Learning Through Mistakes in Yoruba Philosophy: Implications for Contemporary Pedagogical Approaches

By
Dr. Abdullahi Ibrahim Salah-Deen,
Department of Arts and Sciences Education,
Faculty of Education,
Kwara State University, Malete.
ibrahim.abdullahi@kwasu.edu.ng
abdullahiibraheem93@gmail.com.
Tel: +2348137276620

Abstract

This article presents a robust investigation into the Yoruba philosophical orientation toward error, conceptualized not as a deficit but as a socially sanctioned and indispensable pathway to wisdom (ogbón) and good character (ìwà rere). It argues that this indigenous epistemic framework offers a vital corrective to error-avoidant cultures prevalent in many contemporary classrooms. The synthesis draws extensively on primary Yoruba oral sources—including the Ifá literary corpus, a vast array of proverbs (òwe), and the foundational ethos of òmolúàbí (the well-bred, virtuous person)—and aligns them with convergent evidence from the learning sciences, such as the theories of productive failure, error management training, the hypercorrection effect, formative assessment, and growth mindset. The paper contends that an error-embracing instructio bhai ynal design, which centralizes iterative feedback, community accountability, and moral-ethical formation, can significantly enhance durable learning. We propose a culturally grounded, practical heuristic framework—AṢE (Acknowledge–Seek–Explain)—to translate these Yoruba principles into actionable classroom routines. This framework is shown to be inherently compatible with constructivist and sociocultural theories of learning. The article concludes by outlining detailed pedagogical implications for assessment, classroom culture, and teacher education, acknowledges the study's limitations, and proposes a clear agenda for future empirical validation in both African and global diasporic schooling contexts.

Keywords: Yoruba philosophy; learning from error; productive failure; formative assessment; òmolúàbí; culturally sustaining pedagogy; cognitive science

Introduction

The pursuit of knowledge is a universal human endeavor, yet the cultural frameworks that define what knowledge is, how it is acquired, and what constitutes an ideal learner are profoundly diverse. In Western modernist educational traditions, influenced by Cartesian dualism and behaviorist psychology, knowledge has often been treated as a discrete commodity to be transmitted, with a strong emphasis on correctness and the rapid elimination of error (Biesta, 2013; Descartes, 1637/1998). This has frequently created learning environments where mistakes are stigmatized, hidden, and perceived as indicators of low ability, thereby inhibiting the very

processes—exploration, struggle, and metacognitive reflection—that underpin deep, conceptual understanding (Dweck, 2006; Kapur, 2016).

In stark contrast, among the Yoruba people of West Africa, knowledge (ìmò) is indissociable from character (ìwà) and communal responsibility (iṣẹ́ sí ẹbí); they are mutually constitutive elements of the educated person, known as the   òmolúàbí   (Abimbola, 1975; Hallen & Sodipo, 1986; Oládèjì, 2020). Within this worldview, the journey to wisdom is understood as inherently iterative and social. Missteps and errors are not merely tolerated but are pedagogically valued as necessary catalysts for the refinement of judgment (ogbón), the cultivation of humility (ìteríba), and the strengthening of communal bonds through collective correction. This philosophy is elegantly encapsulated in a constellation of proverbs: "Ọ̀nà a rí, ọ̀nà a mọ" (It is by missing one's way that one learns the way), Ìsubu ni a fi ń kọ́'' ṣíṣe (It is by falling that one learns not to fall), and " Àsìṣe kò jẹ́ ká mo, àṣìṣe la fi ń mọ ẹni tí ó mọ̀   (A mistake does not mean one is ignorant; it is through mistakes that we know the one who is knowledgeable) (Dopamu, 1990; Ọlátúnjí, 2005; University of Nebraska--Lincoln, n.d.).

Concurrently, the last few decades in the learning sciences have generated a compelling body of empirical research that robustly supports this Yoruba orientation. Studies on   productive failure (Kapur, 2008), error management training (Keith & Frese, 2005), the   hypercorrection effect (Butterfield & Metcalfe, 2001; Metcalfe, 2017), and the power of   formative feedback   (Hattie & Timperley, 2007; Wiliam, 2011) all converge on a central finding: well-supported struggle and the strategic handling of errors are not impediments to learning but are, in fact, fundamental to developing robust, flexible, and transferable knowledge. Furthermore, Carol Dweck's (2006) work on   growth mindset   provides a critical affective dimension, showing that beliefs about intelligence—as malleable rather than fixed—determine how learners engage with and persist through challenges.

