MAPPING THE MANAGEMENT AND PEDAGOGICAL SUPPORT COMPETENCES OF PROFESSIONALS WORKING WITH DISTANCE LEARNING

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ABSTRACT: The aim of the present study was to empirically diagnose the professional competencies (technical and behavioral) concerning the management, pedagogical and secretarial support in distance learning courses provided by Brazil Open University. A sequential mixed model design was applied through two empirical stages, which encompassed one qualitative stage composed of documental analysis and of the conduction of nine semi-structured interviews; and the was based on the application of a totally structured questionnaire. Data treatment was conducted through content and statistical analysis. Results showed low competence gaps, fact that suggests that activities focused on recruitment, training and on competence development have been possibly performed in compliance with the attributes needed by the secretarial and support teams. It is recommended to apply data evaluations based on multiple sources and on the psychometric validation of the competence instrument in further studies in order to identify its internal and external validity evidences.

Keywords: Professional skills. Brazil Open University (Universidade Aberta do Brasil - UAB). Skill gaps. Distance learning.

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MAPEAMENTO DE COMPETÊNCIAS DE SUPORTE E DE APOIO PEDAGÓGICO E ADMINISTRATIVO DE PROFISSIONAIS QUE ATUAM NA MODALIDADE A DISTÂNCIA

RESUMO: O presente estudo teve como objetivo diagnosticar, empiricamente, as competências profissionais (técnicas e comportamentais), de apoio e suporte administrativo, pedagógico e secretarial, de cursos a distância ofertados no âmbito da Universidade Aberta do Brasil. Por meio de duas etapas empíricas foi realizada pesquisa com desenho multimétodo sequencial, que envolveu fase qualitativa, composta por análise documental e realização de nove entrevistas semiestruturadas, e fase quantitativa, com aplicação de questionário totalmente estruturado. O tratamento dos dados foi feito por análise de conteúdo e análise estatística. Os resultados indicaram baixas lacunas de competência, o que sugere que as atividades de captação, treinamento e desenvolvimento de competências provavelmente têm sido realizadas de forma condizente com as necessidades das atribuições das equipes secretariais e de apoio. Recomenda-se, para pesquisas futuras, que se utilize avaliação por múltiplas fontes e a validação psicométrica do instrumento de competência, para identificar suas evidências de validade interna e externa.


INTRODUCTION

Nowadays organizations need to develop mechanisms to enhance and improve their performance. The recruitment and training of man-power presenting the competencies, attributions and responsibilities their working position requires is an strategy that has been adopted. Therefore, competence mapping has been recommended in order to better establish what are the real knowledge, capacity and skill profiles of individuals supposed to occupy the referred position in comparison to the expected profile throughout the conduction of their activities. Competence mapping has been generating important results in the organizations, regardless of their nature or end (work, school and others).

Such reality is not different when it comes to distance learning. Since it is an innovative modality to promote teaching and learning, it is crucial that the competencies of social actors directly involved in its conduction are previously mapped in order to have a successful system. Such mapping would assure that the one responsible for performing any occupational role concerning the promotion of this education modality will be successful throughout his/her routine. Because of its specificities, distance education has to be quite well-planned in order to provide effective learning conditions to students.
With regard to the national context, the Brazilian federal government, through the Education Ministry, announced Decree n. 5.800/2006, which instituted the Brazil Open University (Universidade Aberta do Brasil - UAB). The Brazilian Open University was launched in order to broaden the access to higher education throughout the national territory by using the distance education instrument. UAB was created to empower inclusive-education public policies focused on continuous teacher’s formation. It has great national geographic insertion; therefore, studies on the actions related to professional competence acquisition in its scope became of substantial social, academic and practical relevance.

It is demanding that social actors involved in the distance learning process meet UAB’s mission and aims in order to this instrument to be successful. It is worth describing the competence profile of social actors directly involved in the courses provided by the UAB system, because competencies enable excellent performance at work.

The role played by the management and secretarial team is essential to achieve learning in distance learning. The secretarial and management support found in UAB provides logistic back-up to students. This system is of great importance to learning accomplishments either in terms of technical (issue students’ academic records, take off data of students who have abandoned school, students’ monitoring, and others) or logistical aspects (organizing classroom lessons for test taking, scheduling, follow-up with distance learning graduated tutors/teachers and with tutors/teachers graduated in regular colleges, and others). Both the management and the secretarial support have tactical importance in distance learning; moreover, they are essential to students’ maintenance and monitoring throughout their learning process.

Brandão (2007) pointed out the existence of important limitations in empirical studies on competencies. Most of this literature is prescriptive, and it is impossible finding empirical evidences about the effectiveness of competence mapping and diagnoses practices, mainly in school environment.

There are no scientific studies published so far showing the validity of the diagnostic profile concerning the competencies needed to work with management and secretarial support/back-up giving, or even to identify competence gaps regarding the conduction of such activities (GREEN; ALEJANDRO; BROWN, 2009; MATTAR, 2012). Ruas, Fernandes, Ferran and Silva (2010) stated that some of the publications about the topic have been applied to the educational environment, with emphasis to Higher Education Institutions;
however, these publications focus on students’ performance in didactic disciplines. They do not approach the professional competencies applied to the establishment of secretarial-team diagnostic profile and to the management support from those who act in the distance learning modality. Such fact that would certainly bring great benefits to the identification of knowledge and skill gaps that could enhance their actions. Training policies based on the identification of gaps in performance could, for instance, be provided to the support team, for it could be expected to have positive impact on work achievements.

