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INFLUENCE OF MOBILE APPLICATIONS IN HELPING THE TRAINING OF HIGHER EDUCATION STUDENTS – CONSTRUCTION OF A RESEARCH FORM

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Edmilson Pereira Constantin[1], Cristina Braga[2], Clayton Gomes Crozariol[3], Eduardo Filoni[4], Leandro Ribeiro da Conceição[5], João Luís Erbs Pessoa[6], Márcio Fernandes da Cunha[7], Gleyce Kelly de Brito Brasileiro Santos[8], Marília Perdigão Freire Ferro[9], Adriana Sarmento de Oliveira[10], Esmeralda Katiane Ferreira Paiva[11]

[1]Specialist in Adult and Pediatric Cardiopneumofunctional Physical Therapy
Cruzeiro do Sul University - Unicsul
Av. Dr. Ussiel Cirilo, 93 - Vila Jacuí, São Paulo - SP, 08060-070
E-mail: barbosa-edmilson@hotmail.com
[2]Dr. in Health Sciences from the Institute of Medical Assistance to the State Public Servant of S. Paulo (IAMSPE)
Institute of Medical Assistance to the State Public Servant of S. Paulo
Av Ibirapuera, 981, Indianópolis, São Paulo - SP, CEP: 04029-000
Email: bragacristina351@gmail.com
[3]Specialist in Adult and Pediatric Cardiopneumofunctional Physiotherapy at Faculdade Santa Marcelina (FASM).
Professor at the City University of São Paulo (UNICID)
R. Cesário Galero, 448/475 - Tatuapé, São Paulo - SP, 03071-000
E-mail: clayton.ef.fisio@gmail.com
[4]Dr. of Science
Cruzeiro do Sul University
Av. Salgado Filho, 100, Centro, Guarulhos - SP, CEP: 07115-000
Email: edufiloni@hotmail.com.br
[5]Master of Pharmacy
Anhanguera University of São Paulo (Unian)
Nurse Auditor, University Professor (C7 Health Auditing),
São Judas Tadeu University, Rua Taquari, 546, São Paulo - SP.
E-mail:lefasp@gmail.com
[6]Dr. in Health Sciences UNIFESP
Universidade Nove de Julho.
Rua Vergueiro, 235/249 - Liberdade, São Paulo - SP, 01525-000
E-mail: erbs.joao@uni9.pro.br
[7]Master of Science in Health Sciences
Cruzeiro do Sul University
São Miguel, Av. Dr Ussiel Cirilo, 111 to 213 – Vila Jacuí – São Paulo CEP 08060-070.
E-mail: marciofdc@terra.com.br
[8]Master's Degree in Nursing from the Federal University of Sergipe
Federal University of Sergipe and Brazilian Company of Hospital Services – EBSERH
Rodovia Edilson Távora, num 6500, Luar da Barra, Barra dos Coqueiros/SE ZIP Code: 49140-442
Email gkbsantos@hotmail.com
[9]Nurse Specialist in Public Health - Department of Education of the Federal District
SCN Q 6 Shopping ID Id - Asa Norte, Brasília - DF, 70297-400
E-mail: mariliapferro@gmail.com
[10]Dr. in Cardiology from the Faculty of Medicine of USP/University of Toronto.
Graduate Program in Biomedical Engineering at Anhembi Morumbi University
Technological Innovation Park, São José dos Campos, CEP 12247-016.
Email: adriana.sarmento@alumni.usp.br
[11]Graduated in physiotherapy
São Judas Tadeu University

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Christian Douradinho[12], Alfredo Ribeiro Filho[13], Paulo Celso Pardi[14] and Edson Shigueo Gondo[15]

ABSTRACT

Introduction: In academic life, all information is transmitted in a curricular structure that contemplates the full qualification of the future professional. Certainly, it is a challenge for teachers to transmit practical teaching in expository classes and with a limited workload. It is also a challenge for students to learn, fix and apply the concepts transmitted. **Objective:** To develop an electronic form that can collect information pertinent to the influence of mobile applications on the study routine of academics, as well as their applicability. **Methodology:** The research method was the development of a closed online questionnaire classified as exploratory, as there is no specifically elaborated research that relates the influence of mobile applications in helping the training of students in their academic routine. **Results and Discussion:** All the data collected after being compiled will be opened in Microsoft® Excel 2019 software on Windows© version 10 Pro 64-bit platform, which was used to adjust the file information with extension. The tabulation will be performed in Microsoft Excel and the data will be exported for statistical analysis in the Statistical Package for the Social Sciences (SPSS) software, version 20.0 (IBM). The data will be presented in the form of absolute and percentage frequencies using Cronbach's alpha coefficient. **Final Considerations:** The use of applications presents some challenges and advantages for its implementation, the challenges include access to the internet, knowledge in the use of applications and the advantages are connectivity, portability, flexibility, autonomy of students and in carrying out their tasks. The elaboration of this digital form can help to understand limitations regarding the use of mobile devices in educational practices.

