

# Teachers' Pedagogical Competence in Teaching 21st-Century Skills of Global and Local Connectedness

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### **Abstract**

This study employed a mixed-embedded research design, collecting data from teachers (n = 188) via a questionnaire and conducting indepth interviews with ten participants. The primary aim was to analyse pedagogical competence in teaching 21st-century skills related to global and local connectedness at Tewodros II Secondary School in Ethiopia. The results indicated that teachers' competencies in fostering global and local connectedness were unsatisfactory, leading to challenges in cultivating these dimensions among students. The findings highlight the urgent need for targeted interventions in teaching global and local connectedness as part of 21st-century skills. Such efforts are essential to developing citizens equipped to navigate global and local challenges within the school environment and the wider society. Therefore, this research contributes significantly to bridging the global and local education issues.

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# INTRODUCTION

Within the broader category of 21st-century skills necessary for navigating life in a globalised world, the themes of citizenship, particularly global and local connectedness—deserve attention as important subcategories (Kirkwood, 2001; NRC, 2012; Friedman, 2017; Partnership for 21st century learning, 2025). This study explores the integration of global and local connectedness skills within teachers' pedagogical practices. It focuses on the application of 21st-century skills to foster an understanding of global issues with the aim of promoting social change (Wagner, 2012). The pedagogy of global connections encompasses students' ability to engage with global and geopolitical issues, including an awareness of geography, culture, language, history, and literature from diverse countries (Schleicher, 2012). Additionally, it involves teachers' capacity to address issues relevant to their local contexts and communities (Binkley et al., 2012).

Development education, as a contemporary initiative, integrates both local and global dimensions into current pedagogical approaches. The content and pedagogical practices associated with this innovative skillset aim to foster a sense of belonging to a knowledge-generating civilisation, while encouraging contributions to a global endeavour. Participants are expected to value diverse perspectives, collaboratively construct interconnected knowledge across formal and informal contexts, exercise leadership, and advocate for inclusive rights (NRC, 2012; Bourn, 2020). As Bourn (2020) highlights, the concepts of global citizenship and global competencies have gained increasing prominence in education. This is reflected in initiatives such as UNESCO's (Delors, 2013) "learning to live together" pillar, the OECD's (Schleicher, 2012) framework on global competencies, and the incorporation of global education themes within the United Nations Sustainable Development Goals (United Nation, 2015). These developments have created opportunities to

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promote learning approaches that broaden horizons, nurture a global outlook, and cultivate a sense of social responsibility.

According to Bourn (2020), global skills are cultivated through a distinctive pedagogical approach that moves beyond the passive acceptance of dominant neoliberal ideologies. Integrating global issues into the curriculum is essential for addressing urgent societal and environmental challenges. A curriculum and pedagogy rooted in global and local connectedness seeks to challenge prevailing norms. This includes fostering critical attitudes towards others, promoting environmentally responsible behaviours, and questioning cultures of individualism, persistent poverty, and growing income inequality over time (OECD, 2008). Neoliberal policies, which have contributed to disparities in the global distribution of wealth (Schleicher, 2012; Piketty, 2014), along with a parochial media landscape and aggressive foreign policy agendas (Boven & Wille, 2017), represent persistent obstacles. These factors have contributed to war, conflict, mass displacement, and fragile processes of nation-building.

As a means of addressing global and societal challenges, pedagogical practices in the class-room should foster awareness of interconnected global issues. These practices provide opportunities for students and teachers to explore themes such as natural disasters, poverty, crises, human rights violations, and broader issues of local and global connectedness. This approach enables education to become a platform for critically engaging with real-world concerns. In this regard, to effectively teach these global challenges, such as environmental sustainability and climate change, teachers must develop and demonstrate global competence (Kirkwood, 2001; Robertson, 2021). This involves cultivating the skills and dispositions necessary to understand and address complex global phenomena within the classroom.

One of the pedagogical frameworks proposed by Bourn (2020) highlights the importance of citizenship competencies for both teachers and students. This framework emphasises the need for a global outlook that acknowledges the lived experiences of those in poverty, recognises global power inequalities, commits to values of equality and justice, and fosters reflective dialogue. Such competencies form the foundation of a pedagogy rooted in moral responsibility rather than economic utility, prioritising holistic and collective approaches over fragmented or individualistic ones.

