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The Capacity Building Dilemma in Sino-African Educational Cooperation: A Pedagogical Reflection Based on the Employability of Ghanaian Graduates

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ABSTRACT: Driven by the Belt and Road Initiative, China has become a major destination for African international students. However, a substantial number of Ghanaian graduates return home without achieving the expected capacity building outcomes, instead falling into structural dilemmas of knowledge transfer discontinuities, occupational marginalization, and enclave employment. Drawing on a mixed-methods study of 225 Ghanaian graduates sponsored by Chinese government scholarships, supplemented by interviews with employers and program administrators, this paper reveals the pedagogical roots of the capacity building paradox. The findings indicate that current pedagogical arrangements in Sino-African educational cooperation suffer from decontextualized curricula, narrow competency framing, absence of social capital cultivation, and a closed evaluation system. Consequently, graduates' skills serve primarily Chinese capital rather than indigenous development. Grounded in critical pedagogy and knowledge transfer theory, the paper proposes a pedagogical reform agenda centered on situated curriculum design, agentive identity construction, diversified internship networks, and two-way quality recognition. The paper argues that the sustainable development of Sino-African educational cooperation must go beyond degree conferral; it must begin with pedagogical reflection and accomplish a paradigm shift from "skill delivery" to "genuine capacity building."

KEYWORDS: Sino-African educational cooperation; capacity building; pedagogical reflection; employability; Belt and Road Initiative; knowledge transfer

I. INTRODUCTION

The landscape of global higher education mobility has been profoundly reshaped in the 21st century. China has rapidly emerged as a major destination for African students – a trend that is both a byproduct of deepening Sino-African economic ties and a direct outcome of China's proactive "Belt and Road" educational exchange strategy. According to the Beijing Action Plan (2019–2021) issued by the Forum on China-Africa Cooperation (FOCAC), China committed to providing 50,000 government scholarships to African students over three years, focusing on high-level talent development in infrastructure, information technology, agriculture, and public health. These initiatives are framed within official discourse as exemplary "South-South cooperation," emphasizing a capacity building philosophy of "teaching how to fish" – that is, empowering African nations through education to gradually reduce dependency on external aid and embark on a self-determined development path.

However, a widening gap exists between these grand policy narratives and the actual post-return experiences of graduates. A growing body of critical scholarship indicates that African students who complete their studies in China face systematic depreciation of their degrees in their home labor markets. This "recognition gap" is not merely a matter of employer unfamiliarity with Chinese universities; it reflects a deeper structural mismatch: the skill portfolios acquired by graduates often do not align with local industrial needs, and the professional knowledge gained in China is difficult to apply directly to local technological conditions, institutional environments, and cultural contexts. Moreover, although these graduates are expected to serve as "cultural bridges" between China and Africa, in practice they are often confined to translation or liaison roles, and their professional agency is severely undermined. This phenomenon is particularly pronounced in Ghana – a key node of the Belt and Road Initiative and China's third largest trading partner in Africa. Ghana receives a large number of Chinese scholarship students annually, yet its labor market's capacity to absorb these returnees falls far below expectations.

The above dilemma raises a fundamental educational question: Why does large-scale international educational cooperation undertaken in the name of "capacity building" produce, in practice, outcomes that resemble "capacity dependency" or even "capacity alienation"? Existing research has predominantly approached this issue from macro-level political economy or labor market segmentation perspectives. Alves (2023), for instance, notes that the employment preferences of Chinese firms in Africa create closed employment "enclaves," while Nordtveit (2011) emphasizes the marginal position of Chinese degrees within the global hierarchy of educational credentials. Nevertheless, these analyses tend to treat education as a "black box," overlooking the central mediating role of university pedagogy in the formation and transformation of capacity. In other words, we still lack a clear understanding of the following: What exactly did Ghanaian graduates learn in China? How were these bodies of knowledge and skills taught? To what extent did the curriculum and pedagogy match the needs of Ghana's local context? Are there systematic pedagogical biases that predetermine graduates' employment difficulties?

To address this research gap, this paper focuses on the long-neglected dimension of university pedagogy, pursuing three interrelated research questions:

1. Which pedagogical factors in the Chinese university learning experience of Ghanaian graduates facilitated or hindered the transfer of their knowledge to the Ghanaian context?

2. What causal relationships exist between graduates' employment difficulties (e.g., role marginalization, enclave employment) and pedagogical arrangements?

3. How can pedagogical reform enable Sino-African educational cooperation to genuinely achieve the goal of autonomous capacity building?

The central thesis of this paper is that the current capacity building dilemma in Sino-African educational cooperation is not an accidental "implementation deviation" but a systemic consequence of inherent deficiencies in the pedagogical system. The decontextualization of curricula, the transfer-blindness of instructional strategies, the absence of social capital cultivation, and the closure of evaluation systems jointly produce a cohort of graduates who are "high in skills but low in adaptability." Therefore, the way out of the dilemma lies not in increasing the number of scholarships or adjusting diplomatic rhetoric, but in a deep paradigmatic shift grounded in pedagogical reflection.

II. THEORETICAL FRAMEWORK

2.1 The Educational Dimension of Capacity Building: From Individual Skills to Systemic Transformation

Since the 1990s, "capacity building" has been widely used by international development agencies, but its meaning has evolved significantly. Early definitions by the United Nations Development Programme (UNDP) focused on institutional capacity, emphasizing a country's ability to plan, implement, monitor, and evaluate development policies. Subsequently, the concept of capacity building shifted downwards to the individual level, where education and training came to be seen as core instruments. However, this individualistic turn also

introduced a dangerous simplification: capacity was equated with quantifiable knowledge or skills, while the contextual adaptability, institutional support, and social networks required to translate that knowledge into actual development outcomes were neglected.

