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THE USE OF INSTAGRAM AS A COMPLEMENTARY ACTIVE METHODOLOGY IN GRADUATE GRADUATION IN ANIMAL SCIENCE

Adriana Bozzi
Faculdade Santo Agostinho-FASA, Itabuna-Bahia
Universidade Estadual de Santa Cruz- UESC, Ilhéus-Bahia
http://lattes.cnpq.br/1465173742097673

Danielle de Sousa Lopes
Faculdade Santo Agostinho- FASA
Itabuna-Bahia
http://lattes.cnpq.br/3713273565864648

Karoline Santos Oliveira Silva
Universidade Estadual de Santa Cruz- UESC
Ilhéus-Bahia
http://lattes.cnpq.br/8952046026378228

Abstract: The use of active methodologies in pedagogical practices boosted a didactic change in the context of education, in which the student is no longer a mere spectator, but the protagonist of his own knowledge. These methodologies promote skills and abilities such as autonomy, reflection, innovation, questioning reality, as well as teamwork. With postmodern society inserted in a context of rapid transformations, the integration of Information and Communication Technologies (ICTs) in the educational routine has added value to the teaching-learning process together with active methodologies, since it enhances and facilitates the dissemination of knowledge by the academic community (teachers and students). This way, the advancement of mobile technology, social networks and digital tools expand spaces and contribute to the implementation of active methodologies. The objective of this work was to use the Instagram social network as an educational tool of active methodology of the subject "Stem Cell Biology and its Application in Animal Research and Clinical" of the Graduate Program in Animal Science (PPGCA) of ''Universidade Estadual de Santa Catarina''. Students were asked to create posts to publish on the social network on topics discussed in the classroom. It was observed that there was public interest through engagement with the likes, comments and posts saved on Instagram. It was concluded that this social network can be applied as a complementary dynamic, collaborative and cognitive pedagogical strategy in postgraduate teaching for the consolidation of scientific knowledge and presentation of content to society.

Keywords: Active methodologies, Instagram social network, education, graduate studies, animal science.

INTRODUCTION

Scientific and technological advances have been transforming the world in several ways, including education. The development of rapid communication through social networks and applications, for example, is part of the daily lives of students in the 21st century (LUCENA; OLIVEIRA, 2014; BITTENCOURT; ALBINO, 2017).

The internet is a very important source for education, involving research and learning methods. The term e-learning gained prominence after the adaptations of online teaching in the Covid-19 pandemic and, by definition, is a form of education through various electronic systems. In higher education, reference is made to the use of programs/software and the creation of learning systems (ZHAO et al., 2015). Currently, there are several technological resources that promote and make the teaching-learning process more flexible, in addition to facilitating access to information, working together with active methodologies (DE SOUZA; MIRANDA; COELHO, 2020).

These methodologies are a new teaching concept where the student is no longer a mere spectator to be the protagonist of his knowledge. Applied from elementary school to graduate school, they allow the curriculum to be worked on in an integrated way, detaching itself from traditional fragmented and specialized teaching (BUSS; MACKEDANZ, 2017; VALENTE; DE ALMEIDA; GERALDINI, 2017). This way, the active methodologies have as principles of educational practices autonomy, reflection, innovation, problematization of reality, as well as teamwork, which converge to human formation, improving it, since they promote competences and skills (DIESEL; BALDEZ; MARTINS, 2017).

The advancement of mobile technology, social networks, digital tools such as ebooks

and games, among others, expand spaces and contribute to the implementation of active methodologies (DE SOUZA; MIRANDA; COELHO, 2020; SHITSUKA; SHITSUKA; BRITO, 2020). In this context, the use of digital technologies allows a social transformation, considering that they enhance these methodologies through the dissemination of knowledge, leading to a greater connection in both learning and communication (FERRARINI; SAHEB; TORRES, 2019), allowing wide visibility of educational actions and democratization of academic knowledge.

