

Internationalization as a strategy to promote student persistence: the state of knowledge supported by artificial intelligence

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Abstract

This article addresses the theme of internationalization as a strategy for student retention and academic success in higher education in scientific journals, published in the Scopus and Lens databases, over the last five years. This a qualitative and exploratory study, using bibliographical research, of the state of knowledge type, to map the analysis of scientific publications. Furthermore, the use of ChatGPT, with human validation, for the organization, categorization, analysis and presentation of data is innovative. The results point to confirmation of this relationship with emphasis on the categories Stress and academic adaptation; Impact of studying abroad; Motivation and learning in international contexts and Education in refugee contexts. In general, the articles study not only positive factors, but also challenges to be resolved so that internationalization becomes a strategy for student retention and academic success.

Keywords: State of knowledge. Student persistence. Internationalization of education. Artificial intelligence.

Internacionalização como estratégia para a permanência estudantil: o estado do conhecimento com apoio da inteligência artificial

Resumo

O presente artigo aborda a temática da internacionalização como estratégia para a permanência estudantil e o sucesso acadêmico na educação superior em periódicos científicos, publicados nas bases Scopus e Lens, nos últimos cinco anos. É um estudo de abordagem qualitativa e exploratória, fazendo

uso de pesquisa bibliográfica, do tipo estado do conhecimento, para o mapeamento de análise das publicações científicas. Ademais, tem como caráter inovador o uso do ChatGPT, com validação humana, para a organização, categorização, análise e apresentação dos dados. Os resultados apontam para a confirmação dessa relação com destaque para as categorias Estresse e adaptação acadêmica; Impacto do estudo no exterior; Motivação e aprendizagem em contextos internacionais e Educação em contextos de refugiados. De uma forma geral, os artigos estudam não só fatores positivos, mas também desafios a serem resolvidos para que a internacionalização constitua-se em uma estratégia de permanência estudantil e sucesso acadêmico.

Palavras-chave: Estado do conhecimento. Permanência estudantil. Internacionalização da educação. Inteligência artificial.

La internacionalización como estrategia para promover la permanencia estudiantil: el estado del conocimiento con apoyo de la inteligencia artificial

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Resumen

Este artículo aborda el tema de la internacionalización como estrategia para la retención de estudiantes y el éxito académico en la educación superior en revistas científicas, publicadas en las bases de datos Scopus y Lens, en los últimos cinco años. Es un estudio con enfoque cualitativo y exploratorio, que utiliza la investigación bibliográfica, del tipo estado del conocimiento, para mapear el análisis de publicaciones científicas. Además, es innovador el uso de ChatGPT, con validación humana, para la organización, categorización, análisis y presentación de los datos. Los resultados apuntan a la confirmación de esta relación con énfasis en las categorías Estrés y adaptación académica; Impacto de estudiar en el extranjero; Motivación y aprendizaje en contextos internacionales y Educación en contextos de refugiados. En general, los artículos estudian no sólo factores positivos, sino también desafíos a resolver para que la internacionalización se convierta en una estrategia de permanencia estudiantil y éxito académico.

Palabras clave: Estado del conocimiento. Permanencia estudiantil. Internacionalización de la educación. Inteligencia artificial.

Introduction

Student persistence is a topic of paramount importance for educational institutions and has been gaining space in recent years, given that, in literature, the most used perspective is school evasion. In the same vein, there is the internationalization of higher education that, in Brazil, has been gaining strength from the globalization processes of the end of the last century.

Such themes are commonly addressed separately, but we propose, in this article, internationalization as an opportunity to increase student persistence and success in higher education. In this sense, Kohls-Santos (2020, 2021, 2022, 2024) presents internationalization as a variable key of the Integrationist Model for Student Persistence and Academic Success (MIPESA). This model proposes internationalization actions beyond academic mobility, considering virtual and in person mobility, in complementarity with other forms such as Internationalization at Home (IaH) and Internationalization of the Curriculum (IoC).

Figure 1 – Integrationist Model for Student Persistence and Academic Success



Source: Kohls-Santos (2024).

According to Tinto (1987, 2017, 2020), student persistence is directly related to the social and academic integration of students. The author presents

five factors that help in student persistence, namely: student expectations, social and academic support, issues related to learning, assessment and feedback, academic involvement and interaction, and administrative actions (Tinto, 2017, 2020).

In the same vein, Kohls-Santos (2020, 2022) presents four essential factors to organize actions aimed at persistence, namely: institutional management, teaching practice, student dedication and course quality. In addition, it presents as essential the joint work between the institutional actors – teachers, students, managers and other educators –, who are co-responsible for the process of student persistence and academic success.

It is important to emphasize that, from the perspective of this work, student persistence is not considered synonymous with academic success, since academic success

[...] is linked to the completion of the studies by the student, but it goes beyond, it contemplates the practical application of the concepts learned throughout their formation, contributing to the exercise of their profession and to the development of the citizen in the personal, professional and social sphere (Kohls-Santos, 2022, p. 5).