Keywords: Mobile Applications. Students. Influence. Construction of a Survey Form.

Rua Basílio Magalhães,250, Santo André - SP
E-mail: Esmeraldarochafpl@gmail.com
[12]Master in Medical Sciences Focus on Gerontology from the Faculty of Medicine of the University of São Paulo (FMUSP)
Nove de Julho University
Rua Adolfo Pinto, 109, Barra Funda, São Paulo - SP, CEP: 01156-050
Email: c.douradinho@uni9.pro.br
[13]Master in Pharmacy Uniban
Universidade Nove de Julho.
Rua Vergueiro, 235/249 - Liberdade, São Paulo - SP, 01525-000
Email: arfmm@uol.com.br
[14]Dr. in Sciences (Morphology) from the Federal University of São Paulo (UNIFESP)
Eniac University Center of Excellence
Rua Força Publica, 89, Centro Guarulhos Cep 07012-030
E-mail:drpaulopardi@gmail.com
[15]Acupuncture Specialist
Cruzeiro do Sul University – Unicsul
Av. Dr. Ussiel Cirilo, 93 - Vila Jacuí, São Paulo - SP, 08060-070
Email: shigondo@gmail.com

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INTRODUCTION

With globalization, the evolution of information technology and the *internet and the creation of mobile (portable) communication devices (smartphones and tablets*), it has made it possible for human beings to have almost unlimited resources for information. According to the Guidelines for Mobile Learning Policies (UNESCO, 2013), the ease of access to mobile devices and increased use by society indicate that at least one person has a device at their disposal and knows how to use it. Where 33 million people in Brazil have access to fixed broadband and 226.3 have access to mobile telephony, with 69.6% of mobile accesses already using 4G technology and 17.5% of 3G technology, that is, with access to the internet and application resources.

Over the years, health courses have undergone important changes in the speed of innovations, bringing growth, research, and improvement to the education process (Santos, 2019). Considering the benefits of advances in mobile technology and because it is attractive and present almost full-time in the routine of part of the population, it is assumed that the use of applications as instruments during the training process of physiotherapy students are auxiliary resources in studies. The introduction of technologies and new teaching methods have contributed to improving and allowing learning in a more efficient way (Santos, 2019).

In academic life, all information is transmitted in a curricular structure that contemplates the full qualification of the future professional. Certainly, it is a challenge for teachers to transmit practical teaching in expository classes and with a limited workload. It is also a challenge for students to learn, fix and apply the concepts transmitted. Thus, the search for more efficient and attractive methods becomes a duty of the academic community (Weintraub, 2011). Current national health and education policies point to the need for changes in the processes of professional training in health (Santos, 2019). In this case, we turn our attention to mobile devices and the features of their applications to assist the student in their academic tasks.

Technological resources for communication and information have developed rapidly, occupying space in the daily lives of students and teachers, serving as a tool to help in the teaching and learning process (Santos, 2019).

Attentive to new educational trends and technological evolutions, it is perceived that in the day to day of studies, the student tends to make quick decisions, respond quickly, but the conventional consultation of huge books and the papers of articles or printed

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handouts are usually discouraging to carry and consequently study. In this context, virtual libraries of digital books (*e-books*), technical applications or guidance can help in students' decisions and studies.

Seeking relevance in contact with the digital consumer has been a challenge for organizations. Apps are a possibility for relationship and communication, they are legitimate means of promoting experiences. With the feasibility of inserting elements such as interaction, music, animation, games, audio and video, applications are rich forums of information and relationship. (Guidini, 2017).

The app usage survey points out consumer behavior in relation to the app market. It is an important strategic tool that helps managers and professionals from different areas to make decisions more confidently with the support of the variables obtained from the responses of the surveyed public.