In addition to pedagogical development, the assessment of global competence is essential for informing educational policy and practice. According to the OECD (2018), evaluating global competence provides system-level data that can guide national education strategies. UNESCO (2018a) further argues that this evaluation must go beyond cognitive understanding to include opportunities for students to engage in real-life experiences that develop their socio-emotional and behavioural capacities.

Furthermore, understanding culture at a societal level requires recognising the influence of various civilisations (Cox & Schechter, 2002). In this context, a dialogic approach to global learning, as advocated by Robertson (2021), becomes a valuable strategy. Promoting dialogue as a pedagogical tool encourages students to engage with knowledge, skills, and values critically. It allows them to reflect, make informed judgements, and transform their perceptions of the world through meaningful interaction.

In Ethiopia, the integration of global and local connectedness within 21st-century pedagogy has only recently begun to emerge within the education system. Historically, educational institutions have relied on traditional pedagogical practices that did not align with the evolving demands of contemporary globalised education (Daniel, 2004; Tadesse & Melese, 2016; Damtew & Muluken, 2020). Consequently, teachers have had limited exposure to innovative pedagogies that promote global and local interconnectedness. Kedir (2009) observed that this has led to a process of deskilling and de-professionalisation, where many teachers graduate without acquiring the necessary knowledge and pedagogical skills.

In addition, existing studies highlight significant gaps in key areas of teaching practice. These include misalignments between pedagogy and assessment (Tadesse et al., 2018), the absence



of differentiated instruction (Melese, 2019), and a lack of coherence between teaching strategies and labour market needs (MoE, 2018). Furthermore, faculty members have often demonstrated inadequate competence in developing essential 21st-century skills such as critical thinking, creativity, communication, collaboration, and digital literacy (Amsalu et al., 2023).

Despite these insights, prior research provides limited evidence regarding teachers' pedagogical competencies specifically related to global and local connectedness. Based on the researcher's observations and involvement, it remains unclear to what extent teachers are able to integrate these dimensions into their classroom practices. This gap in practical knowledge highlights the need for further investigation by addressing two main questions: (1) To what extent are teachers competent in teaching global and local connectedness skills? (2) How do teachers implement global and local connected pedagogical practices in the classroom? Therefore, this study will practically provide empirical evidence of schoolteachers' competence in teaching global and local connectedness skills and theoretically contribute to the current debate of international mindedness issues in education.

### **METHOD**

# A. Design of the Study

This study aims to analyse teachers' pedagogical competencies in teaching 21st-century skills related to global and local connectedness at Tewodros II Secondary School. The research employs a mixed-methods design, with qualitative elements embedded within the quantitative framework. This design allows for the integration of both approaches, enabling a more comprehensive understanding of the research problem and supporting data collection within a single phase (Creswell & Plano Clark, 2011).

The quantitative data and its analysis provided a broad overview of the issue, addressing the first research question: "What is the extent of teachers' competencies in teaching global and local connectedness skills?" The qualitative component, by contrast, offered a deeper exploration of participants' perspectives and experiences, helping to refine and contextualise the statistical findings (Ivankova & Stick, 2007, p. 97). In particular, the qualitative analysis was crucial in addressing the second research question: "How do teachers practise global and local connected pedagogical skills?"

# **B. Participants and Sampling Procedure**

The participants in this study were teachers with a minimum qualification of a bachelor's degree. Teachers were selected as the primary data sources due to their central role in the development and implementation of pedagogical practices. As active agents in their own professional growth, they were well-positioned to reflect on their competencies in teaching global and local connectedness skills. Furthermore, their familiarity with educational implementation made them suitable contributors to both the quantitative and qualitative aspects of the research.

The study was conducted at a purposefully selected secondary school. This school was chosen for its accessibility and willingness to participate, as well as its established link with the researcher's university—particularly through community-based programmes conducted beyond the campus setting. The comprehensive sampling technique used for the quantitative phase included all eligible teachers at the school, as the total number of participants was manageable. This approach supports the generalisation of findings within the study's scope (Kumar, 2011). A total of 209 teachers, each with a bachelor's degree or higher and currently employed at the school, were invited to complete the questionnaire.

For the qualitative phase, a smaller sample of ten participants was selected for in-depth interviews, in accordance with Creswell's (2013) recommendation for qualitative research involving



lengthy interviews. These participants were chosen from among those who had responded to the questionnaire, using a simple random sampling technique—specifically, a lottery method based on an attendance list. The purpose of this sampling was to obtain detailed qualitative data that would deepen and contextualise the quantitative findings, particularly in relation to teachers' lived experiences and pedagogical practices concerning global and local connectedness.