Accordingly, the aim of the present study was to empirically diagnose the individual competencies (technical and behavioral) necessary to the effective conduction of secretarial and management functions in distance learning within Brazil Open University (UAB). Most of all, the aim was to map individual competencies (technical and behavioral) of secretarial and management support teams in the UAB scope, as well as identify the domain and importance degrees attributed to its competencies and, yet to calculate the gap found between the importance and domain of its expected and actual competencies. This mapping will be herein approached as the methodological procedure used to identify and account the existing individual competencies in the organization. The “diagnosis”, in its turn, will be defined as the mapping result, through which it will be possible identifying the existing gaps in the measured competencies. These competencies will be assessed as behavioral indicators, since they show the expected actions from an individual performing his/her work by relating the identified gaps to the low performance (BRANDÃO; BAHRY, 2005; BRUNO-FARIA; BRANDÃO, 2003).

It was necessary developing an instrument to measure the specific competencies of social actors in order to get to a diagnosis, since the studied behaviors were significantly different between organizations (presenting the same function) due to organizational culture. Brandão and Bahry (2005) recommend to avoid using generic competence lists that do not comply the organizational strategy, since each organization has particularities different from the others, and it demands competencies to be contextualized. Although the current research is limited to UAB, it aims at contributing to studies about organizational management in public companies, with emphasis to mapping the professional functions and competencies of management personnel in an organization (BORGES-ANDRADE; COELHO JÚNIOR; QUEIROGA, 2006) who are relevant for the control of processes linked to learning processes in the distance modality.
The conduction of the present study is justified by the need of enhancing the research on the human resources management field applied to distance education by identifying the competence profile of management-support professionals, since many organizations have been making massive investments in the development of courses totally provided through distance learning. The success of these courses depends on the expertise degree of social actors involved in it.

Brazil Open University is an educational institution presenting the different needs of the ones listed by traditional teaching organizations; therefore, it is crucial that each social actor has the competencies that allow him/her to efficiently fulfill the routines, processes and challenges, besides to deal with different publics (students, tutors, teachers and others) with distinct needs (GONÇALVES, 2008).

The organization must provide inputs to guide the learning instructional actions after identifying the necessary competencies, since it will be aware of the knowledge, skills and attitudes shown by the individual, and who are the ones expected to perform the functions. Therefore, it will be able to guide the efforts through human resources management policies and practices and to take actions focused on the professional development of its employees, aiming at the effectiveness of their actions (BRUNO-FARIA; BRANDÃO, 2003; FAIAD; COELHO JÚNIOR; CAETANO; ALBUQUERQUE, 2012; SOUSA, 2011).

COMPETENCIES: APPROACHED DEFINITIONS AND THEORETICAL DIMENSIONS

Organizations realize about the need of developing and incorporating more efficient and new management processes and models able to bring competitive advantages due to the transformation scenarios (social, economic, political, organizational and cultural) emerging from globalization and from a modernization process. It is done in order to promote individual and organizational development by enhancing its development. Accordingly, one finds the rediscovery and revaluing of the competence concept, which is associated with an effective management model (BRANDÃO, BAHRY; FREITAS, 2008; KILIMNIK; SANT’ANNA; LUZ, 2004; SANT’ANNA, 2008).

Thus, many organizations have adopted the management by competencies as an alternative to traditional management models, since this system addresses the alignment between efforts in different organization levels (namely: individual, collective and organizations) in order to improve company development. The contemporary
view about management by competencies sees this alternative as a performance facilitator, because it allows a systemic view of many organizational systems and practices as a whole. This model aims at guiding the efforts by using different strategies and instruments to plan, recruit, develop and evaluate the competencies of the company and of its employees. This system is based on the assumption that companies must present certain competencies that make them different from each other (BRANDÃO, 2012; BRANDÃO; BAHRY, 2005; CARBONE; BRANDÃO; LEITE; VILHENA, 2005; VIEIRA; NEVES, 2008). According to Brandão and Guimarães (2001), and Fleury and Fleury (2001), although the analysis focuses the individual, it is worth aligning the competencies to the needs set by the existing functions and positions in the organizations.

Fleury and Fleury (2001), Bruno-Faria and Brandão (2003) and Filenga, Moura and Rama (2010) understand that individual competencies are shown through professional performance and generate organizational value when the combination among knowledge, skills and attitudes generates work results. The conjunction between organization capacities and the skills of each employee generates value to both parts (ALMEIDA, 2010; BRANDÃO; ZIMMER; PEREIRA; COSTA; CARBONE; ALMADA, 2008). In other words, competencies help reaching the organizational targets and express social acknowledgement about people’s capacity by adding economic value to the organization and social value to the individual (FLEURY; FLEURY, 2001).

The term ‘competencies’ is often used by the common sense to refer to a person qualified to be in a certain position (FLEURY; FLEURY, 2001). According to Brandão (2008), and Brandão and Guimarães (2001), the term was incorporated to the organizational language to qualify an employee capable of effectively performing his/her function. Kilimnik et al. (2004) completed this definition by approaching competence as the synthesis of multiple knowledge acquired from different ways such as from learning, transference and adaptation. All these acquisition forms enable individuals to create the basis to perform their functions.

The literature divides the study about competencies in three groups and perspectives. The first group is based on the idea that competencies are inputs to generate organization value, which is conceived as an inventory of resources focused on identifying knowledge, skills and attitudes as function competence, and on qualifications inherent to the employee that enables she/he to efficiently perform a certain activity. The second group analyzes the expression of competencies through
the recorded results (outputs); and the last group, which is focused on personal attributes and on their expression in certain organizational contexts by analyzing capacities and competent performance aims at consolidating the first two groups by extrapolating them.

