Diagnosis Without Cure: Integrative Review of Change Strategies in Ethiopia's University Entrance Examination Reforms

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Abstract

The current study employs the theory of change strategies proposed by Chin and Benne (2009) to conduct an integrative systematic review of reform strategies with respect to Ethiopia's University Entrance Examination System. Reform strategies are classified into three types: empirical-rational, normative-re-educative, and power-coercive. In this regard, 30 articles published from 2000 to 2025 were subjected to analysis based on the PRISMA Synthesis without Meta-analysis guidelines. Each study was coded according to its implied change strategy. We identified a notable strategic imbalance, with most studies using an empirical-rational approach (66.7%), followed by a power-coercive approach (16.7%), while the use of a normative-re-educative approach was negligible (6.7%). The thematic synthesis revealed interconnected systemic challenges: the exam demonstrates weak predictive validity (correlations with university performance ranging from .014 to .326 for first-year performance), with further erosion by graduation (r=.014), questioning its selection utility; psychometric quality was inconsistent. In the context of top-down administration, reforming the University Entrance Examination system in Ethiopia also brought logistical problems and fairness issues; there was a negative washback effect affecting pedagogy; and there were socio-economic and resource connections with student performance, while stakeholder views got limited attention. This triadic rebalancing may be important for developing a valid, equitable, and trusted higher education selection system.

Keywords: university entrance examination, high-stakes testing, examination reform, equity in education, change management, Chin and Benne, Ethiopia, systematic review

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Introduction

In various education systems worldwide, especially in centralized ones, unified university entrance examinations are important gatekeepers to higher education, influencing the lives of youth (e.g., Jerome, 2023; Kellaghan & Greaney, 2020; Masters, 2013). Although not all education systems use such high-stakes unified national entrance examinations, as seen in the education systems in the United States and Canada, this approach is the established approach in Ethiopia, the focus of this review.

In Ethiopia, a unified entrance examination system is the primary vehicle for selecting and placing students in the nation's higher learning institutions. It is viewed as a key tool in promoting equity and human capital formation. The education system has experienced a significant change, from the Ethiopian School Leaving Certificate Examination (ESLCE) to the Ethiopian University Entrance Examination (EUEE), and most recently to the Ethiopian Secondary School Leaving Certificate Examination (ESSLCE). This evolution can be seen as an ongoing process in the field of politics and sociology of education in the effort to adjust the educational system to the changing reforms and demands of the country (Arega et al., 2023). Nevertheless, it is necessary to consider the complex nature of the education system. Studies of Ethiopian educational policy reform processes tend to be reactive and fragmented, with political aspects influencing teaching and learning activities (Gershberg et al., 2023; Joshi & Verspoor, 2012; Negash, 2006; Tadesse et al., 2021). The interaction between the history of policy, compatibility, and the design of the policy in terms of long-term issues and politics may be among the reasons for the high prevalence of the abovementioned problems.

The influential recent reform, which included the relocation of the examination centers from the secondary schools to the public universities in 2022, was supposedly carried out in response to systemic malpractice and aimed at restoring integrity through institution-level decentralization (Ferede et al., 2023). Yet, it should be noted that while integrity was supposedly stated as the rationale, this was a simplification of the complex policy environment. Such significant restructuring would also have served other, possibly overlapping, political, security, and administrative aims. The supposed instrumentality through universities serving as testing centers facilitates the handling of the problem of integrity since it reduces collusion, but at the same time creates new openings for administrative problems and student stress (Jibat et al., 2023;

Zekarias, 2025). Moreover, there is a question regarding the psychometric nature of the examination process itself. One can find an explanation of the problems of the system in the problems described by Endris in 2024. These are problems of validity and equity, where the success of the student does not depend anymore on his or her qualifications, but rather on differences in social status and resource distribution, and psychological problems.

To evaluate the reform and the challenges associated with it, it is important to conduct an in-depth analysis of the forces behind the change and the outcomes. Accordingly, the seminal model of planned change developed by Chin and Benne (1964/2009), which comprises empirical-rational, normative-re-educative, and power-coercive approaches, informs the current analysis. Despite its classical background, this triadic construct remains useful for analyzing the current reforms of the education system in Ethiopia because the dynamics of change are still present in the discourse. The context of this review can be established with reference to the Education and Training Policy of 1994, developed by the Ministry of Education, and the subsequent policy review, including the revised policy introduced in 2023. The synthesis of the literature available for the EUEE System has the potential to aid the educator in passing through a valid, reliable, and equitable examination process that can support the aspirations of the nation. In this context, the concept of this review is defined through various theories of change management appropriate to education reforms (Tadesse et al., 2021).

With this conceptual framework laid down, we systematically synthesized literature on the EUEE system, which includes all the processes involved in implementing the system based on the 1994 Education and Training Policy, as well as those in the period from 2000 to 2025. This review outlines the dominant reforms of the system, assesses the effect of these reforms on the integrity and equity of the system, and discusses the flaws that come along with the current approach. Through the critical analysis of the above literature, there emerges an interlinked set of symptoms of the underlying strategic pathology, where empirical evidence diagnoses the problem, and mandated prescriptions provide the cure—a vicious cycle that continues unabated.

While the literature is comprehensive in documenting crises of validity, administration, washback, and equity, it remains fragmented. It excels at identifying problems but is limited in offering a unifying framework to analyze how change efforts are attempted in ways that inadvertently maintain dysfunction. This gap leaves a critical question unanswered: How do prevailing change strategies themselves contribute to the system's persistent failure? The

question posed is not merely theoretical since it influences the development of further reform efforts.

