Individual competences of distance education tutors

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Abstract

Distance education (DE) has played a key role in the acquisition of competences by students in the national and international scene. Tutors have strategic importance to the effectiveness of distance education, especially when it comes to technical competences related to the use of the virtual learning environment (VLE), and behavioral competences, which encourage the learner to engage and not to drop out. This study aims to empirically diagnose the individual technical and behavioral competences required tutors' effective performance in the context of Universidade Aberta do Brasil (UAB - Open University of Brazil). Two studies were conducted using data triangulation. Study 1 was qualitative and involved document analysis, interviews and focus groups. In the Study 1, we conducted content analysis. For the data generated by Study 2, which was quantitative and used a questionnaire, we did statistical analysis. The sample (N = 200) consisted predominantly of female subjects, who had been tutoring for at least two years. Results have shown low competency gaps, indicating that the activities of recruitment, training and competency development have probably been carried out in accordance with the requirements of the duties of tutors. For further research, we suggest investigations are conducted with higher number of subjects so as to allow more complex statistical analysis.

Keywords

Competences of tutors – Universidade Aberta do Brasil – Competency gaps – Management policy and practice.

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Diagnóstico de competências individuais de tutores que atuam na modalidade a distância

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Resumo

Neste trabalho, considera-se que a educação a distância (EaD) tem representado papel imprescindível à aquisição de competências por parte de aprendizes nos cenários nacional e internacional. O papel dos tutores é estratégico à sua efetividade, especialmente no que tange a competências técnicas, relativas ao uso do ambiente virtual de aprendizagem (AVA), e comportamentais, estimulando o aprendiz a se comprometer e a não evadir. O presente trabalho teve como objetivo geral diagnosticar, empiricamente, competências individuais (técnicas e comportamentais) necessárias ao desempenho efetivo da função de tutor no ensino a distância no âmbito da Universidade Aberta do Brasil (UAB). Por meio de dois estudos, foi realizada triangulação de dados, que envolveu fase qualitativa, composta por análise documental, entrevistas e grupos de foco (Estudo 1), e fase quantitativa, com aplicação de questionário fechado (Estudo 2). O tratamento dos dados qualitativos foi feito por análise de conteúdo, e dos dados quantitativos, por meio de análise estatística. A amostra (N=200) foi predominantemente feminina, atuando há pelo menos dois anos com tutoria. Os resultados apontaram baixas lacunas de competência, o que indica que as atividades de captação, treinamento e desenvolvimento de competências provavelmente têm sido realizadas de forma condizente com as necessidades das atribuições dos tutores. Sugere-se, para pesquisas futuras, a investigação com maior número de participantes, de modo a permitir análises estatísticas mais complexas.

Palavras-chave

Competências de tutores – Universidade Aberta do Brasil – Gaps de competências – Políticas e práticas de gestão.

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Introduction

The emergence and consolidation of new information and communication technologies have been establishing new standards in how people acquire knowledge. In this context, bringing the teaching-learning processes into virtual platforms is already a reality (CAVANAUGH; GILLAN; KROMREY; HESS; BLOMEYER, 2004).

Distance learning has thus become a recurring alternative for reaching a larger number of students around the world, across time and space borders (SETZER; LEWIS, 2005; WATSON; WINOGRAD; KALMON, 2004). Virtual student communities have become increasingly institutionalized as a pedagogical perspective for acquiring competencies. The school organization and the education process tend to be facilitated by the use of audiovisual resources, student development possibilities in a particular area of interest, learning synchronicity, in sum, by the new possibilities that characterized the so-called mobile learning, such as the ones discussed by Barbour and Reeves (2009) and considered by Kukulska-Hulme, Traxler, and Pettit (2007) in the current context of distance learning.

Recent reviews (ABBAD, 2007; ABBAD; ZERBINI; SOUZA, 2010; BARBOUR; REEVES, 2009; RUSSELL, 2006; RICE, 2006; KUKULSKA-HULME; SHIELD, 2008) point to distance learning as an open learning mode that occurs throughout one's life and assumes permanent adult education as a premise. According to Abbad, Zerbini, and Souza (2010), and to Kukulska-Hulme, Traxler, and Pettit (2007), distance learning has been applied both in a synchronous and an asynchronous way, with hypertexts and resources becoming available to participants who are often geographically separated from each other. Features such as the instructional characteristics of courses, teaching-learning situations and resources, interactivity, and learning support are crucial to the effectiveness of these students' actions (BELLONI, 2006).

