Postgraduate Studies and the use of WhatsApp Messenger: a study based on stricto sensu courses at the State University of Western Paraná – Unioeste, Cascavel Campus

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ABSTRACT

New technologies in an educational context bring up various issues for analysis. Considering the widespread use of social media applications, this research aimed to answer the question: "Has the use of WhatsApp Messenger assisted in postgraduate courses?" The research also sought to describe the actions of the study participants when using the application and discuss the ways in which postgraduate students utilize it. To this end, data was collected through a questionnaire administered to 74 postgraduate students. The data shows that the application was useful for academic purposes, such as sharing study and research materials, guidance, information about classes, scheduling data collection appointments, among others, especially during the height of the COVID-19 pandemic when isolation and social distancing were required. The need for training on the use of technological tools to better explore their potential is highlighted.

KEYWORDS: WhatsApp Messenger. Use of WhatsApp Messenger by postgraduate students. WhatsApp Messenger for academic purposes.

INTRODUCTION

The use of technology has become a constant in people's daily lives. This has happened so naturally that the infiltration of technology in everyday life is often not noticed, even though it is causing changes in social behavior patterns (KENSKI, 2007). With a focus on information and communication, society currently seeks to stay connected via the internet, as this medium allows for interactions and access to a large flow of information (BRESCIA; COSTA; TUFY, 2013).

According to Garcia (2012), technology has favored the emergence of a new culture, surrounding and involving children and young people, in a way that stimulates new perceptions about possibilities of behavior.

The possibilities of using the internet have been significantly expanded thanks to the extension of the application of technology to other areas, not just information technology (BONATTO; SILVA; LISBOA, 2013). This has resulted in the expansion of the virtual environment, through which a multitude of activities are currently carried out, ranging from research for theoretical purposes to the use for routine activities, such as personal contacts and shopping, among many other actions that impact the way people relate to each other.

In March 2020, due to infections caused by the SARS-CoV-2 virus, which causes the respiratory syndrome called COVID-19, classified as a pandemic by the World Health Organization (WHO), all countries in the world needed to activate and expand response mechanisms to this health emergency (BRASIL, 2020). In this pandemic scenario, the WHO recommended isolation and social distancing to prevent and reduce the spread of COVID-19 (LIMA *et al.*, 2020).

If in 2007, Kenski already considered the insertion of technological equipment in the educational field as an imposition brought by the context, through the reality of isolation and social distancing, during this pandemic period, the behaviors of participants in the school context have been significantly changed in recent years. Due to this insertion (FREITAS; LIMA, 2010), the intensification of technology use was a demand that arose from all contexts, including the educational and even the research training context.

Various studies, such as those by Barros (2013), Castro (2018), and Lima and Ferrete (2020), among many others, highlight the possibility of using virtual environments for learning. In these virtual environments, interaction occurs in real-time through messages exchanged by the people involved, either privately or collectively (CASTRO, 2018). This author conducted research on the use of WhatsApp Messenger in the teaching of Science and Mathematics in basic and technical education classes, in which its viability and importance were found, as the use of this tool allowed for interaction between teacher and students, as occurs in the classroom, favoring the promotion of learning, and creating an environment for studying and discussing school content.

In this context, this research aimed to answer the following question: "Has the use of WhatsApp Messenger assisted in postgraduate courses?". It is considered that, similarly to what happened in Castro's research (2018), discussions related to academic content could benefit the academic context. The aim was also to describe the actions that research participants take when using WhatsApp Messenger, as well as to discuss the ways in which postgraduate students use it.

METHODOLOGY

The aim of this research was to employ a qualitative approach according to the assumptions of Lüdke and André (1986) and Bogdan and Biklen (1994), understanding that, as Bogdan and Biklen (1994) point out, qualitative research has five characteristics that may or may not appear in the same way in research, or may not all be present.

The five characteristics are: (1) the fact of having the natural environment as a direct source of data collection; (2) being essentially descriptive, understanding that nothing is trivial, but that each aspect can reveal an enlightening clue about the research object; (3) having greater interest in the process than just the outcome; (4) tending to carry out inductive analyses, constructing abstractions as data is being grouped; and (5) understanding the importance of the attributed meaning, bringing to light the "internal dynamics of situations" (BOGDAN; BIKLEN, 1994, p. 51).

