

INAUGURAL LECTURE OF PROFESSOR TEMISAN A. IGE

“DON'T I THINK BEFORE I TALK?” MY JOURNEY IN THE PROFESSIONAL DEVELOPMENT OF SCIENCE TEACHERS FOR REFLECTIVE TEACHING

ABSTRACT

Reflective teaching has emerged as a fundamental approach to improving science teacher education by promoting continuous professional development, strengthening teacher identity, and enhancing classroom practice. This lecture examines the concept, dimensions, models, tools, benefits, challenges, and emerging trends of reflective teaching within the context of science teacher education in Nigeria. It argues that effective science teaching extends beyond mastery of subject matter and pedagogical skills to include sustained reflection on instructional practices, professional beliefs, and classroom experiences. Professional development is presented as a continuous and context-sensitive process that equips science teachers with updated content knowledge, pedagogical content knowledge, digital literacy, assessment competence, and inquiry-based instructional skills. The lecture further emphasizes that the effectiveness of professional development depends on teachers' willingness to reflect critically on their practices and develop a strong professional identity.

The lecture discusses major reflective teaching models, including Schön's Reflective Practitioner Model, the ALACT Model, Brookfield's Four Lenses of Reflection, and Gibbs' Reflective Cycle, demonstrating how these frameworks support reflective thinking before, during, and after classroom instruction. It also highlights practical tools such as reflective journals, portfolios, peer observation, video-based reflection, digital platforms, team teaching, storytelling, mentoring, and coaching as mechanisms for promoting reflective practice and lifelong professional learning. Evidence drawn from the author's research and supervised studies demonstrates that reflective teaching improves teachers' classroom practices, instructional skills, professional confidence, reflective thinking, and attitudes towards teaching. The studies further reveal positive effects of reflective instructional strategies on

students' achievement, conceptual change, retention, interest, critical thinking, and engagement in science. Findings from investigations involving reflective journals, portfolios, peer observation, cognitive coaching, microteaching, video-based reflection, and enhanced reflective teaching consistently show that systematic reflection contributes to better teaching effectiveness and improved learning outcomes.

The lecture also identifies major constraints to reflective practice, including inadequate time, insufficient institutional support, limited reflective skills, resistance to change, and superficial reflection. It argues that these challenges can be addressed through structured professional development, mentoring, collaborative learning communities, and the integration of reflection into teacher education programmes. Emerging developments such as artificial intelligence, virtual coaching, digital reflective platforms, collaborative professional learning communities, data-informed reflection, multicultural responsiveness, and policy reforms are presented as important directions for strengthening reflective teaching in contemporary science education.

Overall, the lecture concludes that reflective teaching should become a central component of science teacher preparation and continuous professional development in Nigeria. By integrating reflective practices into teacher education programmes, teachers become more adaptive, innovative, evidence-informed, and professionally resilient. Such teachers are better equipped to improve classroom instruction, respond to diverse learner needs, promote meaningful science learning, and contribute to sustainable improvements in science education and national development.

Keywords: Reflective teaching, Science teacher education, Professional development, Teacher reflection, Classroom practice