimum requirement for success (Cameroon General Certificate Education Board, 2025). This gap points to systemic, instructional, and language-related barriers that are likely to affect the academic progress of deaf and hard-of-hearing learners in Cameroon's education system (Nketia, 2021; Mbuagbo, 2022).

Hearing impairment changes the way learners take in language, process information, and show what they know (Marschark & Spencer, 2020). Candidates who rely mainly on visual communication face real difficulties with the usual oral-aural examination format, especially in subjects with heavy language demands (Stinson & Antia, 2013; Luckner & Cooke, 2010). In the GCE O-Level system, the lack of sign language interpretation, modified papers, and extended time makes this disadvantage worse (Mutua & Dimitrov, 2013; Smith & Smith, 2019).

The problem motivating this study is the consistently low success rate of candidates with hearing impairment in the GCE O-Level examinations. Because this examination is a major route to further education and employment in Cameroon, the low success rate represents a real loss of opportunity and raises concerns about educational fairness (Tchombe, 2017; Fonjong & Ngwang, 2021). Earlier studies have looked at the general performance of students with disabilities in Cameroonian schools,

but few have looked specifically at subject-level examination outcomes for hearing-impaired candidates over several years (Ngwang, 2020; Mbuagbo & Tchombe, 2021).

The general objective of this study was to examine and describe the candidate success rates of hearing-impaired candidates in the Cameroon GCE O-Level examinations between 2020 and 2025. The specific objectives were: (1) to describe the candidate-level success rates for the period 2020 to 2025; (2) to identify the subjects with the lowest pass rates among hearing-impaired candidates during this period; and (3) to describe temporal trends in candidate success rates and subject performance.

This study can help inform policy decisions, teacher training, and the design of examination accommodations for hearing-impaired candidates in Cameroon. By describing the specific subjects and trends linked to low success rates, the study offers useful information for the Ministry of Secondary Education, the Cameroon General Certificate Education Board, special education teachers, and disability rights organisations (Ainscow & Sandill, 2010; Forlin, 2013).

2. Literature Review

Theoretical Framework

This study draws on two theories to help explain the low success rates of hearing-impaired candidates in high-stakes examinations: the Social Model of Disability and the Capability Approach. The Social Model, developed by Oliver (1990) and extended by Shakespeare (2006), argues that disability is not a personal deficit but a barrier created by the environment, by attitudes, and by institutions. Applied here, this model suggests that low success rates may be linked less to the hearing impairment itself and more to an examination system that does not adjust for the communication needs of these learners (Barnes & Mercer, 2010; Roulstone & Prideaux, 2012). An inaccessible exam format, the lack of sign language support, and the absence of curriculum adjustment are examples of such systemic barriers.

The Capability Approach, developed by Sen (1999), adds a further lens by asking not just what outcomes candidates achieve, but what real opportunities and freedoms they have. Applied to examination performance, this approach draws attention to the personal, social, and environmental factors that help or prevent hearing-impaired candidates from turning their learning into examination success (Terzi, 2010; Biggeri & Santi, 2012). It highlights the need to look at how individual

characteristics, institutions, and social conditions interact to shape outcomes for learners with disabilities.

Hearing Impairment and Academic Achievement

A large body of international research has looked at the academic challenges faced by students with hearing impairment. Marschark and Spencer (2020) found that deaf and hard-of-hearing students often show delays in reading comprehension, vocabulary, and awareness of language, which can affect performance across many subjects. These delays are linked to reduced access to spoken language during early childhood (Mayberry, 2002; Paul, 2009). At secondary level, Stinson and Antia (2013) found that hearing-impaired students in mainstream classrooms often struggle with note-taking, following spoken instructions, and taking part in class discussion, all of which matter for examination preparation.

Researchers have also studied the link between hearing impairment and mathematics performance. Pagliaro and Ansell (2012) found that deaf students often perform about as well as hearing students on routine mathematical procedures, but struggle more with word problems and reasoning tasks that depend on reading. Kelly and Gaustad (2019) found that the reading demands of mathematics examinations create real barriers for deaf learners. These findings are relevant to the GCE O-Level Mathematics paper, where many problems are expressed in dense written language.

Language and literacy present even greater challenges. Traxler (2000) found that the median reading level of deaf school leavers in the United States was close to the fourth-grade level of hearing students. In the African context, Nketia (2021) and Mbuagbo (2022) describe added challenges for deaf learners, who must build literacy in a second language while also working with a limited sign language vocabulary and limited instructional support.

Inclusive Education and Examination Accommodations in Africa

Across Africa, inclusive education policy has often been more ambitious on paper than in practice (Mutua & Dimitrov, 2013; Mckenzie et al., 2018). In Cameroon, Law No. 2010/002 of 19 April 2010 sets out the legal framework for the protection and promotion of the rights of persons with disabilities, including equal access to education (Republic of Cameroon, 2010). However, studies by Tchombe (2017) and Ngwang (2020) show real gaps between this policy and everyday practice, including limited

teacher training, a shortage of specialised materials, and a lack of standard examination accommodations for candidates with disabilities.

Examination accommodations are changes to the assessment process that let candidates with disabilities show what they know, without changing what the examination is meant to measure (Lovett & Lewandowski, 2015; Sireci et al., 2016). Common accommodations for hearing-impaired candidates include extra time, separate examination rooms, sign language interpretation of questions, simplified question papers, and assistive listening devices (Cawthon & Leppo, 2013; Cawthon, 2010). For the GCE O-Level examinations, however, there is little published evidence that such accommodations are regularly provided to candidates with hearing impairment (Mbuagbo & Tchombe, 2021; Fonjong & Ngwang, 2021).