In the context of qualitative research, this investigation is a case study because, according to Lüdke and André (1986), case studies have the following characteristics: they aim to discover a specific reality, as they emphasize interpretation within a given context, aiming to portray reality in a comprehensive and in-depth way, using various information, allowing naturalistic generalizations of the reader, through which they can inquire about aspects that are transposed to their context, seeking to show different perceptions in the same social situation.

Thus, data were collected from special1 students[1] of postgraduate courses strictu sensu at the State University of Western Paraná - Unioeste, Cascavel Campus. This Campus has five Centers, namely: Center for Education, Communication and Arts - CECA, Center for Biological Sciences and Health - CCBS, Center for Exact and Technological Sciences - CCET, Center for Medical and Pharmaceutical Sciences - CCMF, and Center for Applied Social Sciences - CCSA, composing courses in the areas of Exact, Humanities and Biological Sciences.

The following strictu sensu postgraduate courses are offered by the Centers of Unioeste on the Cascavel Campus: Professional Master's Degree in Administration, Master's and PhD in Biosciences and Health, Master's Degree in Computer Science, Master's Degree in Pharmaceutical Sciences, Master's Degree in Conservation and Management of Natural Resources, Master's Degree in Accounting, Master's and PhD in Education, Master's and PhD in Science Education and Mathematics Education, Master's and PhD in Agricultural Engineering, Master's and PhD in Energy Engineering in Agriculture, Master's and PhD in Environmental Engineering and Technology (in Association of - Higher Education Institution - IES), Master's Degree in Letters, National Network Master's Degree in Letters (Professional Modality), National Network Master's Degree in Mathematics (Professional Modality), and Master's Degree in Dentistry.

The research which resulted in this text was processed and approved by the Research Ethics Committee of Unioeste (CEP) according to Opinion 3.782.747. The questionnaires were initially applied to students in a course titled "Trends in Science Education I: Education with Technologies in the Present" and the intention was to apply the questionnaires in person in the classrooms, with the authorization of the teachers and students. However, due to the isolation and social distancing

caused by the pandemic coinciding with the data collection period, it was conducted differently than initially planned, and therefore conducted remotely.

As a result, in 2020, after the start of the pandemic, the research was also sent to the Secretaries of the respective graduate programs and to the research groups that were accessible, informing them about the research, the data collection method, its objectives, and requesting feedback and responses through Google Forms.

Therefore, aware of the objectives, methodological procedures, and risks of the research, as well as their rights and the benefits that could arise from participating in the research, the participants clicked, also on the Google Forms questionnaire, signing an Informed Consent Form (ICF) to participate in the research.

The questions in the questionnaire answered by the participants and analyzed in this text were as follows: "Do you see any possibility for using WhatsApp Messenger for academic purposes?"; "Explain your previous answer"; "Do you use WhatsApp Messenger for academic purposes?"; "If you answered yes to the previous question, indicate how often you use it?"; "If you use WhatsApp for academic purposes, specify how: To send or receive messages, To discuss content, To keep in touch with teachers, To keep in touch with colleagues, To share material, To receive material, Other(s)"; "Do you use WhatsApp Messenger in your research?"; "Do you use WhatsApp Messenger to keep in touch with your supervisor?"; "If you answered yes to the previous question, how often do you use it?"; "If your research requires direct contact with participants, answer: do you use WhatsApp Messenger to keep in touch with research participants?"; "Describe how you use WhatsApp Messenger"; and "Explain your perception of using applications for conducting research".

To refer to research participants, when necessary to cite representative statements, acronyms were established consisting of the initials of their student status, regardless of gender, followed by a growing number from 1 to 74, which is the total number of research participants, differentiating each student from the others, therefore designated as "D1", "D2", and so on.

Regarding the methodology for data analysis, Content Analysis (CA) was employed according to the theoretical and methodological assumptions of Bardin (2004), as currently, CA is used in conversation analysis, documentation analysis, and database analysis, aiming primarily to overcome uncertainty and enrich the reading with heuristic functions (enriching exploratory attempts).

Regarding categorization in CA, the rules for constructing categories are: i) homogeneity (grouping of similar items); ii) exhaustiveness (covering the entire text); iii) exclusivity (exclusion without classification in two different categories); iv) adequacy or relevance (appropriate to the content and objective), although not all analysis rules may apply (BARDIN, 2004).