In educational scholarship, capacity building finds a more precise conceptual correlate in "empowerment" and "transformative learning." Mezirow (1991) argued that genuine learning involves not only content reflection but also process and premise reflection. If international education programs only teach "know-how" without guiding students to critically reflect on why a given practice works and how it might be adjusted in a different context, then upon returning to their home countries learners are prone to "knowledge shock" – a cognitive disconnect between what was learned and what is locally feasible.

This insight resonates strongly with knowledge transfer theory (Baldwin & Ford, 1988). The theory posits that training effectiveness depends on three factors: trainee characteristics (e.g., cognitive ability, self-efficacy), training design (e.g., similarity of content to work situations, variety of cases), and work environment (e.g., supervisor support, opportunities to apply learning). In the international education context, all three factors are inherently challenged: learners must traverse vast cultural and technological gaps; training design is typically benchmarked against the sending country's standards; and the work environment belongs to a completely different institutional ecology. Hence, knowledge transfer failure is not the exception but the norm.

2.2 A Dependency Perspective from Critical Pedagogy: Whose Capacity, Serving Whom?

If knowledge transfer theory provides a "technical" explanatory framework, critical pedagogy reveals the deeper power relations underlying capacity building. In his classic Pedagogy of the Oppressed, Freire (1970) criticized the "banking model of education" – in which educators deposit knowledge into passive students who are expected to receive it uncritically – for reproducing relations of cultural domination and center-periphery inequality.

Extending this perspective to Sino-African educational cooperation, we must ask: To what extent do the curricula that Chinese universities offer to African students reflect China's own development experience and technical standards? To what extent are students encouraged to critically examine those experiences and explore locally grounded alternatives? If teaching consistently takes the "Chinese solution" as the sole template, without guiding students to analyze the actual conditions and constraints of Ghana, the likely fate of these returnees is to become "local assistants" to Chinese capital rather than "change agents" for Ghana's autonomous development. This is precisely the echo of Dependency Theory (Frank, 1966) in the contemporary educational domain – education can become a mechanism for reproducing dependency rather than breaking it.

2.3 An Integrated Analytical Framework

Building on the theoretical resources reviewed above, this paper constructs an analytical framework with "pedagogy" as the central mediating variable. Figure 1 provides a visual representation of the sequential causal model that guides this study.

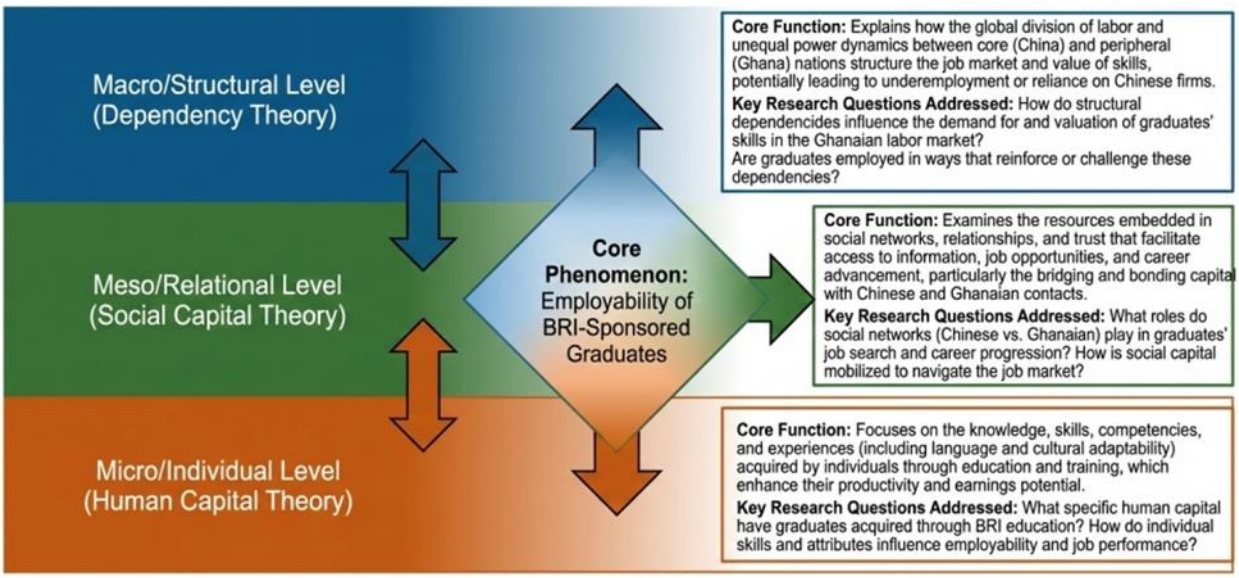

Figure 1. Theoretical Framework Flow

Within this framework, the effectiveness of capacity building in Sino-African educational cooperation depends on the quality of three pedagogical dimensions:

- Contextuality of curriculum content: To what extent does the content embed diverse development contexts? Does it include comparative analysis of conditions in the sending and receiving countries?

- Transfer-orientation of instructional strategies: Does teaching explicitly train students in knowledge transformation skills? Does it provide practice opportunities in simulated real-world settings?

- Social capital and identity construction: Does teaching help students build cross-cutting professional networks? Does it cultivate an identity as "knowledge agents" rather than "cultural tools"?