In view of the scarcity of technology that helps the student, this work aimed to develop an electronic form that can collect information relevant to the influence of mobile applications on the study routine of academics, as well as their applicability.

This questionnaire was carefully concerned with being a questionnaire of quick application, easy interpretation and practical decision of answers. That guarantees the security and confidentiality of the information collected from the sample responses, in this case university students.

METHOD

The research method was the development of a closed online questionnaire classified as exploratory, as there is no specifically elaborated research that relates the influence of mobile applications in helping the training of students in their academic routine. The empirical results presented in this work were based on the quantitative analysis of data collected through the survey and the answers.

The questionnaire consisted of nine questions divided into three determinants of the TAM (Technology Acceptance Model) scale. The TAM model and its evolutions predict the intention to behave, through antecedent attitudinal and normative or social factors.

The TAM model is based on two principles (belief in **perceived utility** and **perceived ease of use**). For the model, questions were elaborated; five of which are "perceived utility", three are "perceived ease of use" and one that represents the "external variables", as described below:

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- ✓ **Perceived Utility**:

1- Does using a mobile app add value to my studies?

2- Is the use of apps useful in carrying out my academic work?

3- Apps make my studies more interesting

4- Do mobile apps optimize my performance in studies?

5- Does using mobile apps make my studies more productive?

- ✓ **Perceived Ease of Use**:

6- Would I use any app to study?

7- Do apps make it easier to carry out academic tasks?

8- Do the apps provide interaction and dynamism in my studies?

- ✓ **External variables**:

9- Would I use a specific application for consultation and study?

Davis (1989) defines the two main determinants of the TAM model as follows:

- ✓ **Perceived Usefulness** - It can generate positive credibility, which influences your relationship or choice of use. Degree to which a person believes that the use of a system can improve their performance, that is, how the technological innovation used is perceived as superior compared to traditional practice and how they could optimize the execution of tasks, with the improvement of effectiveness, quality, speed of execution and other utilities derived from the use of technology applied to work and day-to-day tasks (Pires, 2008).
- ✓ **Perceived Ease of Use** – indicates the individual's expectations in the exemption from physical or mental effort for the use of a certain system or technology (Pires, 2008).

Usefulness and ease of use presented results that evidence the decision to continuously use technology

- ✓ **External variables** – can be defined as factors that justify the determinants; perceived usefulness of use and perceived ease of use (SILVA, 2012).

The data collection instrument used for the study will be structured, with closed questions and a Likert-type scale. This scale is widely used in TAM model research. The extremes of the scale are gradually scored up to seven points, with one of the extremes starting with a value of 1, represented by the descriptive ***totally disagree***, and ending the other extreme with a value of 5, represented by the descriptive ***totally agree***. The Likert

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scale was used to fill out the aforementioned questionnaire, standardizing the answers in a closed survey model.

Exploratory research with the application of a closed electronic questionnaire, virtual questionnaire model (online form).

The questionnaire can be transmitted via communication applications with an online (virtual) invitation format, disseminated by those responsible for the work through e-mail (electronic message transmission tool) or *WhatsApp* and Telegram (multiplatform instant messaging applications and voice calls for smartphones). In the presentation of the invitation, the information of the project will be described along with the data of the person involved in the study.

For the development of the survey form, the WYSIWYG Web Builder 14 program was used, the programming language used was HTML (Hypertext Markup Language), for the questionnaire the PHP (Hypertext Pre-Processor) language, being the most advisable for sending the information through SMTP (Simple Mail Transfer Protocol) e-mail and being hosted on a contracted server (paid), This hosting serves to store the data of the answers obtained. The hosting server used was *https://www.hostinger.com.br/*, *which* is a company known as *Hostinger International, Ltd*, a *web hosting* and internet domain registration *provider* founded in 2004 and which has more than 29 million users in 178 countries. The server has the sole and exclusive purpose of storing all the information of this survey, the domain for accessing the questionnaire was www.pesquisatcc.online.

The directing of invitations to participants will be via email, using the Gmail email provider. In the subject of the email, the reason for the study will be described.

After filling out the form, all answers will be filed in the database of the contracted server, which will record the day, and time of filling out the survey and the IP (*internet protocol*) number, the data will be saved (stored) in the file format with . CSV (*comma separated values*).

The process works completely online, that is, the tool is compatible with any browser and operating system. First, it will be necessary to enter personal data (Figure 1).