In some of the analyses of this research, categorization was performed according to the number of mentions, as the same participant, when answering the questions, provided responses that fit into more than one category. Therefore, analyses were carried out according to the categories that emerged from the research data.

RESULTS AND DISCUSSION

Regarding the way WhatsApp Messenger is used, according to the data presented in Chart 1 below, the obtained responses were classified as follows: i) academic purposes, containing mentions such as: participation in research group, participation in graduate and university group, sending and receiving guidance, sending and receiving materials, program and course groups, sharing material, tips, receiving activities, organizing data collection for research, and as a means of collecting data itself; ii) social: contact with colleagues, friends, and family, entertainment, and shopping; iii) work, containing responses related to group and individual student support, institutional group at work, and work-related information.

Chart 1 - Use of WhatsApp.

Usage	N°
Academic purpose	69
Social	24
Work	23

Source: Data from the survey (2020).

These statements reveal that academic activities could be more effectively organized and carried out through the use of the application during the pandemic. This is consistent with Castro's (2018, p. 133) statements:

> The use of applications such as WhatsApp Messenger also helps increase the dissemination of information, thus allowing students to use technological resources for their learning, through their interactions and content discussions and communication about school activities and information, in the same way they use it for their daily activities, that is, with greater frequency and exploration of the potential of these applications.

Regarding the use of WhatsApp Messenger for academic purposes, there was a specific question that asked: "Do you see any possibility for using WhatsApp Messenger for academic purposes?" In this question, 69 participants answered yes, while five said no. Among these 69 participants, only 54 justified their favorable perceptions.

The justifications varied, allowing for the following classification shown in Table 2: a) already uses it, considers it agile or a communication facilitator; b) great acceptability or accessibility; and c) functionality of groups.

These data corroborate the statements of Lima and Ferrete (2020), who point out that the mobility provided by mobile technologies creates new possibilities, adapting to space and proximity, so that, connected or not, it is possible to access and share activities, only needing to have downloaded the material before with the use of a connection and its subsequent use, bringing experiences that enable learning situations built in a way that was never possible before, allowing anyone to intervene in the information of others, in a process of constant mediation.

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Table 2 - Justifications for the favorable perception of using WhatsApp for academic purposes.

	N°	Representative quotes
Already uses, considers it agile or a communication facilitator	44	"Communication with the advisor, using the tool, becomes more flexible, in moments when so much formality is not necessary. The tool can be used, even, for sending materials to students" [D50].
Great acceptance and accessibility	04	"It's practical and easy to access" [D60.] "I believe that the new generations are more connected to WhatsApp than to emails" [D2].
Functionality of groups	06	"It is useful for communication among students, as it assists in various decisions that must be made in a group. The tool contributes to interaction among us, academics" [D22]. "[...] The groups are quite functional for that" [D3].

Source: Data from the research (2020).

The considerations that highlight the use of the WhatsApp application for academic purposes reveal the development of actions and perceptions that are in line with the current demands of postgraduate students, namely, the completion of academic activities, especially during the most critical moments of the pandemic. This aligns with the perception of Lima and Ferrete (2020), who consider that the integration of digital tools can greatly contribute to the development of student activities, in order to favor individualized approaches for each student according to their needs.

> Among the five justifications for the responses against the use of WhatsApp for academic purposes, some showed apprehension regarding the acceptance of using the application for academic purposes, as expressed by D35: "I believe that the app in question is used mostly for leisure. By directing academic content through WhatsApp, the information may not be treated with the appropriate seriousness."

Another perception of some of the research participants revealed apprehension due to the lack of preparation on the part of teachers to use the application for academic purposes: "Digital tools are good aids in teaching processes, but they are still new to most teachers" [D6].

In this aspect, it is observed that there needs to be greater investment in teacher training so that they can know and explore the possibilities of technological tools because, as Castro (2018, p. 132) points out:

> [...] to use WhatsApp for content discussion, the teacher must perceive this possibility, invest in it as a potential resource in a planned way, since teaching is intentional, and involve students with this objective, as data have shown that when the teacher participates by conveying content, students also do so.

