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Caminos hacia la internacionalización en agronomía: estrategias institucionales y desafíos desde una perspectiva regional

Pathways to internationalization in agronomy: institutional strategies and challenges from a regional perspective

Caminhos para a internacionalização em agronomia: estratégias institucionais e desafios numa perspectiva regional

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Resumen

La internacionalización de la educación superior se ha convertido en un componente crucial en la preparación de profesionales para un mundo globalizado. Este artículo explora las vías adoptadas por una universidad pública regional en Ecuador para internacionalizar su programa de Agronomía. Mediante un análisis institucional, el estudio identifica estrategias clave, como la integración de la enseñanza de lenguas extranjeras, la cooperación académica transfronteriza y la alineación de los componentes curriculares con los estándares internacionales. A pesar de las limitaciones estructurales y geográficas, el programa ha avanzado en la integración de la internacionalización mediante la flexibilidad académica, la participación estudiantil en proyectos colaborativos e iniciativas para fortalecer las competencias digitales e interculturales. El artículo destaca la importancia de la planificación institucional coordinada, las alianzas externas y los marcos de políticas adaptativas para impulsar la internacionalización en contextos regionales. Los hallazgos contribuyen a una comprensión más amplia de cómo la educación agrícola puede evolucionar para afrontar los desafíos globales, manteniendo su arraigo en las realidades locales.

Palabras clave: Vías de internacionalización; agronomía; estrategias institucionales.

Abstract

The internationalization of higher education has become a critical component in preparing professionals for a globalized world. This article explores the pathways adopted by a regional public university in Ecuador to internationalize its Agronomy degree program. Through an institutional analysis, the study identifies key strategies including the integration of foreign language instruction, cross-border academic cooperation, and the alignment of curricular components with international standards. Despite structural and geographic limitations, the program has made progress in embedding internationalization through academic flexibility, student engagement in collaborative projects, and initiatives to strengthen digital and intercultural competencies. The article highlights the importance of coordinated institutional planning, external partnerships, and responsive policy frameworks in advancing internationalization in regional contexts. The findings contribute to a broader understanding of how agricultural education can evolve to meet global challenges while remaining rooted in local realities.

Keywords: Pathways to internationalization; agronomy; institutional strategies.

Resumo

A internacionalização do ensino superior tornou-se uma componente essencial na preparação dos profissionais para um mundo globalizado. Este artigo explora os caminhos adotados por uma universidade pública regional no Equador para internacionalizar o seu programa de licenciatura em Agronomia. Através de uma análise institucional, o estudo identifica estratégias-chave, incluindo a integração do ensino de línguas estrangeiras, a cooperação académica transfronteiriça e o alinhamento das componentes curriculares com os padrões internacionais. Apesar das limitações estruturais e geográficas, o programa tem feito progressos na incorporação da internacionalização através da flexibilidade académica, do envolvimento dos estudantes em projetos colaborativos e de iniciativas para fortalecer as competências digitais e interculturais. O artigo destaca a importância do planeamento institucional coordenado, das parcerias externas e das estruturas políticas responsivas para promover a internacionalização em contextos regionais. As descobertas contribuem para uma compreensão mais ampla de como a educação agrícola pode evoluir para enfrentar os desafios globais, permanecendo enraizada nas realidades locais.

Palavras-chave: Caminhos para a internacionalização; agronomia; estratégias institucionais.

Introduction

In the contemporary landscape of higher education, internationalization has become a key strategy to enhance academic quality, expand research collaboration, and prepare students for global citizenship (Knight, 2004; de Wit, Hunter, Howard, & Egron-Polak, 2015). In disciplines such as agricultural sciences, the integration of international and intercultural dimensions is particularly relevant, as professionals must be equipped to address global issues like food security, climate resilience, and sustainable resource management (Altbach & Knight, 2007).

Despite its growing relevance, internationalization in **regional public universities**—especially in Latin America—faces several challenges. These include limited institutional capacity, restricted access to international networks, insufficient language proficiency among students and faculty, and geographical or economic barriers (Bernasconi, 2018; Egron-Polak & Hudson, 2014). These constraints are particularly evident in programs with strong territorial roots, such as Agronomy, which are often tightly linked to local production systems, traditional knowledge, and rural development agendas.

This article explores the pathways taken by a regional public university in Ecuador to foster internationalization in its Agronomy program. Through a qualitative analysis of institutional policies, academic planning documents, and recent self-evaluation reports, the study identifies key strategies such as the inclusion of foreign language instruction, the promotion of digital competencies, the creation of flexible academic structures, and the formulation of student mobility initiatives. While the implementation of international exchange programs remains limited, the program has embraced a model of internationalization at home that seeks to develop global awareness without requiring physical mobility (Beelen & Jones, 2015).