When systematic deviations occur in these three dimensions, graduates fall into what this study terms the "capacity building paradox" – they are technically well-trained, yet unable to transform that training into autonomous developmental capacity, instead becoming appendages of a dependent economic system

III. METHODOLOGY

3.1 Research Design and Case Selection

This study employs an explanatory sequential mixed-methods design (QUAN → qual). A survey was first administered to capture quantitative data on Ghanaian graduates' perceptions of their competencies and employment outcomes. Subsequently, semi-structured interviews and pedagogical document analysis were conducted to provide in-depth explanations of the patterns identified in the quantitative phase. Ghana was selected as a single case for the following reasons: Ghana receives among the largest numbers of Chinese government scholarship students in sub-Saharan Africa, and it possesses a relatively diversified labor market (including indigenous firms, multinational corporations, and foreign-invested enterprises), which provides an ideal setting for comparing capacity transfer outcomes across different employment contexts. Figure 2 shows the research locations within Ghana, focusing on the Greater Accra and Ashanti Regions – the epicenters of Ghanaian commerce and key nodes for Chinese investment.

Greater Accra (Accra)

Ashanti (Kumasi)

Figure 2. Map of Ghana Showing Research Locations

3.2 Population and Sampling

The target population consisted of two cohorts: BRI-sponsored Ghanaian graduates (n=225) and key informant stakeholders including employers and program administrators (n=25). Given the absence of a definitive registry of returnees, a multi-stage non-probability sampling strategy was employed, combining stratified purposive sampling (to ensure variation in field of study and graduation cohort) and snowball sampling (to reach respondents through trusted alumni networks). The dual-perspective sampling frame represents a significant methodological contribution: by intentionally recruiting from both the supply-side (graduates) and demand-side (employers) of the labor market, the study moves beyond one-sided accounts to capture the relational nature of employability.

3.3 Data Collection and Analysis

Quantitative data were collected between June and August 2025 through a self-administered survey of 225 Ghanaian graduates. All respondents completed their university studies in China between 2015 and 2024 with financial support from the Chinese government. The questionnaire comprised five dimensions: demographic characteristics, people-to-people communication competency, knowledge intelligence, Sino-Africa relationship

competency, and labor market alignment, all measured with five-point Likert scales. Scale items were adapted from validated instruments and piloted for cultural appropriateness.

Qualitative data were derived from semi-structured interviews (45–90 minutes each) with 20 graduates, five employers (including human resource managers from three Chinese firms and two Ghanaian indigenous firms), three program administrators of Sino-African educational programs, and two Ghanaian education policy advisors. In addition, the researcher collected 12 course syllabi and teaching plans from Chinese universities, provided by participating graduates, as supplementary materials for pedagogical analysis.

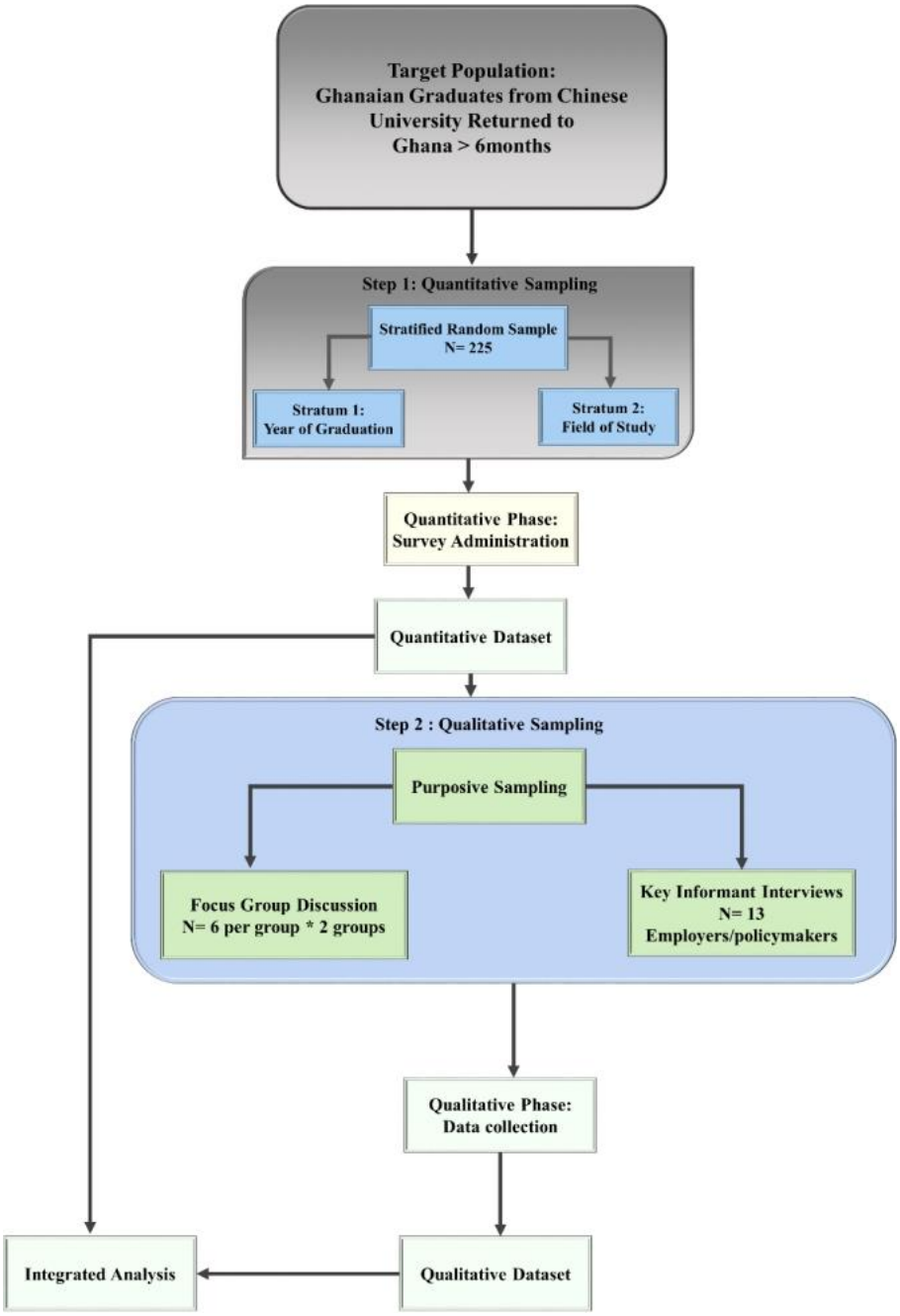

Figure 3. Visual Overview of Research Methodology

Quantitative data were analyzed using SPSS for descriptive statistics, independent-samples t-tests, and one-way ANOVA. Qualitative data were analyzed thematically using NVivo for coding and theme extraction. The pedagogical reflection was based on a line-by-line analysis of course objectives, teaching methods, assessment formats, and internship arrangements.