Mckenzie et al. (2018) argue that standardised examinations in many African countries are designed with an average student in mind, with little thought for learners with sensory, cognitive, or physical impairments. This design choice can put candidates with disabilities at a disadvantage and can make examination results reflect environmental barriers as much as academic ability.

Subject-Specific Challenges for Hearing-Impaired Candidates

Some subjects are seen in the literature as especially difficult for hearing-impaired candidates because of their language demands. English Language, a compulsory subject in the Anglophone system, is a major barrier for many deaf and hard-of-hearing candidates (Paul, 2009; Stinson & Antia, 2013). The subject tests reading, grammar, vocabulary, essay writing, and oral communication, all areas affected by reduced access to spoken language (Marschark & Spencer, 2020). Kelly and Gaustad (2019) and Paul (2009) found that deaf students often perform well below grade level in English, with the gap growing at higher levels of education.

History and Citizenship Education present similar challenges, since both require reading long texts, understanding abstract ideas, and writing extended answers (Luckner & Cooke, 2010; Stinson & Antia, 2013). For hearing-impaired candidates who may have had delayed language development, these demands can be difficult to meet. Geography, though often seen as a visual subject, also needs strong reading skills for interpreting maps, graphs, and written descriptions (Marschark & Spencer, 2020).

Mathematics and the sciences depend less on language, but they are not free of challenges. Pagliaro and Ansell (2012) and Kelly and Gaustad (2019) describe the difficulties deaf students face with the

wording of mathematics problems and with specialised science vocabulary. In addition, the practical components of Chemistry and Physics often rely on spoken instructions and teamwork, which can create access barriers for deaf learners in mainstream schools (Marschark & Spencer, 2020).

The Evidence Gap: Subject-Level Data in Cameroon

Taken together, this literature shows two things clearly. First, there is a large body of international research on how hearing impairment affects reading, language, and subject performance in general. Second, there is a growing body of research on inclusive education policy and practice across Africa, including Cameroon. However, very little of this research reports actual examination results for hearing-impaired candidates at the subject level. Most Cameroonian studies discuss policy gaps, teacher preparedness, or classroom practice, but do not present candidate-level or subject-level pass rate data from a national examination such as the GCE O-Level. This is the specific gap that the present study addresses: it provides subject-level and candidate-level pass rate evidence for hearing-impaired candidates in the Cameroon GCE O-Level, drawing on six years of examination records.

3. Methodology

Research design

This study used a quantitative descriptive design, based on secondary data analysis, to examine the candidate-level success rates and subject performance of hearing-impaired candidates in the GCE O-Level examinations from 2020 to 2025. A descriptive design was appropriate because the aim was to describe and interpret existing examination data, not to test cause-and-effect relationships (Creswell & Creswell, 2018). The study combined trend analysis, subject-level pass rate calculations, and comparative interpretation to build a full picture of examination outcomes.

Data Source and Population

The data were obtained from the Cameroon General Certificate Education Board (GCEB), the body that manages the GCE O-Level examinations and keeps records of all registered candidates. The researcher submitted a formal written request to the GCEB for the examination records of candidates registered with hearing impairment for the period 2020 to 2025. The GCEB granted access and supplied anonymised candidate-level records for this group. These records were cross-checked against the GCEB's disability register for the period, confirming that the twenty-nine candidates identified in the

dataset represent the entire population of candidates registered with hearing impairment who sat the GCE O-Level examination between 2020 and 2025; this study is therefore a population analysis rather than a sample-based study. The twenty-nine candidates were distributed across the six examination sessions as follows: four candidates in 2020, five in 2021, four in 2022, five in 2023, four in 2024, and seven in 2025.

For each candidate, the GCEB record included the examination session, candidate number, impairment type, subject code, subject name, and grade obtained. The dataset contained 240 subject entries across the twenty-nine candidates, who sat between five and nine subjects each. The subjects included English Language, French, Mathematics, Chemistry, Physics, Economics, Commerce, Geography, History, Citizenship Education, Food and Nutrition, Computer Science, and Logic. The records did not include demographic details, the severity or type of hearing loss, the candidates' school or educational setting, or information on examination accommodations received; these variables were not part of the GCEB's standard examination database.

Key Definitions

The central variable in this study was the candidate success rate, defined as the percentage of hearing-impaired candidates in a given examination session who met the minimum requirement for the GCE O-Level certificate. A subject pass was defined as a grade of A, B, or C. Grades D, E, U (Unclassified), and X (Absent or Disqualified) were treated as fail grades. A candidate was counted as successful if they obtained at least four subject passes at grades A, B, or C. It is important to distinguish this candidate-level measure from the subject-level measure described next. Candidate success rate describes whether a candidate met the overall certification requirement across all subjects taken. Subject pass rate describes performance within one subject only, regardless of whether the candidate met the overall requirement. This distinction is used consistently throughout the study.

Subject performance was measured using the subject-level pass rate: the percentage of subject entries that received a pass grade among hearing-impaired candidates. A subject was called problematic if it had a consistently low pass rate across the study period and appeared to be linked to candidates not meeting the overall success threshold.