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One of the important contributions to academic persistence and success is the quality in which internationalization must be included, considered one of its main constitutive criteria. But internationalization cannot be restricted to the cross-border conception (mobility) of common sense, which implies the student's in person displacement to another country, so that it acquires significance (Mentges; Morosini, 2023). Other ways of internationalizing an institution are identified (Morosini; DallaCorte, 2021, 2023) as the Internationalization of the Curriculum (IoC) (Leask, 2009), Internationalization at Home (IaH) (Beelen; Jones, 2015) and Integral Internationalization (Hudzik, 2015).

The social, political and economic context has an impact on the predominance and scope of these forms and even on the complementarity of their use. One of the most significant contextual factors is related to technologies marked by development and exponential expansion that crosses all forms of internationalization. Virtual instance is present in this century and helps the internationalization process, contributing to enhance university functions as

windows to the world. Recent studies on virtual exchange (Bilk; Satar; Sak, 2022) have confirmed its positive relationship with internationalization. At the same time, environmental factors related to health, such as the isolation caused by Covid-19, contributed to the process of virtual internationalization to the extent that they “forced” academics (students, teachers, employees) to master the use of virtual communication, as well as institutions to adopt a management that would provide support for the development of their activities.

In this contextual influence, the global perspective from international organizations points to the necessary fulfillment of the United Nations (UN) sustainable development proposal, embodied in 17 objectives – Sustainable Global Goals (SGGs) (UN, 2015). In the area of education, SGG4 proposes an inclusive, equitable and lifelong quality (Unesco, 2014; Morosini, 2022) and impacts the inclusion of students, as it is based on a process marked by the complementarity of different forms of internationalization (Woicolesco; Cassol-Silva; Morosini, 2022). This inclusive, equitable, lifelong process with educational quality is impacted by the interrelationship of the complementarity of different forms of internationalization, interconnected to an effective institutional adoption of Digital Technologies (DTs) used in the undergraduate formation. In other words, comprehensive internationalization leaves “no one behind,” as it can occur due to the presence of an internationalized curriculum that welcomes in person and/or virtual cross-border internationalization, carried out at home, in the environment of higher education institutions and/or with physical displacement of the student.

In this process, case studies and projects in different cultures should be highlighted; real or simulated instances of intercultural negotiation and communication; intercultural issues in professional practice; international professional practices; and current international and local content.

It is also important to consider national normative impacts. Internationalization as a means for quality education is related to the purposes of a country’s conception of education. It provides not only training for the world of work, but for the integral formation of the student for citizenship (Brasil, 1996). Thus, it is related to the principles of an education for global citizenship (Unesco, 2014).

From these considerations, has internationalization been considered as a strategy to promote student persistence and academic success in higher

education? To answer this question, we initially resumed the concept of the state of knowledge and its stages (Morosini; Kohls-Santos; Bittencourt, 2021) and presented the analysis of the research carried out and published in the form of scientific articles on the subject.

From this perspective, the objective of this text is to analyze the publications in scientific journals of the last 5 years (2019-2023) on internationalization as a strategy to promote student persistence and academic success in higher education.

Methodology

This article has a qualitative approach and uses the bibliographic research of exploratory bias, through the state of knowledge (SK) as a methodology for the collection and generation of data. As a scientific methodology, the SK has defined steps, which assist in the elaboration of the current state of knowledge about a given theme and/or area of knowledge. As shown in table 1, the SK methodology has 4 stages called: Annotated Bibliography, Systematized Bibliography, Categorized Bibliography and Propositional Bibliography.

Table 1 – Resource alternatives for educational activities

Steps	Definitions
1. Annotated Bibliography	Identification and selection, from the research, by descriptors of the materials that will be part of the <i>corpus</i> of analysis.
2. Systematized Bibliography	Floating reading of the abstracts of the works for the selection and deepening of the research, in order to list those that will be part of the analysis and writing of the state of knowledge.
3. Categorized Bibliography	Reorganization of the selected material, that is, of the <i>corpus</i> of analysis and its regrouping into thematic categories.
4. Propositional Bibliography	Organization and presentation of proposals present in publications and emerging proposals from the analysis carried out.

Source: Kohls-Santos; Morosini (2021).

For data analysis, we rely on the principles of content analysis (Bardin, 2020), which provides for the stages of text deconstruction, floating reading,

categorization and writing of the analytical text. We used ChatGPT artificial intelligence resource (<https://chat.openai.com/>) as a support tool for the organization and analysis of the data – the way of use was explained in the topic of the research results.

