EVALUATION CRITERIA FOR ACTOR PARTICIPATION IN A DISTANCE EDUCATION FORUM: AN ACTION RESEARCH

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ABSTRACT

One of the most important tools of the Virtual Learning Environments -AVA is the forum and in these it is necessary that the student participates actively for the learning to occur. In a forum, there are postings allowing interactivity between the actors to take place in order to create social knowledge. This article aims to present a study of changing criteria for evaluation of participation by the actors in an EaD forum. A qualitative research of the type research-action was carried out in a Superior Course of Technology in which there was initially little interactivity and in the first face-to--face meeting there was a proposal to change criteria of evaluation of participation in the forums. This study complements others related in the class related to the attitude change of the actors. With the new criteria, better results were observed and the students were optimistic about the success obtained.

Keywords: Distance Learning Strategies. Learning. College education. Virtual Learning Environment.

RESUMEN

Una de las herramientas más importantes de los Ambientes Virtuales de Aprendizaje -AVA es el foro y en estos es necesario que el alumno participe activamente para que ocurra el aprendizaje. En un foro se realizan posturas permitiendo que ocurra la interactividad entre los actores de modo que ocurra la construcción del saber social. Este artículo tiene como objetivo presentar un estudio de cambio criterios de evaluación de participación por parte de los actores en un foro de EaD. Se realizó una investigación cualitativa del tipo investigación-acción en un Curso Superior de Tecnología en el que inicialmente había poca interactividad y en el primer encuentro presencial hubo una propuesta de cambio de criterios de evaluación de participación en los foros. Este estudio complementa otros relacionados en la clase relacionados con el cambio de actitud de los actores. Con los nuevos criterios, se observaron resultados mejores y los alumnos se mostraron optimistas con el éxito obtenido.

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Palabras clave: Enseñanza a distancia. Aprendizaje. Educación superior. Entornos Virtuales de Aprendizaje.

RESUMO

Uma das ferramentas mais importantes dos Ambientes Virtuais de Aprendizagem -AVA é o fórum e nestes é preciso que o aluno participe ativamente para que ocorra o aprendizado. Em um fórum se realizam postagens permitindo que ocorra a interatividade entre os atores de modo a ocorrer a construção do saber social. Este artigo tem como objetivo apresentar um estudo de mudança critérios de avaliação de participação por parte dos atores em um fórum de EaD. Realizou-se uma pesquisa qualitativa do tipo pesquisa-ação em um Curso Superior de Tecnologia no qual incialmente havia pouca interatividade e no primeiro encontro presencial houve uma proposta de mudança de critérios de avaliação de participação nos fóruns. Este estudo complementa outros relacionados na turma relacionados com a mudança de atitude dos atores. Com os novos critérios, observou-se resultados melhores e os alunos se mostraram otimistas com o sucesso obtido.

Palavras-chave: Ensino a distância. Aprendizagem. Educação superior. Ambientes Virtuais de Aprendizagem.

1. INTRODUCTION

Nowadays, the distance education (DE) culture has spread considerably in Brazil and every year a growing number of students turn to online undergraduate programs. The ongoing advances in technology primarily via mobile devices facilitate people's access to such programs. According to SEMESP (2015), over one million students enroll in DE undergraduate programs every year.

In Virtual Learning Environments (VLEs), forums are one of the interactivity tools used the most. This article makes use of the theory presented by Risemberg, Shitsuka, and Tavares (2015) regarding interactivity patterns in VLE tools. In this study, another interactivity tool was used, namely wiki. We found that students in a technology program in the field of computer science interacted less than others in undergraduate programs in the fields of humanities and applied social sciences.

Another two authors in our theoretical background are Wallon (2008) and Vygotsky (2013), whose concepts on learning suggest people learn via affectivity and social interaction, respectively. With respect to virtual environments, there are the studies on learning in virtual environments presented by Ribeiro, Todescat, and Jacobsen (2015).

Autonomy is seen as important for learning in a VLE so that students may pursue knowledge by means of research, interactivity, and working collaboratively with their peers. Freire (2013) considers that students must have autonomy in education processes. These issues are complemented by Gottardi (2015), who works on students' autonomy in VLEs, and Santos (2014), who looks into collaboration among students.

It is fitting that students and tutors should work together to achieve active participation. Dockter (2016) says that tutors who manage to overcome the barriers from passive to active participation have been increasingly in greater demand for working in VLEs.

A few questions that emerge are:

1. How do we solve educational problems in a way that the actors get involved in decision-making to improve online programs?