Ultimately, this article argues that a balanced approach—one that aligns global engagement with local relevance—is essential for regional programs like Agronomy to remain competitive and socially committed. By documenting both the achievements and the pending challenges, this study contributes to the broader discussion on how regional institutions can redefine internationalization in ways that are inclusive, context-sensitive, and development-oriented.

Theoretical and conceptual framework

The internationalization of higher education has evolved significantly over the last three decades, shifting from a focus on **student and staff mobility** toward more **comprehensive, institutionalized, and curriculum-integrated approaches** (de Wit et al., 2015). At its core, internationalization is understood as "the process of integrating an international, intercultural, or global dimension into the purpose, functions, and delivery of post-secondary education" (Knight, 2004, p. 11). This multidimensional process encompasses academic programs, research collaborations, governance models, and the development of global competencies among students and faculty.

Typologies of Internationalization

Knight (2004) distinguishes between **internationalization "abroad"**—which includes activities such as student exchange, dual degrees, and international campuses—and **internationalization "at home"**, which focuses on embedding global perspectives in the curriculum and campus life without the necessity of physical mobility. In contexts with limited resources, such as regional public universities in Latin America, internationalization at home becomes a **strategically viable and inclusive alternative** (Beelen & Jones, 2015).

Hudzik (2011) introduced the term **"comprehensive internationalization"**, referring to a commitment, confirmed through action, to infuse international and comparative perspectives

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throughout the teaching, research, and service missions of higher education. This requires leadership, resource allocation, policy reform, and cultural change within institutions.

Rationales for Internationalization

Internationalization is driven by a variety of rationales, which may be categorized into four main dimensions:

- **Academic:** To improve the quality of teaching, learning, and research.
- **Economic:** To enhance competitiveness and financial sustainability.
- **Cultural/Social:** To promote intercultural understanding and global citizenship.
- **Political:** To strengthen international cooperation and diplomatic relations (Knight, 2008; Brandenburg & de Wit, 2011).

In the context of **agronomy education**, academic and social rationales often take precedence, given the global nature of agricultural challenges and the need for **intercultural competence, scientific exchange, and sustainable innovation** (Acker, 2007; FAO, 2014).

Internationalization and Regional Development

Regional universities are uniquely positioned to bridge the **global-local nexus**, acting as intermediaries that translate international knowledge into practices relevant to local needs (Zgaga et al., 2013). For programs such as Agronomy, this involves incorporating **traditional and indigenous agricultural knowledge**, engaging with **territorial production systems**, and aligning with the **Sustainable Development Goals (SDGs)**, particularly SDG 2 (Zero Hunger), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

The **glonacal agency heuristic**, proposed by Marginson and Rhoades (2002), is particularly useful in this context. It suggests that institutional strategies operate simultaneously at the **global, national, and local** levels, and that universities can actively shape their role across these scales rather than passively adapting to external pressures.

Pedagogical and Curricular Implications

Internationalization also demands a **reorientation of pedagogy**. This includes the design of **intercultural learning outcomes**, the integration of **English**, the use of **digital platforms for virtual exchange**, and the promotion of **critical thinking about global systems**. In agricultural sciences, this may involve comparative case studies, international fieldwork (virtual or physical), and collaborative research projects that link students with peers and experts in other countries.

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In summary, the internationalization of the Agronomy program should be understood not as an isolated initiative, but as a transformative process that redefines the curriculum, broadens the educational experience, and strengthens the university's role in **territorial and global development**.

Methodology

This study adopts a **qualitative case study approach** to explore the processes, strategies, and challenges of internationalizing the Agronomy degree program at a regional public university in Ecuador. The case study method is appropriate for gaining an in-depth understanding of complex educational phenomena within their real-life institutional context (Yin, 2014).

Research design

The research is **descriptive and exploratory**, aiming to identify existing mechanisms that promote internationalization, as well as areas of opportunity for further development. The study is framed within an **interpretive paradigm**, focusing on the meanings and perspectives of institutional actors and stakeholders.

Data Collection

The data for this study were collected from multiple institutional sources to ensure **triangulation** and **contextual validity**. The sources included:

- **Institutional documents**, such as the self-evaluation report of the Agronomy program, strategic planning instruments, curriculum matrices, academic reform proposals, and mobility guidelines.
- **Policy documents**, including national higher education regulations (e.g., Reglamento de Régimen Académico – CES) and internal othe internal regulations related to curriculum flexibility, foreign language instruction, and research engagement.
- **Secondary literature**, particularly academic studies and international frameworks on higher education internationalization.