Following the contemporary tendency of incentives to distance learning (DL), the Brazilian federal government has enacted, through the Ministry of Education, the decree 5,800/2006, creating the Universidade Aberta do Brasil (UAB) system, the main purpose of which is to expand access to higher education across the country through distance learning (BRASIL, 2006). In a recent empirical study, Nunes and Sales (2013) have already described UAB's structural components, as well as its insertion in the national education scene.

The UAB was created with the idea of promoting the public expansion of higher education, taking into account democratization and access processes, while aiming to improve the management processes of higher education institutions. It is also intended to consolidate the expansion in accordance with the educational propositions of states and municipalities. The UAB has a wide geographic coverage in the country, and studies of the effects of student action within the system have a major social, academic, and practical relevance.

An indispensable aspect for the effective coverage of distance learning involves the role of the tutor. The tutor represents the figure of the social actor who provides continuous help and support to the student (BARBOUR; COOZE, 2004; FORMIGA, 2009). In the UAB system, there are tutors in both presence and distance learning. Their importance is essential to consolidate learning in relation to technical aspects (developing contents, clearing doubts, and monitoring the student's academic progress) as well as motivational aspects (particularly by encouraging the student not to drop out).

Therefore, tutors have a tactical importance in distance learning. However, no scientific studies have been published until now about the diagnosis of the necessary competencies of tutors, or even studies identifying competency gaps regarding the performance of their functions (GREEN, ALEJANDRO, BROWN, 2009; MATTAR, 2012; SIMONE, 2006). There is no literature on

human competencies applied to establishing a diagnostic profile of distance learning tutors, a literature which would certainly yield major benefits, particularly in identifying knowledge and skills gaps, which might further optimize their performance.

In view of these facts, the purpose of the present work is to empirically diagnose the individual competencies (both technical and behavioral) necessary for effectively performing as a tutor in the context of the Universidade Aberta do Brasil (UAB). More specifically, this study aims to map tutors' individual competencies (both technical and behavioral) in the context of UAB, as well as to identify the levels of mastery and importance attributed to their competencies, and to calculate the gap between importance and mastery in their current and expected individual competencies (both technical and behavioral). Mapping is understood here as the methodological procedure used for identifying and listing individual competencies existing in the organization. Diagnosis, in turn, is defined as the result of this mapping, which allows identifying existing competency gaps.

Theoretical basis

Over the course of its evolution, the concept of competency can be considered multifaceted and it is typified according to various approaches (BRANDÃO; BORGES-ANDRADE; PUENTE-PALACIOS; LAROS, 2012; SANTOS; COELHO JR.; FAIAD, 2011). Competency has been traditionally described as the expected behavior of an individual in face of a work situation, thus becoming associated with the concept of performance (CATANO; DARR; CAMPBELL, 2007). Brandão and Bahry (2005), and Bruno-Faria and Brandão (2003) understand competency as an interaction between knowledge, skills, and attitudes, occurring synergically and leading to a particular expression of performance in a work context.

It was not until the 1970's that the appropriation of the word *competency* by the management literature only begun, with McLelland's study (FLEURY; FLEURY, 2001). According to authors of this line, *competency* meant an individual's set of qualifications which grants him a so-called superior performance at work or makes him capable of performing a particular function (CAMPION; FINK; RUGGEBERG; CARR; PHILIPS; OLDMAN, 2011; SANTOS; COELHO JR.; FAIAD, 2011).

Over the 1980's and 1990's, a school of European researchers became increasingly noticed which countered the North American authors' view of competency as a stock of qualifications. According to Le Boterf (2003), the mere possession of a set of skills and knowledge does not grant one the ability to act correctly and in the right time. In other words, qualification would be of little use unless the worker is able to put it into practice as expected, mobilizing his qualifications to achieve the purpose of his work (FLEURY; FLEURY, 2001; LE BOTERF, 2003). Amaro (2008) adds, moreover, that the knowledge and experience one acquires over one's life could not be considered competencies unless they are put into practice.

Zarifian (2001), in turn, stresses the relevance of initiative taking and a sense of responsibility on the part of the professional in work situations, in order to understand the concept of competency. We can see, therefore, a defense of the thesis that competency should be associated with a verifiable performance in the work environment, which would also allow competency to be measured and assessed.

Following this line of reasoning, competency is understood as the behavior one expresses in a work situation (COELHO JR; FAIAD; BORGES; FERREIRA, 2013). The same authors remind, however, that the expression of competency involves mobilizing the knowledge acquired over time, which allows perceiving the relevance of knowledge, skills and attitudes to professional development. Similarly, in a

line that emphasizes behavioral expression, competency can be defined as "one's 'initiative taking' and 'responsibility taking' in the professional situations one is faced with (ZARIFIAN, 2001).