This paper seeks to synthesize these two powerful, yet historically separate, lines of thought. It argues that Yoruba philosophy provides a rich, culturally nuanced, and ethically grounded rationale for pedagogical practices that the learning sciences are only recently beginning to empirically validate. By foregrounding this indigenous knowledge system, we aim to: 1) challenge the deficit perspectives often associated with error in education; 2) offer culturally sustaining and revitalizing pedagogies (Paris & Alim, 2017) for students of African descent; and 3) contribute a holistic, evidence-aligned framework for all educational contexts that values both cognitive development and character formation.

Statement of the Problem

Despite the empirical evidence advocating for the educational value of errors, the prevailing culture in many classrooms across the globe remains overwhelmingly error-avoidant (Tulis, 2013; Steuer et al., 2013). Educational systems, often driven by high-stakes standardized testing and efficiency models, frequently reward rapid correctness and penalize mistakes (Kohn, 2011). This

creates a climate of "performance" rather than "learning" (Dweck, 2006), where students are motivated to hide their misunderstandings, avoid challenging tasks, and view errors as threats to their self-worth rather than as opportunities for growth.

This error-avoidant stance is misaligned on two critical fronts. First, it stands in direct opposition to the Yoruba educational ethos, which views the public and communal processing of error as a cornerstone of moral and intellectual development (Abimbola, 1976; Makinde, 1988). Second, it contradicts a substantial body of cognitive and educational research demonstrating that avoiding struggle ultimately undermines metacognition, resilience, and the capacity for deep, durable learning (Bjork & Bjork, 2014; Kapur, 2016). The problem, therefore, is not that students make errors—this is an inevitable and necessary part of learning—but that our pedagogical systems and cultural norms often fail to leverage errors constructively, thus limiting potential learning gains and reinforcing fixed ability beliefs.

Significance of the Study

This study holds significance for theory, research, and practice in several interconnected ways:

1. Honoring and Centering Indigenous Knowledge Systems: It contributes to the vital project of decolonizing educational theory by demonstrating how a sophisticated and effective pedagogy of error has existed for centuries within Yoruba philosophy. It challenges the hegemony of Western educational models and positions African indigenous knowledge as a source of innovative theoretical insight (Dei, 2000; Odora Hoppers, 2002; wa Thiong'o, 1986).

2. Culturally Sustaining and Revitalizing Pedagogy: For African and African diaspora learners, who are often subjected to educational systems that devalue their cultural heritage, this work offers a framework for pedagogy that is not only effective but also culturally affirming. It aligns with the call for pedagogies that sustain "the cultural and linguistic competences of [students'] communities while simultaneously offering access to dominant competences" (Paris, 2012, p. 95).

3. Generalizable Design Principles: The principles derived from this synthesis—centering community, reframing error, integrating character with cognition—provide valuable, generalizable insights for educators in any context seeking to create more equitable, engaging, and effective learning environments for all students.

Objectives

The specific objectives of this paper are to:

1. Explicate the treatment of error and learning within Yoruba philosophy, drawing directly from the Ifá literary corpus, proverbs (òwe), and the concept of òmolúàbí.

2. Review and synthesize key contemporary research from the learning sciences on the role of errors, struggle, and feedback in the learning process.

3. Articulate the theoretical convergence between these Yoruba principles and established educational theories, notably John Dewey's experientialism and Lev Vygotsky's sociocultural theory.

4. Propose a practical, culturally informed instructional framework (AṢE) for embedding these principles into classroom practice.

5. Outline specific implications for educational assessment, classroom climate, task design, and teacher professional development.