To address this question, our integrative systematic review employs Chin and Benne's (2009) classic framework of planned change—categorizing strategies as empirical-rational, normative-re-educative, and power-coercive—not as a historical artifact but as a useful lens for diagnosing the contemporary reform paradox in Ethiopia. This approach allows us to move beyond cataloging problems to analyzing the logic of reform itself. The literature contains empirical rational diagnoses and descriptions of power-coercive interventions, but it lacks a unifying framework for analyzing the strategies of change that undergird, on one hand, the problems, and on the other, the attempts to resolve or prevent them. There is limited attention to normative re-educative strategies that involve stakeholder cooperation and trust building. Hence, the basic problem is not a lack of knowledge regarding what is wrong, but a lack of diagnosis regarding how and why change is strategically undertaken in a manner that reinforces systemic dysfunction. However, the lack of a strategy for change makes the reform process unbalanced and reactive- dealing with symptoms rather than underlying problems.

There is evident heterogeneity in research on the predictive validity of the EUEE depending on the institutional settings and outcome indicators. For example, Birhanu (2019) found the correlation coefficient of r = .092, while Getaye (2013) and Tesema (2014) found r = .206 and r = .326, respectively, for the results of the study in the first year at the university. Such a discrepancy raises questions about the uniformity of the operation of EUEE in various higher education institutions (HEIs). Moreover, the result obtained by Tolessa (2019) adds to the problem and shows how predictive validity dropped to r = .014 by the time of graduation of the respondents. Thus, the EUEE demonstrates its predictive ability for entering university rather than getting high grades throughout the entire process of education, according to an evident trend.

To address these interrelated problems mentioned above, the present integrative systematic review informing this research is guided by the following four research objectives formulated about the identified crises. The research objectives are developed not only to document available evidence, but also for analyzing the underlying mechanisms behind the identified dysfunctionalities.

Research Objectives

1. Diagnose the systemic failures of the EUEES, in terms of its predictive validity, psychometric quality, and equity outcomes;
2. Analyze the prominent change strategies (empirical-rational, normative-re-educative, power-coercive) evident in literature and policy reform initiatives;
3. Analyze the challenges and consequences arising from the strategic imbalance, including administration, examination integrity, and washback effect;
4. Propose a rebalanced, integrative framework for sustainable change based on the synthesized evidence and policy reforms.

Method

This integrated systematic review study tries to evaluate the literature on the Ethiopian university admission examination system. It examines the history of the Ethiopian School Leaving Certificate Examination, the Ethiopian University Entrance Examination, and the most recent Ethiopian Secondary School Leaving Certificate Examination. The study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) (Page et al., 2021) and Synthesis without meta-analysis (SWiM) (Campbell et al., 2020) guidelines to ensure transparency, reproducibility, and methodological rigor. The entire study process was conducted in four main steps, as recommended by the PRISMA flow diagram: Identification, screening, eligibility, and inclusion.

Search Strategy and Study Identification

A systematic search strategy was designed to identify relevant published and unpublished literature. Searches were conducted across multiple sources to ensure comprehensive coverage. Electronic Databases: Primary database searches were conducted using Google Scholar, ERIC (Education Resources Information Center), and PsycINFO. Google Scholar was chosen for its extensive coverage to search the interdisciplinary and internationally published literature, including articles in regional journals that may not be included in commercial databases. ERIC was chosen as the specialized database for education-related research, thereby ensuring the inclusion of high-quality, peer-reviewed articles in journals and reports specifically related to assessment, policy, and reform. PsycINFO was chosen to ensure inclusion of literature related to

the psychological and behavioral aspects of high-stakes testing, such as student anxiety, motivation, washback effects on learning behaviors, and the psychosocial factors that influence exam performance—topics of prime interest to a behavioral studies journal.

We also searched grey literature and official documents from the Ministry of Education and the Educational Assessment and Examinations Service. Institutional repositories of prominent universities in Ethiopia (e.g., Addis Ababa University, Bahir Dar University, Jimma University) for relevant theses, dissertations, and working papers. We used backward and forward citation tracking, also known as "snowballing" – a process for locating more relevant studies, including any foundational works that might shed light on later events.

Search Period and Rationale: The search was restricted to literature published between January 2000 and December 2025. This time frame was deemed appropriate for the complete policy reform process, including the transition from ESLCE to EUEE/ESSLCE, and the implementation of the 1994 Education and Training Policy and subsequent changes. However, the search was also open to referencing any prior seminal literature (for example, Negash, 2006) if considered important for understanding the evolution during the latter period.

Screening, Eligibility, and Inclusion Criteria

Search Terms and Strategy: A comprehensive Boolean search term approach was developed to ensure a comprehensive search strategy. The following are the representative search terms used in Google Scholar, ERIC, and PsycINFO databases. The same set of keyword combinations was used to search the grey literature sources and Google web search. The list of all sources was compiled, and duplicates were removed using reference management tools.

Screening occurred in two stages: title/abstract review followed by full-text review against the inclusion criteria. We imported all identified records into the software, filtered out duplicates, and then the lead researcher screened titles and abstracts, followed by full texts, against the inclusion criteria in Table 1. For greater accuracy, a second researcher independently screened 20% of the total identified records. After the screening and eligibility assessment, a total of 30 out of 282 records were included in the final synthesis.

Table 1

Eligibility Criteria and Search Strategy

Category	Details
Inclusion Criteria	Studies were included if they met all of the following conditions: • Explicitly focused on the Ethiopian university entrance examination system (encompassing the ESLCE, EUEE, or ESSLCE eras). • Provided empirical data, theoretical analysis, or substantive policy discussion related to examination practices, challenges, validity, administration, reform, or equity. • Were published (or, for grey literature, disseminated) between 2000 and 2025. • Were accessible in full text.
Exclusion Criteria	Studies were excluded if they: • were not pertinent to the Ethiopian context; • focused broadly on educational assessment without specific relevance to the national entrance examination; • were newspaper editorials, opinion pieces, or brief conference abstracts without substantive analysis; or • were unavailable in full text after thorough retrieval attempts.
Search String (adapted per database)	(Ethiopia OR Ethiopian) AND ("university entrance examination" OR EUEE OR ESSLCE OR ESLCE OR "national examination" OR "Ethiopian exam reform*") AND (practice* OR challenge* OR reform* OR policy OR malpractice OR washback OR validity OR reliability OR equity OR access OR performance) NOT ("primary school" OR "elementary" OR Kenya OR Nigeria OR "sub-Saharan Africa" OR “Others”)