For the purposes of this work, competency should be understood as the synergic interaction between knowledge, skills, and attitudes expressed through verifiable actions or tangible behaviors concerning performance in a work context (BRUNO-FARIA; BRANDÃO, 2003). A multi-criteria approach to competency will be emphasized in which competency must be susceptible to verification through its expression in tutors' performance, in a functionalist perspective. This verification is conducted by attributing conditions and criteria to each competency in terms of its expected outcomes in work.

In addition to this general concept of competency, we also emphasize the distinction between technical and behavioral competencies. Technical competencies are those whose expression derive from a function's specific knowledge and skills, while behavioral competencies are the ones based on more transversal skills as well as on attitudes. Technical competencies are considered position-proximal, since they are more closely related to the technical features of an employee's position. Behavioral competencies are considered as person-proximal (or position-distal), since they express characteristics more intrinsically related to the person occupying the position in the organization.

Competencies will be measured using the method of competency mapping. This tool is an essential step in competency-based management, since in this step the competency gap will be identified (BRANDÃO; BAHRY, 2005). This gap represents the difference between the present competencies of tutors surveyed and competencies they should ideally have. Another way of thinking this competency gap is by associating it with a necessity of training, where the difference between a desired

and a real situation provides the necessary input for instructional action.

Brandão and Bahry (2005) divide the mapping process in three steps: "identifying the necessary competencies"; "encouraging existing ones"; and "mapping the competency gap and planning recruitment and/or development". For the purposes of this paper, mapping is understood as the process of identifying the necessary competencies for performing a function, as well as listing existing competencies. Diagnosis is understood as the result of mapping, which is express in the identification of the competency gap.

Competency mapping is considered here as identifying the operationalization of existing competencies in the UAB organization, on an individual level. The agent of analysis investigated are the tutors.

Our methodology for competency mapping consists of two steps which complement each other so that the product of one step forms the basis to the next. In the present study, information collection for calculating the gap used self-evaluation, since it was the tutors themselves who indicated the mastery and relevance for the competencies evaluated.

Methodological procedures

The present study can be defined as explanatory-descriptive, with a correlational design, based on methodological triangulation. In its initial phase, it was predominantly qualitative (Study 1), since in that phase we analyzed the contents of semi-structured interviews and focus groups conducted with tutors from the UAB system in order to collect information concerning our object of study. This information was gathered in order to design a fully structured questionnaire, which was then used in the quantitative phase (Study 2), i.e., the mapping of technical and behavioral competencies, and the correlational effects between those competencies and socio-demographic variables. The study used a cross-sectional approach.

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The UBA system

The Universidade Aberta do Brasil was created by presidential decree 5,800 of 2006. It is a system with the purpose of expanding the offer of, and access to, higher education courses across the country. According to data from the UAB's official website, since the system was created in 2006 to 2009, it grew to comprehended over 88 affiliated institutions, with 557 centers of presence support implemented, serving over 187,000 vacancies (UAB, 2012).

The UAB system is dedicated to promoting democracy in people's access to higher education, and to improving the overall quality of education in the country. One of the key actors in the distance learning process is the tutor. The *UAB Manual for Tutors (*2011) includes the main attributions inherent to performing as a tutor. Among these attributions, we highlight the following: mediating communication and collaboration between faculty and students; supporting faculty in developing teaching activities; participating in students' assessment; communicating with students on an ongoing basis. The manual also stresses the social responsibility involved in the tutor role, as it is committed to democratizing and facilitating education access.

The manual also describes the roles tutors should perform in DL, particularly that of being the main connection between faculty and students, while being a key part in the communication with the Centers (presence tutors and coordinators). This attribution unfolds into various functions. The tutor is responsible for intermediating the faculty-student relationship, mediating discussions in the Virtual Learning Environment (VLE), and clearing doubts that students may have about taught content. Therefore, the tutor is required to log into the VLE with a predetermined regularity, in order to meet students' demands. Another key role of the tutor is to help in students' evaluation process.

Participants profile

The Associação Nacional de Tutores da Educação à Distância estimates that, by 2012, there were roughly 50,000 distance tutors in Brazil. Due to the difficulty in obtaining a stratified sample of this population, we chose to conduct our sampling by accessibility and convenience. Therefore, the tutors who participated in both studies are connected to the offer of the UAB system undergraduate and graduate courses at the University of Brasilia and elsewhere.

More specifically, in Study 1, nearly all participants were tutors from distance public administration courses at the Universidade de Brasília. In Study 2, the composition of tutors was more varied, forming a nationwide sample as will be presented below.

