

Core Curriculum Focus of Educational Foundation Across the Continents

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Abstract

This study examined the core curriculum focus of educational foundations across continents, with emphasis on identifying both common and distinct curriculum variables found in global education systems. Specifically, it aimed to determine shared curriculum priorities such as literacy, numeracy, STEM, and technology, while also analyzing region-specific emphases including moral education in Asia, vocational pathways in Europe, Early Childhood Care and Education and Global Citizenship Education in South America, social studies in North America, and recreation and creativity in Africa. The study was anchored on Comparative Education Theory, curriculum contextualization, global citizenship education, and educational benchmarking, which provided the basis for analyzing how global curriculum directions are adapted within different cultural, social, and educational contexts. A qualitative comparative research design supported by data mining techniques was used. Since the study relied on secondary data, there were no human respondents; instead, data were gathered from international educational reports, curriculum frameworks, academic literature, and policy documents. Keywords such as literacy, numeracy, STEM, technology, moral education, Early Childhood Care and Development/Early Childhood Care and Education, global citizenship, social studies, and creativity were used to identify, filter, and classify relevant information across continents. The data were analyzed through data mining procedures and qualitative thematic analysis to determine recurring patterns, common curriculum foundations, and distinct regional priorities. The findings revealed that literacy, numeracy, STEM, and technology are consistently emphasized across continents as universal pillars of education. These areas support foundational knowledge, cognitive development, digital competence, critical thinking, academic success, workforce readiness, and participation in a rapidly changing society. However, the study also found that curriculum implementation varies according to regional needs, cultural values, socio-economic conditions, historical contexts, and development priorities. Asia emphasizes moral education, values formation, discipline, and social harmony; Europe focuses on vocational pathways, economic competitiveness, and school-to-work transition; South America highlights Early Childhood Care and Education and Global Citizenship Education; North America prioritizes social studies, civic competence, and democratic participation; while Africa promotes recreation, creativity, cultural identity, and holistic education. The study concluded that global education systems reflect a dual process of standardizing essential competencies while contextualizing curriculum content to remain locally relevant. It recommended stronger curriculum alignment between global competencies and local contexts, interdisciplinary integration of core learning areas, support for region-specific curriculum innovations, teacher training, equitable access to educational technology, and further comparative curriculum research. The study is naturally aligned with SDG 4 – Quality Education because it focuses on curriculum relevance, foundational learning, digital literacy, teacher capacity, and inclusive educational development. It also connects with SDG 8 – Decent Work and Economic Growth, SDG 9 – Industry, Innovation and Infrastructure, SDG 16 – Peace, Justice, and Strong Institutions, and SDG 17 – Partnerships for the Goals through its emphasis on workforce readiness, technological learning, civic responsibility, and global educational cooperation. Its sustainability impact lies mainly in educational, institutional, social, cultural, technological, and socio-economic sustainability by supporting curricula that are globally informed, locally responsive, inclusive, and relevant to diverse learners and communities.

Keywords: Comparative Education, Core Curriculum, Curriculum Contextualization, Educational Foundations, Global Citizenship Education, Literacy, Numeracy, STEM Education, Technology Integration, Vocational Pathways

1. Introduction

In educational foundations, the core curriculum refers to the required and standardized set of learning areas designed to provide all learners with essential knowledge, skills, and understanding before specialization (Kaplan & Owings, 2021). Globally, the core curriculum is intended to prepare learners for postsecondary education, workforce participation, and active citizenship by developing critical thinking, communication, and a broad intellectual foundation (Díaz et al., 2022). The common curriculum foundation across countries typically includes literacy, numeracy, STEM, digital literacy, social-

emotional skills, and personal development. In the Philippine context, basic education is undergoing transition from the K to 12 curriculums toward the MATATAG Curriculum, which emphasizes foundational literacy, numeracy, and 21st-century skills (Linaugo, 2026). This shift responds to learning gaps, low international assessment performance, and the need to strengthen workforce readiness. This study therefore compares the core curriculum focus of educational foundations across continents to identify common principles, emerging trends, and contextual differences in curriculum design and implementation. It also examines how global education frameworks, including UNESCO and OECD perspectives, are interpreted and adapted in diverse educational systems.