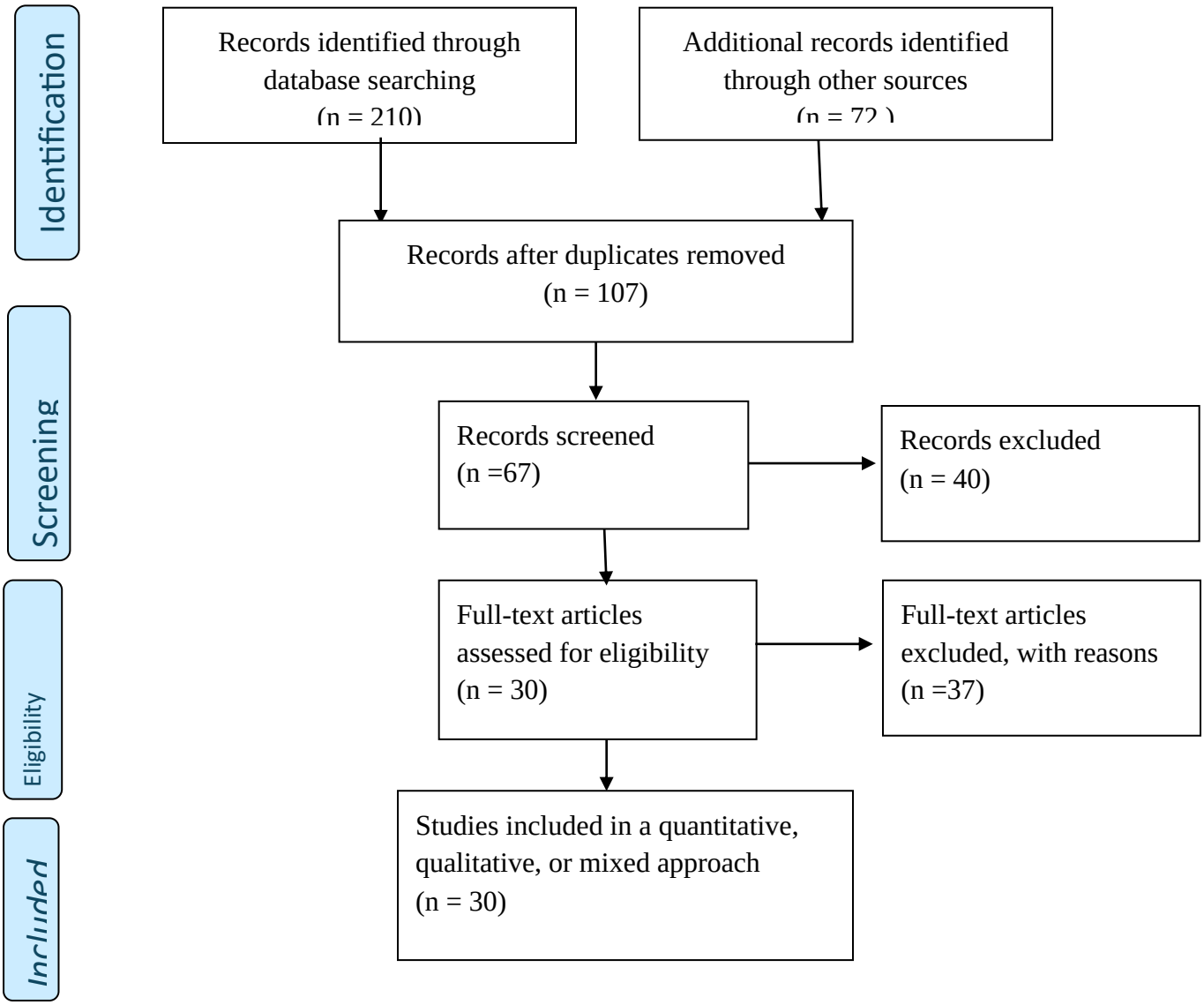
Data Extraction and Analysis

Data extraction was done using a standardized form, which included the following data elements: author(s), year, title or type of study, purposes, methods, key findings, and implied change strategies. We conducted a hybrid thematic analysis. First, we developed codes inductively from the data. Codes were then organized into larger themes and mapped deductively to the change strategy framework developed by Chin and Benne (1964/2009) into three categories: empirical-rational, normative re-educative, and power-coercive strategies. Themes were determined through qualitative thematic analysis. The integration highlighted patterns and points of interest, helped to define theoretical relationships, and defined reform processes to inform policy through evidence.

PRISMA Flow Diagram

The PRISMA 2020 flow diagram illustrates the process of selecting studies for the systematic review. Out of 282 identified studies from various databases, duplicates were removed, leaving 177 studies. After critical screening of the identified studies, 110 were excluded. Then, 67 studies were screened for full text, of which 37 were excluded as ineligible for inclusion in the systematic review. Finally, 30 studies were included for the synthesis, as shown in the flow diagram below.

PRISMA 2020 Flow Diagram



Methodological Considerations

To facilitate transparency, key aspects of the review design are mentioned. The choice of databases (Google Scholar, ERIC, PsycINFO) may not have indexed all local or non-digitized studies, and grey literature was available only through institutional archiving. The analysis process included interpretive judgment, particularly in coding themes of findings and integrating them into Chin and Benne's (2009) framework. A few contextual studies were included for background information, but not indexed into the core strategies. These procedures, although recorded, may influence replicability. There was no formal risk-of-bias assessment of the selected papers; therefore, the validity of the synthesized results might be questionable. Future reviews should incorporate quality appraisal tools appropriate for diverse study designs.