Study 1 – The qualitative phase

Initially, we analyzed documents related with the creation and structuring of the Unviersidade Aberta do Brasil, based on its strategic goals, in order to obtain an initial notion of the competencies expected of its social actors for achieving its goals and mission.

After document analysis, individual and group interviews were conducted with tutors from the UAB/UnB system in order to identify the body of technical and behavioral competencies necessary to perform their roles. In all, 17 individual interviews were conducted.

In addition to the interviews, focus groups were conducted (N=13) with tutors undergoing a selection process for distance tutoring positions at the distance public administration course offered by the University of Brasília and the UAB. Therefore, in this phase, nonprobability, convenience-based sampling was conducted, since only tutors associated to the university were interviewed.

The purpose of these interviews and focus groups was to identify the technical and behavioral competencies necessary to perform

as a distance learning tutor according to the view of persons occupying this function, as suggested by Brandão and Bahry (2005). Both the interviews and focus groups used a semi-structured script. The focus groups had the advantage of comprehending several individuals in a single opportunity, which only enriched data gathering.

The competencies reported by tutors were analyzed and improved concerning the way they were construed, as recommended by Brandão and Bahry (2005). The competencies collected during the interviews and focus groups should express a certain expected behavior, indicating what the tutor should do in face of a certain work situation. Their competencies were described in the form of a verb that means the behavior performed with a particular criterion, and according to a particular condition (BRANDÃO; BAHRY, 2005; BRANDÃO, 2009).

Semantic validation was conducted by judges of the identified competencies, i.e., three members of the pedagogical support team at the UAB/UnB Organization, as well tutors from the Universidade de Brasília. After these validations, competencies were grouped together as a fully structured instrument where each competency was associated with a relevance scale (from 1, i.e., *no relevance to my performance,* to 5, i.e., *an indispensable competency*) and mastery (from 1, i.e., *I do not have this competency,* to 5, i.e., *I have expertise in this competency*). This instrument provided the basis for Study 2.

Study 2 – The quantitative phase

The first version of the instrument had 120 statements, 64 of which were technical competencies, and 56 behavioral. The questionnaires formed by the competencies listed in the qualitative phase were electronically sent. These digital questionnaires were designed using the *Google Docs* platform, and sent to tutors from various courses connected to the UAB/UnB.

Because a small number of respondents was verified 15 days after the beginning of data collection, we chose to reduce the number of items in the questionnaire to 70 competencies, i.e., 35 technical and 35 behavioral. For the new questionnaire, we considered the 35 competencies with highest average of relevance among the technical and behavioral competencies, according to the respondents who had participated until then. After this reformulation, the link to the questionnaire was resent to tutoring coordinators from other universities and the UAB, so they could forward the questionnaires to their tutors.

Our initial aim was to have a population formed only by tutors from UAB courses who were connected to undergraduate and graduate programs at the Universidade de Brasília. However, because of the small number of respondents even after the number of items were reduced, we eventually sent questionnaires to tutors from other higher education institutions (HEI), including private institutions not connected to the UAB system. We believe that choosing to vary the composition of our sample did not affect the goals of the study, since the individual competencies necessary for performing as a tutor are transversal and not limited to any particular distance learning context or system. These competencies are applicable to any type of tutoring in distance learning.

It is noteworthy that the main point in this work was to assess tutor competency also concerning the use of new information and communication technologies. We consider that using an online questionnaire might have introduced a certain bias, as participation became limited to persons who had experience with the computing system used, thus reducing variability in relation to tutors who, for example, did not mastered that tool. This, however, did not have major implications, given the wide participation of tutors across the country.

With the above considerations accounted for, the questionnaires were sent by e-mail to tutors from all parts of Brazil. This involved contacting tutoring coordinators from various

DL departments at universities in the whole country, and asking them to forward the questionnaires to their tutors. Responses fed a spreadsheet in Google Docs and were later analyzed using the Excel software.

Participant profile – Study 2

Among the 200 valid cases, we verified that respondents were relatively young, mostly female (65%) and living in the northeast of Brazil (46%). With regard to education area, data show that the majority of respondents had an education in humanities (63%). The great majority of tutors (84.5%) has another professional or academic occupation besides tutoring. This allows deducing that many participants have tutoring as a complementary occupation, and it is therefore not possible to determine whether their main occupation is in DL.