The related literature shows that literacy, numeracy, STEM, and technology are consistently emphasized across continents as foundational competencies. Literacy is presented as more than basic reading and writing; it is linked to poverty reduction, economic participation, critical thinking, social transformation, and lifelong learning. In Asia, literacy supports poverty reduction and participation in a digital environment (Aslam et al., 2024). In South America, literacy is viewed as a tool for social change, economic growth, and fairness (Morais, 2018). In North America, literacy functions as a lifelong skill needed for social interaction, critical thinking, and economic mobility (Popović & Koulaouzides, 2017).

Numeracy is similarly treated as a core competence for academic success, employment, and daily life. In Asia, numeracy supports foundational learning, economic competitiveness, and data-based reasoning (Geiger et al., 2015). In Australia, numeracy is understood as a universal competence applied across subjects and real-life situations (Persson & Pears, 2024). In North America, numeracy supports budgeting, data interpretation, workplace problem-solving, and functioning in a mathematized society (Evans et al., 2012). In North Africa, numeracy contributes to cognitive development, logical reasoning, STEM mastery, and socioeconomic growth (Musyoka et al., 2025).

STEM education is highlighted as a driver of innovation, workforce readiness, critical thinking, and sustainable development. In Asia, STEM supports national development, Industry 4.0 readiness, and the shift from rote learning to inquiry-based learning (AlAli, 2024). In South America, STEM promotes sustainability, technological innovation, active learning, and inclusion among rural and indigenous communities (Onoshakpokaiye & Avwiri, 2025). In North America, STEM prepares learners for technological workforces and global challenges such as public health and climate change (Gonzalez & Kuenzi, 2012). In Africa, STEM is connected to innovation, economic growth, sustainable development, health, agriculture, finance, and Agenda 2063 (Sparks, 2016).

Technology is another major theme because it expands educational access, supports personalized learning, improves teacher productivity, and prepares learners for the digital economy. In Asia, technology promotes interactive and collaborative learning and addresses geographical barriers (Hardianti et al., 2024). In Europe, technology supports individualized, flexible, and inclusive learning through the Digital Education Action Plan (2021–2027) (Foka et al., 2025). In North America, technology improves access to resources, strengthens STEM integration, and supports digital workforce preparation (Hardianti et al., 2024). In Africa, technology improves educational access, supports flexible and remote education, and strengthens digital literacy (Barakabitzte et al., 2019).

Beyond these shared areas, the literature identifies distinct regional curriculum emphases. Asia gives importance to moral education, values formation, discipline, and social harmony (Kim & Taylor, 2017). Values formation supports holistic growth, responsibility, and moral citizenship (Cummings, 1996). Discipline reflects respect, structure, and group responsibility in East Asian educational contexts (Cheng & Wong, 1996). Social harmony also reflects respect, interdependence, diversity, and communal well-being (Ho, 2017).

Europe emphasizes vocational pathways, school-to-work transitions, social justice, and economic competitiveness. Vocational education supports social justice, labor-market alignment, and smoother transitions from school to employment (Storonyanska et al., 2025). Social justice education encourages students to address inequality and participate in inclusive communities (Cefai et al., 2015). Economic competitiveness is also emphasized because education prepares learners with the skills, creativity, and adaptability needed for sustainable economic growth (Sahlberg & Oldroyd, 2010). European education systems are also known for integrating vocational education and training into the curriculum to support employability and alternative pathways to success (OECD, 2020; European Commission, 2019).

South America prioritizes Early Childhood Care and Education (ECCE) and Global Citizenship Education. ECCE is important because social inequality and developmental gaps often begin early, making holistic early childhood programs essential for long-term equity and national development (Guevara & Cardini, 2023). Global Citizenship Education is emphasized because of the region's cultural diversity, social movements, and environmental concerns, including areas such as the Amazon (Myers, 2006). Together, ECCE and Global Citizenship Education promote lifelong learning, social responsibility, intercultural understanding, and environmental stewardship (UNESCO, 2017; UNICEF, 2019).