Data Analysis

The data were analysed using simple descriptive statistics. For each examination session, the candidate success rate was calculated by dividing the number of candidates with four or more subject passes by the total number of candidates in that session, then multiplying by 100. Subject-level pass rates were calculated for each subject in each session by dividing the number of pass grades by the total number of entries for that subject, then multiplying by 100. Trends over time were examined by plotting these rates across the six-year period.

The analysis was carried out using the Python programming language, with the pandas and matplotlib libraries. Line graphs were used to show trends over time: one graph shows the candidate-level success rate across the six examination sessions, and the other shows performance trends for the subjects identified as problematic. All percentages are rounded to two decimal places.

Ethical Considerations

The study followed standard ethical guidelines for secondary data analysis. The data were obtained through a formal request to the Cameroon General Certificate Education Board, and candidate numbers were anonymised throughout the analysis and this report. No individual candidate can be identified from the results presented here. The study followed the principles of confidentiality, data protection, and responsible use of educational records.

4. Results

Overview of Candidate Success Rates (2020–2025)

The candidate-level success rates were low throughout the six-year period. Out of twenty-nine candidates with hearing impairment who sat the GCE O-Level examinations between 2020 and 2025, only ten candidates (34.48%) met the minimum requirement of four subject passes. This overall success rate is well below the national average and shows that about two out of every three hearing-impaired candidates who attempted the examination did not meet the success threshold.

Table 1 shows the candidate-level success rates by examination session. The rates varied considerably from year to year, from a low of 20.00% in 2021 and 2023 to a high of 75.00% in 2024. The 2025 session

recorded a success rate of 42.86%, higher than 2020 to 2023 but still well below the national success rate of 78.56% for the general candidate population.

Table 1. Candidate-Level Success Rates of Hearing-Impaired Candidates (2020–2025)

Examination Session	Total Candidates	Candidates Successful	Success Rate (%)
2020	4	1	25.00
2021	5	1	20.00
2022	4	1	25.00
2023	5	1	20.00
2024	4	3	75.00
2025	7	3	42.86
Total	29	10	34.48

The pattern over time is shown in Figure 1. The success rate was relatively stable but low between 2020 and 2023, staying between 20.00% and 25.00%. In 2024, the rate rose sharply to 75.00%, almost three times the rate of the year before. This improvement did not continue in 2025, when the rate fell to 42.86%, even though the number of candidates increased from four to seven. This pattern suggests that success rates in this population can change a great deal from year to year, partly because the number of candidates each year is small.

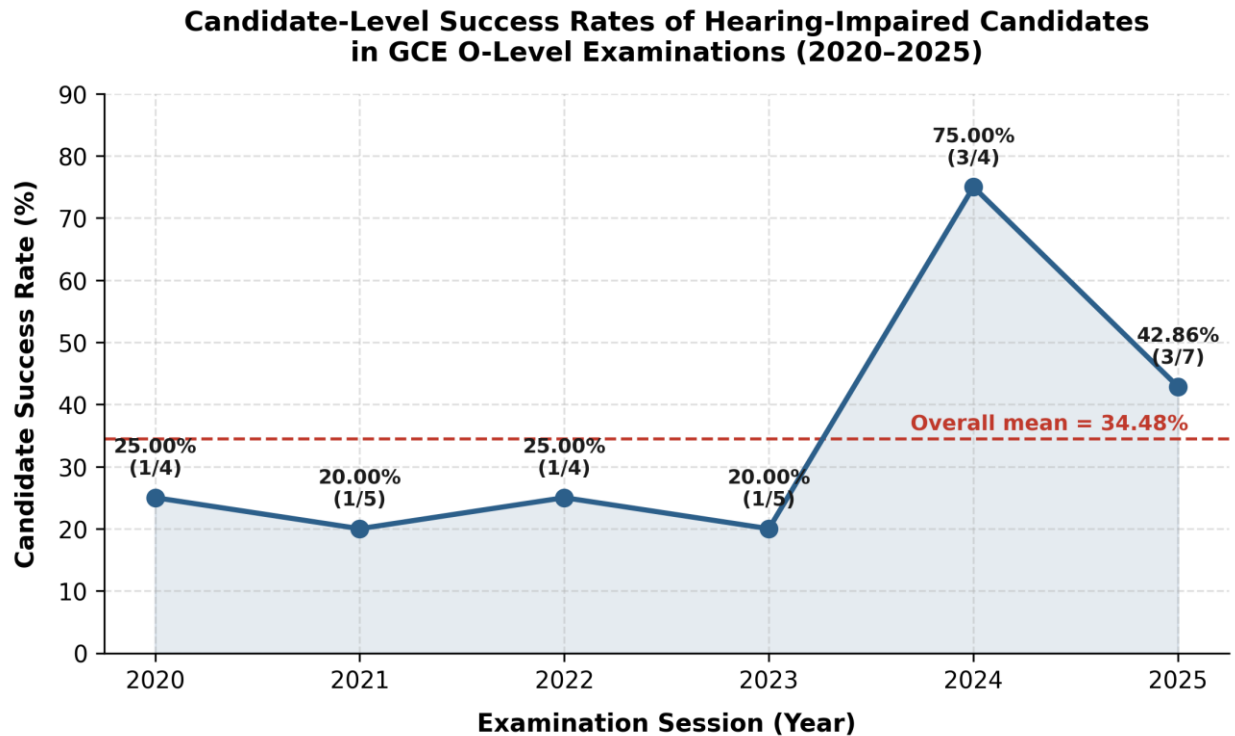


Figure 1. Candidate-Level Success Rates of Hearing-Impaired Candidates in GCE O-Level Examinations (2020–2025)

The average number of subject passes per candidate also changed across sessions. In 2020, candidates passed an average of 3.25 subjects; in 2021, this fell to 2.60, the lowest point in the study period. The year 2024 had the highest average, at 5.25 subject passes per candidate, matching the high success rate that year. In 2025, the average fell to 3.57. Three candidates across the six years passed no subjects at all, with one such candidate appearing in each of 2021, 2023, and 2025.