# C. Data Collection Methods

The researcher employed both quantitative and qualitative methods for data collection, using questionnaires and interviews as the primary instruments. The questionnaire was designed to measure the extent of teachers' competencies in teaching 21st-century skills related to global and local connectedness. This was assessed through items capturing both teachers' perceptions and reported practices. A five-point Likert scale was utilised, where responses ranged from 1 = Not at all, 2 = To a small extent, 3 = To a moderate extent, 4 = To a great extent, and 5 = To a very great extent. The quantitative data were analysed using one-sample t-tests and descriptive statistics, while the qualitative responses provided further context and interpretation. The questionnaire included 12 items specifically aimed at assessing teachers' integration of global and local connectedness into their pedagogical practices.

The questionnaire instrument was adapted from a validated survey developed by Ravitz (2014) and his team, originally created to assess 21st-century teaching and learning. This instrument, used in the International Innovative Teaching and Learning Study (Ravitz, 2014; Cevik & Senturk, 2019), is openly available for educators and researchers to reuse and adapt. It was selected due to its relevance and proven reliability in similar contexts (e.g., Cronbach's alpha > 0.90, inter-item correlations > 0.58). To enhance its applicability, the instrument was also aligned with the Teacher-Educator Framework of the Partnership for 21st Century Skills (Alahmad, Stamenkovska, & Gyori, 2021), particularly focusing on the global and local connectedness dimension. The questionnaire had previously undergone expert validation and contextual adaptation within the Ethiopian education system.

In addition to the questionnaire, semi-structured interviews were conducted with a subset of teachers who had completed the survey. These interviews served to bridge any interpretive gaps in the quantitative data by enabling a dialogic process between the researcher and participants. Through this process, interviewees were able to share their lived experiences, contributing to the depth and credibility of the findings (Van Manen, 1990; Tashakkori & Teddlie, 2003). During the interviews, field notes were taken to support the preparation of transcripts and facilitate independent thematic analysis.

# **D. Data Analysis**

In this study, both quantitative and qualitative data analysis techniques were employed to examine teachers' pedagogical competencies in teaching 21st-century skills related to global and local connectedness. A one-sample t-test was used to analyse the quantitative data, with all statistical tests conducted using SPSS and a significance level set at 0.01 (Pallant, 2010). Qualitative data were analysed by first transcribing the interview recordings, followed by coding and clustering significant statements into categories to identify key themes. A textual description was then developed to interpret the themes in relation to the research context. The qualitative findings were subsequently embedded within the quantitative analysis to produce an integrated interpretation. Finally, the two main research questions were merged during the analysis to create a comprehensive picture of teachers' competencies by drawing on both quantitative results and qualitative insights.



### **D. Ethical Consideration**

To ensure confidentiality throughout the research process, interviewees were anonymised using a combination of numbers and letters, and categorised based on their pedagogical competencies as either high or low performers. All information shared during the interviews was kept strictly confidential and was not disclosed to anyone other than the researcher. The interviews were conducted in a private, quiet room, away from other school personnel, to protect the participants' privacy. After data collection, the interview recordings were transferred to a computer and immediately anonymised, with each participant identified only by code. All documents and data files were securely stored.

Regarding ethical considerations, several key issues were addressed, including informed consent and the welfare, protection, and privacy of participants (Curtis & Curtis, 2011). Interviewees were informed of their full right to withdraw from the study at any point, and their voluntary participation was emphasised. The study adhered to ethical guidelines during the interview process, particularly those related to building trust and rapport—factors that can influence participants' comfort in declining or withdrawing from the research (Green & Thorogood, 2004).

### **RESULT AND DISCUSSION**

This section presents the results and discussion of the study on teachers' pedagogical competence in teaching 21st-century skills. Of 209 teachers, 188 (90%) participated, sharing their perceptions of involvement in teaching local and global connectedness skills. The analysis focused on the extent of pedagogical practices, measured by the sum of weights from items checked by participants. The scale ranged from 1 ("almost never") to 5 ("very great extent"). A one-sample t-test compared the mean score of teachers' perceptions with the assumed mean of 3, indicating a moderate level of pedagogical involvement.