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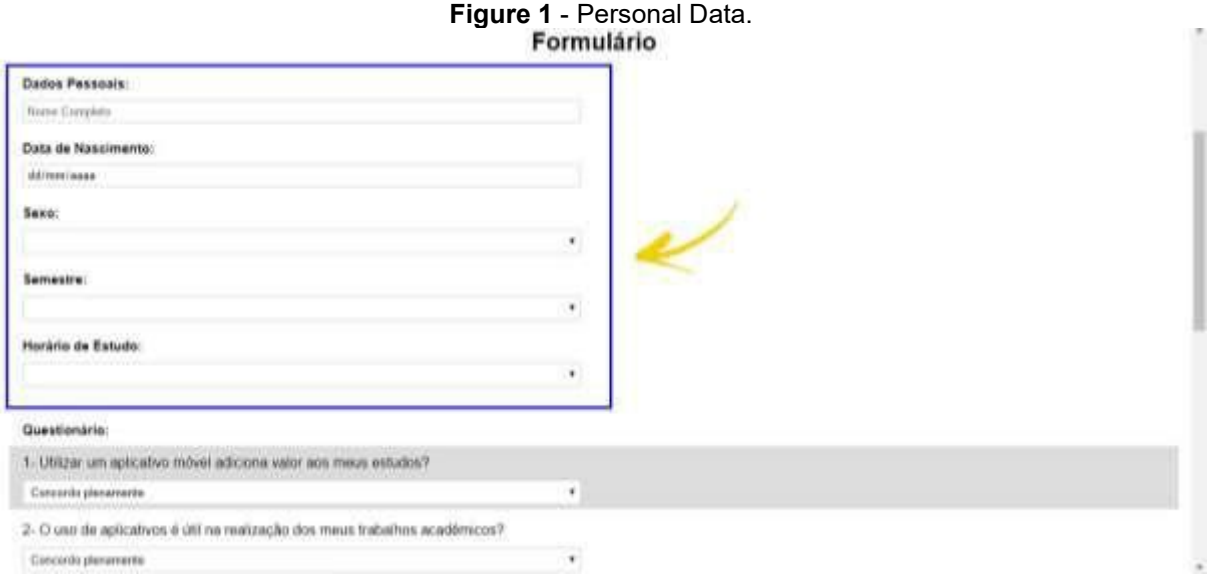
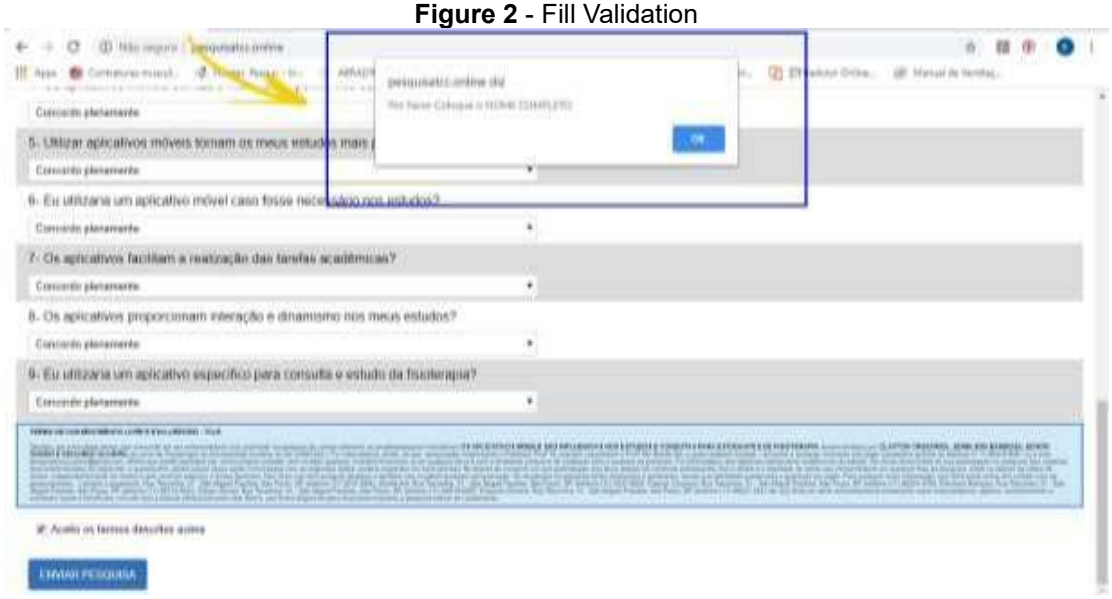
Figure 1 - Personal Data.