The remaining justifications against the use of WhatsApp were based on characteristics related to its functionalities, as can be seen in the statements of participant D5: "[...] there are more qualified apps" and participant D10: "A

platform that is not very intuitive for things that need to be remembered, due to the speed that a WhatsApp group can have." Regarding this, Lima and Ferrete (2020, p. 5) state:

> [...] using this mobile technology to improve research, motivate students to seek knowledge, and especially discover other ways of learning, is contributing to autonomy, creativity, and freedom to teach and learn by facing challenges.

Thus, perhaps the initiative, on the part of teachers, to use this platform could demystify this limited perception existing in the understanding of some students, while respecting the autonomy of the teacher to select their teaching methods. However, as Paulino *et al.* (2018) point out, since it is free, WhatsApp Messenger is accessible to a large part of the population, so it is easily accessible.

Regarding the frequency of using WhatsApp for academic purposes, most participants classified it as daily, according to the data shown in Graph 1.

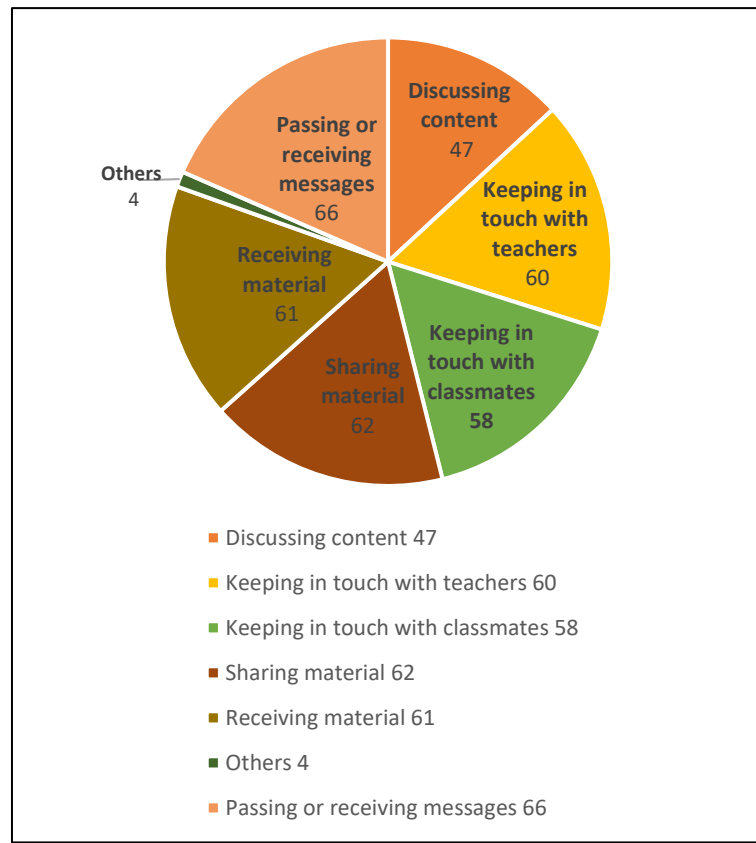Graph 1 - Frequency of using WhatsApp for academic purposes.
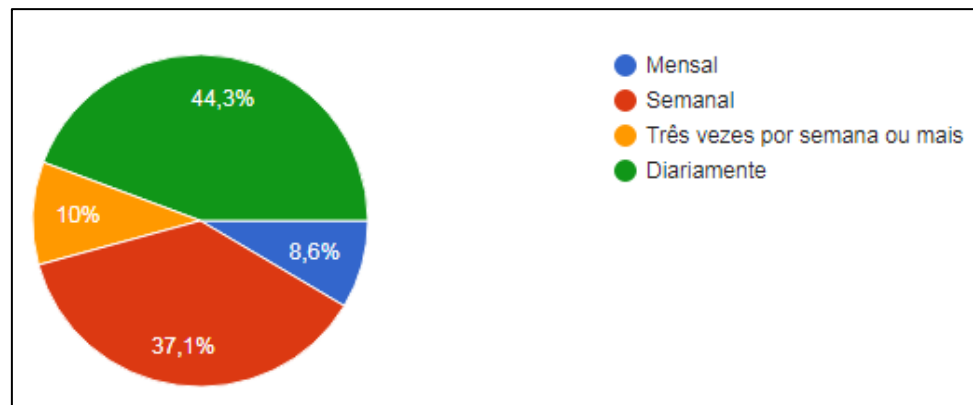
Source: Research data (2020).