The majority or respondents has worked as a tutor for 2 or less years (60%). We also found that 197 individuals, i.e., 93.5% of respondents, had some type of training for working as a DL tutor. This shows some effort on the part of course coordinators in order to prepare individuals for performing this role. However, this information alone does not allow determining whether training activities were actually suitable to tutors' attributions and needs. Identifying competency gaps, which is one of the purposes of this work, provides some basis for clarifying these questions.

Participants' demographic profile (N=200) is shown in Table 1.

Data analysis procedures – Study 2

We used mean, standard deviation, frequency, and correlation. Correlation analysis was conducted using Spearman's rho, since it did not require parametric data, normal distribution, or any other particular type of sample distribution (TRIOLA, 2007). Classification of correlate coefficient was conducted using the scale of Hair Jr., Anderson, Tatham, and Black (2005): 0.01 to 0.2 – slight; 0.21 to 0.4 – weak; 0.41 to 0.7 – moderate; 0.71 to 0.9 – high; and 0.91 to 1.0 – strong.

Finally, the competency gap was calculated using the formula proposed by Brandão (2012) as follows:

$$N = I (5-D)$$

Where:

N à necessity of training;

I à average relevance attributed to each competency;

D à average mastery attributed to each competency.

Therefore, in the present work, necessity of training (N) is understood as competency gap. Average scores were calculated so they could be applied in the formula. In order to interpret N, Brandão (2012) suggests the following scale:

N ≤ 5 à little or no necessity of training;

N ≥ 12 à high necessity of training.

Results

Study 1

The interviews using a semi-structured script were the main basis for construing the competencies that formed the questionnaire. Consensus occurred generally among interviewees until the 17th interview; therefore, hardly any new competency emerged in the last few meetings.

In the discourses analyzed, two or more competencies could often be collected, and, in some cases, both technical and behavioral competencies were collected. One example is that of tutors' daily logging into the virtual learning environment (VLE) in order to clear students' doubts and monitor their progress. This task involves various aspects of tutor performance, such as technical proficiency in operating the VLE, knowledge of taught content, and a commitment to the student. Table 1 exemplifies the process of describing technical and behavioral competencies based on this type of discourse.

Table 1 – Participant Profile – Study 2

VARIABLE	F	%	VARIABLE	F	%
Gender			**Tutoring time**		
Male	69	34.5	Less than 6 months	29	14.5
Female	131	65.5	From 6 months to 1 year	26	13.0
Total	200	100.0	From 1 year to 1 year and 6 months	35	17.5
Age	**F**	**%**	From 1 year and 6 months to 2 years	30	15.0
18 to 25 years old	23	11.5	From 2 years to 2 years and 6 months	33	16.5
26 to 33 years old	81	40.5	From 2 years and 6 months to 3 years	15	7.5
34 to 40 years old	48	24.0	From 3 years to 3 years and 6 months	13	6.5
41 to 47 years old	32	16.0	From 3 years and 6 months to 4 years	9	4.5
48 to 55 years old	13	6.5	Over 4 years	10	5.0
Over 56 years old	3	1.5	Total	200	100.0
Total	200	100.0			
Currently tutoring?	**F**	**%**	**Had any tutor training or preparation?**	**F**	**%**
Yes	148	74.0	Yes	187	93.5
No	52	26.0	No	13	6.5
Total	200	100.0	Total	200	100.0
Any other occupation besides tutoring?	**F**	**%**	**Do you think that the distance learning student actually learns?**	**F**	**%**
Yes	169	84.5	Yes	188	94.0
No	31	15.5	No	12	6.0
Total	200	100.0	Total	200	100.0
Graduation	**F**	**%**	**Courses where the participant has tutored**	**F**	**%**
Letters	29	14.5	Administration	44	22.0
More than one course	29	14.5	More than one course	35	17.5
Did not answer	18	9.0	Letters	28	14.0
Administration	17	8.5	Pedagogy	20	10.0
Pedagogy	15	7.5	Agriculture Sciences	17	8.5
Biology	13	6.5	Mathematics	13	6.5
Mathematics	10	5.0	Biology	12	6.0
Economy	7	3.5	Did not answer	8	4.0
Accounting	6	3.0	Accounting	4	2.0
[...]	[...]	[...]	[...]	[...]	[...]
Total	200	100.0	Total	200	100.0
Brazil Region	**F**	**%**	**Education**	**F**	**%**
Central-West	33	16.5	Humanities	126	63.0
North	5	2.5	Exact Sciences	28	14.0
Northeast	92	46.0	Biological Sciences	29	14.5
South	54	27.0	Humanities, Exact Sc.	14	7.0
Southeast	16	8.0	Humanities, Biological Sc.	3	1.5
Total	200	100.0	Total	200	100.0

Sources: data from our study.