Dutra (2004) defines competence as the deeds expressed by individual's results or performance at work. Therefore, emphasis must be given to routine performance not just to the formal description of knowledge, skills and attitudes (KSAs), since employee’s training does not assure that such knowledge will be used to generate value to the organization. The individual must be able to mobilize his/her competencies in a certain situation within the work environment by showing that the competent performance generates values, either to the individual or to the company, through people and organization development. With regard to the current study, the option was made to adopt the competence-integrating group by operating competencies such as “responsible and acknowledged actions, which imply mobilizing, integrating and transferring knowledge, resources and skills that add economic value to the organization and social value to the individual” (FLEURY; FLEURY, 2001, p. 188).

According to Durand (1998), competence concerns a set of knowledge, skills and attitudes necessary to reach a certain target. Brandão and Borges-Andrade (2007), and Brandão and Guimarães (2001) advocate for the inter-dependent and complementary character of such dimensions because, in order to perform one of them, it is necessary interacting with the other two. The result of this interaction is the expression of competence itself. Knowledge about a set of assimilated or structured technical or behavioral information a person accumulates throughout life is defined as knowing what and why doing something. Skills are expressed through “how to do”; they are the individual’s capacity to productively, easily and precisely use his/her knowledge in order to reach a specific target. Attitude is the property influencing people’s behaviors by changing their predisposition to perform a certain activity. This dimension is associated with people’s feelings and social interactions, besides being expressed through ‘willing to do’.

According to competence-mapping, these dimensions must be expressed through tangible results, i.e., they must be able to be observed, assessed and analyzed in order to guide the organization’s actions to enhance its performance (VIEIRA; NEVES, 2008). The KSAs must also work to create an environment to support the learning system by promoting a friendly mood, by supporting
and encouraging the components, by acknowledging the efficient commitment and performance, and by providing the necessary material and technological support to conduct its functions (FREITAS; BRANDÃO, 2005).

According to Brandão and Bahry (2005), it is worth mapping, since competencies must be specific to each organization in order to fulfill their needs, and to be directly aligned to the organization’s culture, to its structure and strategies. Fleury and Fleury (2001) highlight that competencies must be always contextualized, because knowledge, skills and attitudes must be used, and communicated, in the organization in order to promote gains.

With respect to the present study, competencies will not be separated in knowledge, skills and attitudes, because of their interdependent and complementary character (BRANDÃO; BORGES-ANDRADE, 2007; BRANDÃO; GUIMARÃES, 2001). It was made the option to operate them in techniques and behaviors because, by means of such division, it is possible to divide them according to their closeness to the function. These techniques are close to the function and directly related to the necessary knowledge and skills to perform it. On the other hand, behaviors are focused on the skills and attitudes individuals’ need, and are distant from the function. Skills are focused on the abilities and attitudes individuals need, although they are away from the function (COELHO JÚNIOR; FAIAD; BORGES; ROCHA, 2013).

According to Brandão (2012), and Brandão and Bahry (2005), competence diagnosis consists of a procedure that aims at identifying the organizational and professional competencies needed by the employees to effectively perform their functions and to help the organization to reach its targets. In order to do so, it is possible identifying competence gaps by comparing the expected, or necessary competencies, to enable the organization to put its strategy in practice and the internally available competencies. Competence evaluation must have a formative character, because it acknowledges the showed competence, regardless of the way the individual acquired it (NUNES; BARBOSA, 2009).

According to Bitencourt (2004), it is necessary to approach more than the formal and structured practices, the informal practices and the relationships inside the professional actions by mapping the competencies. Le Boterf (1997) highlights the need of identifying the competencies based on personal attributes to educational formation and to professional experience by using a more integrating view of the individual.
According to Coelho Júnior et al. (2013), many methodologies can be used to conduct a mapping procedure, as long as they comply the scientific knowledge and the studied organization. The most used model in the literature, according to Brandão and Guimarães (2001) agrees with the following methodological steps: documental search to analyze the organizational strategy content and to extract the expected results from it at department and individual level (top-down). Subsequently, competencies must be described through performance references (i.e., behaviors able to be observed inside the work environment through usually expected performances or behaviors, which involve a verb capable of expressing an observable behavior and an object of action).

It is possible identifying a criterion that shows the satisfactory pattern and a condition in which the behavior can occur in order to help describing the expected behavior (Brandão 2012; Brandão; Guimarães, 2001; Bruno-Faria; Brandão, 2003; Brandão; Bahry, 2005; Carbone et al., 2005; Coelho Júnior et al., 2013). After the first competencies are built, it is necessary to subject them to key people in the organization so they can identify inconsistencies and inadequacies, as well as perform the semantic validation to assure that all respondents similarly understand the described behavior and are able to judge it. The most used techniques applied to map competencies are observation, interviews and questionnaires. According to Sousa (2011) and Brandão (2012), the most often used instrument applied to mapping is the interview conducted with people in charge of a certain function, since this method allows gathering real behavior descriptions and situations observed inside the work environment.

According to Sousa (2011), these methods can be individually applied, as well as in combination. Brandão (2012) states that questionnaire application is the main technique to identify competence gaps. Each competence is presented in the questionnaire and the individual is requested to answer about its importance to the performance of working routines and to the respondents’ competence degree of domain. Importance and domain are the two fundamental requirements to measure professional competencies. The greater the importance, and the smaller the competence domain, the larger the gap. The competence gap is located in the gap measured between real performance and the expected performance.