IV. FINDINGS: FOUR DIMENSIONS OF THE CAPACITY BUILDING DILEMMA

4.1 Demographic Profile of Respondents

The quantitative phase surveyed 225 Ghanaian graduates. The sample was 63.1% male and 36.9% female, with the majority holding Master's degrees (52.4%). Fields of study concentrated in Engineering/Technology (38.7%), Business/Management (23.1%), and IT/Computer Science (18.2%), reflecting strategic alignment with Ghana's infrastructure development needs. Mandarin proficiency was substantial, with 73.3% achieving at least intermediate level. Table 1 presents the demographic characteristics.

Table 1. Demographic Characteristics of Respondents

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	142	63.1
	Female	83	36.9
Highest Degree	Bachelor's	89	39.6
	Master's	118	52.4
	PhD/Doctorate	18	8.0
Field of Study	Engineering/Technology	87	38.7
	Business/Management	52	23.1
	IT/Computer Science	41	18.2
	Medicine/Health Sciences	24	10.7
	Other	21	9.3

Figure 4 shows the employment patterns of BRI-sponsored Ghanaian graduates, illustrating the concentration in Chinese-linked organizations.

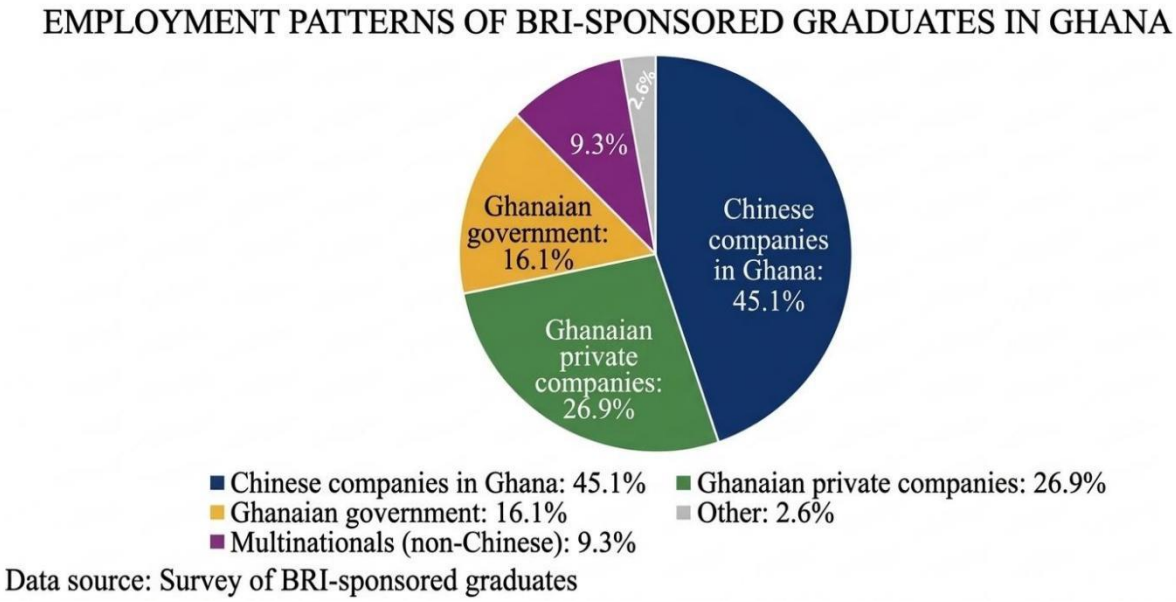

Figure 4. Employment Patterns of BRI-Sponsored Ghanaian Graduates

4.2 Knowledge Transfer Discontinuities: The Gap between Acquisition and Application

The survey data reveal a striking contrast: 88.4% of graduates believed they had acquired strong technical knowledge during their studies in China, yet only 58.2% felt confident applying that knowledge to Ghanaian work contexts, and an even smaller proportion (58.2%) reported introducing new ideas or techniques. This means that nearly one third of graduates, despite having performed well in the classroom, experienced "knowledge shock" upon returning home.

Table 3: Perceptions of Knowledge Intelligence Competency

Item	Mean (SD)	Agree/Strongly Agree (%)
D1: Acquired strong technical knowledge in China	4.38 (0.71)	88.4%
D2: Confident adapting knowledge to Ghanaian conditions	3.92 (0.96)	64.9%
D3: Introduced new ideas/techniques from China education	3.78 (1.08)	58.2%
D4: Face barriers due to infrastructure/resource differences	4.02 (0.89)	71.1%

Table 3 (presented below as part of Objective 2) provides the detailed perceptions of knowledge intelligence competency. The gap between skill acquisition (88.4%) and effective application (only 64.9% expressed confidence in adaptation, and just 58.2% reported introducing new ideas) is visualized in Figure 5, which represents what the study terms the "adaptation deficit."