The state of knowledge in practice

Initially, from the proposed objective, the descriptors “Higher Education” AND “Internationalization” AND “Persistence” were defined. The selection criteria were publications in scientific journals between 2019 and 2023, which interrelate the theme of internationalization with student persistence in higher education. In addition, we performed the search using the term “Academic Success”. We carried out two searches because it is a relatively new expression when it comes to the theme of student persistence and not very recurrent in research on the subject, but we included in the search taking into account the theoretical framework used.

Once the criteria were defined, two international databases were selected, The Lens platform (<https://www.lens.org/>) and Scopus platform (<https://www.scopus.com/>), both were chosen for their amplitude and to index articles from most national and international journals. Table 1 shows the search strategy used.

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Table 2 – Descriptors and search fields

Database	Descriptors	Fields	No. of documents
<i>Lens</i>	“Higher Education” AND “Internationalization” AND “Persistence”	Title, summary and keywords	39
<i>Scopus</i>	“Higher Education” AND “Internationalization” AND “Persistence”	Title, summary and keywords	52
<i>Lens</i>	“Higher Education” AND “Internationalization” AND “Persistence” AND “Academic Success”	Title, summary and keywords	5
<i>Scopus</i>	“Higher Education” AND “Internationalization” AND “Persistence” AND “Academic Success”	Title, summary and keywords	1
Search conducted in February 2024			

Source: Prepared by the authors (research data)

The search was performed in both groups of descriptors (table 1) and presented 44 scientific articles as results on the Lens platform and 53, on Scopus platform. The titles found were the same, except for 13 articles. Thus, the first stage of the SK research – annotated bibliography – consists of 57 scientific articles that were registered and organized for later analysis and selection.

In the systematized bibliography, from the reading of the titles and abstracts, the inclusion criteria were applied, that is, studies carried out at the level of higher education, addressing internationalization and its intersection with student persistence, from 2019 to 2023. We excluded articles outside the established theme or that presented only one of the separate themes.

After the floating reading of the titles and abstracts of the publications, the *corpus* of analysis of the current SK consisted of 14 scientific articles, listed in table 2.

Table 3 – Corpus of analysis

ID	Year	Title	Authors	Country
1	2023	Once highly productive, forever highly productive? Full professors' research productivity from a longitudinal perspective	Marek Kwiek, Wojciech Roszka	Poland
6	2022	La política de internacionalización de la Educación Superior. Persistent effects, gaps and asimetries	Jaime Moreles Vázquez, Sara Aliria Jiménez García, Silvia Regina Canan	México Brazil
11	2022	Moving towards multipolarity: shifts in the core-periphery structure of international student mobility and world rankings (2000-2019)	Chris R Glass, Natalie I Cruz	USA South Africa
13	2022	Meaningful higher education in Kakuma refugee camp: A case study of why context and contextualization matter	Paul O'Keeffe, Thibault Lovey	Switzerland Ireland
17	2022	Does conflict of interest distort global university rankings?	Igor Chirikov	Russia
20	2021	Strategies to boost international student success in US higher education: an analysis of direct and indirect effects of learning communities	Esen Gokpinar-Shelton, Gary R Pike	USA

Fonte: Elaboração das autoras (dados da pesquisa).

Table 3 – *Corpus of analysis (continuação)*

ID	Year	Title	Authors	Country
23	2021	A Robust Estimation of the Relationship Between Study Abroad and Academic Outcomes among Community College Students	Melissa Whatley, Manuel S González Canché	USA
24	2021	Guests in someone else's house? Sense of belonging among ethnic minority students in a Hong Kong university	Gao, Fang, Liu, Henry Chi Yin	China
29	2020	What influences PhD graduate trajectories during the degree: a research-based policy agenda	Lynn McAlpine, Montserrat Castelló, Kirsi Pyhältö	Finland Spain
46	2019	Academic Integration of Chinese Students in Finland and Germany: A Comparative Perspective	Hanwei Li	China England
47	2019	AtHome International Education in Vietnamese Universities: Impact on Graduates' Employability and Career Prospects	Tran Le Huu Nghia, Hoang Truong Giang, Vo Phuong Quyen	Austrália Vietnam
48	2019	An Intellectual Interaction Between International Research Students and Western Educators in the Internationalization of Australian Research Education	Hui Meng, Desheng Gao	Austrália
50	2023	Motivation for English Medium Instruction Among Chinese University Students: The Effect of Gender, Academic Level, Attitude and Linguistic Self-Confidence	Bin Wu, Zhongshe Lu, Yuan Renqing	China
52	2022	Education Abroad and College Completion	Rachana Bhatt, Angela Bell, Donald L Rubin, Coryn Shiflet, Leslie Hodges	USA
52	2022	Education Abroad and College Completion	Rachana Bhatt, Angela Bell, Donald L Rubin, Coryn Shiflet, Leslie Hodges	EUA

Source: Prepared by the authors (research data).