2. Can the tool's interactivity-based communication aid learning in distance education?

The purpose of this paper is to present a study into changing the criteria for evaluating actor participation in a DE forum.

Answers to our interview questions were analyzed using French discourse analysis according to authors Foucalt (2007) and Mazzola (2009). This study complements others related to changes in the actors' behavior and which are a part of a line of social research studies.

The following items are addressed in this paper:

Learning through an active methodology in a virtual environment. This topic looks into active methodology as a way for working in both the on-campus and virtual learning processes in which students are responsible for their learning and are led to actively work on the pursuit of their knowledge.

The expected growth in the number of Brazilian DE programs and places in the next few years. This topic presents data and information on laws and facts that help confirm DE is an expanding form of education in Brazil.

Learning through forum interactivity. This topic is worked on based on education theorists such as Wallon, with respect to the issue of affectivity, and Vygotsky, regarding learning that requires social interaction and a forum environment, i.e. interactivity. In the course of this paper, virtual tutors or professors are terms used interchangeably. In many schools, professors are the content developers.

2. LEARNING THROUGH AN ACTIVE METHODOLOGY IN A VIRTUAL ENVIRONMENT

According to authors Godberg (2010), Berbel (2011), Gemignani (2012), Barbosa and Moura (2013), Freire (2013), Borges and Alencar (2014), De Deus (2014), Moran (2015), and Gouvea et al. (2016), in active methodologies teaching and learning focus on students and their participation. In this respect, VLE forums become one of the tools most often used to work under active methodologies. This tool gets students to make autonomous decisions and take responsibility for their posts. By working like this, we foster respect for students' intelligence and their ability to be at the core of the process so they can develop skills and competences at their own pace and according to their interests. All that helps build a democratic, flexible, and participatory environment.

Bolaño (2007) believes the web is a network that democratizes information. In fact, information on this web remains available to users. Wolton (2010) believes that information is not the same as communication. Communication is a two-way street where interactivity takes place. Therefore, we believe the web democratizes communication. This position is close to the one put forward by Marcondes (2011), who believes Information and Communication Technologies (ICT) encourage a participatory culture and democratization.

3. THE EXPECTED GROWTH IN THE NUMBER OF BRAZILIAN DE PROGRAMS AND PLACES IN THE NEXT FEW YEARS

For a few years now, Brazil has seen over one million students enroll in online undergraduate and graduate programs every year (SEMESP, 2015). Relative to the total students enrolling in undergraduate programs annually, DE accounts for approximately 15%. However, Brazilian circumstances tend to expand such share in the next few years.

The number of students in DE undergraduate programs is likely to double or increase even more in coming years. One of the reasons for such growth stems from Law

no. 13005 of 2014, which sets the National Education Plan (PNE, in Portuguese) targets for the ten years from 2014 to 2024. Through this plan, a 50% higher increase in the gross rate of enrollments is expected for students aged between 18 and 24 years. (Schincariol, 2014, UFC, 2014, VEJA, 2014).

Added to undergraduate programs, there are other places corresponding to graduate and extension programs.

Another factor is given by Brasil (2017), who says Regulatory Ordinance no. 11/2017 has opened up the possibility for schools to set up DE hubs according to the regulations, albeit without the need for inspections by evaluators appointed by the "Anísio Teixeira" National Studies and Research Institute (INEP).

We find the current legislation encourages the expansion of undergraduate programs in virtual environments. Additionally, we see that the increased use of mobile technologies also encourages the increase in the number of extension and short e-learning programs.

Hence, we verify that DE has a clear road ahead to expand in the coming years. Belloni (2002) believes DE is part of a broad education innovation process and includes bringing ICT into schools' teaching and learning processes.

4. LEARNING THROUGH FORUM INTERACTIVITY

Stair and Reynolds (2011) and Laudon and Laudon (2015) believe systems are sets of components that independently interact to achieve common goals. When communication takes place on the web, it creates social-technical systems through which information flows will go through.

When social interaction takes place via the web, it can be considered interactivity. It is through interactivity that social exchanges among DE program students take place, allowing them to secure knowledge. Ribeiro, Todescat, and Jacobsen (2015) believe it happens through the subject's action on the object of knowledge and also the signification schemes that set up one's relationships with the new knowledge.

Tenório, Ferrari Júnior, and Tenório (2015) believe that for students to understand the proposal in DE forums, it is important they are provided with an introduction at the opening of the forum. This is an important time when students need to clearly understand what the forum is about.