With regard to mapping, some studies (such as Amaral, 2008; Amaral, 2009; Castro; Borges-Andrade, 2004; Cobucci; Coelho Júnior; Faiad, 2013; Coelho Júnior;
ET AL., 2013; ESTEVES, 2008; GODOY; ANTONELLO, 2009) identified the specific professional competencies of certain occupational positions. According to Odelius, Ono, Abbad and Albuquerque (2016), it is usual finding in the literature studies about this topic that address the theoretical groups and competence development itself, after it is mapped. Such development, in its turn, is linked to the association of competencies with bigger performance gaps in training and learning programs in the organizations. The learning actions work to fulfill such gaps.

However, it is worth highlighting that no empirical references about competence mapping in support, management and secretarial teams were found in distance learning modality courses. On the other hand, some publications about more genetic competencies for secretarial and management actions in different organizational locus were found. Castro Filho (2016), mapped competencies of librarians who worked in a school library and identified that flexibility to manage school information and to work with the tools made available by information and communication technologies were those of greater domain and importance. Maroto (2012) pointed out that the capacity to fast and dynamically fulfill users’ demands is also an important competence expected for professional action.

When it comes to the juridical scope, Silva and Barbosa (2016) mapped the competencies of technical and management servers by focusing the diagnosis of behavioral competencies. They identified that knowing how to deal with the public, empathy and the capacity to accurately handle information were the competencies of greater domain among technicians working in the counties assessed in Bahia and Pernambucoo states. Lima and Silva (2015) identified that the degree of interest and the individual’s behavior in relation to the performed function were the most important behavioral competencies in the assessed sample; autonomy, and addition to the organizational value, were also mapped by these authors. Reis (2011) assessed technical and management servers in the Attorney General of the Republic and identified behavioral competence gaps related to rules and attitudes, to adaptation to demands, and to the capacity of planning and organizing, and to task performing. Smaller gaps were related to discipline, to search for information about certain procedures, to consultation to institutional rules and guidelines, besides to the capacity to keep interpersonal relationships and, finally, to act dynamically.

Esteves (2008) mapped behavioral competencies among secretaries in an attorney office in Brasília. The main competencies
listed in this study were ‘absence of competition and relationships based on trust between its members, learning transference and the capacity to manage either work or time’. Besides these competencies, there was a technical one, ‘having knowledge related to its function as the desired attribute for team efficiency’.

Amaro (2008), in his turn, analyzed the competencies in a Brazilian mining and logistics company and identified that personal attributes and social skills of technician/managers were much more valued when it comes to technical expertise related to tasks. Behavioral competences presented smaller gap. Godoy and Antonello (2009) identified that flexibility and adaption capacity were essential, with emphasis to social competences related to problem solving and to communication. Bitencourt (2004) performed a comparative study between Brazilian and Australian organizations and identified that essential competencies regarded partnership with universities, communication and team work, as well as with interpersonal relationships. Amaral (2009) mapped competencies related to planning capacity, organization and pro-activity among librarians who acted at USP. The author identified that the development of competencies generated enhancement in the quality of the performed work.

Galvão, Silva and Silva (2012), investigated the development of managerial competencies of principals in 58 public schools of the state network in a capital city of Northeast Brazil. They segmented competencies mapped in behavioral and social techniques through the influence from formal education, from professional experience and from social experience. Almeida (2008) identified competencies related to attitudes (willing to do) and to social skills among hotel receptionists in the Federal District. Competencies mapped by Sant’Anna (2008) were linked to the individuals’ capacity to commit to the organizations’ aims and to the capacity of generating gains.

With special regard to discussing the concept of competencies applied to the distance learning education context, it is possible citing the studies by Alves and Nova (2003), who focused on studies about the technical competencies of social actors who act in ‘EaD’ sectors essentially related to interactivity. Konrath, Tarouco and Behar (2009) mapped technical and behavioral competencies among virtual teachers (similar to pedagogical support according to the present article), students and teachers; and Oliveira and Santos (2013) mapped tutors’ competencies by focusing the pedagogical role in students’ learning conduction. Besides these little references, it is worth highlighting the referential legal milestone set in Brazil (2007) when the quality references for distance higher education in
the country were presented. It is worth pinpointing that not even few studies were published in scientific journals about the concept of competence applied to the reality of this teaching modality.

Regarding the locus of Brazil Open University (UAB), which is the object of the present study, it is possible highlighting the study by Coelho Junior, Faiad, Fonseca and Ferreira (2013), who mapped the competence of tutors in a public administration higher education course provided through this education modality. Tutors’ technical competencies were cross sectional to the need of providing intense pedagogical support to students, mainly by clarifying doubts and by using practical examples of daily life to facilitate the understanding about disciplines such as statistics and micro-economy.

METHODOLOGICAL PROCEDURES

It was herein made the option to perform a research based on sequential multi-method design, by using qualitative and quantitative approaches. The research was predominantly qualitative in its initial phase, since it aimed at extracting information about the study object through content analysis of semi-structured interviews and through a focus group attended by secretaries of the UAB system.

The analysis of normative documents concerning the creation and consolidation of UAB in Brazil was firstly conducted. It was done in order to identify the set of expected essential competencies when the university was formally regulated.

Characterizing the Organization (Brazil Open University)

Brazil Open University (UAB) was instituted by presidential decree n. 5.800 from 2006; it is a system supposed to expand the offer and access to higher education courses countrywide. The aim of UAB consists of offering distance public higher education courses provided through the distance modality by Public Higher Education Institutions (Instituições Públicas de Ensino Superior - IPES) and by classroom support centers located in many Brazilian counties (CAPES/UAB).