Subject-Specific Performance Analysis

The subject-level analysis showed large differences in performance across the curriculum, with some subjects showing consistently low pass rates for hearing-impaired candidates. Table 2 shows the overall subject pass rates across all six sessions combined, and Table 3 shows the year-by-year pattern for the core subjects.

Table 2. Overall Subject Pass Rates for Hearing-Impaired Candidates (2020–2025)

Subject	Total Entries	Passes (A–C)	Pass Rate (%)
English Language	29	0	0.00
History	13	0	0.00
Citizenship Education	29	4	13.79
Geography	20	4	20.00
Food and Nutrition	19	6	31.58
Economics	29	16	55.17
French	29	16	55.17
Mathematics	29	18	62.07
Computer Science	25	16	64.00
Chemistry	6	6	100.00
Commerce	4	4	100.00
Logic	2	2	100.00
Physics	6	6	100.00

Note. Pass rates for subjects with fewer than ten entries (Chemistry, Physics, Commerce, and Logic) should be interpreted with caution because of small sample sizes.

The most striking finding from the subject analysis is the complete failure rate in English Language: none of the twenty-nine entries across the six years resulted in a pass grade. The grades obtained were mostly U (Unclassified) and E, with a small number of D grades appearing in 2024 and 2025. This finding is notable because English Language is a compulsory subject for all candidates in the Anglophone examination subsystem. The data show that no candidate passed English Language in this period; possible reasons for this pattern are considered in the Discussion section, drawing on the wider literature on deaf education.

History also recorded a zero percent pass rate, although it had fewer entries (13) than English Language. All thirteen History entries received fail grades, mostly E and U. Citizenship Education had a pass rate of only 13.79%, with four passes out of twenty-nine entries; all of these passes were in the 2024 and 2025 sessions, with none in 2020 to 2023. Geography had a pass rate of 20.00% (four passes out of twenty entries), and Food and Nutrition had a pass rate of 31.58% (six passes out of nineteen entries).

At the other end of the performance spectrum, Chemistry, Commerce, Logic, and Physics all recorded 100% pass rates. However, these subjects had very small numbers of entries, ranging from two (Logic)

to six (Chemistry and Physics), and were not taken by all candidates. Because the numbers are so small, a 100% pass rate in these subjects should not be read as evidence of strong general academic performance among hearing-impaired candidates; a single additional candidate or a single grade could change the rate substantially. Computer Science, with twenty-five entries, recorded a 64.00% pass rate, and Mathematics, with twenty-nine entries, recorded a 62.07% pass rate. Because they have more entries, these two subjects offer a more stable picture of performance. Economics and French both recorded pass rates of 55.17%.

Table 3. Year-by-Year Subject Pass Rates for Core Subjects (2020–2025)

Subject	2020	2021	2022	2023	2024	2025
English	0.00	0.00	0.00	0.00	0.00	0.00
Language						
Citizenship	0.00	0.00	0.00	0.00	50.00	28.57
Education						
Geography	0.00	0.00	0.00	0.00	66.67	40.00
Food and	33.33	25.00	33.33	25.00	100.00	25.00
Nutrition						
Economics	50.00	40.00	50.00	40.00	100.00	57.14
French	50.00	40.00	50.00	40.00	100.00	57.14
Mathematics	75.00	60.00	75.00	60.00	50.00	57.14
Computer	75.00	60.00	75.00	60.00	50.00	60.00
Science						

Temporal Trends in Problematic Subjects

Figure 2 shows the trend lines for the eight core subjects with enough data across the examination sessions. The graph shows clear differences in how subject performance changed over time for hearing-impaired candidates.