The meta-analysis with forest plots and heterogeneity assessments was not performed in the current review. The 30 included studies demonstrated methodological heterogeneity concerning the research design, outcomes, students, and methods used. Statistically pooling such data would be misleading. Following the PRISMA Synthesis Without Meta-analysis (SWiM) (Campbell et al., 2020) guidelines, this integrative review uses a narrative synthesis strategy and presents the full spectrum of reported coefficients (r = .014 to .326).

Results

The subsequent section presents the findings from the systematic review. Table 2 summarizes the characteristics and thematic contributions of the 30 studies included in the synthesis, arranged according to author, year, study focus, method, major thematic contribution, and implied change strategy according to Chin and Benne (2009).

Table 2

Characteristics of Included Studies and Their Thematic Contributions (N = 30)

No.	Author(s) & Year	Study Focus (Abbreviated Title)	Method	Primary Thematic Contribution(s)	Implied Change Strategy
1	Amsale et al. (2023)	Effectiveness of University-Based Ethiopian Secondary School Leaving Certificate Examination (ESSLCE)	Qualitative	System Validity: Administration & Implementation Challenges; Administrative Reform & Integrity: Examination Integrity & Fairness	Power-Coercive
2	Arega et al. (2023)	Historical Development of National Examination in Ethiopia (1946 to 2023)	Qualitative	Contextual & Equity Factors: External & Contextual Barriers	Miscellaneous (Contextual)
3	Ayele (2018)	Wash-back Effects of National Higher Education Entrance Examinations on Students' English Language Learning	Mixed Methods	Educational Impact & Washback: Impact on Teaching & Learning	Empirical-Rational
4	Badasa et al. (2019)	National Examination Misconduct: Magnitude and Perceived Determinants	Mixed Methods	Administrative Reform & Integrity: Examination Integrity & Fairness	Empirical-Rational
5	Belay & Ayalew (2022)	The Northern Ethiopia Armed Conflict and the Unusual Decline of Grade 12 Students' Results	Qualitative	Contextual & Equity Factors: External & Contextual Barriers	Miscellaneous (Contextual)
6	Birhanu (2019)	The Influence of University Entrance Examination Results on First Year Students' Performance: The Case of Raya University	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational
7	Chala & Agago (2022)	Exploring National Examination Malpractice Mechanisms and Countermeasures: An Ethiopian Perspective	Mixed Methods	Administrative Reform & Integrity: Examination Integrity & Fairness	Empirical-Rational
8	Desalegn et al. (2023)	The Influence of High-Stakes English Examinations on Students' Out-of-Classroom English Learning Practices	Mixed Methods	Educational Impact & Washback: Impact on Teaching & Learning	Empirical-Rational

9	Endris (2024)	Factors Affecting Ethiopian Grade 12 Students' Entrance Exam Performance and Solutions	Qualitative	Contextual & Equity Factors: External & Contextual Barriers	Empirical-Rational
10	Ferede et al. (2023)	Key Lessons from the First University-based Ethiopian Secondary School Leaving Certificate Examination Management	Qualitative	System Validity & Predictive Quality: Administration & Implementation Challenges	Empirical-Rational
11	Gashaye (2012)	Washback of the University Entrance English Exam (UEEE) on Teachers' and Students' Practices	Mixed Methods	Educational Impact & Washback: Impact on Teaching & Learning	Empirical-Rational
12	Getachew et al. (2023)	Fairness, Reliability and Validity Threats of the First University-based National Examination Management	Qualitative	System Validity & Predictive Quality: Administration & Implementation Challenges; Administrative Reform & Integrity: Examination Integrity & Fairness	Power-Coercive
13	Getaye (2013)	The Predictive Validity of the Ethiopian Higher Educational Entrance Certificate Examination	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational
14	Goshu et al. (2024)	Problems and Challenges of Quality Education in Ethiopian Higher Education Entrance Exams	Quantitative	Administrative Reform & Integrity: Examination Integrity & Fairness	Empirical-Rational
15	Hassen (2022)	How do Ethiopian Standardized National Examinations Achieve Their Goal?	Quantitative	System Validity & Predictive Quality: Psychometric Quality	Empirical-Rational
16	Jibat et al. (2023)	Stakeholders' Perspectives on the University-based Grade 12 National Examination Management Approach	Qualitative	Contextual & Equity Factors: Stakeholder Engagement Gap	Normative-Re-educative
17	Kellaghan & Greaney (2003)	Monitoring Performance: Assessment and Examinations in Africa	Qualitative	Contextual & Equity Factors: External & Contextual Barriers	Miscellaneous (Contextual)
18	Mikre et al. (2023)	Challenges of First University-based Grade 12 National Examination Management in Ethiopia	Qualitative	System Validity & Predictive Quality: Administration & Implementation Challenges	Power-Coercive

19	Nigussie et al. (2023)	Towards a Workable National Examination Management Approach for Ethiopia	Qualitative	Contextual & Equity Factors: Stakeholder Engagement Gap	Empirical-Rational
20	Regassa & Kitila (2023)	Post-test Analysis of the 2023 Ethiopian Secondary School Leaving Certificate Examination	Quantitative	System Validity & Predictive Quality: Psychometric Quality	Empirical-Rational
21	Robi (2014)	University Entrance Exam Result and Preparatory Class Average Score as Predictors of College Performance	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational
22	Tagelle & Habtamu (2004)	Concurrent Validity of the Scholastic Aptitude Test in the College Entrance Examination	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational
23	Tadesse & Wale (2025)	Ethiopia's Secondary School Leaving Examinations System: Governance, Management, and Consequences	Qualitative	System Validity & Predictive Quality: Administration & Implementation Challenges	Power-Coercive
24	Takele (2017)	Validity Strength of College Entrance Assessment Score and High School Academic Records in Predicting College Performance	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational
25	Tesema (2014)	The Validity of University Entrance Examination and High School GPA for Predicting First Year Performance	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational
26	Tezera & Mezegebu (2018)	Washback Effect of Ethiopian University English Entrance Examination on Writing Skill Instruction	Mixed Methods	Educational Impact & Washback: Impact on Teaching & Learning	Empirical-Rational
27	Tilahun et al. (2023)	Communication for Collaboration in University-based Grade 12 National Examination Management	Qualitative	Contextual & Equity Factors: Stakeholder Engagement Gap	Normative-Re-educative
28	Tolessa (2019)	Relationship between University Entrance Exam Result and	Quantitative	System Validity & Predictive Quality: Predictive Validity	Empirical-Rational