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Quadro 1 – Examples of the construction of technical and behavioral competencies

Discourses	Competencies obtained
- Interview 17: "[…]It's important to have a good mastery of the discipline, because normally the time you have to answer is not very long. If the student asks a question today and you don't answer maximum tomorrow, the student starts to grow impatient, and because materials are very limited, their study materials are really bad, you'll end up overloaded... There's a lot of details that, sometimes, a good book could help clearing them, and that workbook doesn't help. […]"	6) I log into the virtual learning environment every day, avoiding to leave unanswered questions for longer than 24 hours 12) I demonstrate mastery of the contents to be taught, in order to better clear students' doubts and questionings. 3) I am capable of applying specific knowledge and skills according to my area, caring for the interests and needs of both the Course and students.
- Interview 05: "-[…] well, first, I have to log into the platform every day... nearly every day, clear students' doubts in up to 24 hours... intervene in forums, right, in an active way, in a way the student won't feel discouraged, making a "distance presence" as it were, because in DL, if you don't have the tutor's active presence, you'll end up discouraging students […]"	16) In forums, I identify students with a low participation, in order to reach and effectively bring them into discussions. 20) I help students with their doubts, providing the answer or indicating channels where they can find it. 47) I seek closeness with students, so they will not feel isolated or perceive themselves as isolated
- Interview 2: - "[…] yes, you teach them things and you learn from them, so everyone has to have an encouragement to participate in this process of seeking knowledge. It will only happen when you feel comfortable, appreciated, you have to build that concept of a group, they have to have that support from each other. Not only among students, but between the tutor and students as well… so, besides mediating, you'll still assess… but mutual support, and kindliness, I feel it depends basically on the tutor's attitude, particularly in the beginning of the course, because everyone's just entered, there's this ice... the tutor has to have this ability to break the ice, form associations, make everyone comfortable to participate […]"	52) Ability to keep a good interpersonal relationship (I am sociable, and I act with tact, i.e., skillfully and cautiously in my relationship with people). 54) Ability to act with civility, being polite and courteous as I perform my attributions, treating others nicely and respectfully. 51) Ability to act persistently, showing interest and commitment to work (I demonstrate enthusiasm and drive; I fulfill tasks even in face of difficulties and obstacles).

Source: Data from our study

Among the interviewees, the predominant subjects were content mastery and student motivation, which were mentioned by all participants. As for the technical competencies, we found that, in addition to mastering the discipline, other key aspects, according to tutors, were those related to the operation of the Virtual Learning Environment (VLE) and other technological tools that optimize the interaction with students. Among the behavioral competencies, in addition to student motivation, we found that tutors valued highly aspects such as service individualization, kindliness, empathy, persuasion, teamwork ability, commitment, and planning and organization skills. Here, it is important to highlight that behavioral competencies connect directly to more distal attitudes or abilities, which are understood as factors intrinsic to the individual, i.e., factors of a social and affective order which guide his behavior in everyday life (BRANDÃO; BORGES-ANDRADE, 2007).

By analyzing interviewees' responses, we were able to find a strong association between competencies and the practical performance of their duties as tutors.

Generally, respondents said what was required in terms of knowledge, skills, and attitudes (KSA), constantly making associations with the routine tasks involved in tutoring. This analysis corroborates the thesis that competencies should be represented by a perceptible performance in practical tutoring situations (BRANDÃO;

BAHRY, 2005; BRUNO-FARIA; BRANDÃO, 2003; NUNES; SALES, 2013).

It is also noteworthy that, during the formulation of competencies based on respondents' accounts, a scope division was found in technical competencies. Respondents normally described two different dimensions, yet mutually integrated: tutoring cognitive aspects, i.e., related to factors such as content mastery, class material, and teaching didactics; and tutoring functional aspects, i.e., related to the execution of practical tasks, such as using the VLE and operating technological tools.

Study 2

The competencies related with virtual environment participation were the ones with the greatest gaps, according to the tutors interviewed. Intervening in discussion forums, an indispensable task for student learning, also presented startling gap levels.

The map of the main competencies identified is shown in Table 2, which contains the 10 competencies with the greatest gaps found. We chose to analyze competency gap-based data because such data are the most central information for the purposes of the present work.