Risemberg, Shitsuka, and Tavares (2015) present results from a study conducted in DE classes of Pedagogy, Business Management, and computer science Technology undergraduate programs, in which they found differences in the students' interactivity and participation in the wiki tool.

Although the tool used is different from forum-based work, there are similarities. Additionally, we can say that given the type of program, students in the shortest program, i.e. the technology one, were likely to interact less than others in longer programs that require more brainstorming.

In forums, tutors are tasked with keeping their students focused on the topic and contents being discussed. To do that, it is useful to make use of criteria to evaluate posts, such as categories as suggested by Tenório, Ferrari Júnior, and Tenório (2015). Advantages of this approach include speed and even the ability to automate the evaluation process.

When peers interact, their shared lingo makes it easier for them to understand a given content. Upon studying how students learn scientific concepts, author Wellings (2003) believes the closer these concepts are to others students already master, the easier it is for

the students to secure meaningful learning. Ausubel, Novak, and Hanesian (1980) believe learning is meaningful when it is long-lasting, sets up relationships between concepts, and therefore becomes useful in students' lives. This fact is seen in professors' everyday routine, whether on campus or in a DE environment. When the language is understood by students, it facilitates communication, interactivity and, consequently, learning.

Instructional Designers (ID) are important VLE professionals. They are the ones that get the media to fit the program's contents. They define what forums will be set up, when they will be used, and what goals are to be achieved. Silva et al. (2014) say IDs plan, organize, and define DE program evaluation tools. The ID-planned work is carried out through the actors' routine work. The tutor opens the forums following the criteria set by the ID. Then, the tutor invites students to join the conversation on the forum. Next, the tutor monitors the posts, mediates, makes interventions, and provides the feedback necessary for keeping the forum working.

5. METHODOLOGY

Methodology is the path taken to reach some goal. Research is aimed at fresh knowledge and to achieve that it must follow a methodology and use some technique to, for instance, collect data and analyze and interpret them. Lakatos and Marconi (2010) and Demo (2013) say that social research is the one looking into people or groups in which interaction occurs, or interactivity in the case of virtual environments.

In this study, we used a qualitative methodology in an effort to solve a problem we detected among students in a technology program, namely their little participation in forums. The form of research was created by Thiollent and is called action research. According to Nunes and Infante (1996), Baldissera (2001), Franco (2005), Thiollent

(2008), Souza et al. (2009), Koerich et al. (2009), and Tanajura and Bezerra (2015), action research us a type of qualitative social study that combines theory and practice to solve a problem found in a social group and which may allow for the researcher's participation and involvement.

Action research is primarily aimed at solving workplace issues. However, it has also proved useful in educational environments. Tripp (2005), Mello (2009), and Ludke and Andre (2013) believe education action research is a strategy for developing teachers and researchers in a way that they use their studies to improve their teaching and students' learning.

The strategy of action research in schools becomes interesting once we consider that every teacher is a researcher of their working conditions in the classroom, teaching and learning processes, and the school.

Back when forum participation was low, such participation was not graded on. Considering ethical issues and at the subjects' request, we will not be mentioning names or locations.

The work group comprised 52 freshmen. The study was conducted involving all courses in their first term. Semi-structured interviews were conducted as suggested by Gil (2010), and our study *corpus* was limited to 45 statements in which we found regularities.

This study is meant to contribute to distance education schools and professionals involved in this important for of education by showing it is possible to solve forum participation issues without costs and in a way that improves learning.

6. ACTION RESEARCH AND DISCUSSIONS

In 2016 at a private school located in the southeast, undergraduate students in a DE

computer science Technology program had been participating very little in forums from the beginning. Student participation was important to ensure active learning took place in all courses. It just so happens that students were not required to participate in the forum, which was not graded on.

The issue was brought up when the students turned up for their first on-campus class, and the very students suggested that forums be graded on and that there should be evaluation criteria.

The tutors asked to meet with the coordinators and other members of the school's DE team. Considering everyone was in attendance, all of them contributed ideas once the problems mentioned by the students had been described.

Based on the proposals put forward, the meeting minutes were drawn up and later on this document was submitted to the program's Structuring Faculty (NDE, in Portuguese) for their appreciation. At a meeting, the NDE set the criteria for forum participation in all courses, which included grading it and including said grade in the students' final scores in the courses.