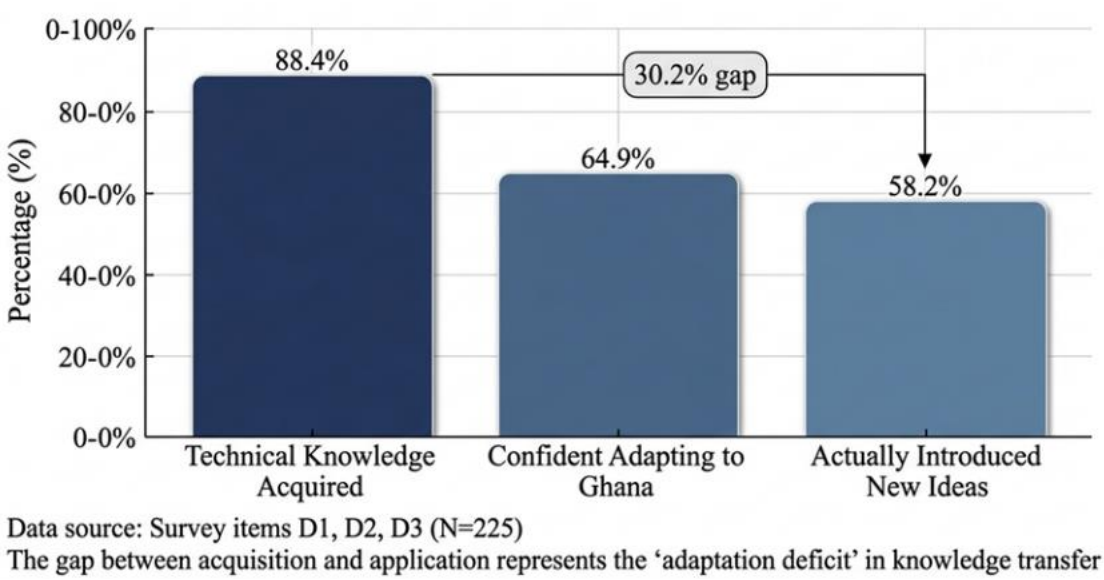

Figure 5. The Acquisition-Application Gap Among BRI-Sponsored Graduates

Correlation analysis revealed that successful adaptation was strongly associated with career advancement ($r=0.52$, $p<0.001$), while barriers correlated with confinement to Chinese-linked organizations ($r=0.41$, $p<0.001$).

A civil engineering graduate described the disconnect in detail: "In China, I learned to use advanced BIM software for structural design, and all construction standards were standardized. But when I returned to Ghana, the job sites I faced didn't even have stable electricity, and many material specifications were completely different from Chinese standards. I couldn't simply 'apply' what I had learned – I had to deconstruct it, reassemble it, and sometimes abandon it." An IT graduate used a vivid metaphor: "The solutions I learned to build in China assume infrastructure that doesn't exist yet in Ghana. Sometimes I feel like a Formula 1 driver asked to compete on dirt roads."

From a pedagogical perspective, the root of this dilemma lies in the decontextualization of curricula. Graduates widely reported that course content in Chinese universities was heavily anchored in Chinese technological conditions, legal frameworks, and business models. Case studies almost exclusively used Chinese enterprises or Chinese scenarios, with few involving African or Ghanaian contexts. One program administrator admitted, "Our syllabi are designed for Chinese students; international students simply 'join' the class, and we do not adjust the content for them."

4.3 Role Narrowing: From "Bridge" to "Walked-Upon Bridge"

More than 82% of Ghanaian graduates identified themselves as "bridges" between China and Ghana. While this self-perception reflects a sense of pride, it also signals a latent professional risk. The survey (see Table 2) found that 52.9% of graduates had experienced being pigeonholed as translators or cultural liaisons, and the proportion was even higher among those working in Ghanaian indigenous firms. Comparative analysis revealed significant differences by employment context: graduates in Chinese firms reported higher utilization of communication competencies ($M=4.43$) compared to those in Ghanaian firms ($M=3.98$, $p<0.001$), while those in Ghanaian firms reported stronger feelings of being pigeonholed ($M=3.89$ vs. 3.41, $p=0.005$).

Table 2: Perceptions of People-to-People Communication Competency

Item	Mean (SD)	Agree/Strongly Agree(%)
C1: Mandarin proficiency gives professional advantage	4.21 (0.87)	78.2%

C2: Understanding Chinese social norms builds trust	4.32 (0.76)	84.4%
C3: Frequently use cross-cultural communication skills	4.18 (0.83)	76.0%
C4: Challenges being "pigeonholed" as translator/cultural liaison	3.67 (1.12)	52.9%

A business administration graduate's testimony is particularly telling: "Being a bridge sounds noble, but bridges get walked on from both sides." Another graduate working for a Ghanaian firm was blunter: "My Chinese degree made me a 'high-level translator', not a manager. My boss is satisfied that I can understand Chinese contracts, but strategic decisions – those are theirs." A human resources manager at a Chinese firm corroborated: "The Ghanaian graduates from China… aren't just employees; they're connectors."

This role narrowing is not simply market discrimination; it is a continuation of identity-shaping biases embedded in pedagogical practices. In interviews, many graduates recalled that during their studies in China, they were repeatedly encouraged to act as cultural intermediaries – helping Chinese classmates understand African culture, participating in cross-cultural activities, even assisting university administrators in hosting visiting African delegations. These experiences were valuable in themselves, but the problem was that universities rarely simultaneously cultivated their identities as technical experts or development decision-makers.

4.4 Enclave Employment: Whose Capacity Does It Serve?

The most politically and economically significant finding of the survey is that 64.9% of graduates believe their career opportunities are primarily confined to Chinese-invested or Sino-Ghanaian joint ventures. Correlatively, only 28.4% of graduates felt that Ghanaian indigenous employers truly understand and recognize Chinese degrees, whereas 76.4% believed that their skills were better recognized by Chinese employers. This dual evaluative standard has produced a deep segmentation of the labor market – what this study terms "enclave employment."