These data on the frequent use of WhatsApp for academic purposes, which is daily, weekly, three times a week or more, or monthly, reveal that this application has been a facilitator for studies and/or research for these students, as it allows for momentary interactions that would not be possible due to the pandemic context (or even without it) and whose absence would cause communication problems for graduate students.

This is in line with the statements of Lima and Ferrete (2020), who point out that digital technology in an educational context, especially mobile technologies, enable various forms of teaching and learning, providing challenges, bringing activities to different students, and reducing damages caused by the pandemic context.

The details about the way WhatsApp is used for academic purposes, as shown in Graph 2, were counted and expressed by the number of mentions. These details highlight the prevalence of use for sharing information, such as messages, followed by discussion of content and contact with the professors of graduate programs.

Graph 2 - Details of the use of WhatsApp for academic purposes

- ■ Discussing content 47
- ■ Keeping in touch with teachers 60
- ■ Keeping in touch with classmates 58
- ■ Sharing material 62
- ■ Receiving material 61
- ■ Others 4
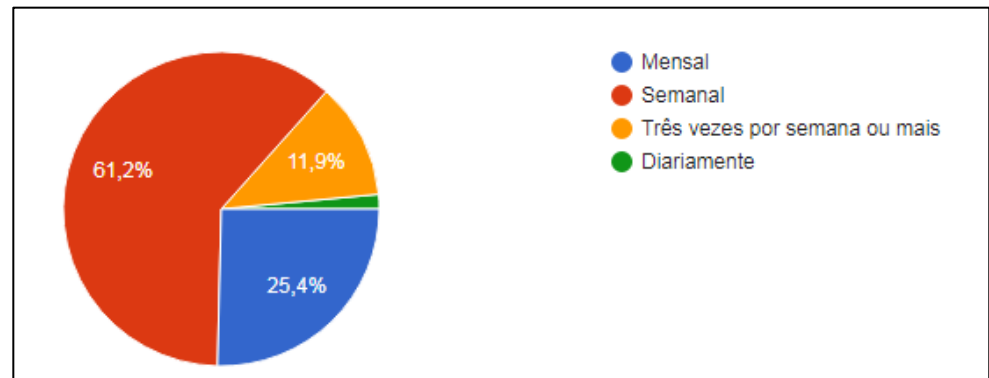- ■ Passing or receiving messages 66

Source: Research data (2020).

The data shown in Graph 2 corroborates with the findings of Castro (2018), Paulino *et al.* (2018), and Lima and Ferrete (2020), demonstrating that social media enables this means of interaction between educators and learners, favoring situations where topics of interest for learning are addressed.

As already noted in the research of these authors, in this study, participants detailed the academic activities that have been carried out through the application, such as sending and receiving messages, discussing academic content, maintaining contact with course instructors and colleagues, sharing and receiving materials, among others not specified. This allows us to assert that the application has been a complementary resource to teaching and learning research, since these interactions involve similar and complementary actions to those that would occur in face-to-face teaching.

Specifically asked about the use of WhatsApp Messenger in their research, 52.7% of participants reported using the application in their research, while 47.3% said they did not.

Of the research participants, 89.2% reported using WhatsApp Messenger to maintain contact with their advisor, while 10.8% stated that they did not. Regarding the frequency of this use for contact with the advisor, as shown in Graph 3, most participants report making this contact via WhatsApp on a weekly basis.

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Graph 3 - Frequency of WhatsApp use for contact with the advisor.

Source: Research Data (2020).

Guidance for research is one of the inherent actions of university professors, especially in postgraduate courses, and therefore can be considered a form of teaching for research.

Thus, as pointed out by Lima and Ferrete (2020), the use of WhatsApp can contribute to the work of the teacher when face-to-face meetings with students are impossible, allowing synchronous and asynchronous communication between teacher and student through text messages, audio, photos and videos, documents, and free calls over internet connections.

Similarly, the use of the application can contribute to the process of professional development of the student researcher, who can access their supervisor to obtain the necessary information for the smooth progress of their research activities, even remotely.

Regarding the use of WhatsApp Messenger to keep in touch with research participants, 27% of participants stated that they use it, while about 50% of participants said they do not need direct contact with research participants.