Limitations

This study is a conceptual and theoretical synthesis. It does not report findings from new empirical trials or classroom interventions. Furthermore, it is important to note that Yoruba oral literature, particularly proverbs and Ifá verses, is dynamic and can vary significantly by dialect, region, and the context of their performance (Ọlátúnjí, 2005; Yai, 1994). The citations provided are illustrative of broader philosophical themes rather than definitive, fixed texts. Some sources, especially historical analyses of òmolúàbí, are secondary or archival. Future work must include rigorous qualitative and quantitative classroom-based studies to empirically test the proposed AṢE framework and measure its impact on academic achievement, metacognitive skills, student mindset, and character development in diverse cultural settings.

Review of Related Literatures

Yoruba Philosophy of Learning, Error, and Character

The Yoruba worldview is holistic, integrating the physical with the metaphysical and the individual with the community. Education, therefore, is never a purely individualistic, cognitive pursuit; it is a process of becoming a responsible person within a community.

Ifá Divination and the Concept of Ìwà Pẹ̀lẹ́

The Ifá literary corpus, the foundational scripture of the Yoruba traditional religious and philosophical system, is a vast repository of poetry, history, medicine, and ethics. It is central to understanding the Yoruba conception of knowledge. Ifá is not merely about predicting the future; it is a system of knowledge for navigating life's complexities and making morally sound decisions (Abimbola, 1976; Bascom, 1969).

A core concept in Ifá is Ìwà Pẹ̀lẹ́ , which translates roughly to "good, gentle, or calm character." Wande Abimbola (1975), a foremost scholar of Ifá, emphasizes that the ultimate goal

of Ifá divination is the cultivation of Ìwà Pẹ̀lẹ́. A famous Ifá verse states, " Ìwà lẹwà ("Character is beauty") and "Ìwà lesin" (Character is religion) (Abimbola, 1975, p. 405). This underscores that all knowledge and action are judged by their moral character. Within this framework, errors or life's challenges (known as ìkùn or àyẹ́) are interpreted not as random failures but as opportunities for introspection, moral realignment, and the development of wisdom (ogbón). The divination process itself is a ritualized form of seeking guidance and correction—a public acknowledgment of a problem followed by a communal seeking of solutions (prescribed through the Odù of Ifá) and an explanation of the necessary steps (ẹbọ) to restore balance (Abimbola, 1976; Makinde, 1988). This tripartite process mirrors the pedagogical cycle proposed later in this paper.

Òwe (Proverbs) as Pedagogical and Corrective Devices

Proverbs (òwe) are the "horses of speech" (Ọ̀rọ̀ ló ń lo, òwe la fi ń wọ́ a)—the vehicle that carries meaning to its destination. They are the primary tool for informal education, social control, and the transmission of cultural values (Dopamu, 1990; Ọlátúnjí, 2005). A significant portion of the Yoruba proverb tradition explicitly addresses error and learning. The proverb "Àsìṣe ìjìnní ni í mú ká mọ ẹni tí ń sun" (It is a sudden mistake that reveals who is asleep) teaches that errors reveal gaps in attention or understanding (Dopamu, 1990, p. 112). Another states,"Bí omodé bá ṣubú, á wo iwájú; bí àgbà bá ṣubú, á wo ẹhìn" (If a young person falls, they look forward; if an elder falls, they look backward)

 (Ọlátúnjí, 2005, p. 78). This illustrates a nuanced understanding of error analysis: the youth is eager to move on, while the experienced person reflects on the cause to prevent recurrence. This communal logic—where trial, public feedback, and reform are normalized—stands in sharp contrast to the individualizing and often shaming treatment of error in many modern classrooms.

The Òmolúàbí Ethos: Integrating Character and Cognition

The ideal of the òmolúàbí encapsulates the end goal of Yoruba education. An òmolúàbí is not simply a "learned person" but a person of impeccable character, humility, respect, courage, and communal responsibility (Hallen & Sodipo, 1986; Oluwole, 2014/2015). Key virtues of the òmolúàbí include:

Ìtẹríba (Respect/Humility): The understanding that one is part of a larger whole and is accountable to the community. This virtue makes one receptive to correction.

Ìṣẹ́ sí (Hard work/Perseverance): The resilience to persist through challenges and learn from failed attempts.

Òtítọ́ (Truthfulness/Honesty): The courage to acknowledge one's own errors rather than conceal them.