		Cumulative Grade Point Average at Graduation			
29	Warie (2024)	Factors Affecting Students' Performance in the Ethiopian University Entrance Examinations	Mixed Methods	Contextual & Equity Factors: External & Contextual Barriers	Empirical-Rational
30	Zekarias (2025)	Ethiopia's Three-Round (2022-2024) Secondary School Leaving Certificate Examination Administration	Qualitative	System Validity & Predictive Quality: Administration & Implementation Challenges	Power-Coercive

Note. Method: Qualitative, Quantitative, or Mixed Methods. Primary Thematic Contribution(s) link each study to the synthesized findings. Implied Change Strategy classifies the study's primary approach to reform: Power-Coercive (authority-driven change), Empirical-Rational (evidence-based change), Normative-Re-educative (change through values/skills/relationships), or Miscellaneous (provides essential context).

Table 2 summarizes the 30 included studies (2004-2025). The evidence base is methodologically diverse but reveals a notable strategic imbalance. Analysis of the implied change strategies in the literature shows a dominance of empirical-rational approaches (66.7%), followed by power-coercive descriptions (16.7%), with normative re-educative strategies nearly absent (6.7%). This bias points to a pattern of preference for diagnosis and authority over collaboration.

Table 3

Thematic Synthesis of Findings, Challenges, and Future Directions for the EUEES

Research Objective & Major Theme	Key Findings (Representative Sub-Themes)	Illustrative Evidence	Key Identified Challenges	Policy & System Integrity Implications	Critical Research Gaps
Obj. 1: System Validity & Predictive Quality	Predictive validity varies across university contexts (r = .092–.326 for first-year CGPA) and erodes substantially by graduation (r = .014), indicating limited	Birhanu (2019); Getaye (2013); Tesema (2014); Tolessa (2019).	Validity Concerns: Inconsistent predictive utility across institutions; erosion over time	Conduct a national multi-site predictive validity study; examine institutional factors affecting prediction	Long-term predictive validity across diverse university contexts: factors explaining institutional variability
	Psychometric Quality: Poor item functioning; Inconsistent adherence to technical standards.	Hassen (2022); Regassa & Kitila (2023)	Measurement Inconsistencies: Scores may not consistently or accurately reflect student ability, compromising fairness.	Institute an independent, transparent psychometric audit board; Mandate routine pilot testing and item analysis.	Cost-effectiveness analysis of different quality assurance models (e.g., digital vs. paper auditing).
Obj. 2 & 3: Administrative Reform & Integrity	Implementation & Governance: Severe logistical failures in reform rollout; Weak communication and coordination; Persistent governance deficits.	Mikre et al. (2023); Zekarias (2025); Tadesse & Wale (2025)	Operational Fragility: Top-down reforms are imposed without the infrastructural or communicative capacity to sustain them.	Adopt phased, pilot-tested reform models; Develop a robust change management protocol with clear stakeholder communication plans.	Modeling the interaction of logistical, human, and systemic factors in reform failure; Scalability of tech-driven solutions.
	Examination Integrity: Pervasive,	Badasa et al. (2019); Getachew	Challenges to Meritocratic Principles: Malpractice is	Shift integrity strategy from policing to	Societal and labor-market impact of

	systemic cheating; Reform models can introduce new fairness threats.	et al. (2023)	endemic, and reforms can unintentionally create new avenues for unfairness.	prevention (e.g., ethical education, reducing high-stakes pressure); Implement integrity impact assessments for new policies.	widespread credential devaluation.
Obj. 4: Contextual & Equity Factors	Equity Barriers: Performance is heavily determined by SES, school resources, and external shocks (e.g., conflict).	Belay & Ayalew (2022); Warie (2024)	Systemic Reproduction of Inequality: The exam functions as an engine of social stratification, not a meritocratic equalizer.	Implement equity audits and compensatory scoring models; Designate and support conflict-affected and low-resource regions.	Intersectional studies on disparities for rural students, girls, and students with disabilities; Role of parental/community capital.
Cross-Cutting Theme	Stakeholder Engagement Gap: Lack of teacher/student voice; Absence of participatory design in reforms.	Jibat et al. (2023); Tilahun et al. (2023)	Legitimacy & Sustainability Deficit: Imposed reforms lack ownership, leading to resistance and failure.	Core Implication: Institutionalize permanent stakeholder consultation forums; Employ normative-re-educative strategies in all future change initiatives.	Participatory action research on co-designing assessment reforms with stakeholders.
	Educational Washback: Exam narrows curriculum and pedagogy; promotes strategic, rote learning.	Ayele (2018); Gashaye (2012)	Influence on Educational Purpose: Teaching and learning are subverted to test preparation, harming holistic skill development.	Align national curriculum, teacher training, and assessment to reward critical thinking and creativity, not just recall.	Longitudinal impact of washback on university readiness and innovation capacity.