The third stage consisted of the in-depth reading of the texts selected for the *corpus* of analysis, and, from the reading, the articles were organized

into analytical categories, in which the results of the analysis of the state of knowledge are presented.

Results

The presence of research related to internationalization and student persistence has been growing over the last decades, however, most of the publications address the themes separately. According to Kohls-Santos (2022), internationalization is considered one of the constitutive variables of the model for student persistence and academic success. It should be on the agenda of discussions and institutional actions with a view to the quality of higher education formation and the development of skills for the performance of the future professional.

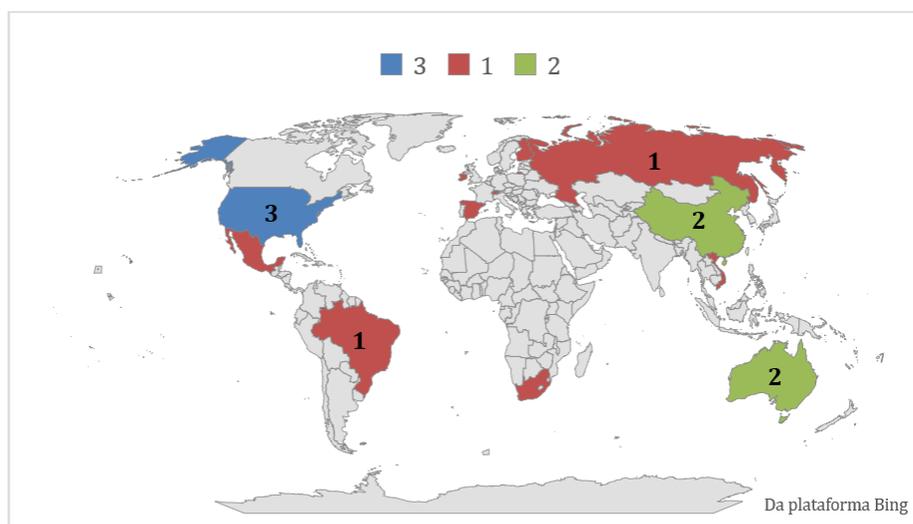
When analyzing the publications, it is possible to notice the growth of research related to the theme, however, it is still a little explored topic in terms of scientific articles in the two databases consulted. Of the 14 selected publications, in 2023, 2 articles were published, followed by 5, in 2022, 3, in 2021, 1, in 2020 and 3, in 2019. We note an increase in the number of publications in 2022, but the trend does not continue the following year. We hypothesized, based on studies of scientific publications, that, in general, the growth in 2021 and 2022 reflects the impact of Covid-19 and the social isolation that led to the expansion of publications (Voicolesco; Morosini; Marcelino, 2022).

Of the main fields of study that investigate persistence, internationalization and academic success of students in higher education, the areas that address Political Science, Sociology, Psychology and Pedagogy stand out. This finding leads us to affirm that it is an interdisciplinary field in the area of the Humanities.

When analyzing the country of origin of the publications, it is clear that some studies were carried out in collaboration between different countries, which report experiences of internationalization with students or research at the graduate level. The partnerships Mexico-Brazil (1), United States of America-South Africa (1), Switzerland-Ireland (1), Finland-Spain (1), China-England (1), Australia-Vietnam (1) stand out. The other publications are from the United

States of America (3), China (2), Poland (1), Russia (1) and Australia (1). The numbers can be seen in figure 2.

Figure 2 – Map of publications by country



Source: Prepared by the authors (research data).

One of the reasons for the predominance of studies in the USA probably refers to a tradition of studies on persistence (Pascarella; Terenzini, 1991), (Tinto; 1987, 2017), (Perna; Thomas, 2008), which are based on a positive and propositional epistemology. Europe, on the other hand, based on a critical epistemology, initially focused on abandonment, dropout and evasion (Arriaga, 2013), (Castaño, Gallón, Gómez, Vásquez 2006), (RedGuia, 2015).

Organization of data analysis

In the SK methodology, the organization of the analytical categories was traditionally carried out manually only by the researcher and the team, based on the title and abstract of each article selected in the annotated bibliography and, later, systematized. With the development of technology, in this

research, we rely on the ChatGPT feature, version 4.0, to assist in the organization of the analytical categories established a priori and the emerging categories. This process went through three stages (figure 3).

Figure 3 – AI-Backed SK Cycle



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Source: prepared by the authors.

The AI-Backed SK Cycle (figure 3) should start from the systematized bibliography, the second stage of SK methodology. Once the *corpus* of analysis is defined, the cycle begins according to the steps*:

1. Exploratory: at this stage, the titles and abstracts are presented to ChatGPT in order to explore possible groupings, more relevant themes and the relationship between the themes established in the objective of the SK. An example of the use of this feature is shown in figure 4;
2. Organizational: with the result of the exploratory stage, we proceed to the organization of the analytical categories established *a priori* (according to the objective of the SK) and the emerging categories (found in the exploratory phase). An example of the use of this feature is shown in figures 5 and 6;
3. Reflective: Validation of the categories with the inclusion of the texts of the abstracts, in order to avoid discrepancies between the categorization of the

titles and texts of the abstracts. In addition, in this reflective stage, the authors carry out a detailed analysis of the results organized in order to carry out the human validation of the entire process, which is built from the reading of the articles by the researcher. It is important to note that two-step validation, validation using AI, and human validation are inherent in all steps.