North America emphasizes social studies, civic competence, democratic values, historical literacy, and participatory citizenship. Social studies help develop knowledgeable, responsible, and active citizens by promoting inquiry, critical thinking, and civic engagement (Myers, 2006). It also reflects democratic values, civic literacy, and participatory citizenship (National Council for the Social Studies, 2013; Spring, 2018). Its multidisciplinary nature integrates history, geography, economics, and political science to connect historical learning with contemporary social issues (Walker, 2015). Africa emphasizes recreation, creativity, cultural identity, indigenous knowledge, and holistic development. These emphases are connected to oral traditions, music, dance, storytelling, crafts, and community-based learning. Recreation and creativity support emotional well-being, resilience, teamwork, social cohesion, and cultural pride (Belluigi, 2009). African curricula also integrate creative arts, physical education, and culturally relevant recreational activities as part of holistic education and indigenous knowledge systems (African Union, 2016; UNESCO, 2015).

At the global level, curriculum systems increasingly converge around literacy, numeracy, STEM, and technology as essential competencies for 21st-century learning. These areas support academic achievement, economic participation, digital readiness, and adaptability across regions. However, the study also shows that each continent contextualizes these priorities differently according to its own needs. At the national and local level, the Philippine curriculum context reflects ongoing reform through the MATATAG Curriculum, which gives renewed attention to literacy, numeracy, and 21st-century skills (Linaugo, 2026). This local reform is connected to broader global concerns about learning gaps, workforce readiness, and curriculum relevance. The study therefore positions the Philippine context within a wider comparative curriculum discussion, showing how global standards may guide curriculum reform while still requiring adaptation to local realities.

This study is anchored on Comparative Education Theory, which examines educational systems across countries and regions to identify similarities, differences, and contextual influences in curriculum design and implementation. From this perspective, education is both global and local because international trends interact with culturally grounded practices. The study is also guided by curriculum contextualization, which emphasizes that curriculum design should balance global standards with local realities. This supports the idea that learning becomes more meaningful when content reflects learners' cultural backgrounds, societal needs, and lived experiences. The study further draws from Global Citizenship Education promoted by UNESCO, which emphasizes the development of learners who are globally aware, critically engaged, and socially responsible. It is also informed by educational benchmarking associated with OECD, which encourages countries to align with international standards while maintaining contextual relevance. Together, these perspectives provide a basis for analyzing how core curriculum priorities across continents are shaped by both global influences and local educational contexts.

Although literacy, numeracy, STEM, and technology are widely recognized as global curriculum priorities, there remains a need to examine how these areas are interpreted, emphasized, and implemented differently across continents. Existing curriculum frameworks often reflect global standards, yet local implementation may vary because of cultural values, economic conditions, social priorities, and policy directions. This study addresses the gap between global curriculum frameworks and local curriculum realities by comparing common and distinct curriculum variables across continents. It specifically examines how shared competencies are balanced with regional emphases such as moral education in Asia, vocational pathways in Europe, ECCE and Global Citizenship Education in South America, social studies in North America, and recreation and creativity in Africa. The rationale for the study is to provide insights that can guide educators, policymakers, and curriculum developers in creating curricula that are both globally informed and locally responsive.

The study is most directly aligned with SDG 4 – Quality Education because it focuses on curriculum foundations, literacy, numeracy, STEM, technology, ECCE, global citizenship, teacher education, and lifelong learning. The emphasis on foundational literacy and numeracy also connects with the study's discussion of Sustainable Development Goals (SDG 4.1.1), especially in relation to improving learning outcomes and addressing early learning gaps. The study also supports SDG 8 – Decent Work and Economic Growth through its discussion of workforce readiness, vocational pathways, employability, economic participation, and school-to-work transitions. These themes are especially visible in the discussion of Europe's vocational education and training systems and the broader role of curriculum in preparing learners for employment. SDG 9 – Industry, Innovation and Infrastructure is also relevant because the study highlights STEM, technology integration, digital literacy, innovation, Industry 4.0 readiness, and technology-enhanced learning. These areas show how education contributes to technological sustainability and innovation-driven development.