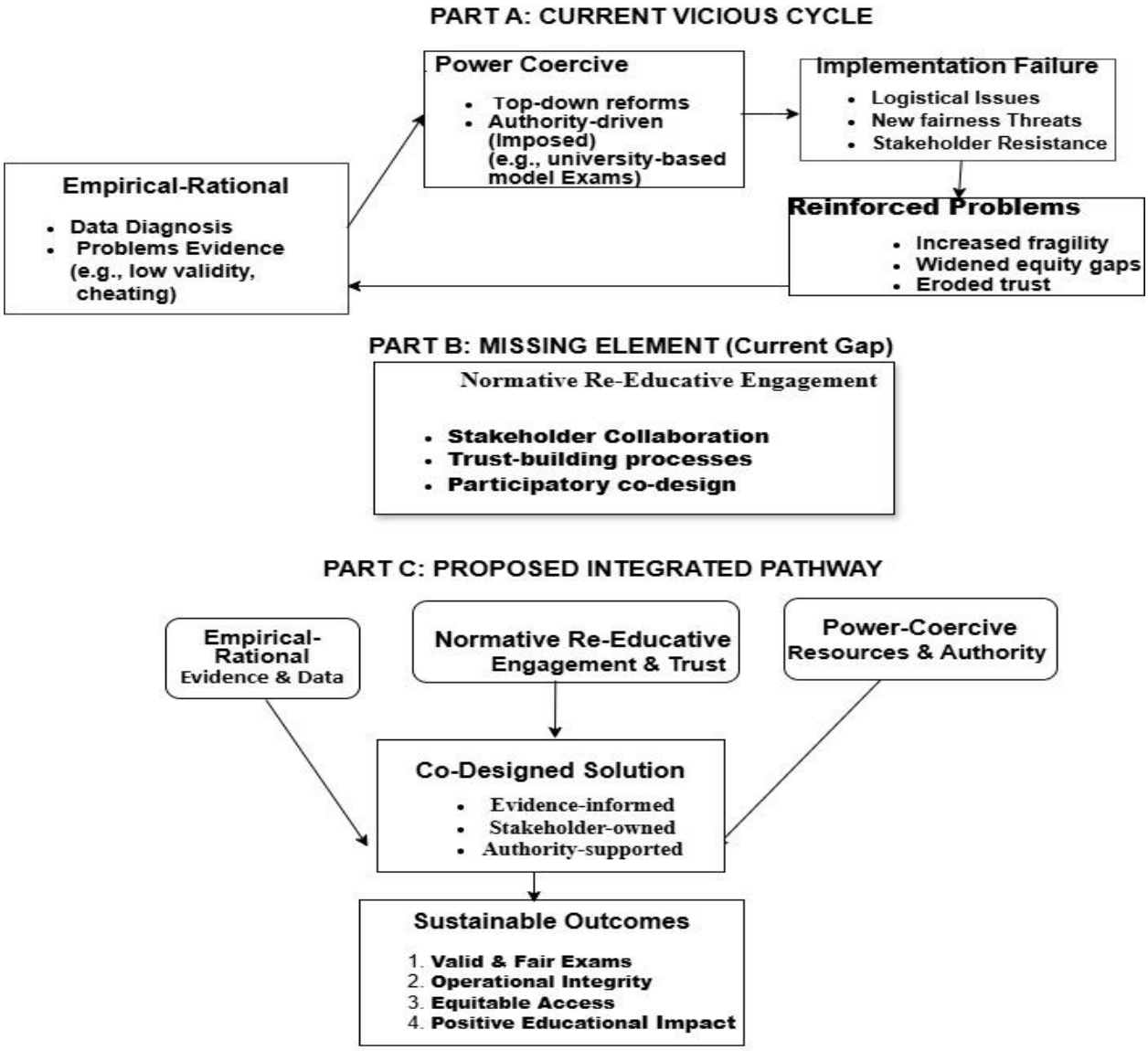
Note. This synthesis is derived from the 30 studies cataloged in Table 2. The "Critical Research Gaps" column highlights underexplored areas necessary for a more comprehensive understanding and effective intervention, as identified in the review

Table 3 presents the findings, challenges, and implications across the four research themes. The predictive validity of EUEE is variable and decreases over time: correlations with first-year CGPA in the university ranged from .092 to .326, falling to .014 by graduation. The coefficients varied widely across programs and institutions.

Figure 1 integrates these themes into a conceptual model illustrating the self-reinforcing cycle of reform failure and the proposed integrated pathway.

Figure 1

Conceptual Model of EUEES Reform, Strategic Imbalance, and Integrated Solution Pathway



The model distills the synthesized evidence into a systems-level argument. The loop in Part A translates the "implementation failure" described under Administrative Reform (see Mikre et al., 2023; Zekarias, 2025) in Table 3 into the Reinforcing Cycle. It illustrates how empirical-rational diagnosis (validity evidence) necessarily leads to power-coercive intervention, which in turn causes the very same logistical and fairness crises it sought to resolve. The Missing Link (Part B) specifically identifies the stakeholder engagement gap—a cross-cutting issue described in Table 3, which accounts for the lack of legitimacy in reforms and the failure to address equity (contextual factors). Finally, the Integrated Pathway offers the necessary corrective: a theory of change where solutions are concurrently evidence-informed (addressing validity), co-designed (addressing equity and ownership), and properly resourced (ensuring administrative feasibility). In essence, the model posits that the strategic imbalance is the system's central pattern, and its correction is the prerequisite for progress on any of the substantive challenges detailed in Table 3.

The conceptual model represented in Figure 1 extends the thematic synthesis of the data in Table 3 by offering a dynamic, causal explanation of the systemic failures it reveals. In Table 3, the data were grouped into four domains of dysfunction: validity, administration, educational impact, and equity. Yet, the data in Table 3 reveal patterns; it does not illustrate the processes that sustain them. The conceptual model performs this essential function, moving the data from a series of interrelated problems to a theory of change. It suggests that the problems revealed in the data are not only concurrent but also causally related in a self-reinforcing cycle, the result of an essential imbalance in the strategy of change.