- Furthermore, it is important to use the same conversation (record) at all stages, as this AI works based on the context, that is, on the memory of the conversation to deepen the analyzes.

Figure 4 shows the sentence or command used in ChatGPT to obtain the desired result. For the exploration of the analytical categories, at first, we used the titles of the publications, while for the abstracts, we used the same sentence. As a separator for the titles, we used the term "Title x" and a separate title per line and, for the abstracts, we used "Abstract x", separated by "***". These characters are required for ChatGPT to distinguish between each title or abstract.

Figure 4 – Example of exploratory analysis, from the titles and categories with ChatGPT4.0

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You
Com base nos títulos fornecidos, podemos organizar e agrupar os temas em diferentes categorias temáticas:

Título 1 - Once highly productive, forever highly productive? Full professors' research productivity from a longitudinal perspective
Título 2 - Motivation for English Medium Instruction Among Chinese University Students: The Effect of Gender, Academic Level, Attitude and Linguistic Self-Confidence
Título 3 - La política de internacionalización de la Educación Superior. Efectos, brechas y asimetrías persistentes
Título 4 - Administrative data analysis of student attrition in hungarian medical training.

ChatGPT
Com base nos títulos fornecidos, podemos organizar e agrupar os temas em diferentes categorias temáticas da seguinte forma:

Produtividade Acadêmica e Desenvolvimento Profissional:

- Título 1: Explora a produtividade de pesquisa de professores titulares ao longo do tempo.
- Título 14: Aborda o desenvolvimento de literacias críticas de dados no ensino superior.

Motivação e Aprendizagem em Contextos Internacionais:

Source: Prepared by the authors (research data).

The categories of analysis were organized with the help of ChatGPT, but proven by the authors from the reading of the texts. The tool helps and

presents some possibilities, however, it is up to the researcher to validate and organize the suggestions presented. Thus, once the categories of analysis are defined, we use AI to assist in the process of organizing the texts in each of these categories again using both the text of the titles (figure 5) and the abstracts (figure 6).

Figure 5 – Example of organization of categories with Chat GPT from the titles of the articles

 **ChatGPT**
Com base nas categorias fornecidas, os títulos podem ser organizados da seguinte maneira:

Estresse e adaptação acadêmica:

- Título 4: "Administrative data analysis of student attrition in Hungarian medical training."
- Título 12: "Sources of stress and scholarly identity: the case of international doctoral students of education in Finland"

Produtividade acadêmica:

- Título 1: "Once highly productive, forever highly productive? Full professors' research productivity from a longitudinal perspective"
- Título 13: "What influences PhD graduate trajectories during the degree: a research-based policy agenda"

Source: Prepared by the authors (research data).

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Figure 6 – Example of organization of categories with Chat GPT from the abstracts

 **You**
Organize o resumo em uma dessas categorias:
Estresse e adaptação acadêmica
Produtividade acadêmica
Impacto do estudo no exterior
Motivação e aprendizagem em contextos internacionais
Educação em contextos de refugiados
**
Este artículo analiza la internacionalización de la política de Educación Superior y algunos de sus efectos. Utilizamos el análisis documental para revisar la forma en que las universidades lo han asumido, analizando las políticas que promueven la internacionalización, los informes institucionales que muestran sus principales resultados y los aspectos que se miden en los

 **ChatGPT**
Os resumos podem ser classificados nas seguintes categorias temáticas:

Estresse e adaptação acadêmica:

- Resumo 1: Aborda o estresse e a adaptação de doutorandos internacionais, destacando as dificuldades enfrentadas em ambientes acadêmicos estrangeiros.