Currently, Instagram has been a social media platform used as a dynamic, collaborative and cognitive pedagogical strategy, mainly in higher education (COSTA, 2019; PEREIRA; JUNIOR; SILVA, 2019). This dynamism provided by this social network allows for a creative learning experience between teachers and students, due to the construction and discussion of relevant content, formation of critical thinking, communication skills, interactive participation of students, in addition to the positive impact on the public with the information sharing (NUNES; ROCHA; TOLEDO, 2018; COSTA, 2019; PEREIRA, 2021).

Considering the social transitions through the evolution of Information and Communication Technologies (ICTs), there is a new perception in the teaching-learning process with the emergence of active methodologies and the use of technological resources, which have improved the role of both the teacher how much of the student in the construction of knowledge (LOVATO et al., 2018; PEREIRA, 2021).

In this sense, this work is justified by the relevance of making students protagonists of the knowledge process through the creation of Instagram with the objective of integrating active methodological techniques with the digital context in order to disseminate knowledge. Therefore, the objective of this work was to use the social network Instagram as an educational tool for the active methodology of the discipline "Stem Cell Biology and its Application in Animal Research and Clinical Practice" of the Graduate Program in Animal Science (PPGCA) of ''Universidade de Santa Cruz'' (UESC).

METHODOLOGY

The work was developed with students who attended, in 2021 and 2022, the discipline "Stem Cell Biology and its Application in Animal Research and Clinic" at the PPGCA of UESC, in the city of Ilhéus, Bahia.

Initially, the teacher/tutor created an exclusive Instagram profile called @stemcellclass for student posts. The use of the Canva tool (www.canva.com) was determined, as well as a layout for the graphic creation of the slides. It was proposed for the students to develop posts on the subject discussed during the week. Each student was responsible for preparing and posting at least one topic discussed in class. The students themselves were responsible for making the publication in the course profile. The evaluation was individual and addressed creativity, scientific content, clarity of writing, graphic presentation and interaction with the public through likes, comments and posts saved on Instagram.

RESULTS AND DISCUSSION

In the three semesters in which the active methodology was implemented, about 8 students participated with a total of twenty-seven posts made by them. Chart 1 provides an overview of the insights obtained on the Instagram platform in the profile @stemcellclass. We observed that the public interacted more through "likes" of the posts. About 10% of the information posted was shared and 4% was saved.

In the first half of 2021, three students enrolled in the course who made an average of five posts guiding the themes of concept, mechanisms, application and methodology for the study of stem cells (Table 1). The most liked and shared posts were about the application of stem cells, mainly embryonic. Only one post related to the concept of stem cells was saved.