The new format was taken by the program coordinator, who was also the NDE coordinator and coordinator of the program's faculty, which included all of the program's professors and tutors. The aforementioned criteria were similar to the ones proposed by Tenório, Ferrari Júnior, and Tenório (2015), according to which criteria tutors would evaluate the students' posts to grade them.

The criteria considered the number of posts on different days and their quality, whether they started a thread or were replying to a classmate's post, and whether they focused on the topic at hand and contributed to the group's knowledge. Plagiarism was accepted neither in terms of posts nor outside

materials, because posts were required to be originally authored and it was important for students to post their study results, findings, and respective opinions, instead of mere copying-and-pasting. The program's faculty approved the criteria.

The proposal was approved to be implemented in all of the program's courses and including the following items: a chart of criteria considering grades prorated to the number of posts and their respective contents: coherence, topic-centered, language mistakes, and originally authored posting. The grade obtained in forums would be included in the students' final course scores. Tutors were tasked with commenting on all posts within 24 hours, which deadline was to be monitored by students. They were supposed to lodge a complaint in case the professor had failed to comment, monitor, or reply by the deadline set. Additionally, the system kept track of time and allowed coordinators to monitor participation.

Below are some statements obtained by a tutor of a freshman course and which were collected in the last on-campus class in the first term of 2016. As previously mentioned, the answers' discourse was analyzed according to authors Foulcalt (2007) and Mazzola (2009).

Question: *How do you feel about the changes made to the way of studying and grading where forums are concerned?*

> **Sample 1:** *My classmates and I used to think forums did not matter because they were not graded on. Now, everyone participates and, as we are able to view our classmates' posts, we learn a lot.*

Comment: We see that the criteria get students to realize how meaningful and important forums are. As they do that regularly and in all courses, students internalize

the criteria and how the work is to be done. At first, said work comes from outside the student but gradually becomes a part of their learning. They then begin to work according to such criteria, which are a part of the system. The evaluation system is a particular case relative to the general systems in the General Systems Theory considered by O'Brien (2010), Stair and Reynolds (2011), and Laudon and Laudon (2015). This system features criteria, form of evaluation, and evaluation sites. Tenório, Ferrari Júnior, and Tenório (2015) consider it is important to set evaluation criteria for forum posts and suggest some of them to improve participation and, consequently, the construction of the group's knowledge and enhanced learning. This study's actors also came to the same understanding and worked to implement criteria that fostered learning by using the criteria related to participation on different days, the type of posts (thread-initiating or a reply), and whether contents were consistent, focused on the topic at hand, and contributed in any way. We found that once forums were conducted like this, students were able to learn autonomously because they knew what the steering criteria were and understood the boundaries within which they could work on their own. The idea of autonomy can be seen as befitting the ideas put forward by Freire (2013). As previously mentioned, Freire believes students must learn autonomously. Additionally, it is consistent with the legislation as, according to Brasil (1998), Decree no. 2494 of 1998 states that "DE is the manner of teaching that allows for self-learning mediated by study resources systematically organized on different information supports, used either separately or combined and provided by communication media."

The aforementioned decree says DE enables self-learning and considers the matter of the autonomy students must have while studying online. Another student autonomy-related aspect is the issue of collaborative work, which encourages student to search for information. According to Dockter (2016), that happens when the actors get together to work focused on a shared problem.

> **Sample 2:** *No one knew the forum was important. When our classmates asked for the forum to be graded on, we realized there was a lot on the forum and began to learn more. Now the forum has become a habit and we access it every day. We need to be responsible about what we post. That is why we need to read the material, see what others have posted, understand, and then we can consider discussing things.*

Comment: We believe setting rules is very important. The absence of rules leads to an excessive degree of liberty and with that the actors (on-campus tutors, ED tutors, and students) lose objectivity and sight of what is important. In this case, by means of our specifically education-related action research work similar to that considered by authors Tripp (2005), Mello (2009), and Ludke and Andre (2013) for the education environment, we detected the problem and looked for a solution in a collaborative manner involving the actors. Considering they were all heard, we can say they felt part of the education process and the program. With that, the students became more dedicated to their program and began helping one another out more.

> **Sample 3:** *Now we get a kick out of looking at the forum. Everybody participates. We read our classmates' posts and learn what they think about things. Then we have to study more, tutors put up with no copy-and--paste posting.*

Comment: Participation went up and students realized how important the forum was in the construction of their collective knowledge. We found students took responsibility for their learning on the course forum, as considered by authors Godberg (2010), Berbel (2011), Gemignani (2012), Barbosa and Moura (2013), Freire (2013),

Borges and Alencar (2014), De Deus (2014), and Gouvea et al. (2016). Therefore, there was active learning.