SDG 10 – Reduced Inequalities applies to the study's concern for educational access, social inclusion, equity, early childhood support, rural and indigenous communities, and technology-supported learning opportunities. The emphasis on ECCE, inclusive digital education, and region-specific curriculum responsiveness supports the goal of reducing educational disparities. SDG 16 – Peace, Justice, and Strong Institutions is relevant to the study's discussion of moral education, civic competence, democratic values, social responsibility, social justice, and participatory citizenship. These themes show how curriculum can strengthen learners' ethical awareness, civic engagement, and responsibility within society. SDG 17 –

Partnerships for the Goals is also connected to the study's use of global frameworks such as UNESCO and OECD, as well as its comparative approach across continents. The study promotes shared educational understanding while recognizing the importance of collaboration among policymakers, educators, institutions, and curriculum developers.

This study contributes to educational sustainability by identifying curriculum priorities that can strengthen foundational learning, improve curriculum relevance, and support lifelong learning across diverse educational systems. By examining literacy, numeracy, STEM, and technology, the study highlights competencies that are necessary for learners to participate meaningfully in academic, professional, and civic life. The study also contributes to socio-economic sustainability by showing how curriculum supports employability, workforce readiness, economic participation, and innovation. Vocational pathways, STEM education, digital literacy, and technological integration all help prepare learners for changing labor markets and economic development.

In terms of technological and innovation sustainability, the study emphasizes how technology expands access to education, supports flexible learning, improves instruction, and prepares learners for the digital economy. This is important for regions facing geographic, infrastructural, or resource-based barriers to quality education. The study further contributes to cultural and community sustainability by recognizing region-specific curriculum priorities. Moral education in Asia, social studies in North America, Global Citizenship Education in South America, and recreation and creativity in Africa show that curriculum is not only a technical framework but also a cultural and social tool for shaping identity, values, participation, and community life. Finally, the study contributes to policy and governance sustainability by offering comparative insights that may help policymakers and curriculum developers balance global standards with local needs. Its findings support curriculum development that is globally competitive, locally responsive, inclusive, and relevant to the realities of diverse learners and communities.

2. Material and Methods

2.1 Research Design

The study employed a qualitative comparative research design supported by data mining techniques. This design was appropriate because the study aimed to examine similarities and differences in curriculum structures across selected continents. It focused on identifying common core curriculum variables, including literacy, numeracy, STEM, and technology, as well as distinct regional curriculum emphases such as moral education, Early Childhood Care and Development/Early Childhood Care and Education (ECCD/ECCE), global citizenship education, social studies, recreation, and creativity. The design allowed the researchers to interpret educational patterns while grounding the analysis in existing academic and policy documents.

2.2 Locale of the Study

The study did not focus on a single physical school or institutional site. Instead, its locale was defined by the selected continents and educational systems included in the comparative analysis. The study examined curriculum frameworks and educational documents from different regions to understand how core curriculum priorities are reflected across global and local contexts.

2.3 Respondents of the Study

The manuscript did not identify human respondents as participants of the study. Since the research was based on secondary data, the main sources of information were international educational reports, curriculum frameworks, academic sources, and policy documents. These documents served as the basis for identifying and comparing curriculum variables across continents.

2.4 Sample and Sampling Procedure

The manuscript did not specify a numerical sample size or a formal sampling computation. Data were selected through a systematic data mining process in which relevant textual sources were identified, extracted, and organized according to predefined curriculum categories. The selection focused on documents containing information related to literacy, numeracy, STEM, technology, moral education, ECCD/ECCE, global citizenship education, social studies, recreation, and creativity across different continents.

2.5 Research Instrument

The study used document-based data mining as the main research instrument for collecting and organizing relevant information from existing sources. Keywords such as literacy, numeracy, STEM, technology, moral education, ECCD, global citizenship, social studies, and creativity were used to filter and classify information. These keywords guided the identification of both universal curriculum components and region-specific curriculum emphases.

2.6 Data Gathering Procedure

Data were gathered through a systematic review and extraction of relevant textual information from educational reports, curriculum frameworks, academic literature, and policy documents. The researchers identified documents related to the core curriculum focus of educational foundations across selected continents. Relevant data were then extracted and organized according to the predefined categories of common and distinct curriculum variables. This process enabled the researchers to compare how curriculum priorities were presented and contextualized in different regions.