Table 5. Perceptions of Labor Market Alignments and Mismatches

Item	Mean (SD)	Agree/Strongly Agree(%)
G1: Ghanaian employers understand and appreciate Chinese education	2.89 (1.14)	28.4%
G2: Skills better recognized by Chinese than Ghanaian employers	4.18 (0.87)	76.4%
G3: Career opportunities limited to Chinese-linked organizations	3.92 (1.02)	64.9%
G4: Good match between what I learned and what employers need	3.21 (1.12)	42.2%

Table 5 presents the perceptions of labor market alignments and mismatches.

A graduate who worked in both contexts explained: "When I interview with Chinese companies, they know my university… With Ghanaian companies, I spend half the interview explaining where I studied and why it's legitimate. It's two completely different conversations." A Ghanaian employer acknowledged: "I don't know how to evaluate a Chinese degree… So I fall back on what I know – UK, US, local universities. It's not fair, but it's reality." A policy analyst offered a critical perspective: "What concerns me is that we're creating a generation of Ghanaian professionals whose skills are optimized for serving Chinese capital, not for building indigenous Ghanaian capacity."

From a pedagogical perspective, the formation of enclave employment is closely tied to the "Chinese-capital orientation" of internship and career guidance. Many graduates reported that international student offices

in Chinese universities typically recommend internships with Chinese-invested enterprises, while rarely proactively contacting Ghanaian indigenous firms or international development organizations.

4.5 Leveraging Sino-Africa Relationship Competency

The survey also assessed how graduates leverage their understanding of bilateral dynamics. Table 4 presents these findings.

Table 4. Perceptions of Sino-Africa Relationship Competency

Item	Mean (SD)	Agree/Strongly Agree(%)
E1: See myself as "bridge" between Chinese and Ghanaian stakeholders	4.28 (0.79)	82.2%
E2: Understanding of Sino-Africa relations gives competitive advantage	4.05 (0.91)	72.4%
E3: Consciously leverage knowledge of bilateral dynamics	3.89 (0.98)	64.0%
E4: Employers specifically value my ability to navigate relationships	3.76 (1.06)	58.2%

While 82.2% identified as “bridges” and 72.4% saw this as a competitive advantage, gaps emerged between self-perception and employer recognition (58.2%). Significant sectoral variation was confirmed ($F(3,189)=12.47$, $p<0.001$), with graduates in Chinese firms reporting highest utilization ($M=4.31$) and those in Ghanaian private firms lowest ($M=3.42$). A business development manager described strategic deployment: “I understand what the Chinese side needs to hear… and what the Ghanaian side cares about… I can translate not just language but expectations.”

4.6 Summary of Key Findings

To synthesize the above, Table 2 through Table 5 collectively demonstrate a profound recognition gap dividing the labor market: skills valued in Chinese firms (76.4% recognition) are systematically undervalued in Ghanaian firms (28.4% appreciation), producing “enclave employability” where 64.9% feel opportunities confined to Chinese-linked organizations. The theoretical implications are visually summarized in Figure 6, which presents the conceptual model of BRI-sponsored graduate employability.