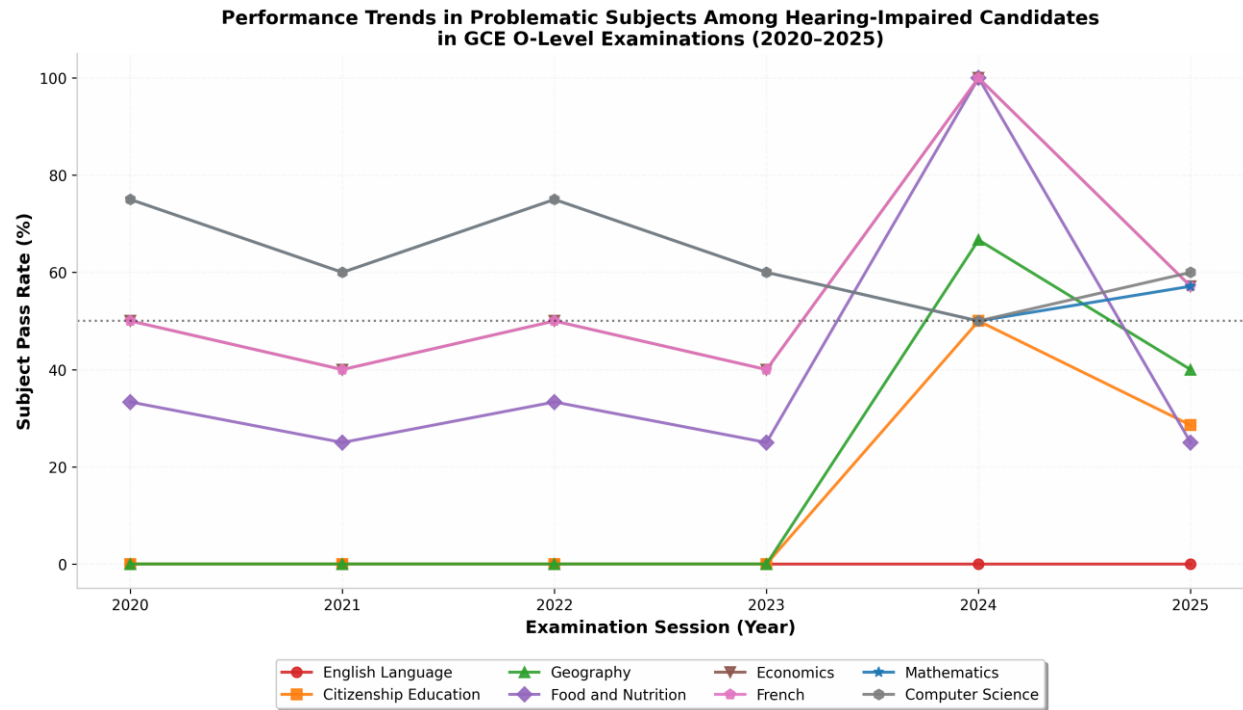


Figure 2. Performance Trends in Problematic Subjects Among Hearing-Impaired Candidates in GCE O-Level Examinations (2020–2025)

English Language stayed at zero percent across all six years. This is the clearest and most consistent pattern in the data: hearing-impaired candidates recorded no passes in English Language in any of the six examination sessions. The data alone cannot show why this pattern has continued; possible reasons, drawn from the wider literature, are considered in the Discussion section.

Citizenship Education, Geography, and Food and Nutrition all show a pattern of zero or near-zero pass rates in the early years (2020 to 2023), followed by improvement in 2024 and partial decline in 2025. Citizenship Education rose from 0.00% in 2020 to 2023 to 50.00% in 2024, then fell to 28.57% in 2025. Geography followed a similar path, from 0.00% in 2020 to 2023 to 66.67% in 2024, then 40.00% in 2025. Food and Nutrition varied more: 33.33% in 2020, 25.00% in 2021, 33.33% in 2022, 25.00% in 2023, 100.00% in 2024, and 25.00% in 2025.

Economics and French show closely matched trends, with the same pass rates in every examination session: 50.00% in 2020, 40.00% in 2021, 50.00% in 2022, 40.00% in 2023, 100.00% in 2024, and 57.14% in 2025.

Mathematics and Computer Science also show similar patterns, with pass rates of 75.00% and 60.00% respectively in the early years, both rising in the later sessions. Both subjects had higher and steadier pass rates than the humanities subjects across the six-year period.

Identification of Problematic Subjects

Based on the overall pass rates, the consistency of low performance over time, and the number of candidates taking each subject, four subjects stand out as the subjects most closely linked to low candidate success: English Language, Citizenship Education, Geography, and Food and Nutrition.

English Language is the most serious problem subject. It is compulsory, it recorded a zero percent pass rate in every session, and it directly prevents candidates from meeting the four-subject success requirement, since no candidate can count a pass in this subject.

Citizenship Education, though not compulsory, was taken by all twenty-nine candidates and had one of the lowest pass rates (13.79%) among all subjects in the dataset.

Geography and Food and Nutrition, with pass rates of 20.00% and 31.58%, also contributed to the low overall success rate, though to a smaller extent than English Language and Citizenship Education.

5. Discussion

Interpretation of Candidate Success Rates

The findings paint a concerning picture of examination outcomes for hearing-impaired candidates in one of Cameroon's most important examinations. An overall success rate of 34.48% over six years means that most hearing-impaired candidates who attempt the GCE O-Level do not obtain the certificate needed for further education or formal employment. This rate is well below the national average and points to conditions that are not supporting these candidates in meeting examination requirements.

The trend in Figure 1 shows a period of stagnation between 2020 and 2023, when the success rate stayed low, between 20.00% and 25.00%. This four-year plateau suggests that whatever was limiting the performance of hearing-impaired candidates stayed the same during this time. The sharp rise to 75.00% in 2024 is notable but hard to interpret with confidence, given the small number of candidates. Possible explanations include a particularly strong group of candidates that year, temporary

accommodations, or a change in who took the exam. The fall to 42.86% in 2025, alongside a rise in candidate numbers from four to seven, suggests that the 2024 improvement may not reflect a lasting change in the system.

Seen through the Social Model of Disability (Oliver, 1990; Shakespeare, 2006), the low success rates are unlikely to be explained by hearing impairment itself. They are more likely linked to barriers in the examination system, such as the lack of sign language interpretation, the absence of modified papers, limited extended time, and assessment formats that favour hearing candidates. The Capability Approach (Sen, 1999; Terzi, 2010) adds to this by pointing to the wider factors that can prevent hearing-impaired candidates from turning their learning into examination success.