Ọwọ́ (Responsibility): Being accountable for one's actions and their impact on the community.

This ethos structures how mistakes are interpreted and repaired. An error is a breach not just of cognitive understanding but of one's responsibility to the community to be knowledgeable and act correctly. Correction is thus a communal duty aimed at restoring both individual understanding and social harmony (Makinde, 1988). This aligns with the concept of ubuntu in Southern Africa—"I am because we are"—emphasizing that learning and identity are co-constructed within a community (Letseka, 2012; Mbigi, 2005).

Learning From Errors in the Learning Sciences

Modern cognitive science has empirically arrived at conclusions that resonate deeply with this Yoruba wisdom. The following areas of research are particularly salient.

Productive Failure

Kapur (2008, 2016) coined the term "productive failure" to describe a learning design where students are first presented with a complex, novel problem that they are unlikely to solve correctly on their first attempt. This generation of multiple representations and solution attempts—many of them erroneous—activates prior knowledge and highlights the boundaries of their understanding. When this initial struggle phase is followed by direct instruction or consolidation on the canonical solution, students develop a significantly deeper and more flexible understanding than those who received direct instruction first (direct instruction). The initial failure is "productive" because it prepares the mind for learning by creating a need for the information that follows (Schwartz & Martin, 2004; Kapur & Bielaczyc, 2012).

Error Management Training (EMT)

Originating in organizational psychology, EMT is a training method that encourages active exploration and explicitly frames errors as a natural and informative part of the learning process (Keith & Frese, 2005, 2008). Unlike error-avoidant training, which provides step-by-step instructions to prevent mistakes, EMT provides exploratory guidelines and encourages learners to make errors, reflect on them, and learn how to manage them. Meta-analyses show that EMT leads to better performance, particularly on transfer tasks, and enhances metacognitive skills because learners become better at diagnosing their own misunderstandings and regulating their learning strategies (Keith & Frese, 2005).

The Hypercorrection Effect

Butterfield and Metcalfe (2001) discovered that errors made with high confidence are more likely to be corrected and remembered later than errors made with low confidence. This "hypercorrection effect" suggests that a strong, surprising disconfirmation of a deeply held (but wrong) belief creates a powerful learning event. The cognitive dissonance experienced when one is confidently wrong and then provided with clear, corrective feedback triggers a deeper encoding of the correct information (Butler, 2011; Metcalfe, 2017). This has direct implications for classroom practice: creating a safe environment where students feel comfortable revealing their confident misconceptions is a prerequisite for leveraging this powerful effect.

The Science of Effective Feedback

The work of Hattie and Timperley (2007) and Black and Wiliam (1998) has revolutionized understanding of feedback. Their research shows that feedback is among the most powerful influences on student achievement, but its effectiveness is highly contingent on its nature. Effective feedback is not praise or punishment; it is information about the task and the processes required to perform it (feedforward). It answers three questions: Where am I going? (the goals), How am I going? (progress toward the goals), and Where to next? (what to do to improve). This "where to next" or feedforward aspect is crucial for closing the gap between current and desired performance. Formative assessment, the ongoing process of gathering evidence to inform instruction and provide feedback, is the practical classroom application of this science (Wiliam, 2011).

Desirable Difficulties and Growth Mindset

The research of Robert and Elizabeth Bjork (2014) on "desirable difficulties" shows that introducing certain learning conditions that create challenges and slow down apparent learning—such as spacing study sessions, interleaving topics, and generating answers—actually lead to superior long-term retention and transfer. Struggling with material is desirable because it strengthens retrieval pathways. Carol Dweck's (2006) complementary work on "mindset" shows that students who believe their intelligence can be developed (a growth mindset) are more likely to embrace challenges, persist in the face of setbacks, and see effort as the path to mastery. They interpret errors as signals to improve their strategies, not as indictments of their fixed ability.

Theoretical Convergence: Yoruba Wisdom Meets Dewey and Vygotsky

The resonances between Yoruba philosophy and modern learning science are striking. Furthermore, this synthesis finds a strong theoretical home within established Western

educational theories, particularly the experientialism of John Dewey and the sociocultural theory of Lev Vygotsky.