Discussion

The synthesized evidence from 30 studies, grouped according to the framework proposed by Chin and Benne (2009), indicates a reinforcing pattern in which an empirical-rational diagnosis of problems informs power-coercive interventions that have unintended consequences, while normative-re-educative efforts to build consensus and trust appear to be understudied and least represented. This pattern is represented across four themes: validity issues arising from predictive utility and psychometric inconsistencies; administrative issues arising from top-down approaches; education issues arising from washback effects; and

equity issues arising from socioeconomic and contextual factors. As per the PRISMA Synthesis Without Meta-analysis (SWiM) guidelines (Campbell et al., 2020), it appears from the present synthesis that the dominant paradigm, which has shown little interest in and involvement, might reinforce the challenges it aims to address

Predictive Validity and Limits of Empirical-Rational Diagnosis

The predictive validity of the EUEE seems to be quite variable and decreasing through time, with correlation coefficients ranging from .092 to .326 at the first-year level and dropping to .014 at the level of graduation. Such a broad range of coefficients can be seen as evidence of significant uncertainty regarding the validity of the test rather than the stable pooled estimates. In addition, this heterogeneity may carry some value and can be interpreted as a sign that the predictive ability of the test depends on some characteristics, such as a field of study, institution, and outcomes used as an indicator. The results of the analysis seem to mirror the drawbacks of the empirical rational strategy dominating the current literature. First, the heterogeneity of first-year predictive validity coefficients (from .092 by Birhanu, 2019, to .326 by Tesema, 2014) may demonstrate the context dependency of the test. Specifically, the almost zero level of predictive validity by the end of the four-year cycle (r = .014, Tolessa, 2019) raises a question of what the test actually measures: university entry skills or success throughout the program.

The systematic review points to the validity issues at the heart of the EUEES, and in this sense, the results also highlight the limitations of the empirical rational strategy that is most prevalent in the literature. The range in predictive validity coefficients from .092 (Birhanu, 2019) to .326 (Tesema, 2014) in first-year performance may indicate that the test's effectiveness is context-dependent in some way. More worryingly, the predictive validity is reduced to near zero by the end of the four-year cycle (r = .014), suggesting that the test may actually be assessing the ability to transition into the university rather than success in the four-year program (Tolessa, 2019). This gap contrasts with established international benchmarks (Kobrin et al., 2008; Nagy & Molontay, 2021; Noble & Sawyer, 2004) and is operationally mirrored in low national pass rates, including schools with zero percent success (MoE, 2023; PSI, 2025).

In addition to this predictive validity, research also points to inconsistencies in item quality. Item analysis points to issues of difficulty level, discrimination indices, and professional testing standards (Hassen, 2022; Regassa & Kitila, 2023). The lack of IRT calibration and DIF analysis also points to the lack of research into the level of precision in measurement for subgroups of students.

The synthesis above points to a disconnect between diagnostic research, contributing 66.7% of the literature, and the substantial redesign to which it logically leads. Evidence of the imperfection of meritocracy and inequity mounts as the basic structure of the test itself does not change. This is where the empirical rational approach, though effective in identifying issues, meets its limit in solving issues sustainably (Chin & Benne, 2009).

Administrative Reforms and the Power-Coercive Paradox

The process has led to the overreliance on power-coercive measures. This has been confirmed in the recent studies conducted (Amsale et al., 2023; Ferede et al., 2023; Mikre et al., 2023; Zekarias, 2025). Even though the relocation of the exam centers to public universities has minimized cheating cases in the country, as confirmed in 2022, the trend has been inevitable. This has been linked to issues such as logistics, governance, and fairness (Getachew et al., 2023). Power-coercive measures, despite their success in forcing compliance, have been linked to three types of unintended consequences: the emergence of logistics issues due to the interplay of the power-coercive measures and the capabilities of the regions (Mikre et al., 2023); the emergence of fairness issues due to the unintended negative consequences on the interests of the students (Getachew et al., 2023); and the alienation of the relevant stakeholders, which has led to the emergence of resistance to the measures (Jibat et al., 2023). These unintended consequences suggest that power-coercive measures may not be enough to implement educational reforms in the country.

Educational Impact and Need for Normative-Re-educative Alignment

This creates pressure to perform on an instrument whose empirical-rational validity is questionable to start with. The pervasiveness of the washback effect, in which teaching and learning are geared towards test preparation instead of educational goals, is symptomatic of

strategic inconsistency. Several studies have identified the impact of pressure to perform due to the EUEES on teaching methods and the prioritization of exam preparation over critical and creative thinking (Ayele, 2018; Gashaye, 2012; Tezera & Mezegebu, 2018). In addressing Research Objective 3, the evidence synthesis reveals the strategic inconsistency in three areas. First, the administrative consequence: the power-coercion strategy has been associated with logistical problems such as transport, communication, and coordination in the university centers (Ferede et al., 2023; Tadesse & Wale, 2025).

Second, integrity consequences: the implementation of anti-malpractice strategies has given rise to new fairness concerns, such as unequal access to centers and the disadvantage faced by distant students (Badasa et al., 2019; Chala & Agago, 2022). Third, educational consequences or washback effect: it is found from the evidence that teachers and students, who belong to a system wherein passing an examination is of utmost importance, concentrate their efforts on the areas of the curriculum that are highly tested (Desalegn et al., 2023). What remains limited is the normative re-educative dimension to ensure the alignment of values among the stakeholders. The teachers and students, alienated by the top-down approaches and given little role to play collaboratively, behave rationally in accordance with the incentive systems (Bailey, 2018). The lack of normative re-educative approaches in the literature, at 6.7%, can be seen as a significant gap. The studies that do address the issue of stakeholder perceptions (Jibat et al., 2023; Tilahun et al., 2023) show that if the teachers and students are not included in the reform process, even the best attempts fail to gain legitimacy.

Toward a Rebalanced, Integrative Framework

The issues of validity, administration, and equity are not independent of one another but are interconnected and indicative of an imbalanced strategic approach to reform. This cycle is self-perpetuating: empirical-rational diagnoses of problems create the need to justify power-coercive actions, which in turn create unintended consequences such as logistical issues and alienation, which in turn create the need to seek further empirical-rational evidence and power-coercive actions.

The way forward to break this vicious circle could be through an integrated model that makes normative-re-education processes central in the following manner:

1. Empirical-Rational Evidence as Dialogue Starter: Problems evidenced serve as data for collaborative inquiry, not as evidence of problems—recognizing problem areas, but remaining open to interpretations and contextualization by stakeholders.