We asked about the tutor's opinion on the changes made and obtained the following answer:

On-campus tutor

> **Sample 4:** *Changes only happened at the on-campus class. Before, we had no clear view on how we should work on the forum. The criteria have made the way we work and evaluate more transparent.*

Comment: We found the on-campus tutor takes part in the students' on-campus classes and that he was also affected by the setting of criteria and their use in the education process in all courses. Evidence leads us to believe that this way of working has brought benefits for this group and tutors as well, who now more clearly see the way they are supposed to work.

The clarification of concepts according to Ausubel, Novak, and Hanesiam (1980) is found in their meaningful learning theory. In this case, we find that tutors also learn, which is consistent with what Freire (2013) advances when he says that those who teach learn as they teach.

Continued learning becomes an incentive for tutors to feel more highly appreciated as well and improves their training. Therefore, we can say such learning also fosters improvements to education processes. According to author Campos (2008), incentives are external and motivation comes from within students as a response to the incentives.

DE tutor:

> **Sample 5**: *The forum was changed after a group complained they were not really sure what it was for. Now I have to participate more often and am also evaluated by the coordinator. I have 24 hours to reply to students' messages, comment on them, and show them there is monitoring going on. Students know all messages are read. This way of working has brought students and professors closer together. We trade students' participation for grades.*

Comment: The DE tutor, who was previously trying to encourage student participation under the former model, draws on her professional experience and, based on it, believes students are still mostly driven by scores. To her, grading on the forum was the decisive factor for the success in student participation. We believe this factor may have contributed along with other factors. Nevertheless, all those factors must be properly worked on otherwise, grade or no grade, there will be no student participation.

From the data analyzed, we found that everyone participated actively. They proved participatory, collaborative, and evidence leads us to believe the actors built social or collective knowledge within them.

This paper helps schools working with DE by showing it is possible to overcome many problems by means of action research, and that this type of methodology empowers tutors who then become seen as researchers of their work environment, be it on campus or virtual.

6. FINAL CONSIDERATIONS

Before this study was conducted, forum participation was minimal in courses of a technology program in the field of information. That was believed to be par for the course consideringt there were papers such as those by Risemberg, Shitsuka, and Shitsuka (2016) describing a case in which students in a technology program interacted less than those in programs related to the fields of

humanities and applied social sciences, programs which were not only longer but also more thought-provoking.

At the on-campus class, the students made a complaint and our participatory action research led to criteria being set to evaluate forum participants as well as assess their participation according to the criteria. The criteria followed the model presented by Tenório, Ferrari Júnior, and Tenório (2015).

This paper is part of a line of research which studies the changes made to forum-based work, where we found in a qualitative manner that adopting forum evaluation criteria is important.

Through our action research work, we put together a joint proposal for the forum to be evaluated, for student participation evaluation criteria to be set, for forum grades to be considered in course final scores, and for tutors to monitor messages daily and reply to them within 24 hours so as to make students feel less lonely or resentful no one was reading their posts. Such conditions were approved by the program's collegiate bodies as they considered an active teaching and learning methodology would be in place. There was also the action research that supported these decisions.

We found that the communication process in the participatory action research got tutors, students, and the DE team to become involved in looking for a solution that was obtained once it was submitted to the program's collegiate bodies. With that, everyone helped find a solution for the problem of improving the program and the learning therein, which led to the satisfaction of those involved and they all learned through that, not only the students but also the instructors, as Freire (2013) teaches us.

We suggest that future studies should evaluate the impact from the use of forum evaluation criteria on the school's other DE classes and programs.

REFERENCES

BARBOSA, E. F.; MOURA, D. G. Metodologias ativas de aprendizagem na educação profissional e tecnológica. **B. Tec.** Senac, R. Janeiro, v. 39, n.2, p.48-67, maio/ago. 2013.

BERBEL, N. A. N. As metodologias ativas e a promoção da autonomia de estudantes. **Semina: Ciências Sociais e Humanas**, v. 32, n.1, p. 25-40, 2011. Available at: <http://www.proiac.uff.br/sites/default/files/documentos/berbel _2011.pdf.>. Retrieved: July 30, 2017.

BALDISSERA, A Pesquisa-ação: uma metodologia do "conhecer" e do "agir" coletivo. **Sociedade em Debate,** Pelotas, v. 7, n. 2, p.5-25, Ago/2001. Available at: <http://revistas.ucpel.tche.br/index.php/rsd/article/viewFile/570/510>. Retrieved: July 30, 2017.