As shown in Table 1, the current state of teachers' pedagogical competence in teaching 21st-century skills was found to be only to a minor extent. A one-sample t-test indicated that the pedagogical practices of teachers, as perceived by themselves, were significantly lower than the expected test value. Specifically, the t-calculated value for global connectedness was -5.793 (p < 0.01), and for local connectedness, it was -4.798 (p < 0.01). For the purpose of interpretation, responses at scale levels 5 and 4 (representing 'to a great extent' and 'to a very great extent) were categorised as good practice, whereas levels 1 and 2 (to a minor extent' and 'to a very minor extent') were considered weak practice. Accordingly, the current status of teachers' pedagogical competence in the dimensions of global and local connectedness can be classified as weak practice.

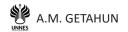
Teachers' views on their teaching of global and local connectedness as 21st-century skills were also examined through qualitative methods. The analysis and interpretation were based on teachers' perceptions and actual pedagogical practices in the target classrooms, with the aim of fostering these skills in their students. The qualitative phase was embedded within the quantitative phase, offering in-depth explanations and analysing exemplars that illustrated specific manifestations of these 21st-century skills. Respondents provided the following example statements regarding the competence status of teachers at the school:

"Except for the contents in the textbook, I am not able to incorporate the global and current issues of the local. I believe that the local issues are political and untouched. I prefer the safe side (T<sub>3</sub>)

As my subject matter is on natural science, I am not opposed to incorporating local and global issues in my lesson (T<sub>4</sub>).

I believe we are not practising global and local connectedness teaching in our classroom pedagogy, but I observe that social media takes the hidden curriculum position (T<sub>5</sub>)

Regarding priority of such skills," Of course, both are at lower status, but my local concern



is better than the global one (T<sub>3</sub>).

I am frustrated to discuss local issues, mainly our peace and multiculturalism, but I am more concerned with global issues as I am free to address them (T<sub>7</sub>)

I have limited concern on our country's peace and economic crisis, along with high cost of life, materialism, militarism and ethnocentrism- the tendency of ruling (T2)

**Table 1** One-Sample Test on global and local connectedness pedagogical skills of teachers

|   | Test Value = 3 |        |     |                        |                              |  |       |
|---|----------------|--------|-----|------------------------|------------------------------|--|-------|
|   | Mean           | t      | df  | sig.<br>(2-tai<br>led) | Mean<br>Dif-<br>fer-<br>ence | 95%<br>Confidence<br>Interval of the<br>Difference |       |
|   |                |        |     |                        |                              | Lower  | Upper |
| I have asked students to study information about other countries.   | 2.61           | -6.174 | 187 | .000                   | 394                          | 52   | 27    |
| I have asked students to use information or ideas that come from people in other countries or cultures.   | 2.63           | -6.571 | 187 | .000                   | 367                          | 48   | 26    |
| I have asked students to discuss issues related to global interdependency (for example, the global environment and market).                     | 2.80           | -3.608 | 187 | .000                   | 202                          | 31   | 09    |
| I have asked students to reflect on how their own experiences and local issues are connected to global issues.                                  | 2.69           | -4.753 | 187 | .000                   | 309                          | 44   | 18    |
| I have tried to develop and effectively assess students' skills in making global connected citizens   | 2.57           | -6.430 | 187 | .000                   | 426                          | 56   | 29    |
| Most students have learned to make global connections in my class.  | 2.53           | -7.227 | 187 | .000                   | 473                          | 60   | 34    |
| Total global connectedness skills   | 2.64           | -5.793 | 187 | .000                   | 361                          | 485  | 238   |
| I have asked students to investigate topics or issues that are relevant to their family or community (bringing local news to discuss in class). | 2.78           | -4.009 | 187 | .000                   | 218                          | 33   | 11    |
| I have facilitated opportunities to bring local news to discuss in their class.   | 2.56           | -7.789 | 187 | .000                   | 436                          | 55   | 33    |
| I have asked students to apply what they are learning to local situations, issues, or problems.   | 2.64           | -6.368 | 187 | .000                   | 362                          | 47   | 25    |
| I have asked students to analyse how different stakeholder groups or community members view an issue.   | 2.98           | 340    | 187 | ·734                   | 021                          | 14   | .10   |
| I have tried to develop and effectively assess students' skills in making local connections.  | 2.61           | -6.501 | 187 | .000                   | 394                          | 51   | 27    |
| Most students have learned local connection skills in my class.   | 2.86           | -4.865 | 187 | .000                   | 138                          | 19   | 08    |
| Total local connectedness skills  | 2.76           | -4.798 | 187 | .000                   | 261                          | 365  | 156   |