The English Language Crisis

The most striking finding of this study is the complete failure of all twenty-nine entries in English Language across the six-year period. A zero percent pass rate in a compulsory subject is a serious barrier to certification for hearing-impaired candidates in the Anglophone examination subsystem. This pattern is consistent with international literature on deaf education, which has documented significant difficulties that deaf and hard-of-hearing students face in acquiring English literacy (Marschark & Spencer, 2020; Paul, 2009; Traxler, 2000). The persistence of a zero percent pass rate over six years, with no sign of improvement, is consistent with the possibility that support for English language acquisition among hearing-impaired learners has been limited; the present data cannot confirm this directly, since information on the instruction candidates received was not available.

The dataset used in this study cannot explain why candidates failed English Language, because it does not contain information on the language instruction, accommodations, or teaching methods that candidates received. Drawing on the wider literature on deaf education, several factors may plausibly contribute to this pattern, although they cannot be confirmed with the present data. First, hearing-impaired candidates in Cameroon may receive their early language instruction through sign language or oral methods that do not fully prepare them for written English (Nketia, 2021; Mbuagbo, 2022). Without a standardised Cameroon Sign Language and clear bilingual teaching models, deaf learners may develop limited English vocabulary and grammar, both of which matter for examination success. Second, the GCE O-Level English Language paper was designed for hearing candidates. It includes listening and oral components that deaf candidates cannot access, and even the written sections may use language that is more complex than many hearing-impaired candidates have been taught.

Third, teachers who prepare hearing-impaired candidates for the English Language examination may not have specialised training in deaf education (Mutua & Dimitrov, 2013; Mckenzie et al., 2018). Mainstream English teachers in Cameroon are not usually trained in sign language or in visual teaching methods for language. As a result, hearing-impaired candidates may be taught in the same way as hearing candidates, with little adjustment for their language learning needs. These explanations are consistent with the wider literature, but this study cannot confirm which of them, if any, applied to the candidates in this dataset.

It is possible that difficulty with English Language contributes to low performance in other subjects, because English is the language of instruction for most subjects in the Anglophone subsystem (Stinson & Antia, 2013; Luckner & Cooke, 2010). The zero percent pass rate in History, another subject with heavy reading and writing demands, is consistent with this possibility, as are the low pass rates in Citizenship Education, Geography, and Food and Nutrition. However, this dataset does not include individual-level data on candidates' English proficiency, so it cannot demonstrate that weak English caused poor performance in these subjects; it can only show that the same candidates who failed English Language also tended to perform poorly in other reading- and writing-heavy subjects.

The Role of Other Problematic Subjects

English Language is the most serious barrier, but the data also show that Citizenship Education, Geography, and Food and Nutrition are real obstacles to candidate success. Citizenship Education, with a pass rate of 13.79%, was especially difficult in the early years, with zero passes between 2020 and 2023. This subject involves civic concepts, government structures, and abstract social-science vocabulary, which may be hard for candidates with delayed language development (Marschark & Spencer, 2020).

Geography, despite visual elements such as map reading, had a pass rate of only 20.00%. Its examinations typically require extended written answers describing and explaining geographical patterns. For candidates with limited English proficiency, these language demands may outweigh the benefit of the subject's visual content. Food and Nutrition, with a pass rate of 31.58%, showed uneven results, which may reflect the mix of theory and practical assessment in the subject. The high pass rate in 2024 (100.00%), followed by a sharp fall in 2025 (25.00%), suggests that results in this subject may depend heavily on which candidates were enrolled and what support they received.

Performance in Mathematics and the Sciences

The comparatively higher pass rates in Mathematics (62.07%), Computer Science (64.00%), Chemistry (100.00%), and Physics (100.00%) are consistent with international research suggesting that some deaf students perform relatively well in subjects that rely less on written language and more on visual and logical reasoning (Pagliaro & Ansell, 2012; Kelly & Gaustad, 2019). However, this pattern should be read with caution. Chemistry and Physics had only six entries each, and candidates were not required to take these subjects, so the higher-performing or more confident candidates may have been the ones who chose them, a form of self-selection that can inflate pass rates. Mathematics and Computer Science had more entries (twenty-nine and twenty-five) and so offer a somewhat more stable picture, but their pass rates, while higher than the humanities subjects, were still below sixty-five percent.

Economics and French recorded closely matched pass rates in every examination session. Both subjects place heavy demands on written language, Economics in English and French in the target language, so this pattern is consistent with the idea that language proficiency plays a role in performance across subjects. This is an interesting pattern that would benefit from further study; the present data can show the pattern but cannot establish what is causing it.

Implications for Policy and Practice

These findings have real implications for education policy, examination administration, and classroom practice in Cameroon. At the policy level, a zero percent pass rate in English Language over six years is a strong signal that current examination arrangements are not working for hearing-impaired candidates. The Ministry of Secondary Education and the Cameroon General Certificate Education Board should review the examination accommodations available to candidates with hearing impairment and consider a clearer policy framework for their needs (Republic of Cameroon, 2010; Tchombe, 2017).

Possible policy actions include providing sign language interpreters during examinations, developing modified English Language papers with simpler language, allowing extended time for hearing-impaired candidates, and recognising other forms of assessment that do not rely only on written English (Cawthon, 2010; Lovett & Lewandowski, 2015). The compulsory nature of English Language could also be reconsidered, given the evidence that candidates are currently unable to pass it. Alternative routes, such as recognising sign language proficiency alongside or instead of standard English Language assessment, are worth exploring.