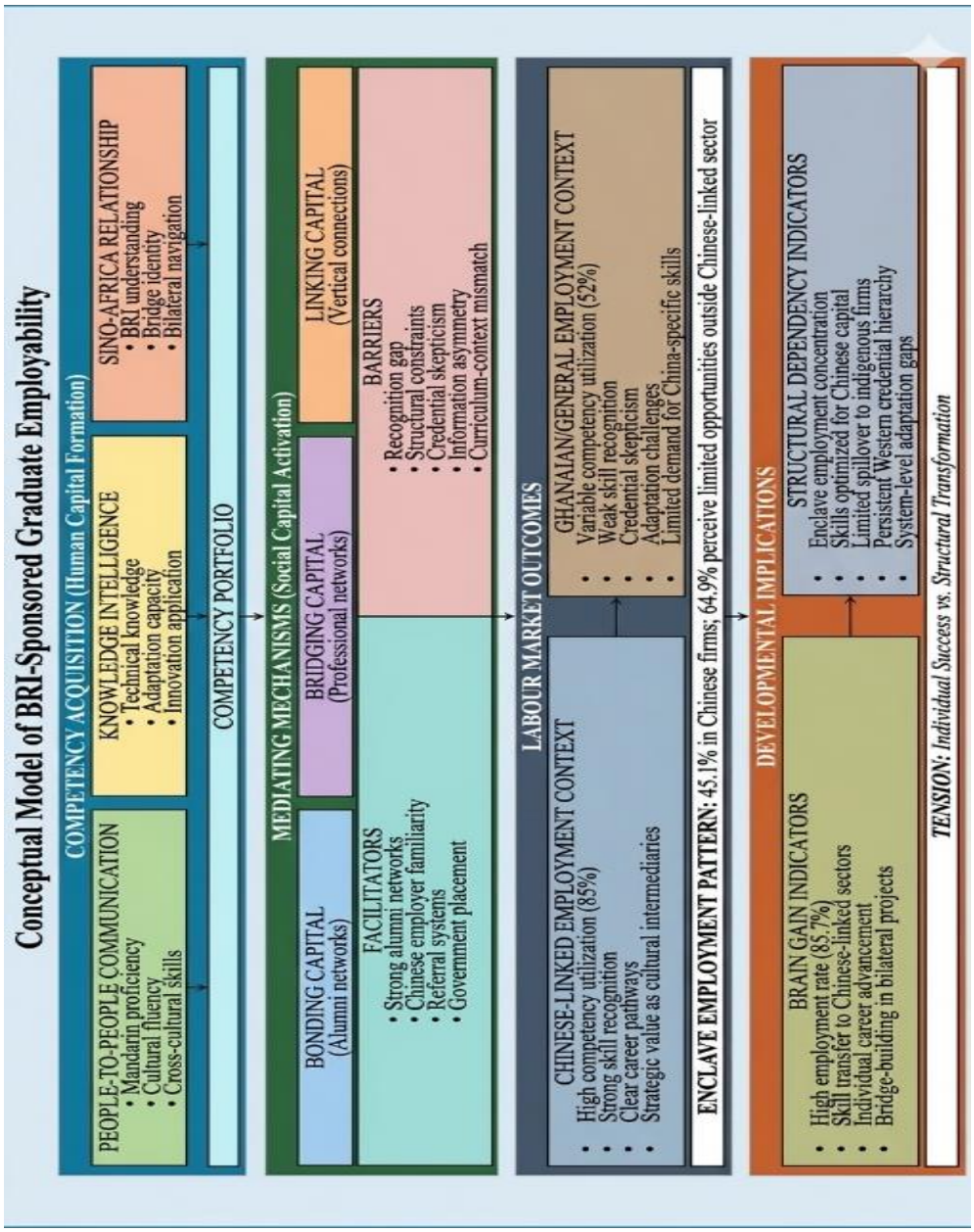

Figure 6. Conceptual Model of BRI-Sponsored Graduate Employability

V. DISCUSSION: HOW DOES PEDAGOGY PRODUCE THE CAPACITY BUILDING PARADOX?

The four dilemmas described above – knowledge transfer discontinuities, role narrowing, enclave employment, and dual evaluation standards – are not independent of each other; they are different facets of a systemic pedagogical bias. This section analyzes, from four dimensions (curriculum, pedagogy, evaluation, and institutional environment), how pedagogy produces the capacity building paradox.

5.1 Decontextualized Curricula and the "Adaptability Deficit"

The curricula that Chinese universities offer to international students are, for the overwhelming majority, identical to those offered to Chinese students, with only the language of instruction changed to English or supplemented with translation support. While this "parallel classroom" model is administratively convenient, it sacrifices contextual relevance. Engineering and technology courses are benchmarked against Chinese construction codes, grid standards, and communication protocols; business courses use Chinese corporate law, tax policies, and market case studies. For Ghanaian students who will work in a completely different institutional and technological environment, this curriculum amounts to navigating Accra with a map of Beijing.

More seriously, curricula rarely include explicit training in "knowledge transfer" itself. Students are required to master "how to solve problems under Chinese conditions," but they are never taught how to identify conditions under which those solutions would need to be rewritten. This pedagogical blind spot directly produces the "adaptability deficit" – graduates possess abundant knowledge but lack the methodology to transform that knowledge into locally feasible solutions. Figure 5 vividly captures this acquisition-application gap.

5.2 The Banking Model of Pedagogy and the Absence of Agency

Freire's (1970) "banking model of education" remains widespread in international classrooms in Chinese universities. Many graduates described their learning experiences as predominantly lecture-based, with limited opportunities for classroom discussion, project-based learning, and critical analysis. While this pedagogical mode is efficient for transmitting standardized content, it is not conducive to cultivating critical thinking and problem-reframing skills – precisely the skills required for knowledge transfer.

More importantly, this pedagogy implicitly reinforces the student's identity as a "receiver" rather than a "knowledge agent." Students become habituated to treating the Chinese teacher's input as authoritative and unquestionable, and they are rarely encouraged to examine the applicability of that knowledge in their own countries. One graduate reflected, "At the time, it never occurred to me to ask, 'Would this method work in Ghana?' because we were taught to trust the answers given by teachers. Only after returning and hitting barriers did I realize that what I needed to learn was not answers, but the ability to ask new questions."

5.3 Absence of Social Capital Cultivation and Network Homogenization

Social capital theory tells us that employment opportunities depend not only on human capital but also on the social networks in which individuals are embedded. For Ghanaian students in China, the natural social networks that form include three components: classmates (mostly other international students, especially Africans), Chinese faculty and alumni, and employees of Chinese enterprises encountered during internships. However, universities seldom systematically help international students build "bridging social capital" – that is, weak ties that connect different groups and bridge different worlds. Notably absent are ties to Ghanaian indigenous industry, government agencies, and development organizations.

This structural bias in social capital formation means that graduates naturally gravitate toward job searching in Chinese-invested enterprises upon return, because that is the only employment ecosystem they know. They lack knowledge of how to reach decision-makers in Ghanaian indigenous firms and have not established connections with indigenous professional associations. In other words, the pedagogical system fails to accomplish a basic task: helping students "take with them" a portable social network that can be activated upon return. Figure 4 provides empirical evidence of this network-driven employment concentration.

5.4 Closed Evaluation Systems and the Recognition Dilemma

The problem with the evaluation system is its closure and one-way nature. Chinese universities' evaluation of international students is based solely on internal Chinese quality standards, without any articulation with Ghana's education system or transparency to Ghanaian employers. Graduates return with only a diploma and a transcript, but these documents are "illegible" to Ghanaian employers. By contrast, Western education systems

have, through long-term brand building, ranking systems, and alumni networks, established globally recognizable quality signaling mechanisms. Chinese universities have not yet accomplished this work. Table 5 starkly illustrates the recognition gap: only 28.4% of graduates felt Ghanaian employers appreciate Chinese education, while 76.4% reported better recognition by Chinese employers.

VI. PATHWAYS TO PEDAGOGICAL REFORM: FROM "SKILL DELIVERY" TO "GENUINE CAPACITY BUILDING"

In response to the above systemic biases, this paper proposes four interrelated pathways to pedagogical reform. These reforms do not constitute piecemeal technical fixes; they represent a methodological turn centered on pedagogical reflection.