BELLONI, Maria Luiza. Ensaio sobre a educação a distância no Brasil. **Educ. Soc**., Campinas, v. 23, n. 78, p. 117-142, Apr. 2002. Available at: <http://www.scielo. br/scielo.php?script=sci_arttext&pid=S0101-73302002000200008&lng=en&nrm =iso>. Retrieved: August 11, 2016. http://dx.doi.org/10.1590/S0101-73302002000200008.

BOLAÑO, C. R. S. et al. **Economia política da internet.** Aracaju: Editora UFS, 2007

BORGES, T. S.; ALENCAR, G. Metodologias ativas na promoção da formação crítica do estudante: o uso das metodologias ativas como recurso didático na formação crítica do estudante do ensino superior. **Cairu em Revista**. Jul/Ago 2014, Ano 03, n° 04, p. 1 19-143, ISSN 22377719. Available at: <http://www.cairu.br/revista/arquivos/artigos/2014_2/08%20METODOLOGIAS%20ATIVAS%20NA%20PROMOCAO%20DA%20FORMACAO%20CRITICA%20

DO%20ESTUDANTE.pdf>. Retrieved: July 31, 2017.

BRASIL (1998). Leis e Decretos. Decreto nº 2.494/1998. Regulamenta o art. 80 da Lei no 9.394/1996, que estabelece as diretrizes e bases da educação nacional.

BRASIL. Plano Nacional de Educação 2014-2024: Lei nº 13.005, de 25 de junho de 2014, que aprova o Plano Nacional de Educação (PNE) e dá outras providências. Brasília: Câmara dos Deputados, Edições Câmara, 2014. Available at: <http://www.observatoriodopne.org.br/uploads/reference/file/439/documento-referencia.pdf>. Retrieved: July 29, 2017.

BRASIL (2017). Leis e Decretos. Portaria Normativa nº 11, de 20 de junho de 2017. Estabelece normas para o credenciamento de instituições e a oferta de cursos superiores a distância, em conformidade com o Decreto nº 9.057, de 25 de maio de 2017. Available at: http://portal.mec.gov.br/index.php?option=com_docman&view=download&alias=66441-pn-n11-2017-regulamentacao-ead-republicada-pdf&category_slug=junho-2017-pdf&Itemid=30192. Retrieved: August 1, 2017.

CAMPOS, D. M. S. **Psicologia da aprendizagem**. 37. ed. Petrópolis: Vozes, 2008.

De DEUS, J. M. et al. aula Centrada no aluno versus aula Centrada no Professor. Desafios para mudança. **Rev. Bras. Ed. Médica**. v. 38, n. 4, p. 419 – 426; 2014.

DEMO, P. **Metodologia do conhecimento científico**. São Paulo: Atlas, 2013.

DOCKTER, J. The Problem of Teaching Presence in Transactional Theories of Distance Education Original Research Article. **Computers and Composition,** v. 40, n.1, p. 73-86, 2016.

FOUCALT, M. **A arqueologia do saber**. Trad. Luiz Felipe Baeta Neves. Rio de Janeiro: Forense, 2007.

FRANCO, M. A. S. **Pedagogia da pesquisa-ação.** Educação e Pesquisa, SP, v.31, n. 3, p.483-502, set/dez 2005.

FREIRE, P. (2013). **Pedagogia da autonomia**. São Paulo: Paz e Terra, 2013.

GEMIGNANI, E. Y. M. Y. Formação de Professores e Metodologias Ativas de Ensino-Aprendizagem: Ensinar Para a Compreensão. **Revista Fronteira das Educação** [online], Recife, v. 1, n. 2, P.: 1-27, 2012. Available at: <http://www.fronteirasdaeducacao.org/index.php/fronteiras/article/view/14>. Retrieved: July 31, 2017.

GIL, A. C. **Métodos e técnicas de pesquisa social.** São Paulo: Atlas, 2010.

GOLDBERG, D. E. **The missing basics & other philosophical reflections for the transformation of engineering education**. PhilSci Archive. S/l: Univ.of Pittsburg, 2010.

GOTTARDI, M. L. A autonomia na aprendizagem em educação a distância: competência a ser desenvolvida pelo aluno. RBAAD – **Rev. Bras. De Aprendizagem Aberta e a Distância** da Assoc. Bras. Educ. a Distância – ABED. v.14, n.1. p.110-124, 2015.