UAB intends to consolidate the public policies on inclusive and citizen education, in order to expand the higher education (GONÇALVES, 2008). The project is a national system focused on broadening and embodying higher education in municipal centers that support the classroom lesson system. It is done by implementing courses mainly focused on training basic education teachers in many different fields.
Given the complexity of offering new courses, all the UAB system logistics is performed by support and back-up professionals with expertise in acting in distance learning. These professionals need to be highly trained to provide the best teaching and learning conditions to students.

It is essential to use a multi-disciplinary team for planning, implementing and managing the courses. Once more, it is worth highlighting the importance of the present study, since the technical and behavioral competencies of such back-up and support professionals were herein mapped. Therefore, it provides input to the development of talent-recruitment selection, as well as to the training and performance evaluation by maximizing the role played by these social actors. Resolution CD/FDNE n. 26 from June 5th, 2006, was issued by the Education Ministry to set the attributions of each position involved in providing courses through the UAB system in order to organize and describe its tasks. Thus, the document established the attributions of technical/management positions based on two fronts, namely: the technological and management ones. With regard to the present research, the option was made to sub-divide the positions according to the performed functions: secretarial, pedagogical and coordination. Coordinators work in command, planning and support activities, as well as in research project development activities related to courses and programs. Pedagogical support employees are responsible for tasks concerning planning and the conduction of suggested activities, as well as follow-ups with students, tutors and teachers’ formation. Finally, the secretarial functions refer to providing the academic support necessary to make the courses available, besides acting in the institutions headquarters and in classroom-lesson support centers.

Data collection and analysis procedures

Nine interviews with secretaries of the secretarial and pedagogical support and management teams who worked with distance learning in Brasilia University were carried out after the initial collection of information about UAB organizational structure. The accessibility and convenience criteria were adopted.

These secretaries were invited to participate in the semi-structured interviews in order to identify the knowledge, skills and attitudes they should have to perform their attributions. Questions related to daily work, its main attributions and responsibility, the difficulties they face and questions associated with work adaptation
were addressed. It was also asked what were the strategies used by them to deal with the reported difficulties.

Secretaries’ participation was free, and they agreed on attending the interview and to have it recorded for further transcription. They signed the consent form, which informed that the interview was performed for merely academic means. The interview script was followed until answers started to repeat (exhaustion), so the option was made to finish the interviews.

A focus group was conducted with three secretaries from a specific course provided through distance learning. This group was set as a request from the secretaries, who chose to debate their opinions together, rather than through one-on-one interviews.

The research team agreed on conducting the groups, because it would not methodologically, and negatively, influence the expected results (i.e., have the competencies mapped). Just as in the interview, anonymity and secrecy about the provided information were assured; all ethical procedures were adopted in details.

The interviews and the focus group aimed at identifying the technical and behavioral competencies necessary to the ‘management, pedagogical, secretarial and distance learning back-up and support’ function, according to the opinion of those who are responsible for these functions. this technique is recommended by Brandão and Bahry (2005). Either the interviews or the focus group followed a semi-structured script.

The knowledge and skills often reported by the participants were identified after the interviews and focus group transcription. The answer contents were enhanced in terms of construction and writing, and it generated the competencies according to recommendations by Brandão and Bahry (2005).

The competencies extracted during the interviews and the focus group would express certain expected behaviors by indicating what the secretary should do in face of a labor demand. The competencies were described through a verb capable of expressing an expected behavior based on a certain criterion by following a certain condition (BRANDÃO; BAHRY, 2005; BRANDÃO, 2009). This is the main mapping technique according to these authors.

Chart 1 exemplifies the technical and behavioral competence description process based on this type of content analysis technique. These competencies concern the required knowledge and skills to perform the attributions (technical competencies) and the most generic and cross sectional skills to the attributions, besides contemplating the attitudes (behavioral competencies).
CHART 1. Descriptive analysis of the interviews and competence formation

<table>
<thead>
<tr>
<th>Discourse</th>
<th>Extracted competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Interview 01:</td>
<td>Ajo I act according to the bureaucratic rules, which are formally set, I meet the deadlines and act in compliance with the expected. (technical competence)</td>
</tr>
<tr>
<td>“[… ] we have to have basic knowledge about computers. You have to have some secretarial sense in general, mainly about the academic part, because you work a lot with documents and form to students. You need to know how to dialogue and to answer the phone, to take notes, to pass notes on, to make meeting minutes, to confirm contacts, meeting with coordinators and professors, and information in general to students in the academic field. {…}”</td>
<td>I show the capacity to follow the learning doctrine of the institution by avoiding conflicts related to learning with the teacher and the course coordination. (Technical competence)</td>
</tr>
<tr>
<td>· Interview 02:</td>
<td>I act in partnership with the managers (scholars, of technology and others), in order to meet in time the demands requested to them. (technical competence)</td>
</tr>
<tr>
<td>“[… ] You have to know a little about the managerial routine, the academic secretarial routine and about computers. Sometimes, because of the distance can generate great miscommunication if you are not straight to the point and straight to what you want {…}”</td>
<td>I control documents and the mail, by establishing routines to catch up with them. (Technical competence)</td>
</tr>
<tr>
<td>· Interview 04</td>
<td>I show knowledge about how the computer system works by applying them in an organized way and by organizing my work (technical competence)</td>
</tr>
<tr>
<td>“[… ] Organizing the up-dates, right? The disciplines that will be launched, and coordinate the personnel that will work with me. Who will supervise the tutors’ activities {…} passing on information to coordinators too {…} supervising work mates’ work, distributing the tasks, passing on information, my function is to be the connection among students, coordinator and personal who are part of the staff {…}”</td>
<td>Capacity to work under pressure (I use strategies to adapt to adverse situations). (Behavioral competence)</td>
</tr>
<tr>
<td>· Interview 05</td>
<td>I am straight to the point (I am direct and precise without being wordy). (Behavioral competence)</td>
</tr>
<tr>
<td>“[… ] I do secretary work, which are up dates, enrolling students, recording the grades, attending to meetings, meeting minutes, helping the students and answering e-mails. As it is a distance learning course, then we have to send out lots of documents, many receives, many documents must be analyzed, many requirements, we can’t make mistakes {…}”</td>
<td>Ajo I act according to the bureaucratic rules, which are formally set, I meet the deadlines and act in compliance with the expected. (technical competence)</td>
</tr>
<tr>
<td>· Interview 06</td>
<td>I show the capacity to follow the learning doctrine of the institution by avoiding conflicts related to learning with the teacher and the course coordination. (Technical competence)</td>
</tr>
<tr>
<td>“[… ] Information, knowledge, pro-activity. knowledge about the moodle platform, which is essential. Knowledge about tools in the Office package also {…} Knowledge about data, and programing language. The issue about the moodle platform, knowledge about programing, some systems, even about how SIGRA, from UnB, Knowledge about the Office package {…}”</td>
<td>Capacity to organize (I predict, plan and organize the activities; I properly use time and space, by prioritizing material, financial and human resources, among others). (Behavioral competence)</td>
</tr>
</tbody>
</table>