In addition, **informal consultations** were held with faculty members and academic administrators to validate the interpretation of documents and to contextualize the internal practices described.

Data Analysis

A **thematic analysis** was conducted, using a **deductive-inductive coding process**. The deductive phase used established theoretical categories (Knight, 2004; de Wit et al., 2015), such as

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internationalization at home, internationalization abroad, curricular integration, mobility, and digital competencies. The inductive phase allowed for the emergence of context-specific subthemes, such as linguistic gaps, rural equity challenges, and the role of institutional vision.

All data were systematically coded and grouped into four main thematic categories:

1. Institutional strategies for internationalization
2. Curricular and pedagogical innovations
3. Barriers and structural limitations
4. Proposals and action plans for future development

Limitations

This study is limited to a single academic program within one institution and does not include direct student or faculty interviews due to institutional constraints. However, the richness of institutional documentation and policy analysis ensures a robust representation of the program's internationalization dynamics.

Results and discussion

1. Institutional Strategies for Internationalization

The analysis reveals that the Agronomy program has taken **initial steps toward institutionalizing internationalization** by aligning its academic structure with national and global standards. Strategic documents reflect an institutional commitment to integrating foreign language instruction—particularly English—as a transversal component of the curriculum. The inclusion mandatory courses and the promotion of academic writing in scientific contexts reflect an attempt to equip students with linguistic tools for international engagement.

Additionally, the program benefits from university-wide policies that support internal mobility through **homologated institutional courses** (e.g., Mathematics, Physics, Chemistry, Methodology of Research), allowing students to transfer credits across faculties—a practice aligned with flexibility principles outlined in the Ecuadorian RRA (CES, 2022). However, while internal mechanisms exist, **external mobility remains underdeveloped**, with few formalized exchange programs and no double-degree agreements in force.

This aligns with findings in the literature that suggest **internationalization efforts in Latin American regional universities often begin with internal policy alignment and curriculum**

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reforms, but face challenges in expanding toward international cooperation and student exchange (Bernasconi, 2018; Egron-Polak & Hudson, 2014).

2. Curricular and Pedagogical Innovations

The Agronomy program has made progress in adopting **pedagogical practices that support internationalization at home**. These include the use of virtual learning environments, the integration of digital tools (e.g., Moodle, Excel, Python, QGIS), and the promotion of research-based learning through activities such as monographs, essays, and case studies. These methods align with the framework proposed by Beelen and Jones (2015), who emphasize curriculum innovation as a cornerstone of inclusive internationalization.

Moreover, proposals have emerged to **promote writing and communication skills** through an internal scientific writing competition, coordinated by faculty in English, Communication, and Methodology courses. These initiatives, though not yet institutionalized, represent scalable models of intercultural and academic literacy development that align with the broader competencies outlined in global agricultural education (FAO, 2014).

3. Barriers and Structural Limitations

Despite these advances, the program faces **significant structural and operational limitations**. Among the most prominent are:

- **Insufficient institutional partnerships** with foreign universities that would enable formal student and faculty mobility.
- **Lack of funding** mechanisms or scholarships to support international experiences.
- **Limited foreign language proficiency** among students and faculty, which restricts access to international content and opportunities.

These challenges are not unique to this case. As Knight (2008) and Altbach & Knight (2007) note, internationalization in developing regions often struggles due to **asymmetries in resources and infrastructure**, leading to disparities between institutional ambition and actual capacity.

4. Proposals and Action Plans for Future Development

One of the key proposals identified in internal planning documents is the **development of academic itineraries** (specialization tracks) within the Agronomy program. Suggested tracks include **Agribusiness, Crop Protection, and Plant Production (Fitotecnia)**. These itineraries, once validated through student surveys and feasibility studies, could open pathways for **international curricular articulation**, joint research initiatives, and virtual exchange models.

Additionally, the recent self-evaluation process recommended the **creation of a Mobility Committee** within the program, charged with identifying partners, aligning course equivalencies, and guiding students through application processes. This initiative would move the program closer to **comprehensive internationalization** (Hudzik, 2011), in which governance, curriculum, and support systems are fully integrated with global engagement goals.