Teachers explained that, aside from the content found in textbooks, they were generally unable to incorporate global and current local issues into their teaching (T<sub>3</sub>, T<sub>5</sub>, and T<sub>8</sub>). Some believed that local issues were politically sensitive and therefore avoided addressing them, preferring to remain on the 'safe side' (T<sub>1</sub>, T<sub>7</sub>, T<sub>6</sub>, and T<sub>9</sub>). Respondents specialising in natural science (T<sub>1</sub>, T<sub>3</sub>, T<sub>10</sub>, and T<sub>4</sub>) expressed no objection to integrating global and local issues into their lessons. However, some indicated that although they were not explicitly embedding these issues in



their classroom pedagogy, they observed that social media had effectively taken on the role of a hidden curriculum, addressing global and local topics more than formal teaching practices (T<sub>2</sub>, T<sub>5</sub>, T<sub>6</sub>, and T<sub>7</sub>).

Overall, several teachers acknowledged that both global and local connectedness skills held a relatively low status in their teaching, though they felt that attention to local concerns was slightly more prominent than global ones (T<sub>3</sub>, T<sub>8</sub>, and T<sub>9</sub>). Conversely, others reported frustration when attempting to address local issues, particularly those related to conflict and multiculturalism, and thus preferred to focus on global issues, which they felt more free to explore (T<sub>1</sub>, T<sub>5</sub>, and T<sub>7</sub>). A number of teachers also admitted to having limited engagement with either global or local connectedness in their teaching (T<sub>2</sub>, T<sub>4</sub>, T<sub>6</sub>, and T<sub>10</sub>), citing limited personal involvement in issues such as conflict and economic crises, as well as broader challenges including materialism, militarism, and ethnocentric tendencies within society.

Another indication of weak pedagogical practice in promoting local and global connectedness was the limited opportunity afforded to students to engage with current events and daily news related to both local and global issues (T<sub>1</sub> to T<sub>10</sub>).

As a result of the integration of qualitative and quantitative data sources, it was found that teachers' ability to teach global and local connectedness skills was limited, indicating a generally weak level of competence. Respondents further elaborated that their pedagogical practices appeared resistant to approaches aimed at cultivating these skills in their students.

These findings are inconsistent with previous research and established frameworks regarding competence in teaching global and local connectedness as part of 21st-century skills (NRC, 2012; Bourn, 2020). For instance, as discussed by Bourn (2020), concepts such as global citizenship and global skills have become increasingly prominent in educational discourse. However, this trend was only weakly reflected in the teaching and learning practices observed in the study context.

The results also diverge from the perspectives of the National Research Council (2012), which emphasises that innovative pedagogies should help individuals feel part of a knowledge-creating civilisation and contribute to a global enterprise. Such pedagogical approaches value diverse perspectives, promote the construction of interconnected knowledge across formal and informal settings, foster leadership, and support inclusive rights.

Moreover, global education initiatives such as UNESCO's (Delors, 2013) Learning to Live Together pillar, the OECD's (Schleicher, 2012) framework on global competencies, and the integration of global themes in the United Nations Sustainable Development Goals (United Nations, 2015) were not reflected in practice within the study area. Therefore, greater attention must be paid by secondary school teachers to adopt pedagogical strategies that broaden students' horizons, cultivate a global perspective, and strengthen local connectedness within the teaching and learning process.

### CONCLUSION

The findings indicate that teachers' pedagogical competence in integrating global and local connectedness skills into 21st-century teaching is weak. Instructional practices were largely conventional and content-driven, with minimal inclusion of real-world global or local issues. Teachers showed limited engagement with intercultural perspectives, current events, and broader global challenges, resulting in missed opportunities to develop students' awareness of global interdependence and local relevance. Assessment methods also failed to measure students' ability to connect learning to global and local contexts, undermining efforts to prepare them as globally and locally connected citizens.

This research highlights the urgent need for capacity-building initiatives to support teachers in adopting transformative, student-centred pedagogies aligned with global education goals. Sta-



keholders—teachers, school leaders, and policymakers—must ensure that professional development addresses global competencies, encourages integration of current issues, and promotes critical thinking and civic engagement. As Bourn (2020) and Robertson (2021) suggest, embedding principles of global justice, environmental sustainability, and intercultural understanding is essential to equipping students with the skills needed for active, responsible participation in a connected world.

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