Source: Research data
The semantic validation of the identified competencies was conducted, and judged, by two direction-board representatives who have worked at UAB/UnB Organization, as well as by two Brasilia University secretaries. The competencies were grouped within a totally structured instruments after this validation. Each competence was associated with an importance scale (from 1, not important to my performance; up to 5, I have a degree of expertise in this competence) and domain (from 1, I do not have such competence; up to 5, I have a degree of expertise in this competence). This instrument was the basis for the quantitative data collection, which is reported below.

The first version of the instrument was composed of 78 statements, 23 were technical competencies and 55 were behavioral. The questionnaires comprised the competencies mapped during the qualitative stage and were electronically sent out. The digital questionnaires were developed in Google docs platform and sent to professionals who work in the secretarial and managerial support of different courses linked to UAB/UnB.

The option was made for reducing the number of items in the questionnaire to 28 competencies (5 technical and 23 behavioral) after identifying the small number of respondents 20 days after data collection had started. The 28 competencies showing the highest importance means between the technical and behavioral ones were used to develop the new questionnaire according to respondents who had participated in the research until this point. The link for questionnaire responding was resent to UAB coordinators after the reformulation, so they could spread it among their staff.

Initially, the idea was to have just professionals from the UAB courses linked to the graduation and post-graduation courses in Brasilia University as population, but, due to the small number of respondents – even after reducing the number of items -, the questionnaires started to be sent to professionals in other IPES. It is consensus that the decision made to change the corpus did not affect the research aims, since the individual competencies necessary to the ideal conduction of tutorial functions are cross sectional and are not limited to a certain context or distance learning education system. These competencies are said to be applicable to any sort of support or back-up provided through the distance modality. Thus, the developed questionnaires were sent by e-mail to professional all over Brazil. In order to do so, coordinators from many different EaD Departments in universities throughout the country were contacted and requested to pass on the questionnaire to his/her support team.
The answers fed the Google Docs table and, subsequently, were the object of analysis in the Excell software.

The valid sample corresponded to 209 respondents. It was identified that the most of the sample was composed of women (77.5%), and most of these women (40.7%) were in the age group 41 to 47 years, 36% of them lived in the Southeast region of the county and 42.6% were already working with distance education for at least 4 years. The other 77% of them stated to have received some sort of training or preparation to act in their functions. Yet, it was verified that 51% stated that they also work in the classroom lesson modality, thus they accumulate both action forms. It is surprising that 99% of the assessed sample believes that, actually, even with all the difficulties related to the modality, distance students learn just as a classroom lesson student.

**Procedure to calculate competence gaps**

The mean, standard deviation and variation coefficient were used in the calculations. The formula suggested by Brandão (2012) was used to calculate competence gaps, namely:

\[ N = I \times (5-D) \]

Wherein:

- \( N \) → Need of training;
- \( I \) → Mean importance given to each competence;
- \( D \) → Mean domain attributed to each competence.

The present study addresses the need of training (N) as the competence gap. The mean scores applied to the formula were calculated. Brandão (2012) suggests the following scale to interpret “N”:

- \( N \leq 5 \) → Little, or no, need of training;
- \( N \geq 12 \) → Need of high training.

**RESULTS AND DISCUSSION**

Technical competences concerning the communication process, as well as concerning the secretarial routines and the use of new information and knowledge technologies were the ones presenting the biggest gaps, according to the participants’ perspective. Big gaps in the technical competencies were found by Alves and Nova (2003), although they related them to the use of pedagogical instruments.
available online (user navigability interface). The fast communication with course managers and coordinators is an essential task for activity full-function, and it presents alarming gap indices. However, overall, it is possible seen that the identified gaps were low; all of them scored less than 5 in the scale suggested by Brandão (2012).

The most important technical competence concerned analyzing the incoming documentation and its final destination. The technical competence evidencing the lowest importance to work performance was the knowledge about secretarial activities and routines focused on enhancing the conduction of management process activities. However, despite having the lowest importance mean, the attributed mean value can be considered high, and it indicates that this competence is necessary to a successful work.