Perfil de *insights* 2021 & 2022
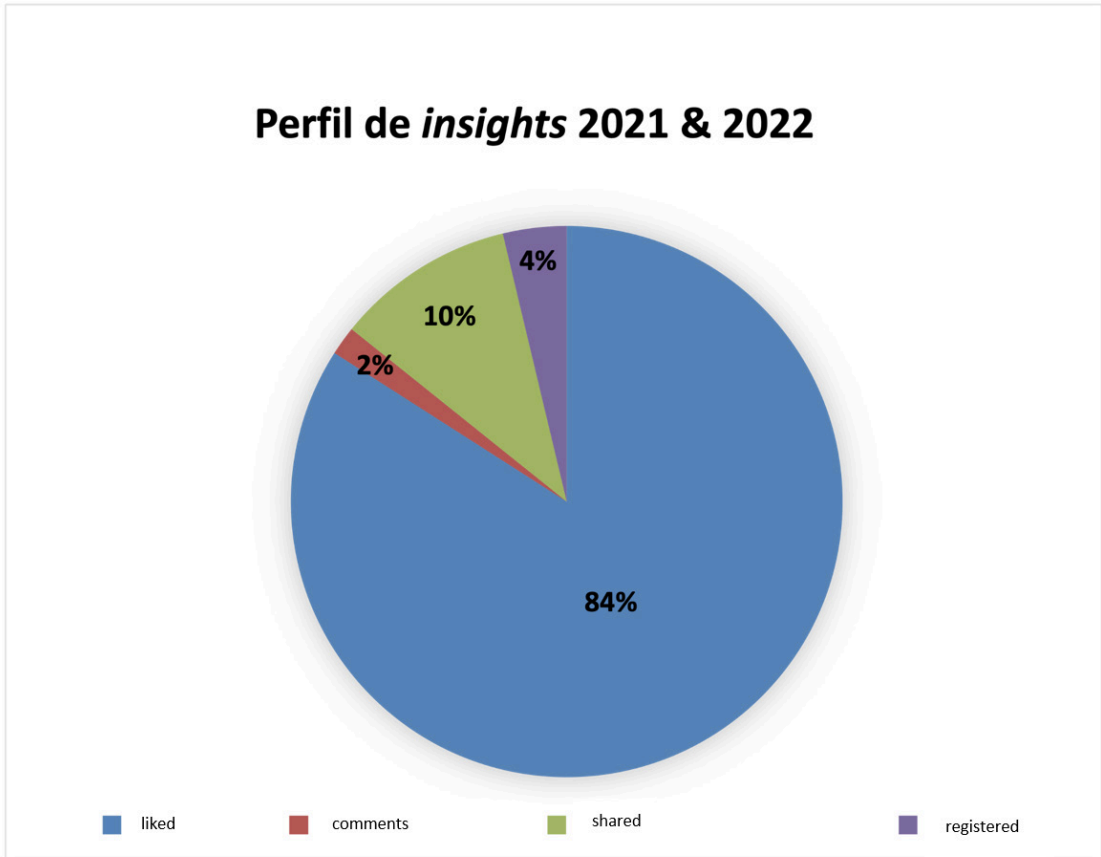
Graph 1: Overview of insights obtained during the semesters of 2021 and the first semester of 2022.

Source: Own authorship.

Theme	Number Posts	Liked	Registered	Shared	Comments
CT concept	5	50	1	8	0
Mechanisms MSC	3	24	1	2	0
ESC application	6	45		10	2
Methodology	1	11	0	0	0

Caption: CT: stem cells; MSC: mesenchymal stem cells; ESC: embryonic stem cells. Source: Own authorship.

Table 1: Total profile of insights referring to the themes addressed in the discipline "Stem Cell Biology and its Application in Animal Research and Clinic".

In the second half of 2021, only two students enrolled in the discipline, who made a total of 7 posts covering concepts and mechanisms, regulation and tumor stem cells (Table 2). In this class, the definition of the theme differed a little from the previous class, where the students chose to create posts about regulating the use of SC and about tumor stem cells. Again, the most liked and saved posts brought information about the concept and application of TC in general.

Theme	Number Posts	Liked	Registered	Shared	Comments
Concept and application	3	18	3	0	2
MSC mechanisms	1	8	0	0	1
Tumor CT	2	14	4	0	0
Regulation	1	9	1	1	0

Caption: MSC: mesenchymal stem cells; CT: stem cells. Source: Own authorship.

Table 2: Total profile of insights referring to the themes addressed in the discipline "Stem Cell Biology and its Application in Animal Research and Clinic".

In 2022, the discipline was offered only in the first semester, where three students participated. Five posts were published guiding the concept, application and public and private cell banks. Interestingly, students did not opt for TC mechanisms. The most liked posts were about the concept of cells, being the most shared (**Table 3**).

Theme	Number Posts	Liked	Registered	Shared	Comments
Concept	2	28	1	7	0
Application	2	17	1	3	0
CT Reservoir	1	8	0	0	0

Caption: CT: stem cells.

Table 3: Total profile of insights referring to the themes addressed in the discipline "Stem Cell Biology and its Application in Animal Research and Clinic".

Throughout the development of the discipline in the two semesters of 2021, students' resistance to posts was perceived, justified by the lack of practice in preparing posts or even by the lack of affinity with the social network. The average age group (30 years) of students in both semesters may have contributed to this result. Another difficulty observed was in preparing the text in a synthesized and accessible way for society. It was noticed a difficulty in the transcription of the scientific language for the popular language, being, therefore, a challenge for them.