GOUVEA, E. P. et al. Metodologias ativas: Metodologia ativa: um estudo de caso sobre a ferramenta glossário em ambientes virtuais de educação a distância. **REGS - Educação, Gestão e Sociedade**: revista da Faculdade Eça de Queirós, v. 6, n. 22, junho de 2016. Available at: <http://www.faceq.edu.br/regs/downloads/numero22/1-Metodologia-ativa-um-estudo-de-caso-Reparado.pdf>. Retrieved: July 31, 2017.

KOERICH, M. S. et al. Pesquisa-ação: ferramenta metodológica para a pesquisa

qualitativa. **Rev. Eletr. Enf. [Internet]**. v. 11, n. 3, p.717-23, 2009. Available at: <http://www.fen.ufg.br/revista/v11/n3/v11n3a33.htm>. Retrieved: July 29, 2017.

LAKATOS, E. M.; MARCONI, M. A. **Fundamentos de metodologia científica.** 7. ed. São Paulo: Atlas, 2010.

LAUDON, K.; LAUDON, J. P. **Sistemas de informações gerenciais**. 11. ed. São Paulo: Pearson Brasil, 2015.

LUDKE, M.; ANDRÉ, M. E. D. A **Pesquisa em educação:** abordagens qualitativas. 2. ed. São Paulo: E.P.U., 2013.

MARCONDES, V. **Internet, democracia e participação popular:** Discutindo experiências participativas. Tese (Doutorado) apresentada ao Programa de Pós-Graduação em Comunicação Social da Fac. de Comunicação Social, da Pontifícia Univ. Católica do Rio Grande do Sul, 2011. Available at: <http://tede.pucrs.br/tde_arquivos/7/TDE-2011-02-21T070222Z-2974/Publico/ 429223 pdf>. Retrieved: July 31, 2017.

MAZZOLA, R. B. **A análise do discurso: um campo de reformulações**. In: Milanez, N. & Santos, J. J. Análise do discurso: sujeito, lugares e olhares. São Paulo: Clara Luz, 2009.

MELLO, M. T. S. S. **A pesquisa-ação no cotidiano das práticas pedagógicas.** Dissertação (Mestrado) da Faculdade de Educação da Univ. Fed. do Rio de Janeiro, 2009.

MORAN, J. M. **Mudando a educação com metodologias ativas.** In: Coleção Mídias Contemporâneas. Convergências Midiáticas, Educação e Cidadania: aproximações jovens. Vol. II. SOUZA, C. A.; MORALES, O. E. T. (orgs.). PG: Foca Foto-PROEX/UEPG, 2015.

NUNES, J. M.; INFANTE, M. **Pesquisa-ação:** uma metodologia de consultoria. Rio de Janeiro: Editora FIOCRUZ, 1996. 224 p.

ISBN 85-85676-27-2. Available from SciELO Books <http://books.scielo.org>. Retrieved: July 30, 2017.

O'BRIEN, J. A. **Management information systems.** New York: McGraw-Hill, 2010.

RIBEIRO, F.B.V.; TODESCAT, M.; JACOBSEN, A. L. Avaliação de ambientes virtuais de aprendizagem: uma reflexão sobre o modelo interacionista e construtivista. **RENOTE – Revista de Novas Tecnologias** – CINTED-UFRGS, v. 13, n. 2, dez., 2015.

RISEMBERG, R. I. C. S.; SHITSUKA, R.; TAVARES, O. A Case Study of Pattern Recognition in Collective Texts in Cyberspace Using the Wiki Tool in Undergraduate Distance Courses. **Dialogos de la Comunicación (en linea)** Felafacs. v. 91, n. 1, p. 1-17, 2015. Available at: <http://dialogosfelafacs.net/wp-content/uploads/2015/09/Dialogos91_UN_ESTUDIO_DE_CASO_DE_RECONOCIMIENTO_DE_PATRONES_EN_LOS_TEXTOS-.pdf>. Retrieved: July 29, 2017.

SANTOS, M. F. dos. A construção da autonomia do sujeito aprendiz no contexto da EaD. **Rev. Bras. Aprend. Aberta e a Distância (RBAAD)** da Associação Brasileira de Educação a Distância (ABED). v. 15, n. 1, p. 21-36, 2015. Available at: <http://www.abed.org.br/revistacientifica/_Brazilian/2015/02_A%20CONSTRUCAO_DA_%20AUTONOMIA_DO_SUJEITO_APRENDIZ.pdf>. Retrieved: July 29, 2017.