Accordingly, the collected data show that the assessed professionals seem to have competencies meeting the desired domain parameters if one takes into account their self-evaluation. It seems to evidence that the EaD course selection, training and development is aligned with the need of secretarial support employees. Table 1 lists the 5 technical competencies and their identified gaps.

**TABLE 1. Descriptive Analysis of Technical Competencies**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Variation Coefficient</th>
<th>GAP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Importance</td>
<td>Domain</td>
<td>Importance</td>
</tr>
<tr>
<td>01 – I promptly provide the course coordination with the requested information</td>
<td>4.67</td>
<td>4.40</td>
<td>0.13</td>
</tr>
<tr>
<td>02 – I show awareness about the secretarial activities and routines in order to optimize the conduction of management activities and processes</td>
<td>4.62</td>
<td>4.45</td>
<td>0.11</td>
</tr>
<tr>
<td>03 – I write e-mails in a clear and objective way in order to inform what is necessary and avoiding misunderstandings or communication gaps</td>
<td>4.73</td>
<td>4.65</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Source: Elaborated by the research team
With regard to the behavioral competences, the biggest gaps concerned personal attributes mainly related to planning and performing support and back-up routines. Answering to students and teachers’ doubts within at most 24 hours was one of the most evaluated support competencies. It showed the highest importance by Konrath, Tarouco and Behar (2009), and Coelho Jr. Faiad, Fonseca and Ferreira (2013), when it comes to assure motivation persistence for studying and learning. Professional action to respond objectively, the capacity to manage work and time, as well as organization and pro-activity enable achieving better quality results at work. Just as Esteves (2008) and Amaral (2009), the present study also recorded the discipline importance for those who work in distance learning courses. Meeting the deadlines and paying close attention to the disciplines are also essential. The 15 behavioral competencies presenting the biggest gaps are shown in Table 2.

### TABLE 2. Descriptive Analysis of Behavioral Competencies

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Variation Coefficient</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Importance</td>
<td>Domain</td>
<td>Importance</td>
<td>Domain</td>
</tr>
<tr>
<td>16 – Capacity to act with accuracy (I present convincing arguments, and effectively express myself)</td>
<td>4.48</td>
<td>4.37</td>
<td>0.14</td>
<td>0.15</td>
</tr>
<tr>
<td>23 – Capacity to act objectively (I am straight to the point and precise, without being wordy)</td>
<td>4.55</td>
<td>4.40</td>
<td>0.13</td>
<td>0.14</td>
</tr>
<tr>
<td>27 – Capacity to be patient (I am easy, I know how to wait for the right moment to act or to reach a target)</td>
<td>4.60</td>
<td>4.43</td>
<td>0.12</td>
<td>0.14</td>
</tr>
<tr>
<td>14 – Capacity to be versatile (I adjust myself to new situations, and adapt to difference circumstances)</td>
<td>4.62</td>
<td>4.44</td>
<td>0.12</td>
<td>0.13</td>
</tr>
<tr>
<td>15 – Capacity to be creative and innovative (I show inventiveness, I am capable of searching for solutions in other sources)</td>
<td>4.57</td>
<td>4.44</td>
<td>0.13</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Mean 1</td>
<td>Mean 2</td>
<td>Standard Deviation 1</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>----------------------</td>
</tr>
<tr>
<td>26</td>
<td>Capacity to think fast</td>
<td>4.55</td>
<td>4.44</td>
<td>0.13</td>
</tr>
<tr>
<td>22</td>
<td>Capacity to be flexible (I accept suggestions and critics; I properly adjust myself to new facts, concepts or situations)</td>
<td>4.68</td>
<td>4.49</td>
<td>0.11</td>
</tr>
<tr>
<td>25</td>
<td>Capacity to have initiative (I suggest solutions and/or I act immediately and accurately in face of some situation)</td>
<td>4.65</td>
<td>4.54</td>
<td>0.11</td>
</tr>
<tr>
<td>20</td>
<td>Capacity to keep good interpersonal relationships (I am outgoing, I am polite and have the ability and care to relate to people)</td>
<td>4.71</td>
<td>4.56</td>
<td>0.10</td>
</tr>
<tr>
<td>08</td>
<td>I show the capacity to promptly fulfill the demands from different social actors (students, teachers and coordinators).</td>
<td>4.69</td>
<td>4.56</td>
<td>0.11</td>
</tr>
<tr>
<td>28</td>
<td>Capacity to be reasonable (I make accurate decisions according to the reason by knowing how to differentiate right from wrong)</td>
<td>4.68</td>
<td>4.56</td>
<td>0.11</td>
</tr>
<tr>
<td>13</td>
<td>Capacity to be dynamic (I am active and fast, I spend energy to perform the tasks)</td>
<td>4.65</td>
<td>4.57</td>
<td>0.12</td>
</tr>
<tr>
<td>07</td>
<td>I show the capacity to be organized at work, in time with its conduction</td>
<td>4.70</td>
<td>4.59</td>
<td>0.10</td>
</tr>
<tr>
<td>12</td>
<td>Capacity to work in teams (I interact and help other members of the team)</td>
<td>4.73</td>
<td>4.60</td>
<td>0.10</td>
</tr>
<tr>
<td>10</td>
<td>I show the capacity to be polite, regardless of the situation, thus making the conversations easy.</td>
<td>4.77</td>
<td>4.64</td>
<td>0.09</td>
</tr>
</tbody>
</table>

**Source:** Elaborated by the research team
It is seen that the competence “I show the capacity to be polite, regardless of the situation, thus making the conversation easy” presented the highest mean either in importance or in domain. On the other hand, the competence “capacity to act with accuracy (I present convincing arguments, and effectively express myself)” showed the lowest importance and domain. Respondents also seemed to attribute great relevance to commitment to what they do and to make it the best they can. Notably, interpersonal relationships are valued during debates and conversations, just as it was recorded by Reis (2011), Bitencourt (2004) and Benevides, Santos and Dultra (2009).