Table 2 – Competency Gap

C/T	Competency	Mean		Standard Deviation		
		Mastery	Relevance	Mastery	Relevance	GAP
T	I monitor students' participation in the VLE, identifying those who participate less, and encouraging them to debate.	3.98	4.41	1.065	.822	4.498
T	I actively intervene in forums, providing new questionings and observations in order to keep discussion interesting to students, thus motivating them to participate.	4.02	4.34	.977	.865	4.253
T	In forums, I identify students with a low participation, in order to reach and effectively bring them into discussions.	4.07	4.50	1.018	.789	4.208
T	I assign students exercises, and correct them in a timely manner.	4.09	4.22	1.055	1.056	3.857
T	I actively intervene in forums so that students realize the tutor's constant presence, and thus, do not feel isolated.	4.15	4.41	.979	.846	3.771
T	I identify equal or similar responses among students in the virtual learning environment, preventing copying of ideas or plagiarism among them.	4.21	4.53	1.009	.808	3.597
T	I show an ability to build, together with students, associations between theory and practice, citing examples that facilitate student understanding.	4.24	4.59	.840	.643	3.488
C	I give practical examples, didactically relating the contents with the student's reality.	4.25	4.56	.888	.754	3.443
T	I demonstrate mastery of the literature related to the discipline, indicating further reading to students and acting quickly to clear doubts.	4.27	4.63	.848	.612	3.403
T	Self-development capacity (I plan my own development and improvement through education activities, seminars, congresses, among others, thus showing a continuous, gradual improvement).	4.25	4.49	.824	.770	3.386

Source: Data from our study

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Generally, the gaps identified were low, i.e., all gaps scored below 5 in the scale proposed by Brandão (2012). Therefore, based on data obtained, we found that DL tutors' competencies meet the required parameters in terms of mastery, considering their self-evaluation. This indicates that the training and development activities conducted by DL courses seem to be in line with distance tutors' needs. This conclusion becomes all the more relevant by taking into account that our mapping is useful not only for guiding future training actions, but also as a mechanism for controlling and assessing past training and development initiatives (MATTAR, 2012; SIMONE, 2006).

Among the 10 competencies with the greatest gaps, the first six are more directly related with tutor intervention in the VLE, which is main "place" of the tutor in terms of his relation with students. The high averages of relevance stress that VLE mastery is an indispensable competency for performing as a tutor. However, a higher gap in these competencies in comparison with the others

shows that further training in the knowledge and skills related to this task may be necessary.

One factor that stands out in data is that 9 of the 10 competencies with highest gaps are technical competencies. As discussed in the theoretical basis, technical competencies are the competencies formed by knowledge and skills, which means they are proximal to the position, rather than to the individual (KUKULSLKA-HULME; SHIELD, 2008). Therefore, it is possible to understand that a higher gap in technical competencies suggests a lower effectiveness in the tutor's practical performance, since those competencies are directly applied in the execution of his tasks.

Among the competencies with the lowest gaps are the ones related with kindliness, modesty, respect, and appreciation for the student. Moreover, this group of competencies also includes the ability to keep good both verbal and written communication. Therefore, based on data, these competencies were found adequate in terms of the mastery-relevance gap. In addition, we found low standard deviations in

Table 3 – Correlation matrix according to Spearman's *rho* correlation

Spearman's Rho	Mastery Factor Score	Relevance Factor Score	Do you think that the distance learning student actually learns?	Gender	Age	Tutoring time:	Currently tutoring?	Any other occupation besides tutoring?	Had any tutor training or preparation?
Mastery Factor Score	-								
Relevance Factor Score	.733**	-							
Do you think that the distance learning student actually learns?	-.156*	-.170*	-						
Gender	.171*	.071	-.082	-					
Age	.138	.161*	-.045	.057	-				
Tutoring time:	-.034	.027	-.054	-.093	.306**	-			
Currently tutoring?	.227**	.155*	.042	-.049	.261**	.131	-		
Any other occupation besides tutoring?	.084	-.011	.066	.049	-.155*	-.160*	-.065	-	
Had any tutor training or preparation?	-.025	-.049	-.067	.106	-.042	-.281**	-.018	-.113	-

Source: Data from our study
**. Significant correlation at the 0.01 level (two-tailed)
*. Significant correlation at the 0.05 level (two-tailed)

mastery and relevance for these competencies, which shows homogeneity among respondents.

On the other hand, the lower gap in behavioral competencies could be explained as a likely indulgence of tutors while responding the questionnaire, which may characterize a possible bias in their self-evaluation. In other words, because attitudinal components such as ethic, responsibility, kindliness, and commitment are socially desirable, they got high mastery scores in respondents' self-evaluation.

Table 3 shows the statistically relevant correlations. Among the various correlations identified, we highlight the one between competency mastery and competency relevance, scoring 0.73, thus classified as strong according to Hair Jr. et al (2005). To these authors, the scores of correlations can be classified as small (0.10 to 0.29), medium (030 to 0.49), or large (0.50 to 1). Therefore, the score found in this study is very important for the propositions tested here.