SCHINCARIOL, J. **Ensino a distância no Brasil pode dobrar em 5 anos.** Publicado na Revista Exame, exame.com, em 02/06/2014. Available at: <http://exame.abril.com.br/brasil/noticias/ensino-a-distancia-no-brasil-pode-dobrar-em-5-anos>. Retrieved: July 31, 2017.

SEMESP. Mapa do ensino superior no Brasil 2015. Publicado pelo Sindicato das Mantenedoras de Ensino Superior – Semesp

em 2015. Available at: <http://convergenciacom.net/pdf/mapa-ensino-superior-brasil-2015.pdf>. Retrieved: July 29, 2017.

SILVA, A. R. L. et al. A relevância do Design Instrucional do material didáticopara Web: relato de um estudo de caso. **RBAAD – Revista de Aprendizagem Aberta de a Distância da ABED**, v. 13, n. 1, p. 145-160. 2014. Available at: <http://www.abed.org.br/revistacientifica/_Brazilian/2014/04_a_relevancia_do_ designer_instrucional_pt.pdf>. Retrieved: July 30, 2017.

SOUZA, A. A. et al. **Metodologia da pesquisa-ação como alternativa para articulação entre a teoria e a prática**. In: *IX Colóquio Internacional sobre Gestão Universitária na América do Sul*, 27 a 29 de novembro de 2009, Florianópolis, Brasil. Available at: <https://repositorio.ufsc.br/bitstream/handle/123456789/44275 /Metodologia%20da%20pesquisa-a%C3%A7%C3%A3o%20como%20alternativa %20 para%20 articula%C3%A7%C3%A3o%20 entre%20teoria%20e%20pr% C3%A1tica.pdf?sequence=1>. Retrieved: July 29, 2017.

STAIR, R. M.; REYNOLDS, G. W. **Princípios de sistemas de informação**. 9. ed. São Paulo: Cengage Leaning, 2011.

TANAJURA, L. L. C.; BEZERRA, A. A. C. Pesquisa-ação sob a ótica de René Barbier e Michel Thiollent: aproximações e especificidades metodológicas. **Rev. Eletrônica Pesquiseduca**, Santos, v. 07, n. 13, p.10-23, jan.-jun.. 2015. Available at: <http://periodicos.unisantos.br/index.php/pesquiseduca/article/download/ 408/pdf>. Retrieved: July 31, 2017.

TENÓRIO, A.; FERRARI Junior, J.; TENÓRIO, T. A visão de tutores sobre o uso de fóruns em cursos a distância. **RBAAD – Revista Brasileira de Aprendizagem Aberta e a Distância**. ABED. v. 14, n. 1, 2015. Available at: <http://www.abed. org. br/revistacientifica/_Brazilian/2015/04_A_ VISAO_DOS_TUTORES.pdf>. Retrieved: July 30, 2017.

THIOLLENT, M. **Metodologia da pesquisa-ação.** 18. ed. São Paulo: Cortez, 2008.

TRIPP, D. Pesquisa-ação: uma introdução metodológica. **Educação e Pesquisa**, São Paulo, v. 31, n. 3, p. 443-466, set/dez. 2005.

UFC. Reitores de universidades federais se reúnem em Fortaleza para debater PNE. Publicado no Portal da Universidade Federal do Ceará (UFC) pela Coordenadoria de Comunicação Social e Marketing Institucional, em 31 julho 2014. Available at: <http://www.ufc.br/noticias/noticias-de-2014/5343-reitores-de-universidades-federais-se-reunem-em-fortaleza-para-debater-pne>. Retrieved: July 29, 2017.

VEJA. Reitores de universidades federais debatem PNE. Publicado no website da revista Veja, veja.com em 31 jul 2014. Available at: <http://veja.abril.com.br/educacao/reitores-de-universidades-federais-debatem-pne/>. Retrieved: July 30, 2017.

VYGOTSKY, L. S. **A formação social da mente**. São Paulo: Martins, 2013.

WELLINGS, P. **School learning and life learning:** the interaction of spontaneous and scientific concepts in the development of higher mental processes. Published in Stanford University website in 2003. Available at: <http://ldt.stanford.edu/~paulaw/STANFORD/370x_paula_wellings_final_paper.pdf>. Retrieved: July 31, 2017.

WALLON, H. **Do ato ao pensamento**: ensaio da psicologia comparada. Petrópolis: Vozes, 2008.

WOLTON, D. **Informar não é comunicar.** Porto Alegre: Sulina, 2010.