The variation coefficient was used to analyze the degree of homogeneity in the answers. The option was made to use this method, since it indicates relative dispersion and eliminates differences between scales. The mean dispersion calculation indicated that respondents had quite homogeneous opinion about the importance and domain of the measured items. The mapped competencies presented low variation coefficient and it indicated relative consensus in the answers.

Based on such results, it was possible to preliminarily stating that the study shows little need of training or learning actions, since high scores were given to the importance and domain of these items. Similarly, based on the recorded results, and according to Amaral (2009), Galvão, Silva and Silva (2012), Esteves (2008) and Almeida (2008), it is possible stating that the low gaps herein indicated may result from professional maturity. It happens due to the expertise and knowledge acquired throughout the professional practice, since most participants reported to have been working at EaD for at least 4 years.

CONCLUSIONS

The aim of the present study was to map and diagnose the professional competencies of the management support team (pedagogical and secretarial) of the distance-learning course provided by Brazil Open University. It is consensus that such goal was completely met, since the technical and behavioral competencies common to such professionals were mapped and diagnosed.

First, the professional competencies of the three UAB support teams were mapped in order to perform the diagnosis. Then, it was possible measuring the gaps by comparing respondents’ perception about the importance and domain of each competence. Finally, it was possible identifying the competencies UAB developed in its members, as well as the ones the organization still needs to develop in them.
With regard to the recorded results, there was compliance between participants when it comes to the competencies needed to perform their functions. They acknowledged the importance of valuing the awareness about the management routines, and to have secretarial, computer, academic management and human resources management knowledge. Results also suggest the need of valuing skills and attitudes concerning knowledge. The most valued characteristics were diplomacy, work management, time, discipline and interpersonal relationships.

Results have evidenced small competence gaps. It was possible observing that, by analyzing UAB relevant competencies, respondents pointed out that behavioral competencies are the most valued and necessary ones in order to reach excellency in performance. Competencies concerning organization and planning were also mapped; they are part of the competencies necessary to UAB management support and back-up. The domain concerning the ability to deal with internal and external public is essential to the full exercise of the function.

Some aspects limited the development of the current study. It was not possible statistically validating the research instrument, mainly because of the low number of participants in relation to the number of mapped competencies (the expected proportion was to have 7 and 10 respondents per competence in order to perform the statistical factorial validation). The time available was also limiting, mainly throughout the interviews, since interviewees did not have much time to participate and the instrument was applied during their working shift. Another limitation was the data about UAB available in the organization’s official information displays, which, at collection time, were obsolete and did not allow an accurate listing of all population able to be investigated.

The use of self-report or self-evaluation measures is another limitation of the current study. Literature shows the need of using multiple-evaluation sources in order to keep diagnosis accuracy, since evaluations can change depending on the viewpoint they are judged from. In order to minimize such bias, it is possible searching for internal documents at UAB about the competences necessary to the full exercise of employees’ performance. The present study did not have access to this type of documents. It was not possible identifying the degree of proportional distribution between Brazilian states and positions analyzed in the UAB system, given the data obsolescence in the institution. The competence questionnaire was answered in an online platform and was made available to the whole country, thus it did not allow the total control over the respondents’ profile.
As a research agenda, it is suggested to perform the psychometric validation of competence measures. It is recommended to point out its internal and external validity evidences focused on content and criterion validities, as well as to use evaluations of multiple sources in order to enable the comparison of results from all involved social actors. Moreover, similar studies must be conducted among other organizations, either of classroom lesson or distance learning. Despite the different empirical studies about the competencies in education organizations, references about competence mapping in management and secretarial support and back-up groups belonging to distance learning providers were not found.

It is also recommended to review the competence descriptions, mainly of the technical nature ones. The up-date and review of such competencies are essential to their adaptation and validity in labor routines. Organizational competencies at UAB strategic level can also be mapped. Their relation to the development of professional competencies can also be further studied. It is worth conducting studies to deeply understand the attributes of other EaD professionals involved in the UAB system such as instruction designers, content analyses and/or planners in order to understand the reality of these professionals. Other suggestion is to develop an instrument closer to the competence gap calculation in order to allow a more accurate analysis of such variable.

Finally, it is recommended to investigate other variable of micro and meso organizational membership levels such as satisfaction, civility, commitment to the task and traces or dimensions of organizational structure, which are cross sectional to the support and back-up work, because these variables can moderate the recorded empirical relations. The increased number of participants is an essential condition to test new and more robust and complex statistics. The structural characteristics of distance learning courses also need to be revealed by taking into consideration future research about the topic.

However, the current study helped either the theoretical field or the EaD practice in Brazil. So far, there is no scientific study available about the competencies necessary to the ideal performance of personal management and secretarial support and back-up tasks, and it justifies the relevance of this research in the theoretical field. Moreover, due to the growing importance attributed to EaD - as an efficient and feasible alternative to a democratic access to higher education in Brazil -, it becomes more and more demanding to conduct studies able to cooperate with this education modality.

Therefore, it is worth reinforce the importance of new studies either on the competence mapping field or on the elaboration
and testing of new instruments an studies on yet unexplored fields focused on understanding the variables related to EaD effectiveness in Brazil. This learning modality is growing and, therefore, needs a more consolidated theoretical and empirical reference.

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