At the classroom level, teacher training should be strengthened so that mainstream and special-needs teachers are better equipped to teach hearing-impaired learners (Forlin, 2013; Ainscow & Sandill, 2010). This includes training in sign language, visual teaching methods, adapted assessment, and assistive technology. Schools with hearing-impaired candidates would also benefit from more resources, such as sign language dictionaries, visual English materials, and access to speech-to-text tools.

The examination board could also introduce regular monitoring of the performance of candidates with disabilities, with annual reports on success rates and subject pass rates by impairment type. This kind of reporting would help policymakers, educators, and disability rights groups track progress and hold the system accountable for the outcomes of learners with disabilities (Sireci et al., 2016; McKenzie et al., 2018).

Limitations of the Study

This study has several limitations. First, the sample of twenty-nine candidates across six years is small. This limits the statistical strength of the findings and how far they can be generalised to the wider population of hearing-impaired candidates in Cameroon. The small sample also makes the success rate sensitive to the results of individual candidates, as shown by the large swing between 2023 and 2024.

Second, the study relied on secondary data that did not include the candidates' demographic details, the severity or type of their hearing loss, the language or languages used at home or at school, the type of educational setting attended (for example, a specialised deaf school versus a mainstream inclusive classroom), or the examination accommodations received, if any. Because these variables were not available, this study can describe patterns in the data, such as which subjects had low pass rates, but it cannot establish why these patterns occurred. The explanations discussed in this study are possibilities drawn from the wider literature, not conclusions demonstrated by this dataset.

Third, the study looked only at candidates with hearing impairment and did not include a comparison group of hearing candidates or candidates with other disabilities. The national success rate of 78.56% offers a general benchmark, but a matched comparison group would have made it possible to say more confidently how much of the performance gap is linked specifically to hearing impairment.

Fourth, the data covered only 2020 to 2025, a shorter period than the eleven years originally planned for this research. Without data from the earlier years (2015 to 2019), it is not possible to say whether the low success rates seen in this study are a recent pattern or a long-standing one.

6. Conclusion and recommendations

This study has analysed and described the candidate-level success rates of hearing-impaired candidates in the Cameroon GCE O-Level examinations from 2020 to 2025. The findings show a low overall success rate of 34.48%, alongside a persistent pattern of zero or near-zero pass rates in several language-intensive subjects. English Language stands out as the most critical concern, with a zero percent pass rate across all six years, a pattern that limits the overall success rate for hearing-impaired candidates as a group. Citizenship Education, Geography, and Food and Nutrition were also identified as subjects with low pass rates during this period.

Consistent with the Social Model of Disability and the Capability Approach, the patterns observed in this study are more likely explained by barriers in the examination system, such as inaccessible formats and limited accommodations, than by any lack of ability among hearing-impaired candidates. This interpretation is supported by the wider literature on deaf education and disability rights, although the present dataset, on its own, cannot show which specific barriers were responsible for the outcomes observed.

These findings suggest a need for the Cameroonian education system to strengthen support for hearing-impaired candidates in high-stakes examinations. Possible steps include policy review, teacher training, examination accommodations, and curriculum adaptation, as discussed above. Without such steps, the low success rates documented in this study may continue, with ongoing costs for the educational and economic opportunities available to deaf and hard-of-hearing individuals in Cameroon.

Future research should include more candidates over a longer period, use qualitative methods to capture the experiences of hearing-impaired candidates directly, and examine whether specific examination accommodations improve success rates. Comparative studies with other African countries that have similar examination systems could also help build a stronger regional evidence base for inclusive assessment.

References

- Ainscow, M. (2020). Promoting inclusion and equity in education: Lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, 6(1), 7–16. <https://doi.org/10.1080/20020317.2020.1729587>
- Ainscow, M., & Sandill, A. (2010). Developing inclusive education systems: The role of organisational cultures and leadership. *International Journal of Inclusive Education*, 14(4), 401–416. <https://doi.org/10.1080/13603110802504903>
- Barnes, C., & Mercer, G. (2010). *Exploring disability* (2nd ed.). Polity Press.
- Biggeri, M., & Santi, M. (2012). The missing dimension of children's well-being and well-becoming: Agency and its relationship to capability. *Child Indicators Research*, 5(2), 219–233. <https://doi.org/10.1007/s12187-011-9125-9>
- Cameroon General Certificate Education Board. (2025). *GCE O-Level examination results 2025: Statistical report*. CGCEB.
- Cawthon, S. W. (2010). Science and evidence of success: Two emerging issues from assessment accommodations research. *Journal of Deaf Studies and Deaf Education*, 15(2), 119–127. <https://doi.org/10.1093/deafed/enq003>
- Cawthon, S. W., & Leppo, R. (2013). Assessment accommodations under test security: Case studies from university settings. *Journal of Postsecondary Education and Disability*, 26(2), 167–181.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Fonjong, L. N., & Ngwang, G. (2021). Inclusive education in Cameroon: Policy, practice, and the politics of disability. *Disability & Society*, 36(4), 612–633. <https://doi.org/10.1080/09687599.2020.1782178>
- Forlin, C. (2013). Changing paradigms and future directions for implementing inclusive education in developing countries. *Asian Journal of Inclusive Education*, 1(2), 19–32.
- Kelly, R. R., & Gaustad, M. G. (2019). Deaf college students' reading comprehension: Relative contributions of phonological and semantic processing. *Journal of Deaf Studies and Deaf Education*, 24(3), 245–257. <https://doi.org/10.1093/deafed/enz009>
- Luckner, J. L., & Cooke, C. (2010). A summary of the research on the social-emotional development of deaf and hard-of-hearing children. *American Annals of the Deaf*, 155(1), 15–22. <https://doi.org/10.1353/aad.o.0132>
- Lovett, B. J., & Lewandowski, L. J. (2015). *Testing accommodations for students with disabilities: Research-based practice*. American Psychological Association.
- Marschark, M., & Spencer, P. E. (2020). *The Oxford handbook of deaf studies, language, and education* (3rd ed.). Oxford University Press.
- Mayberry, R. I. (2002). Cognitive development in deaf children: The interface of language and perception in neuropsychology. In S. J. Segalowitz & I. Rapin (Eds.), *Handbook of neuropsychology: Child neuropsychology* (Vol. 8, Part II, pp. 71–85). Elsevier.
- Mbuagbo, T. O. (2022). Special education needs and inclusive practices in Cameroonian primary schools: Challenges and prospects. *African Journal of Disability*, 11(0), a923. <https://doi.org/10.4102/ajod.v11i0.923>