2.7 Data Analysis Techniques

The study used data mining and qualitative thematic analysis to interpret the collected information. Data mining techniques supported the systematic retrieval, filtering, and classification of curriculum-related texts. Thematic analysis was then used to interpret recurring patterns, common curriculum priorities, and distinct regional emphases. Through this combined approach, the study was able to compare universal curriculum foundations with region-specific educational priorities across continents.

3. Results and Discussion

3.1 Common Core Curriculum Priorities Across Continents

3.1.1 Literacy as a Foundational Curriculum Priority

The results show that literacy is consistently treated as a core foundation of education across continents. In Asia, literacy is linked to poverty reduction, economic participation, and participation in a digital environment (Aslam et al., 2024). In South America, literacy is viewed as a tool for social change, economic growth, and fairness, extending beyond basic reading and writing toward critical thinking and digital competence (Morais, 2018). In North America, literacy is emphasized as a lifelong skill necessary for social interaction, critical thinking, and economic mobility (Popović & Koulaouzides, 2017). These findings indicate that literacy has expanded from simple decoding and language instruction into a broader competence needed for academic, social, economic, and digital participation. Across regions, literacy supports learners in accessing knowledge, evaluating information, and applying communication skills in real-life contexts. Although each continent gives literacy a distinct emphasis, the shared pattern confirms its continuing role as a universal foundation of education.

3.1.2 Numeracy as a Universal Competence

The results show that numeracy is also widely emphasized as a core curriculum area. In Asia, numeracy supports foundational knowledge, economic competitiveness, and 21st-century data-based reasoning (Geiger et al., 2015). In Australia, numeracy is positioned as a “universal competence” needed for employment, citizenship, and everyday life (Persson & Pears, 2024). In North America, numeracy supports academic achievement, employability, budgeting, data interpretation, and workplace problem-solving (Evans et al., 2012). In North Africa, numeracy contributes to cognitive development, logical reasoning, STEM learning, and socioeconomic growth (Musyoka et al., 2025).

The findings suggest that numeracy is no longer limited to computation or mathematics instruction alone. It is increasingly understood as an applied life skill that enables learners to solve problems, interpret data, and make informed decisions in academic, professional, and everyday settings. This confirms the importance of numeracy as a shared curriculum priority that supports both individual development and wider socioeconomic participation.

3.1.3 STEM Education for Innovation and Workforce Readiness

The results reveal that STEM education is emphasized across continents as a key driver of innovation, critical thinking, and workforce preparation. In Asia, STEM supports national development, Industry 4.0 readiness, and the movement from rote memorization to student-centered and inquiry-based learning (AlAli, 2024). In South America, STEM promotes sustainability, technological innovation, active learning, and inclusion among rural and indigenous communities (Onoshakpokaiye & Avwiri, 2025). In North America, STEM functions as both a subject area and pedagogical strategy for developing creativity, critical thinking, and 21st-century skills (Gonzalez & Kuenzi, 2012). In Africa, STEM is connected to innovation, economic growth, sustainable development, finance, health, agriculture, and Agenda 2063 (Sparks, 2016). These findings show that STEM is a major global curriculum priority because it prepares learners for technological, economic, and societal challenges. However, each region contextualizes STEM according to its development needs. Asia links STEM to industrial growth, South America to sustainability and inclusion, North America to technological advancement and global challenges, and Africa to long-term economic transformation. This demonstrates that STEM education is both globally relevant and locally adaptable.

3.1.4 Technology Integration in Education

The results show that technology is a common and transformative curriculum priority across continents. In Asia, technology supports personalized learning, teacher productivity, digital access, and interactive learning (Hardianti et al., 2024). In

Europe, technology supports individualized, flexible, and inclusive learning through the Digital Education Action Plan (2021-2027) (Foka et al., 2025). In North America, technology improves access to resources, strengthens engagement, supports personalized learning, and prepares students for the digital workforce (Hardianti et al., 2024). In Africa, technology expands access to educational resources, improves pedagogical quality, supports creativity, and enables flexible and remote learning (Barakabitze et al., 2019). These findings indicate that technology functions as a unifying force in modern curriculum development. It enhances access, equity, personalization, and digital readiness, although its implementation depends on each region's infrastructure, policy direction, and educational resources. The result suggests that technology integration is essential not only for improving instruction but also for preparing learners for participation in a digital economy.