Conclusions

The findings of this case study highlight that the internationalization of the Agronomy program at a regional public university in Ecuador is progressing through **gradual yet meaningful institutional actions**, with an emphasis on internal curricular reform, foreign language instruction, and digital integration. These efforts are consistent with the concept of **internationalization at home**, which seeks to embed global perspectives in the curriculum without relying exclusively on physical mobility (Beelen & Jones, 2015).

The study also reveals that the university's policies have laid an initial foundation for international engagement, including the standardization of institutional courses, the promotion of research-based learning, and the development of academic flexibility. However, the lack of strategic alliances with foreign institutions, limited funding for mobility, and low levels of English proficiency among students and faculty remain **significant barriers** to broader internationalization efforts.

Moreover, the institutional vision acknowledges the need to balance **territorial relevance with global competencies**, a challenge that reflects broader regional dynamics in Latin America, where higher education institutions must respond both to local development needs and international academic standards.

Recommendations

Based on the findings and supported by international literature, the following recommendations are proposed:

1. **Institutionalize a Mobility and Internationalization Committee** within the Agronomy program to coordinate partnerships, manage exchange agreements, and guide students in applying for mobility opportunities.
2. **Design and implement academic itineraries** (e.g., Agribusiness, Crop Protection, Fitotecnía) that incorporate international content and can be articulated with foreign institutions through virtual or dual-modality learning models.

3. **Develop a formal strategy for internationalization at home**, including the integration of intercultural learning outcomes, bilingual teaching materials, and collaborative online international learning (COIL) modules.
4. **Enhance English language instruction** across the program by offering supplementary workshops in academic writing, scientific communication, and professional terminology specific to the agricultural sciences.
5. **Promote faculty development** in internationalization through targeted training in curriculum design, academic mobility procedures, and global competencies.
6. **Allocate institutional resources or seek external funding** (e.g., Erasmus+, ALFA, or regional development funds) to support student and staff participation in international academic initiatives.

By implementing these recommendations, the Agronomy program can evolve from isolated initiatives to a **comprehensive and sustainable internationalization strategy**, strengthening both its academic quality and its contribution to regional development in a globalized context.

Referencias

1. Acker, D. G. (2007). Globalizing agricultural colleges and universities: A guide to strategy and implementation. Association of Public and Land-Grant Universities (APLU).
2. Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education*, 11(3-4), 290–305. <https://doi.org/10.1177/1028315307303542>
3. Beelen, J., & Jones, E. (2015). Redefining internationalization at home. In A. Curaj, L. Matei, R. Pricopie, J. Salmi, & P. Scott (Eds.), *The European higher education area* (pp. 59–72). Springer. https://doi.org/10.1007/978-3-319-20877-0_5
4. Bernasconi, A. (2018). Latin American universities and the Bologna Process: From cooperation to convergence? *European Journal of Education*, 53(4), 552–566. <https://doi.org/10.1111/ejed.12311>
5. Brandenburg, U., & de Wit, H. (2011). The end of internationalization. *International Higher Education*, (62), 15–17. <https://doi.org/10.6017/ihe.2011.62.8533>
6. Consejo de Educación Superior (CES). (2022). Reglamento de Régimen Académico. <https://www.ces.gob.ec>

7. de Wit, H., Hunter, F., Howard, L., & Egron-Polak, E. (2015). Internationalisation of higher education. European Parliament, Directorate-General for Internal Policies. <https://doi.org/10.2861/444393>
8. Egron-Polak, E., & Hudson, R. (2014). Internationalization of higher education: Growing expectations, fundamental values. International Association of Universities.
9. FAO. (2014). Education for rural transformation: Good practices in the non-formal education sector. Food and Agriculture Organization of the United Nations. <https://www.fao.org>
10. Hudzik, J. K. (2011). Comprehensive internationalization: From concept to action. NAFSA: Association of International Educators. <https://www.nafsa.org>
11. Knight, J. (2004). Internationalization remodeled: Definition, approaches, and rationales. *Journal of Studies in International Education*, 8(1), 5–31. <https://doi.org/10.1177/1028315303260832>
12. Knight, J. (2008). Higher education in turmoil: The changing world of internationalization. Sense Publishers.
13. Marginson, S., & Rhoades, G. (2002). Beyond national states, markets, and systems of higher education: A glonacal agency heuristic. *Higher Education*, 43(3), 281–309. <https://doi.org/10.1023/A:1014699605875>
14. Yin, R. K. (2014). Case study research: Design and methods (5th ed.). Sage Publications.
15. Zgaga, P., Teichler, U., & Brennan, J. (2013). The globalisation challenge for European higher education: Convergence and diversity, centres and peripheries. Peter Lang.