- Mbuagbo, T. O., & Tchombe, T. M. (2021). Teacher preparedness for inclusive education in Cameroon: A mixed-methods analysis. *International Journal of Inclusive Education*, 25(8), 912–928. <https://doi.org/10.1080/13603116.2019.1593056>
- Mckenzie, J. A., Badenhorst, E., & Mishiwo, M. (2018). Inclusive education in sub-Saharan Africa: Contextualising the policy rhetoric. In S. G. Sharma & U. Sharma (Eds.), *Inclusive education in South Asia* (pp. 45–62). Routledge.
- Mitchell, D., & Desai, Z. (2020). Inclusion and education in Africa. In F. Hallett & G. Hallett (Eds.), *The Routledge international handbook of inclusive education* (pp. 312–325). Routledge.
- Mutua, K., & Dimitrov, D. M. (2013). Prediction of school enrolment of children with disabilities in Kenya: The role of family, child, and socioeconomic factors. *International Journal of Disability, Development and Education*, 60(4), 337–352. <https://doi.org/10.1080/1034912X.2013.809110>
- Ngwang, G. (2020). Disability and education in Cameroon: Policy gaps and implementation challenges. *Journal of Education and Practice*, 11(12), 34–42.
- Nketia, E. A. (2021). Language policy and deaf education in Anglophone Cameroon: Tensions between English, Cameroon Sign Language, and indigenous languages. *Language Policy*, 20(3), 401–419. <https://doi.org/10.1007/s10993-020-09605-8>
- Ngwa, C. N. (2019). The Cameroon GCE examination: Historical development, current challenges, and future prospects. *Cameroon Journal of Education*, 15(2), 78–94.
- Oliver, M. (1990). *The politics of disablement*. Macmillan.
- Pagliaro, C. M., & Ansell, E. (2012). Deaf and hard-of-hearing students' problem-solving strategies in mathematics. *American Annals of the Deaf*, 157(3), 276–286. <https://doi.org/10.1353/aad.2012.1624>
- Paul, P. V. (2009). *Language and deafness* (4th ed.). Jones and Bartlett Publishers.
- Republic of Cameroon. (2010). Law No. 2010/002 of 19 April 2010 on the protection and promotion of the rights of persons with disabilities. Official Gazette of the Republic of Cameroon.
- Roulstone, A., & Prideaux, S. (2012). *Understanding disability policy*. Policy Press.
- Sen, A. (1999). *Development as freedom*. Oxford University Press.
- Shakespeare, T. (2006). *Disability rights and wrongs*. Routledge.
- Sireci, S. G., Scarpatti, S. E., & Li, S. (2016). Test accommodations for students with disabilities: An analysis of the interaction hypothesis. *Review of Educational Research*, 75(4), 457–490. <https://doi.org/10.3102/00346543075004457>
- Smith, D. D., & Smith, B. J. (2019). *Introduction to special education: Making a difference* (6th ed.). Pearson.
- Stinson, M. S., & Antia, S. D. (2013). Academic and social outcomes for deaf students in general education settings. In M. Marschark & P. E. Spencer (Eds.), *The Oxford handbook of deaf studies, language, and education* (Vol. 2, pp. 147–160). Oxford University Press.
- Tambo, L. I. (2018). The GCE examination in Cameroon: Access, equity, and the politics of standardisation. *Comparative Education Review*, 62(3), 415–434. <https://doi.org/10.1086/698452>
- Tchombe, T. M. (2017). Inclusive education in Cameroon: A critical review of policy and practice. *African Journal of Special Needs Education*, 12(1), 1–14.

Terzi, L. (2010). What metric of justice for disabled people? Capability and disability. In H. Brighthouse & I. Robeyns (Eds.), *Measuring justice: Primary goods and capabilities* (pp. 177–203). Cambridge University Press.

Traxler, C. B. (2000). The Stanford Achievement Test, 9th edition: National norming and performance standards for deaf and hard-of-hearing students. *Journal of Deaf Studies and Deaf Education*, 5(4), 337–348. <https://doi.org/10.1093/deafed/5.4.337>

UNESCO. (2016). *Education 2030: Incheon declaration and framework for action*. UNESCO.

United Nations. (2006). *Convention on the rights of persons with disabilities*. United Nations.