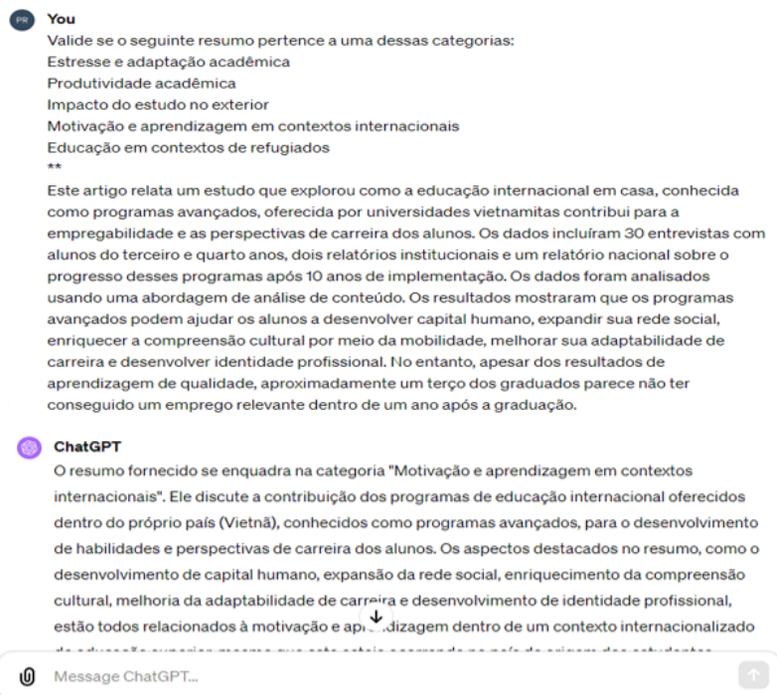
Produtividade acadêmica:

- Resumo 4: Investiga a persistência na produtividade da pesquisa ao longo da vida acadêmica de professores titulares.

Source: Prepared by the authors (research data).

After exploring the thematic categories by titles and abstracts, the following categories of analysis were established: Stress and academic adaptation; Impact of study abroad; Motivation and learning in international contexts and Education in refugee contexts. Once the categories were established, their respective texts were analyzed again with the support of ChatGPT to confirm the data (figure 7) – the validation was carried out by the researchers.

Figure 7 – Categorization confirmation



You
 Valide se o seguinte resumo pertence a uma dessas categorias:
 Estresse e adaptação acadêmica
 Produtividade acadêmica
 Impacto do estudo no exterior
 Motivação e aprendizagem em contextos internacionais
 Educação em contextos de refugiados
 **
 Este artigo relata um estudo que explorou como a educação internacional em casa, conhecida como programas avançados, oferecida por universidades vietnamitas contribui para a empregabilidade e as perspectivas de carreira dos alunos. Os dados incluíram 30 entrevistas com alunos do terceiro e quarto anos, dois relatórios institucionais e um relatório nacional sobre o progresso desses programas após 10 anos de implementação. Os dados foram analisados usando uma abordagem de análise de conteúdo. Os resultados mostraram que os programas avançados podem ajudar os alunos a desenvolver capital humano, expandir sua rede social, enriquecer a compreensão cultural por meio da mobilidade, melhorar sua adaptabilidade de carreira e desenvolver identidade profissional. No entanto, apesar dos resultados de aprendizagem de qualidade, aproximadamente um terço dos graduados parece não ter conseguido um emprego relevante dentro de um ano após a graduação.

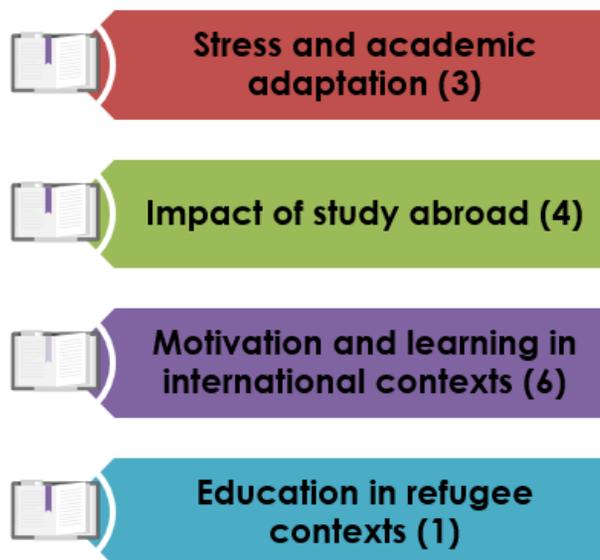
ChatGPT
 O resumo fornecido se enquadra na categoria "Motivação e aprendizagem em contextos internacionais". Ele discute a contribuição dos programas de educação internacional oferecidos dentro do próprio país (Vietnã), conhecidos como programas avançados, para o desenvolvimento de habilidades e perspectivas de carreira dos alunos. Os aspectos destacados no resumo, como o desenvolvimento de capital humano, expansão da rede social, enriquecimento da compreensão cultural, melhoria da adaptabilidade de carreira e desenvolvimento de identidade profissional, estão todos relacionados à motivação e aprendizagem dentro de um contexto internacionalizado.

Message ChatGPT...

Source: Prepared by the authors (research data).

Thus, the discussion of the results of this EC is organized according to the categories listed in figure 8.

Figure 8 – Analysis Categories



Source: Prepared by the authors (research data).

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Discussion

The discussion of the results, raised in this state of knowledge, is presented in the light of studies related to student persistence and internationalization. In addition, for this discussion, we present the analytical text organized into categories that will be explained one by one in this section.