Dewey (1938/1997) argued that education must be rooted in experience. For Dewey, not all experiences are educative; some are "mis-educative" if they shut down future growth. An educative experience, however, involves continuity and interaction—it changes the learner and influences the quality of future experiences. The process of making an error, reflecting on it, and correcting it is a quintessential Deweyan experiential learning cycle. The Yoruba emphasis on learning through lived trial and error is a profound embodiment of this principle.

Vygotsky's (1978) sociocultural theory posits that learning is first social then individual. Higher psychological functions originate in interactions with more knowledgeable others (teachers, peers) within a cultural context. The Zone of Proximal Development (ZPD)—the gap between what a learner can do alone and what they can achieve with guidance—is the space where learning occurs. The Yoruba pedagogical approach is intensely sociocultural. Learning from error is a communal activity, mediated by language (proverbs, stories), tools (Ifá), and social norms (the òmolúàbí ethos). The community provides the "scaffolding" (Wood, Bruner, & Ross, 1976) that helps an individual move from error to understanding, from a naïve concept to a canonical one. The public nature of correction in Yoruba settings is not meant to shame but to provide social scaffolding for the entire community's learning.

Thus, the Yoruba philosophy of error does not stand in opposition to these theories but rather enriches them by providing a culturally specific, ethically robust, and time-tested model for their implementation. It adds a crucial, often missing, dimension of character and communal ethics to the cognitive and social processes described by Dewey and Vygotsky.

Discussion: A Yoruba-Informed Heuristic for Classroom Design—The AṢE Framework

To translate these powerful theoretical convergences into practical classroom routines, we propose the AṢE framework. The acronym AṢE is intentionally borrowed from the Yoruba concept of àṣẹ, meaning the power, authority, and life-force to make things happen and produce change (Abimbola, 1975; Jahn, 1961). It is a performative word, a blessing, and an enactment of power. In this context, the AṢE framework is intended to be a practical tool that empowers teachers and students to transform errors from endpoints into catalysts for growth. It consists of three interlocking and iterative routines:

1. **Acknowledge (A) – Normalizing Error Publicly and Safely**

The first and most critical step is to shift the classroom culture from error-concealment to error-revelation. This requires deliberately dismantling the stigma associated with mistakes.

In Practice: Teachers can begin lessons with "problem-posing" (Freire, 1970) or "generation tasks" (Kapur, 2016) that are intentionally difficult, inviting multiple solutions and strategies. They must explicitly state that errors are expected, valued, and are the raw material for learning. Techniques include:

Think-Pair-Share: Allows students to test ideas with a partner before sharing with the whole class, lowering the risk of public error.

All-hstudent response systems   (e.g., whiteboards, polling apps): Enable the teacher to see all students' thinking, including misconceptions, without singling anyone out.

"My Favorite No"   (a strategy by Leah Alcala): Starting class by celebrating an interesting error from homework, analyzing what was correct about the thinking, and then guiding the class to correct it. This perfectly mirrors the Yoruba practice of using communal examples for learning.

Theoretical Alignment: This step operationalizes   productive failure   by designing for initial struggle. It creates the "desirable difficulty" of public reasoning. It also embodies the Yoruba communal logic, where the proverb (òwe) is a public artifact used to discuss and correct shared human foibles.

2. **Seek (Ṣ) –** Metacognitively Seeking Causes and Meanings

Once an error is acknowledged and visible, the learning process shifts from the teacher simply giving the right answer to learners actively investigating the nature of their error. This is a metacognitive process—thinking about one's own thinking.

In Practice: Teachers use talk moves that prompt learners to narrate their reasoning: "Talk me through how you got that answer." "What was your assumption here?" "Why did that strategy make sense to you at the time?" This moves the focus from the   what   (the wrong answer) to the   why   (the flawed reasoning or misconception). This can be facilitated through:

Error Analysis Journals: Students regularly document and analyze their own errors, categorizing them (e.g., "careless error," "conceptual misunderstanding," "application error") and reflecting on their cause.

Proverb Prompts: Using prompts inspired by òwe, such as "What did this error teach you about the way you think?" or "How can this 'fall' help you 'learn not to fall' next time?" This directly connects cognitive processing to the character virtue of   ìtẹríba   (humility and self-reflection).