Thus, the application has been useful for this academic purpose, collaborating with the need of some participants to continue data collection in this stage through direct contact with participants.

FINAL CONSIDERATIONS

The research aimed to answer the following question: "Has the use of WhatsApp Messenger aided in postgraduate courses?" Additionally, it aimed to describe the actions that research participants undertake when using WhatsApp Messenger and discuss the ways in which postgraduate students use it.

The data shows that the majority of mentions regarding the use of WhatsApp are related to academic purposes, such as participation in research groups, participation in postgraduate and university groups, sending and receiving guidance and materials, participation in program and course groups, sharing of material, sending and receiving tips and activities, scheduling data collection for research, and as a means to conduct data collection through audio, video, or written texts in the application's chat box.

Research participants also mentioned occurrences of the application being used for private contacts, here understood as "social" uses, which would be related

to contacts with colleagues, friends, and family, as well as for entertainment purposes and remote shopping through contact with advertisers via the application for negotiation.

There were also mentions of using it to execute work in the case of research participants who already work professionally as teachers. In these cases, the mentions contained responses related to group and individual student assistance, related to institutional group contacts at schools, and receiving and sending information pertinent to school work and guidance for its development, which was occurring remotely during this period.

Thus, it was possible to verify that among the research participants, there is a great acceptance and use of this application for academic purposes, such as sharing study materials for disciplines and for conducting their research, for guidance, obtaining information about classes, scheduling times for collection, and even data collection for research.

The use of such an application has greatly aided postgraduate students in the development of their studies, especially during the data collection period of research, many of which were undertaken during the most delicate moments of the COVID-19 pandemic, which required isolation and distancing, preventing data collection from people, which is a common practice, especially in the area of humanities, and this had made it difficult to carry out these activities inherent in their postgraduate courses.

It should be noted that there is a trend for technologies to be intensively employed in the educational environment even after the resumption of face-to-face activities, as happened after the end of the isolation and social distancing of the COVID-19 pandemic, with the use of technology being consolidated in a special way from this historical moment, transforming forms of relationships for learning in order to bring new meanings and directions.

However, it is necessary to carry out specific training regarding the use of these technological tools, aiming to explore even greater potential in the educational environment, allowing for optimization of use by students and the entire team of educators, and also aiming for organizations that enable such use without implying overload of work and activities for everyone involved.

A PÓS-GRADUAÇÃO E O USO DO *WHATSAPP MESSENGER*: UM ESTUDO A PARTIR DOS CURSOS *STRICTU SENSU* DA UNIVERSIDADE ESTADUAL DO OESTE DO PARANÁ – UNIOESTE CAMPUS CASCAVEL

RESUMO

As novas tecnologias em contexto educacional trazem à tona diversas questões para análise. Tendo em vista o grande acesso a aplicativos de redes sociais, esta pesquisa buscou responder à questão: "A utilização do WhatsApp Messenger tem auxiliado nos cursos de pós-graduação?". Pretendeu-se ainda descrever as ações dos participantes da pesquisa ao utilizar o aplicativo e discutir as formas de utilização desse por discentes de cursos de pós-graduação. Para tanto, foram coletados dados por meio de um questionário aplicado a 74 estudantes de cursos de pós-graduação. Os dados evidenciam que o aplicativo foi útil para ações de caráter acadêmico, como: compartilhamento de material de estudo e pesquisa, orientações, informações sobre as aulas, agendamento de horário para coleta de dados, dentre outras, sobretudo no auge da pandemia por COVID-19, quando foi demandado isolamento e distanciamento social. Destaca-se a necessidade da realização de formações sobre utilização de ferramentas tecnológicas, visando melhor explorar as potencialidades das mesmas.

PALAVRAS-CHAVE: *WhatsApp Messenger*. Uso do *WhatsApp Messenger* por alunos de pós-graduação. *WhatsApp Messenger* para fins acadêmicos.

NOTE

1 "Special Students are those selected according to the criteria of the public selection notice approved by the Collegiate, and duly enrolled in a discipline, without the right to obtain a master's or doctoral degree. The special student is subject, as appropriate, to the norms of Unioeste and the Program applicable to regular students, being entitled to a certificate of approval in the discipline, issued by the Academic Secretariat" (UNIOESTE, 2016, n/p).

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