Source: Authors.

If the volunteer forgets to fill in one of the fields of personal data, the form will not be sent due to the validation of the system that requires complete completion and, in turn, indicates what is missing to be filled in. In this way, possible sample losses are reduced (Figure 2).

Figure 2 - Fill Validation



Source: Authors.

To fill out the questionnaire, pre-defined answers were used according to the Likert scale model. In this way, the volunteer found answer options and chose the most appropriate one for each question (Figure 3).

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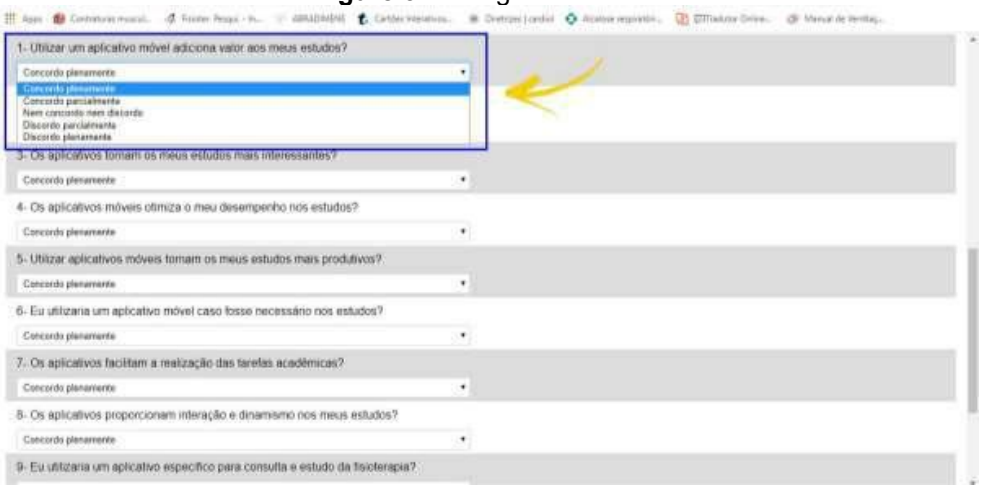
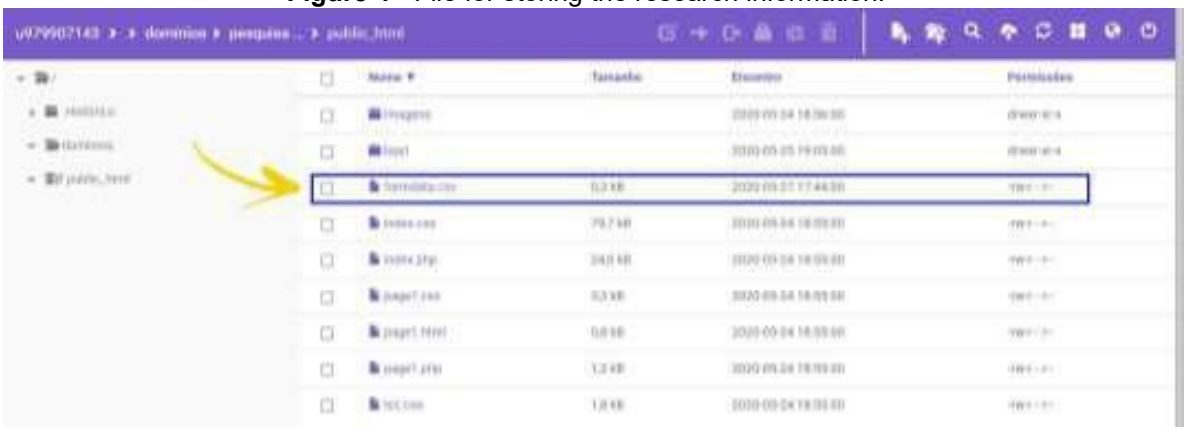
Figure 3 - Filling out the form



Source: Authors

The storage of the information will go to a database within the hosting server, all information will be archived in full automatically (Figure - 4).

Figure 4 - File for storing the research information.



Source: Authors.

The file has the information in the . CSV, ready to be compiled and inserted into the statistics software for results calculation.