Theoretical Alignment: This step is the core of   error management training (EMT)   , fostering metacognitive monitoring and self-regulation. It aligns with the Yoruba

617

emphasis on introspection and understanding the root cause of a misstep, connecting it to the development of ìwà (character).

3. **Explain (E) –** Providing Precise, Forward-Looking Explanations

The final step is to close the loop with high-quality, corrective feedback. However, based on the previous steps, this feedback is now far more targeted and impactful. It is not just a correction; it is a "feedforward" explanation that guides future action.

In Practice: The teacher, or even peers, provides feedback that is:

Timely: Given soon after the error is made.

Specific: Focused on the task and process, not the person.

Forward-Looking: It answers "Where to next?" (Hattie & Timperley, 2007). For example, "The error was in misapplying the formula. Where to next? Let's develop a checklist to decide which formula to use for different problem types."

This step leverages the hypercorrection effect : after a student has confidently articulated their reasoning (Step 2), a clear, concise explanation provides the powerful disconfirmation that leads to durable learning.

Theoretical Alignment: This is the practice of effective formative assessment and feedback. It provides the "consolidation" phase after productive failure. In the Yoruba context, this is akin to the Babaláwo (Ifá priest) providing the specific prescriptions (ẹbọ) and explanations (itàn) from the Odù to guide the seeker toward corrective action and restored balance.

The AṢE framework is not a linear checklist but a dynamic, often recursive, cycle. A new explanation (E) might lead a student to acknowledge (A) a further misunderstanding, starting the process again.

Pedagogical Implications

Integrating this framework requires systemic shifts across several domains of teaching practice.

Assessment

Shift the balance from high-stakes, summative assessments to low-stakes, formative checks that are integral to the learning process. Use quizzes not for grading but as tools for generating errors and guiding instruction (Black & Wiliam, 1998). Implement "error analysis" as a formal assessment task where students identify, correct, and explain common errors, thereby demonstrating deep conceptual understanding. This transforms assessment of learning into assessment for learning.

618

Classroom Culture

Teachers must explicitly co-construct classroom norms with students that reflect the òmolúàbí ethos. This includes values like respect (listening to understand others' errors), perseverance (sticking with a difficult problem), and collective responsibility (We are all here to help each other learn from mistakes). Language is crucial: teachers should model talking about their own errors and use growth-minded praise ("You worked hard on that strategy") rather than ability-based praise ("You're so smart").

Task Design

Curriculum and lesson planning should intentionally build in opportunities for productive struggle. This involves sequencing problems to ensure all students operate within their ZPD. Tasks should be complex enough to generate multiple solution paths but structured enough to provide a clear goal. Following initial exploration, lessons must always include dedicated time for consolidation, where the teacher explicitly compares and contrasts the varied student-generated solutions with the canonical one, highlighting the key conceptual takeaways.

Teacher Education

Professional development must move beyond content knowledge to include training in "error pedagogical content knowledge." Teachers need to be trained in:

Anticipating common errors and misconceptions   in their subject matter.

Talk moves   that elicit student thinking without judgment (e.g., Can you tell me more about that?).

Affective framing   to help students manage the frustration that can accompany struggle (e.g., This feeling of confusion is a sign that your brain is growing).

Designing and implementing   the AṢE cycle effectively in their lessons.

Findings (Synthesis)

This theoretical synthesis yields several key findings:

1. Yoruba philosophical sources, particularly the Ifá corpus and proverbial tradition, explicitly valorize mistakes as essential tutors of practical wisdom (ogbón) and good character (ìwà rere). Correction is a community-mediated process aimed at moral and intellectual growth.

2. Contemporary evidence from the learning sciences robustly converges on this view, demonstrating that structured encounters with error, followed by high-quality feedback, significantly improve long-term retention, transfer of knowledge, and metacognitive skills.

3. The proposed AṢE (Acknowledge-Seek-Explain) framework provides a practical, culturally anchored model for operationalizing these insights in modern classrooms. It aligns with and enriches established educational theories from Dewey and Vygotsky by integrating a robust dimension of character ethics and communal learning.