Stress and academic adaptation

The Stress and academic adaptation category presents aspects related to the importance of students' adaptation to the academic reality, as well as the stress reflected, especially in graduate students, in international formation experiences and the requirement of programs abroad. Four studies carried out in China, England, Poland and Russia are part of this analytical category.

The studies carried out by Pappa, Elomaa and Perälä-Littunen (2020) and Li (2019) address the challenges faced by international students in academic contexts, including the stress arising from adapting to new environments and the need to develop coping strategies. Through interviews, Pappa, Elomaa and Perälä-Littunen (2020) carried out a survey with international doctoral students in Finland in order to know the main stressors for these students. They identified as a source of stress issues related to interpersonal relationships and challenges related to conducting field research, funding and career prospects, in addition to the lack of a support network.

In turn, Li (2019) analyzes the impact of education abroad on the completion of studies and academic performance from the records of 221,981 students from 35 institutions, in addition to interviews with 35 Chinese students who studied in Germany and Finland. The challenges were the lack of adaptation to classes of foreign students, the difficulty in relating to local students, the incompatibility between their academic background and learning requirements.

Even so, the research found positive impacts on the completion of the undergraduate course abroad in the period of 4 and 6 years. In addition, it found that most of the students who participated in the international experience completed their undergraduate studies in advance. Although there was a small increase in credit hours obtained, there was also a small decrease in the time of obtaining a degree associated with study abroad. In general, the results indicate that studying abroad encourages college completion, and these results are applied to students with multiple study experiences and varying course duration.

Pusztai, Demeter-Karászi, Alter, Marincsák, Dabney-Fekete (2022) analyzed the dropout profile among foreign students who studied medicine in Hungary through the risks of attrition with local students. The researchers emphasize the importance of creating flexible educational policies and support targeted for students with difficulties. Although not limited to international students only, the proposed approach has significant implications for the inclusion and support of this group, which may face additional barriers to academic success because they are from other countries and face resistance, including from local students.

Although not explicitly presented in the text, both studies include internationalization as an opportunity for student development, as well as for their permanence and academic success, provided that issues related to their social and academic integration are observed (Tinto, 2017), as well as institutional assistance to face barriers. Such aspects go back to the proposal of Kohls-Santos (2022; 2024) in the development of internationalization proposals and actions with a view to student persistence and academic success, in addition to the importance of shared responsibility among institutional actors to enable such actions.

Impact of study abroad

The impact of study abroad is an important element for the analysis of the internationalization proposal as an element to be developed in the students' persistence process. In this category, there are surveys carried out in the United States of America, South Africa, Australia and Vietnam.

Nghia, Giang and Quyen (2019) analyzed the impact of home internationalization programs offered by Vietnamese universities on the employability and career prospects of students. As a result, they suggest that the offer of internationalization activities at home contributes to student persistence by enabling students to develop skills and knowledge that are valued in the global labor market, increasing their chances of employability, motivating them to remain in the course, as they see an added value in their education, especially with future gain. This aspect is addressed in the literature by Cabrera, Nora, Castañeda (1992).

Still, the study highlights a significant challenge, as there is a discrepancy between formation and effective employability, which suggests the need to align internationalization programs that enhance student persistence with market requirements and policies to encourage the hiring of professionals with such experiences. Another possibility would be the creation of partnerships between universities and institutions in the world of work so that persistence translates into academic and professional success after graduation.

The studies carried out by Whatley and Canché (2022) and Bhatt, Bell and Rubin (2022) investigated the relationship between the impact of

participation in study abroad programs on academic performance and the completion of higher education. Whatley and Canché (2022) analyzed the impact on two-year courses, such as technologists, considering, as main variables, the individual characteristics of students and the indicators associated with their geographical origins and approved credits. The results indicate a positive association between studying abroad and good academic results, highlighting the importance of study abroad in promoting student success. The results also suggest that the study provides the opportunity for the planning of educational policies and institutional practices.

In the same direction, Bhatt, Bell and Rubin (2022) show that participation in study abroad programs has a positive impact on under graduation, on the accumulated development index at under graduation and do not prevent the completion of the course on time. In addition, they observed a small increase in the number of credit hours obtained and a small decrease in the time for completion of the course, which suggests that participation in internationalization activities, such as academic mobility, not only assists in student performance and student persistence, but also in the completion of studies.

In turn, Glass and Cruz (2023) analyze the changes in international student mobility and in the rankings of world universities over the first two decades of the 21st century. They signal a significant growth in the number of connections between countries, in addition to a broader and more uniform distribution of internationalization in each of these countries, with an increase in the number of decentralized universities. This suggests a change in the dynamics of the center-periphery in international student mobility, with an increasing influence of educational centers in regions such as Asia, South America, Africa and the Middle East. That is, although countries in the Global North continue as a destination for internationalization activities, they are no longer exclusive in the choice of students in academic mobility.