6.1 Curriculum Reconfiguration: From "Chinese Standard" to "Situated Transfer"

Curriculum content must move from a "single-context" to a "multiple-context comparative" approach. Specifically, every technical or management course should include at least one Ghanaian or African case study, enabling students to identify boundary conditions and transfer strategies through comparison. For example, in a project management course, the instructor could present simultaneously a case of Chinese high-speed rail project management and a real-world Ghanaian road project with its actual constraints (unstable funding, unreliable supply chains), guiding students to discuss which practices can be directly transferred, which require adaptation, and which must be abandoned. This "situated teaching" approach teaches not only knowledge but also "the use of knowledge."

Dedicated modules on "knowledge intelligence" should be developed to systematically train students' transfer capabilities. Such modules could include: identifying implicit assumptions on which knowledge depends, analyzing key differences in target contexts, and reconstructing solution frameworks. These skills should not be treated as "soft skills" or "supplementary content" but should be integrated into the core curriculum.

6.2 Pedagogical Transformation: Cultivating Critical Reflection and Agentive Identity

Pedagogy must shift from the "banking model" to "inquiry-based" and "reflective" modes. Classroom discussion, project-based learning, case-based instruction, and other active learning methods should become the norm rather than the exception. Crucially, instructors should encourage students to engage in metacognitive reflection on their own learning processes – not only "what have I learned?" but also "under what conditions does this knowledge hold?" and "how would I modify it if conditions change?"

Simultaneously, teaching should actively cultivate students' identity as "development agents" rather than merely "cultural bridges." Instructors can invite successful alumni from Africa to share how they used knowledge acquired in China to innovate and start businesses in their home countries, thereby broadening students' professional imaginations. Course assignments could require students to design a technical or business solution that serves an indigenous Ghanaian need, rather than replicating a Chinese case.

6.3 Social Capital Construction: Building Diversified Employment Networks

Universities must go beyond the single channel of "internships in Chinese-invested enterprises" and systematically construct diversified social capital for international students. Concrete measures include: establishing internship partnerships with Ghanaian indigenous firms; inviting Ghanaian government officials and industry leaders to give lectures on campus; facilitating student involvement in international development agencies (e.g., UNDP, African Development Bank); and creating alumni mentoring programs that connect current students with graduates already working across different sectors in Ghana.

Furthermore, universities should teach international students "social capital management" skills – how to build and maintain professional networks, how to conduct informational interviews, and how to leverage social media (e.g., LinkedIn) to expand career opportunities. These skills are rarely mentioned in formal curricula, yet they are critical to graduates' employment success.

6.4 Evaluation and Credentialing Reform: Breaking the "Black Box" Dilemma

A competency recognition system that is "open and transparent" to Ghanaian employers must be established. Specific recommendations include: developing a "graduate competency portfolio" that, in addition to transcripts, includes course project portfolios, internship certificates, and qualitative faculty assessments of the graduate's knowledge transfer capabilities; promoting credit transfer and joint degree programs between Chinese and Ghanaian universities, thereby involving Ghanaian education authorities in quality assurance; and regularly hosting "China education fairs" and "graduate competency showcases" in Ghana, enabling employers to directly engage with graduates and reduce information asymmetry.

In the longer term, Sino-African educational cooperation should consider establishing a "two-way recognition mechanism for capacity building" – that is, Chinese and African universities co-designing curricula and co-granting degrees or certificates, making the training process itself a transnational quality mutual recognition process.

VII. CONCLUSION

Based on a systematic survey of 225 Ghanaian graduates, this study reveals a troubling paradox in Sino-African educational cooperation: a large-scale scholarship program pursued in the name of "capacity building" has, in practice, produced a cohort of graduates who are "high in skills but low in adaptability" and trapped in the enclaves of Chinese-invested enterprises. This paradox is not accidental; it is a systemic consequence of inherent deficiencies in the pedagogical system. The decontextualization of curricula, the banking model of pedagogy, the absence of social capital cultivation, and the closure of evaluation systems jointly result in graduates' knowledge failing to transfer to local contexts, their professional agency being narrowed to cultural intermediary roles, and their career opportunities being confined to enclaves dominated by external capital.

These findings have profound policy implications for the future development of Sino-African educational cooperation. First, they remind us that the effectiveness of educational cooperation cannot be measured solely by "how many people obtained degrees"; we must track graduates' post-return knowledge transfer outcomes and employment quality. Second, they show that simply increasing the number of scholarships without reforming pedagogical content and methods may paradoxically reinforce dependent development. Genuine capacity building should enable graduates to become agents of their own country's development, capable of critically absorbing external knowledge and transforming it into locally grounded solutions.

For universities, this means assuming the responsibility of pedagogical reflection. Instructors cannot be satisfied with merely "covering the prescribed content"; they must constantly ask: What does this course mean for students from a completely different social background? How will they use what they learn today to solve tomorrow's local problems? Are we cultivating replicators or transformers? These questions have no simple answers, but if they are not asked, Sino-African educational cooperation will remain at the level of superficial prosperity and illusion.

Several limitations of this study should be acknowledged. First, the single-case design limits the generalizability of findings to other African countries; multi-country comparative research is needed. Second, the cross-sectional data cannot capture graduates' long-term career trajectories; longitudinal follow-up studies are essential. Third, the study relies primarily on graduates' self-reports; future research should incorporate employer assessments of graduates' actual job performance to gain a more comprehensive picture. Despite these limitations, the core conclusion of this study is robust: pedagogy is the long-overlooked critical variable in Sino-African educational cooperation, and the starting point for overcoming the capacity building dilemma is pedagogical reflection.

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