4. Implementing this approach requires a transformative shift in assessment practices, classroom culture, task design, and teacher professional development, moving from an error-avoidant to an error-embracing paradigm.

Conclusion

The Yoruba philosophical tradition offers a profound, character-centered, and deeply social rationale for learning through mistakes—a rationale that not only coheres with but also richly contextualizes modern research on error-based learning. It reminds us that education is as much about the formation of virtuous and resilient human beings as it is about the acquisition of academic competencies. The AṢE framework, derived from this synthesis, provides a pathway for designing classrooms where errors are not feared but are anticipated, examined, and transformed into engines for intellectual and ethical growth. By creating these cultures of collective vulnerability and support—cultures of òmolúàbí—we can foster environments that enhance academic achievement and moral education alike. The urgent task ahead is to subject this framework to rigorous empirical validation, testing its power to improve learning, foster belonging, and build character in the diverse and complex classrooms of the 21st century.

References

1. Abimbola, W. (1975). Ìwàpẹ̀lé: The concept of good character in Ifá literary corpus. In W. Abimbola (Ed.), Yoruba oral tradition: Poetry in music, dance and drama (pp. 389–420). Ibadan University Press.
2. Abimbola, W. (1976). Ifá: An exposition of the Ifá literary corpus. Oxford University Press Nigeria.
3. Bascom, W. (1969). Ifa divination: Communication between gods and men in West Africa. Indiana University Press.
4. Biesta, G. (2013). The beautiful risk of education. Paradigm Publishers.
5. Black, P., & Wiliam, D. (1998). Assessment and classroom learning. Assessment in Education: Principles, Policy & Practice, 5(1), 7–74. https://doi.org/10.1080/0969595980050102
6. Bjork, R. A., & Bjork, E. L. (2014). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. In D. S. Dunn (Ed.), The Oxford handbook of undergraduate psychology education (pp. 61–72). Oxford University Press.

7. Butterfield, B., & Metcalfe, J. (2001). Errors committed with high confidence are hypercorrected. Journal of Experimental Psychology: Learning, Memory, and Cognition, 27 (6), 1491–1494.

8. Butler, A. C., Fazio, L. K., & Marsh, E. J. (2011). The hypercorrection effect persists over a week. Metacognition and Learning, 6 (1), 1–14. https://doi.org/10.1007/s11409-010-9067-4

9. Dei, G. J. S. (2000). Rethinking the role of Indigenous knowledges in the academy. International Journal of Inclusive Education, 4 (2), 111–132.

10. Descartes, R. (1998). Discourse on method and meditations on first philosophy (D. A. Cress, Trans.). Hackett Publishing Company. (Original work published 1637).

11. Dewey, J. (1997). Experience and education. Touchstone. (Original work published 1938).

12. Dopamu, P. A. (1990). Ìwà l̀ẹwà: The Yoruba concept of good character. NIDOC Press.

13. Dweck, C. S. (2006). Mindset: The new psychology of success. Random House.

14. Freire, P. (1970). Pedagogy of the oppressed. Herder and Herder.

15. Hallen, B., & Sodipo, J. O. (1986). Knowledge, belief, and witchcraft: Analytic experiments in African philosophy. Stanford University Press.

16. Hattie, J., & Timperley, H. (2007). The power of feedback. Review of Educational Research, 77 (1), 81–112. https://doi.org/10.3102/003465430298487

17. Jahn, J. (1961). Muntu: An outline of the new African culture. Faber and Faber.

18. Kapur, M. (2008). Productive failure. Cognition and Instruction, 26 (3), 379–424. https://doi.org/10.1080/07370000802212669

19. Kapur, M. (2016). Examining productive failure, productive success, unproductive failure, and unproductive success in learning. Educational Psychologist, 51 (2), 289–299.

20. Kapur, M., & Bielaczyc, K. (2012). Designing for productive failure. Journal of the Learning Sciences, 21 (1), 45–83.

21. Keith, N., & Frese, M. (2005). Self-regulation in error management training: Emotion control and metacognition as mediators of performance effects. Journal of Applied Psychology, 90 (4), 677–691. https://doi.org/10.1037/0021-9010.90.4.677

22. Keith, N., & Frese, M. (2008). Effectiveness of error management training: A meta-analysis. Journal of Applied Psychology, 93 (1), 59–69.