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Motivation and learning in international contexts

In this category, we analyzed academic texts that present the motivation to learn and the learning process influenced by international educational contexts and to what extent this motivation influences the student's decision to

remain in studies and their academic success. In this sense, the research carried out by Gao and Liu (2021) analyzed a group of students in Hong Kong of South/Southeast Asian ethnicity, mainly from countries such as Nepal, India, Pakistan and the Philippines, seeking to identify their perception of belonging.

The authors emphasize that the feeling of belonging, an aspect addressed in the literature by Tinto (2017) and Kohls-Santos (2020; 2022), is crucial for student persistence, in addition to the importance of emotional and institutional connection for students of social minorities, a fundamental aspect of internationalization that aims to create a welcoming and inclusive environment for all. Gao and Liu (2021) highlight that the effective inclusion of students in the internationalization process can significantly contribute to the permanence of students from marginalized groups and different ethnicity. This reflection calls for thinking about the organization of policies and institutional actions to accompany international students to develop this feeling throughout the internationalization process.

In the wake of institutional policies, the study presented by Vázquez, García and Canan (2021) analyzes the symmetry between politics and its effectiveness in the practice of institutions, as well as the asymmetries between more and less industrialized regions. The authors suggest that effective internationalization policies can improve the educational experience, promoting inclusion and diversity, which can contribute to student persistence. However, uneven implementation of these policies can lead to inconsistent student experiences, potentially affecting their decision to remain at the institution and academic success.

Still on the development of belonging, Gokpinar-Shelton and Pike (2021) examine the participation of international students in learning communities, noting that their presence in such communities can increase their satisfaction and sense of belonging, critical factors for student persistence, indicating that internationalization, through the development of intercultural skills, can improve the rates and quality of student persistence.

Meng and Gao (2019, p. 122-123) analyzed the importance of the intellectual relationship between teachers and students in graduation degree, in the context of the internationalization of higher education in an Australian institution. The authors state that “[...] this is an intellectual interaction, a

bidirectional exchange of intellectual knowledge, where both parties are able to articulate intellectual and cultural knowledge.”

Intellectual interaction can enrich the experience of international students, promoting a more engaging and inclusive academic environment. This intellectual and cultural connection between teachers and students can improve student satisfaction, positively influencing their decision to remain at the institution (Meng; Gao, 2019)

Wu and Yuan (2023) explore the motivation of students in the English Medium Instruction (EMI) program, in China, which is a form of internationalization at home. The study highlights that linguistic self-confidence, influenced by internationalization through EMI, can positively affect the academic experience of students. The results indicate that the students’ motivation to participate in EMI program has to do with maintaining and developing the level of English for the class, which is an international trend in education, and to have access to international publications. They also show that “master’s students have greater hopes for the benefits associated with EMI than education program and doctoral students” (Wu and Yuan, 2023). The authors also emphasize that, if well executed, this type of internationalization at home can improve students’ confidence and their motivation for learning, important factors for student persistence, especially in a globalized context.

Such publications suggest that conscious and well-implemented internationalization has the potential to significantly improve student persistence in higher education and, therefore, contribute to academic success.

Education in refugee contexts

O’Keeffe and Lovey (2023) examined higher education in refugee contexts through online learning platforms, seeking to verify the legitimacy of virtual learning for this group of people and the need for more contextualized approaches that better reflect the realities of refugee students. The authors compare a contextualized medical studies course, delivered via a learning experience in Kakuma refugee camp in 2019, with a non-contextualized version delivered in Dadaab in 2018. The authors state that the contextualized course achieved better learning outcomes, highlighting the importance of

cultural and social contextualization to meet the learning needs of refugee students.

Final considerations

Internationalization as a strategy for student persistence and academic success recognizes the importance of creating spaces in educational institutions in which persons have the opportunity to qualify their formation, prepare to meet global demands and develop intercultural skills, essential aspects for the formation and performance of a professional future. When conducting the state of knowledge research, we realized that allowing and promoting this type of formation opportunity is important, both for local students and for those from internationalization contexts. Internationalization promotes the diversification of students, teachers and activities that enrich the learning environment with different cultural and academic perspectives. Such aspects can contribute to academic persistence and success, as it develops the feeling of belonging, presents students with a more global dimension of formation and even prepares them to work in global markets and societies.

In addition to the thematic issues, we emphasize the relevance of the SK research to glimpse the scientific field from the perspective of an international panorama of research (Scopus and Lens bases), involving internationalization and student persistence. Furthermore, we highlight the use of artificial intelligence as a differential to enhance the analysis, inferences and interpretation of the results. To transit through the SK cycle with AI has as an inseparable condition the processes of AI and human validation for the exploratory, organizational and reflective stages, which culminate in the writing of the text of the state of knowledge.

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