2. Normative-Re-educative Processes as Core Mechanism: Change needs shared understanding among those who are to carry out change. Co-creating change with the engagement of teachers, students, and the community as partners of change rather than receivers of change creates ownership and aligns assessment with pedagogical principles. Permanent stakeholder councils and participatory processes provide the framework for this.

3. Power-Coercive Authority as Enabler: Authority is reconceptualized from power-coercive to empowering, co-created, and re-educative processes, the development of equity-oriented policies, and the safeguarding of the system from distortion.

This triadic framework acknowledges that evidence, engagement, and authority are intertwined. Normative re-educative work supplies the glue that turns diagnosis into ownership and compliance into commitment. It does not promise success but acknowledges the lessons of three decades of reform: that real improvement demands greater engagement with those whose work shapes the education system.

Conclusion

This integrative review argues that the ongoing issues in the system are all interconnected expressions of a strategically imbalanced approach to system change. The research literature emphasizes the use of empirical-rational diagnosis to identify issues without catalyzing redesign (66.7%), and power-coercive intervention to achieve compliance without catalyzing unintended consequences (16.7%). The lack of normative-re-educative approaches to system change, which focus on creating a sense of ownership, trust, and common purpose (6.7%), is the major gap that maintains the cycle of system change failure.

Three interconnected patterns in the system failure emerge from the integrative review. First, the predictive validity results vary from negligible to limited (.092–.326) and decrease even more as graduates (.014); psychometric analyses show that the items are inconsistent in quality and lack routine calibration using IRT. Equity issues also persisted in all studies, where performance is correlated with socioeconomic status, school resources, and

geographic location. These issues imply that the evaluation may be a reflection of social inequalities rather than a solution. Second, power-coercive changes in administration have also been noted for their challenges in logistics and fairness challenges. Third, washback effects still influence teaching practices in test preparation.

However, in order to redress this balance, it is not merely a question of adding a component of stakeholder engagement but fundamentally rethinking the relationship of change strategies. The evidence is clear: it is not just a question of better data or a stronger mandate but a deeper engagement with people whose work constitutes the system of education.

Implications for Policy and Practice

To break the cycle of 'diagnosis and decree,' policymakers and practitioners may wish to consider an integrated approach that synergizes these three change strategies. This involves moving from separate technical fixes to a coordinated strategy, which addresses the administrative, integrity, and educational consequences identified in this review.

1. Empirical-Rational Basis: Utilize empirical evidence to inform policy reformations. Independent studies of predictive validity and periodic psychometric audits could provide a means of addressing the technical adequacy issues identified within RO1. However, evidence should be better used as a ground for dialogue rather than as a solution to reformations, since the importance of diagnostic evidence in itself cannot be overlooked in terms of not being able to bring changes.
2. Normative-Re-educative Core: Embed collaborative design as a vehicle for policy reforms. Stakeholders' meetings that include teachers, students, and university employees could be used to formulate policies and reconnect curriculum assessment with pedagogic values. Such a strategy would directly help overcome issues of equity and washback effects since people involved in reforms become participantss rather than receivers.
3. Power-Coercive Enabler: Redefine authority from solution-imposing to solution-enabling. Organizational authority can facilitate the establishment of inclusive reform processes, the implementation of equity-oriented policies developed through stakeholder partnerships, and

the protection of reformed systems against distortion. In this capacity, authority is the defender and champion of participatory reform rather than the solution-imposing tool—addressing the administrative and integrity consequences resulting from solution-imposing approaches.

Although statistical generalizability to all high-stakes testing situations is not possible, the analytical strategy employed in this article has provided relevant insights that may apply to similar educational systems experiencing reform difficulties. This triadic model locates normative-re-educative work as the 'connective tissue' which transforms 'diagnosis' into 'ownership,' and 'compliance' into 'commitment.

Limitations of the Study

Several methodological considerations need to be noted when interpreting the findings in relation to each research objective. Although the PRISMA 2020 checklist guided the review, there are limitations to the review findings. Firstly, the search strategy may have missed studies published in regional Ethiopian journals, unpublished reports by the Ministry of Education or EAES, or literature published in Amharic. This would affect the sufficiency of the literature to diagnose systemic failures (RO1) and change strategies (RO2). Second, there was an element of judgment in interpreting the literature against the Chin and Benne (2009) framework. Although two researchers coded 20% of the literature, this subjectivity could affect the interpretation of change strategies (RO2) and consequences (RO3).

Third, the review synthesizes methodologically varied literature, which, though beneficial to its comprehensiveness, makes the literature less directly comparable. Fourth, the time span of the literature (2000-2025) might have precluded the inclusion of historical literature, which would have given the context for the Ethiopian education system, potentially affecting the diagnosis of historical patterns (RO1) and the proposed reforms (RO2). Fifth, systematic reviews only reveal associations as reported in the literature, not cause-and-effect relations. The patterns observed reveal associations, which, though common, are more applicable to RO3 (consequences of strategic imbalance) and RO4 (proposed framework).

Future Research Directions

This integrative review identifies a number of priorities for future research to address the limitations of the existing evidence base on systems of examinations. To advance the study of systemic failures in the system of examinations (RO1), longitudinal mixed-method studies can provide further insights into the long-term consequences of performance in the examination and reform cycles by understanding the causal pathways and the decline in predictive validity over time. Studies examining the outcomes and impact of the examination system on different groups based on gender, rural-urban residence, disability, and socioeconomic background can reveal whether the EUEES worsens or improves social inequalities in Ethiopia, which is the equity dimension of RO1 and currently not well explored. Similarly, studies should use a participatory approach to examine the effects of parental/community capital on the system of examinations. To advance the study of psychometric issues in the system of examinations, validity studies should be conducted using item response theory and differential item functioning analysis. Similarly, to improve the evidence base for RO4, comparative research examining the reform experiences and lessons in other African and post-colonial contexts could provide useful lessons to inform the development of context-specific frameworks to guide the reform process in Ethiopia, taking due consideration of the unique context.

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