23. Kohn, A. (2011). The case against grades. Educational Leadership, 69 (3), 28–33.

24. Letseka, M. (2012). In defence of Ubuntu. Studies in Philosophy and Education, 31 (1), 47–60.

25. Makinde, M. A. (1988). African philosophy, culture, and traditional medicine. Ohio University Center for International Studies.

26. Mbigi, L. (2005). The spirit of African leadership. Knowledge Resources.

27. Metcalfe, J. (2017). Learning from errors. Annual Review of Psychology, 68, 465–489. https://doi.org/10.1146/annurev-psych-010416-044022

28. Metcalfe, J., & Finn, B. (2011). People's hypercorrection of high-confidence errors. Journal of Experimental Psychology: Learning, Memory, and Cognition, 37 (2), 437–444. https://doi.org/10.1037/a0021962

29. Odora Hoppers, C. A. (2002). Indigenous knowledge and the integration of knowledge systems: Towards a philosophy of articulation . New Africa Books.

30. Oládèjì, Y. (2020). The Yoruba concept of education and its implications for lifelong learning. Journal of Lifelong Learning and Development, 2 (1), 22-35.

31. Ọlátúnjí, O. O. (2005). Features of Yoruba oral poetry . University Press Plc.

32. Oluwole, S. B. (2015). Socrates and Ọ̀rúnmìlà: Two patron saints of classical philosophy . Ark Publishers. (Original work published 2014).

33. Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. Educational Researcher, 41 (3), 93–97.

34. Paris, D., & Alim, H. S. (2017). Culturally sustaining pedagogies: Teaching and learning for justice in a changing world . Teachers College Press.

35. Schwartz, D. L., & Martin, T. (2004). Inventing to prepare for future learning: The hidden efficiency of encouraging original student production in statistics instruction. Cognition and Instruction, 22 (2), 129–184.

36. Steuer, G., Rosentritt-Brunn, G., & Dresel, M. (2013). Dealing with errors in mathematics classrooms: Structure and relevance of perceived error climate. Contemporary Educational Psychology, 38 (3), 196–210.

37. Tulis, M. (2013). Error management behavior in classrooms: Teachers' responses to student mistakes. Teaching and Teacher Education, 33 , 56–68.

38. University of Nebraska--Lincoln. (n.d.). Yoruba language: Proverbs . (Proverb: "By missing one's way one learns the right way; by falling one learns not to fall"). Retrieved August 17, 2025.

39. Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes (M. Cole et al., Eds.). Harvard University Press.

40. wa Thiong'o, N. (1986). Decolonising the mind: The politics of language in African literature . Heinemann.

41. Wiliam, D. (2011). Embedded formative assessment . Solution Tree Press.

42. Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. Journal of Child Psychology and Psychiatry, 17 (2), 89–100.

43. Yai, O. (1994). In praise of metonymy: The concepts of "tradition" and "creativity" in the transmission of Yoruba artistry over time and space. In The Yoruba artist: New theoretical perspectives on African arts (pp. 107-115). Smithsonian Institution Press.

Appendix: Practical Classroom Moves (Summary)

44. **Launch Lessons with Challenge**: Start units with brief, complex problem-posing activities (productive failure) where success is unlikely on the first try. Debrief thoroughly to compare student-generated ideas with canonical methods.

622

45. **Error Journals & Proverb Prompts**: Implement regular reflective writing where students analyze their errors. Use prompts like "What did this error teach me?" or "How can this mistake make me wiser?" to fuse cognitive and character development.

46. **Rapid Feedforward Cycles:** Design systems for immediate, specific feedback focused on "where to next." Use peer feedback, self-assessment checklists, and teacher conferencing.

47. **Normalize Think-Alouds**: Routinely ask students to explain their reasoning, even—and especially—when it is incorrect. This leverages the hypercorrection effect and builds metacognitive muscle.

48. **Code of Conduct**: Co-create a classroom charter based on òmolúàbí values like respect, perseverance, and collective responsibility. Refer to it often when discussing how to handle mistakes.