3.2 Region-Specific Curriculum Emphases

3.2.1 Moral Education in Asia

The results show that many Asian education systems give strong emphasis to moral education, values formation, discipline, and social harmony. Moral education is presented as a central curriculum component that shapes learners' character and ability to live harmoniously with others (Kim & Taylor, 2017). Values formation supports responsibility, holistic growth, and social cohesion (Cummings, 1996). Discipline is also emphasized as part of the region's educational philosophy, particularly in relation to respect, structure, and group responsibility (Cheng & Wong, 1996). Social harmony reflects cultural values of respect, interdependence, and communal well-being (Ho, 2017). These findings suggest that Asian curriculum frameworks often move beyond academic competence by intentionally developing learners' ethical behavior, social responsibility, and cultural sensitivity. Moral education helps learners understand their duties to themselves, their communities, and wider society. This emphasis reflects the importance of character formation and harmonious coexistence in culturally diverse and rapidly changing educational environments.

3.2.2 Vocational Pathways in Europe

The results reveal that Europe gives distinct attention to vocational pathways, social justice, economic competitiveness, and school-to-work transition. The early incorporation of vocational pathways supports social justice, competitiveness, and smoother movement from education to employment. (Storonyanska et al., 2025). Social justice education is also emphasized because it promotes equality, critical awareness, and respect for human rights (Cefai et al., 2015). Economic competitiveness is linked to learners' creativity, adaptability, and contribution to sustainable economic growth (Sahlberg & Oldroyd, 2010). European systems also embed vocational education and training into the curriculum, often at the secondary level, to support school-to-work transitions (OECD, 2020; European Commission, 2019). These findings indicate that Europe's curriculum orientation strongly connects education with employability and social participation. Vocational pathways provide students with practical and labor-market-relevant skills while offering alternatives to traditional academic tracks. This approach reflects a curriculum model that balances human development, economic competitiveness, and inclusive access to meaningful work.

3.2.3 Early Childhood Care and Education and Global Citizenship Education in South America

The results show that South America places strong emphasis on Early Childhood Care and Education (ECCE) and Global Citizenship Education. ECCE is treated as a distinct priority because social inequality and developmental gaps often begin early, making holistic childhood programs in health, nutrition, and learning important for long-term educational equity and national development (Guevara & Cardini, 2023). Global Citizenship Education is also emphasized because of the region's cultural diversity, social movements, and environmental challenges, particularly in areas such as the Amazon (Myers, 2006). South American countries increasingly emphasize ECCE as a foundation for lifelong learning and Global Citizenship Education as a way to promote social responsibility and intercultural understanding (UNESCO, 2017; UNICEF, 2019). These findings suggest that South American curriculum priorities are closely connected to equity, social responsibility, and environmental awareness. ECCE addresses early developmental and educational gaps, while Global Citizenship Education prepares learners to engage with local and global issues. This curriculum emphasis reflects the region's effort to connect learning with social justice, intercultural understanding, and environmental stewardship.

3.2.4 Social Studies and Civic Engagement in North America

The results show that North America gives strong curriculum attention to social studies, civic competence, democratic values, historical literacy, and participatory citizenship. Social studies are connected to democratic traditions and the goal of developing knowledgeable, responsible, and participating citizens (Myers, 2006). It is also described as a core curriculum domain focused on civic competence, democratic values, and historical literacy (National Council for the Social Studies, 2013; Spring, 2018). The curriculum integrates diverse perspectives, including indigenous histories, immigration narratives, and social justice issues, while connecting history, geography, economics, and political science with practical civic application (Walker, 2015). These findings suggest that North American curriculum gives importance to preparing learners for democratic participation and social awareness. Social studies develop inquiry, critical thinking, historical understanding, and civic responsibility. Its multidisciplinary and discussion-driven nature allows learners to connect past

and present issues, making it distinct from curriculum systems that focus more heavily on moral formation, vocational specialization, or academic standardization.