EXPECTED RESULTS AND DISCUSSION

All the data collected after being compiled will be opened in Microsoft® Excel 2019 software on Windows© version 10 Pro 64-bit platform, which was used to adjust the file information with extension.

The tabulation will be performed in Microsoft Excel and the data will be exported for statistical analysis in the Statistical Package for the Social Sciences (SPSS) software,

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version 20.0 (IBM). The data will be displayed in the form of absolute and percentage frequencies. To estimate the reliability of the questionnaire, we will use Cronbach's alpha coefficient where the internal consistency of 0.70 was used for acceptable reliability.

IBM' s Statistical Package for the Social Sciences (SPSS) software, version 20.0, was first released in 1968 and was acquired by IBM in 2009, and is officially known as IBM SPSS Statistics, but most users still only refer to it as "SPSS". It is a software for editing and analyzing all kinds of data. This data can come from basically any source: scientific research, database, and Google Analytics. SPSS can open all file formats that are commonly used for structured data, such as Excel or OpenOffice spreadsheets, plain text files (.txt or .csv), relational databases (SQL), Stata, and SAS. Where we will limit ourselves to Excel and utilize the output features of SPSS (charts and graphs) that are easily inserted into other programs such as word processors such as Word, OpenOffice, or GoogleDocs for reporting.

For Matthiensen (2011), questionnaires, as a methodology for data collection, are widely recognized as a practical and economical method in the most varied areas of research, for acquiring information when there is a need to know about behaviors, attitudes, opinions and preferences. However, it is important to be able to evaluate whether the instrument used in the research can infer or measure what it really proposes, giving relevance to the research.

For this study, Cronbach's Alpha Coefficient will be used to measure the reliability of this work. Cronbach's Alpha Coefficient is an assessment of the internal consistency of questionnaires for a set of two or more indicators. The values vary from 0 to 1.0 and the closer to 1, the greater the reliability between the indicators. In the academic and technical environment, the use of a coefficient is a determining factor for its adoption as a tool to estimate the reliability of the information obtained, it has contributed greatly to indicate the quality of the results of a test. Since there is a tendency for broad and unrestricted acceptance in the main academic journals and periodicals that statistical methods are used (Da Hora; Martin; Arica, 2010).

It is important to understand that the internet, or global information system, is formed by a worldwide network of interconnected computers; today it represents the largest repository of information known in the world and is available to any individual who accesses the network anywhere on the planet (Hunsaker; Hargittai, 2018); (Center for the Digital Future, 2016). The arrival of this technology has brought numerous facilities to

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people's daily lives, as well as contributed immensely to the advancement of science, commerce, socialization, administrative processes, leisure, communication and knowledge and in this area it is widely used (Paiva, Del-Masso, 2013).

Developed countries have been investing more and more in the area of technoscience, as a way to improve the quality of life of the population as well as access to information, consumer goods, among others, so the use of applications and the understanding of how they can help the student's life can be an excellent instrument for understanding various topics related to the chosen profession. In this way, how the internet has been contributing with information (Paiva, Del-Masso, 2013).

In developed countries such as the United States, when it comes to Internet user profiles, it is observed that more and more people are using the internet as a source of information and guidance.

The Internet has been increasingly used as a source of information about the lifestyle habits of the general population, due to its wide reach, the growing use of social and relationship media such as *Facebook, X* and *Google+* that provide access to the most diverse populations of readers who make use of the social network (Boxell; Gentzkow; Shapiro, 2017).

FINAL CONSIDERATIONS

This study sought to create an instrument that can identify the influence of applications on academic training and whether this tool can be an ally for the promotion of new knowledge and contribute with information that can actually be accessible and reliable, changing paradigms about the teaching-learning process.

The use of applications presents some challenges and advantages for its implementation, the challenges include access to the internet, knowledge in the use of applications and the advantages are connectivity, portability, flexibility, autonomy of students and in carrying out their tasks. The elaboration of this digital form helps to understand limitations regarding the use of mobile devices in educational practices. The fact is that Information Technology is a type of learning that has been increasingly widespread, in the sense of providing significant changes in the teaching-learning process and not in the perspective of replacing traditional educational systems. Therefore, it is necessary to discuss the theme in school environments and build applications that can improve and strengthen these concepts for mobile learning, with the use and development

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of educational applications. More studies should be done in this area and it is hoped to be able to use this research form in the near future.

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