We found that the greater the relevance attributed to a competency, the greater its mastery. This correlation is in line with the findings of Nunes and Sales (2013), in their study with pedagogy professors at the UAB/UECE.

Another relevant point is that the variable "*Do you think that the distance learning student actually learns?*" has a negative correlation with relevance and mastery. In data statistic analysis, the answer *yes* was assigned 0, and *no*, 1. Therefore, the fact that the correlations were negative indicates a positive correlation between "*thinking that the student learns*" and attributing high mastery and relevance scores. This leads to the perception that tutors who are more confident in the student's learning tend to also have a greater mastery of their competencies.

Conclusions

The general purpose of the present study was to diagnose the individual competencies (both technical and behavioral) necessary for effectively performing as a distance learning tutor. The specific goals were: to map the individual competencies (technical and behavioral) of distance learning tutors in the context of UAB; and to identify the gap between the relevance and mastery of their current and expected individual competencies (both technical and behavioral).

Both goals were achieved, as we have mapped the competencies and diagnosed the individual competency gaps of distance learning tutors. However, due to the small number of respondents in the initial quantitative data collection phase, we had to expand collection beyond the limits of the UAB/UNB and apply the questionnaire in tutors not related to the system. This methodological change did not compromise the results of the study, since the necessary competencies for ideal tutor performance apply to professionals from all HEI running DL programs.

With regard to competency mapping, the gaps found were low, indicating that tutors have expertise in performing their role. Among the competencies with the greatest gaps, we identified tutors' VLE intervention capacity. Still among these, nine competencies were technical. Behavioral competencies seem partially or fully developed among studied tutors.

Also as a result of the mapping process, by analyzing the averages for competency mastery and relevance, no significant gap was found in any particular competency. This indicates that, according to data, training and development needs have been successfully met in DL courses in general. Assessing and controlling these activities is one of the purposes of the mapping process. Therefore, we consider that this conclusion agrees with the basic premises of the competency mapping.

Another indispensable information is the strong correlation between competency mastery and relevance. This indicates that tutors tend to assess both parameters congruously.

Moreover, we should reinforce the relevance of technical competencies related to VLE mastery and use, and content mastery,

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all of which were considered indispensable by respondents. Among the behavioral competencies, we found a large relevance and high levels of mastery in attitudes related to good interaction with students. We were also able to see the relevance of features related to kindliness, honesty, and ethic. In these cases, it is noteworthy that the high mastery levels attributed could be the result of indulgence on the part of respondents.

A few factors posed limitations to the study. The number of respondents in the quantitative phase was small in relation to the number of items in the questionnaire, which made it impossible to validate the instrument. Moreover, the fact that almost all participants in the quantitative phase were from the UnB distance administration course could have caused responses to represent only the course they were connected to.

The main quantitative limitation was the instrument for competency gap calculation. Brandão's (2012) formula is based on the assumption that there is a constant interval between each response in the *Likert-type* scale (1, 2, 3, 4, and 5). In this type of continuous scale, equal distances should correspond to equal quantities, which is difficult to measure using self-perception measures. We could attribute a meaning to the difference between measures (numbers), but not to the ratio/magnitude between them.

Therefore, we suggest that future researchers develop a more reliable instrument for competency gap calculation, in order to allow a more reliable analysis of this variable. We also suggest further research to deepen the knowledge of DL professionals' attributions, with the purpose of understanding particularly the reality of professionals related to the UAB, and even comparing them with professionals from private institutions.

We suggest, in addition, the investigation of other variables of meso- or micro-level organizational belonging, such as organizational environment, task commitment, and other organizational culture/structure features or dimensions which affect tutors' work. These variables could moderate the interrelations found. Increasing the number of participants in subsequent studies is a key condition for testing new, more robust and complex statistics. Pedagogical characteristics of distance learning courses must also be revealed in further research on the subject.

We believe that the present study has collaborated to both the theoretical field and to DL in Brazil. Until the present, no in-depth scientific studies exist about the necessary competencies for ideal distance learning tutor performance, which attests the relevance of this study for the theoretical field. In addition, with DL's increasing relevance as an effective, viable alternative in democratizing the access to higher education in Brazil, it becomes increasingly important to conduct studies that collaborate with this field.

In sum, it is pressing to reaffirm the importance of new studies, both in competency mapping and in designing new instruments and studies in areas still unexplored, such as that of DL in Brazil. After all, these are thriving areas which therefore need a theoretical framework to guide their actions in the future.

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