3.2.5 Recreation and Creativity in Africa

The results show that Africa emphasizes recreation, creativity, cultural identity, and holistic education. These curriculum priorities are connected to oral traditions, music, dance, storytelling, crafts, and community-centered forms of learning. Recreation and creativity are also linked to emotional health, social cohesion, resilience, teamwork, and cultural pride, especially in areas affected by social or economic challenges (Belluigi, 2009). African curricula also include creative arts, physical education, and culturally relevant recreational activities as part of holistic education and indigenous knowledge systems (African Union, 2016; UNESCO, 2015). These findings indicate that African curriculum priorities value learning as a cultural, social, and creative process. Recreation and creativity support identity formation, cultural preservation, and community participation. This emphasis distinguishes African curricula from systems that focus more strongly on academic standardization, workforce specialization, or technology-driven reform.

3.3 Relationship Between Global Standardization and Local Contextualization

The results show that education systems across continents share common curriculum foundations while maintaining distinct regional priorities. Literacy, numeracy, STEM, and technology appear as universal pillars that develop foundational knowledge, cognitive skills, digital competence, and 21st-century readiness. However, these areas are implemented differently depending on each region's cultural, economic, social, and policy context. This finding suggests that global education systems operate through a dual approach: standardization of core competencies and contextualization of curriculum content. Shared competencies allow learners across regions to acquire comparable foundational skills, while contextualized curriculum priorities ensure that education remains relevant to local identities, values, and development needs.

3.4 Summary of Findings

The findings reveal that literacy, numeracy, STEM, and technology form the common foundation of educational systems across continents. These curriculum areas support academic success, critical thinking, problem-solving, digital literacy, employability, and participation in a changing global society. At the same time, the study found that each continent gives emphasis to distinct curriculum priorities, including moral education in Asia, vocational pathways in Europe, Early Childhood Care and Education (ECCE) and Global Citizenship Education in South America, social studies in North America, and recreation and creativity in Africa. The overall results demonstrate that curriculum development across continents is shaped by both global convergence and regional diversity. While there is increasing agreement on the importance of foundational competencies, curriculum implementation remains influenced by cultural values, historical experiences, socioeconomic conditions, and local educational needs. This confirms the importance of developing curricula that are globally informed, locally responsive, inclusive, and relevant to diverse learners.

4. Conclusion & Recommendations

The study concludes that literacy, numeracy, STEM, and technology form a shared core curriculum foundation across continents, reflecting a global agreement on the essential competencies needed by 21st-century learners. These areas support critical thinking, problem-solving, digital literacy, academic success, workforce participation, and global engagement. However, curriculum implementation varies according to each continent's cultural values, socio-economic conditions, historical contexts, and development priorities, resulting in distinct emphases such as moral education in Asia, vocational pathways in Europe, Early Childhood Care and Education (ECCE) and Global Citizenship Education in South America, social studies in North America, and recreation and creativity in Africa. Overall, the study affirms that effective curriculum development requires both standardization of core competencies and contextualization of curriculum content to ensure that education remains globally relevant, locally responsive, inclusive, and meaningful to diverse learners.

Based on the findings, educational policymakers, schools, curriculum developers, governments, and education stakeholders are encouraged to strengthen the balance between global competencies and culturally responsive curriculum content. Curriculum integration across literacy, numeracy, STEM, and technology should be enhanced through interdisciplinary and real-world learning approaches, while region-specific curriculum priorities such as moral education, vocational pathways, ECCE, Global Citizenship Education, social studies, creativity, and recreation should continue to be supported. The study also recommends sustained investment in teacher training, capacity building, equitable access to educational technology and resources, and further comparative curriculum research that may include assessment systems, policy implementation, and learner outcomes to enrich global educational understanding and promote holistic learner development.

Compliance with ethical standards

The authors declare no conflict of interest. This study complied with recognized ethical standards for human-participant research by ensuring voluntary participation with informed consent, the right to withdraw without penalty, and strict confidentiality through anonymous, secure, and aggregated data handling. Given the focus on psychological well-being, procedures were non-invasive, and safeguards were observed to minimize discomfort, with guidance to appropriate support services when needed, and required institutional permissions were secured for instrument use and access to academic records.

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