There was progress in the preparation of the material throughout the course, with an increase in the frequency of posts and familiarity with the tools for producing content and the social network, in both semesters. It was found that students developed a collaboration between peers, both for the production and for posting content, and the first semester class was more active than the second semester class, probably

due to the number of students enrolled. Considering the number of followers on the page, a total of 92, there is good engagement with the public, but new dissemination and interaction strategies can be implemented in the next classes to the detriment of page growth and dissemination of scientific content about the content of stem cells.

CONCLUSION

Finally, the use of Instagram as an innovative and complementary methodology in graduate school enabled the development of skills related to creativity, presenting scientific content to society in a creative, dynamic and succinct way. This way, the knowledge discussed in the classroom was consolidated, in addition to stimulating the creativity and synthesis capacity of the students, being a great incentive to bring science and society closer together, by using a popular and easily accessible social network, promoting, thus, the spread of knowledge beyond the classroom.

REFERENCES

BITTENCOURT, P. A. S.; ALBINO, J. P. **O uso das tecnologias digitais na educação do século XXI.** Revista Ibero-Americana de Estudos em Educação, v.12, n.1, p. 205-214, 2017.

BUSS, C. da S.; MACKEDANZ, L. F. **O ensino através de projetos como metodologia ativa de ensino e de aprendizagem.** Revista Thema, v. 14, n. 3, p.122–131, 2017.

COSTA, F. V. **Uso do Instagram como ferramenta de estudo: análise de um perfil da área biológica.** Research Society and Development, v. 8, n. 10 p. 1-13, 2019.

De SOUZA, D., G.; MIRANDA, J., C.; COELHO, L., M. **Redes sociais e o ensino de biologia: o uso do quiz do instagram como recurso didático.** Revista Carioca de Ciência, Tecnologia e Educação (online). Rio de Janeiro: v.5, n. 2, p. 1-17, 2020.

DIESEL, A.; BALDEZ, A. L. S.; MARTINS, S. N. **Os princípios das metodologias ativas de ensino: uma abordagem teórica.** Revista Thema, v. 14, n. 1, p. 268-288, 2017.

FERRARINI, R., SAHEB, D., & TORRES, P. L. **Metodologias ativas e tecnologias digitais: aproximações e distinções.** Revista Educação Em Questão, v. 57, n. 52. P. 1-30, 2019.

LOVATO, F. L. *et al.* **Metodologias Ativas de Aprendizagem: Uma Breve Revisão.** Acta Scientiae, v. 20, n. 2, p.154- 171, 2018.

LUCENA, S., & OLIVEIRA, J. M. A. **Culturas digitais na educação do Século XXI.** Revista Tempos E Espaços Em Educação, v. 7, n. 14, p. 35-44. 2014.

NUNES, A.K.F; ROCHA, U; TOLEDO, J.V. **O uso de metodologias ativas com TIC: uma estratégia colaborativa para o processo de ensino aprendizagem.** TICs & EaD em Foco, v. 4, n. 1, 2018.

PEREIRA, A. R. **Instagram como estratégia de aprendizagem colaborativa no ensino superior.** Pensar Acadêmico, v. 19, n. 4, p.1206-1222, 2021.

PEREIRA, J. A.; JUNIOR, J. S. F.; SILVA, E. V. **Instagram como ferramenta de aprendizagem no ensino de química**. Revista Debates em Ensino de Química, v. 5, n. 1, p. 119-131, 2019.

SHITSUKA, R.; SHITSUKA, D., M.; BRITO, M., L., DE A. **Contribuição das redes sociais na melhoria do aprendizado: um estudo de pesquisa-ação.** Revista Humanidades e Inovação, v.7, n.11, p. 77-87, 2020.

VALENTE, J. A.; DE ALMEIDA, M. B.; GERALDINI, A. F. S. **Metodologias ativas: das concepções às práticas em distintos níveis de ensino.** Revista Diálogo Educacional, v. 17, n. 52, p. 455-478, 2017.

ZHAO, P. *et al*. **The pedagogical functions of arts and cultural-heritage education with ICTs in museums**. International Journal of Instructional Technology and Distance Learning, p. 7, 2015.