ILLUMINATIONS

Use of Facebook groups as a strategy for continuum involvement of students with physiology after finishing a physiology course

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INTRODUCTION

The use of social media has become common in 21st century life and is considered one of the main forms of interaction in human relationships (1), with the potential to integrate people of different ages, careers, and socioeconomic interest groups (3). Social networks allow users to interact by sharing content and experiences and establishing connections, stimulating from personal to professional relationships (7).

In this sense, the use of social networks has to be considered an important tool for education (2). At the undergraduate level, they represent a promising new approach (4), since the students, especially those from younger generations, expect technology to be an integral part of their education (16). Also, the teaching-learning process has been modified with technological advances (6), making it necessary to insert methodologies aiming not only at content transmission, but also the interaction and collaboration between students and teachers (16–18).

Platforms such as Facebook, Twitter, Pinterest, and LinkedIn have brought positive results in several teaching-learning applications for undergraduate students (3, 14, 18). Nowadays, Facebook is currently America’s most popular social media platform (16) and allows the connection of people who share similar interests (13).

Given the growing use of social networks, we created a Facebook (FB) group to support teaching activities while teaching human physiology to nursing and physiotherapy undergraduate students, as described in Vargas et al. (18).

At the beginning of the academic semester, students were invited to join the group, which was a closed group and consisted of an online space for sharing news, educational website suggestions, and scientific publications. The group’s name is “Fisiologia Unipampa,” which means physiology plus the university name. The group is online at https://www.facebook.com/groups/140687446092701, and posts are made in Portuguese.

The content from the group includes scientific evidence and discussions on how a memory can be edited, cancer and drug interactions, and sensory physiology, among others, organized in an easily accessible and interactive way [for more information, please see Vargas et al. (18)]. The activities in the FB group were proposed by the faculty at least two times a week. Other members of the FB group also could publish content any time. After a publication in the group, the students were encouraged to 1) comment; 2) discuss the research results; 3) comment on the relationship between the post and the physiology topics covered in the classes; 4) discuss the interdisciplinary relationship between contents from the physiology course and other courses part of the curriculum; and 5) interact with the other group members in any other desirable way.

The results from our first evaluation of the FB group activity showed that >80% of the students in the group considered the participation helpful in teaching and learning physiology; besides, physiology topics became more interesting to them (18). Also, the use of the social network increased the interest in physiology, facilitating learning and increasing interest through group discussions (18).

Surprisingly, we verified that, after the end of the semester, the students remained in the group, and, more than not leaving the group, they continued to participate in the activities proposed. Thus we decided to investigate why students remained interested in the group and what factors motivated them to continue to participate actively (Fig. 1). We collected the information using an online form developed in Googledocs; the questions included in the questionnaire are commented on, together with the results below. The Institutional Education Committee approved this proposal (Institutional Review Board no. 3.102.158).

The invitation to answer the questionnaire was posted in the FB group, and all participants were invited to answer all of the
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Fig. 1. The initial proposal was to create a Facebook (FB) group to function as an auxiliary tool in the teaching of human physiology to nursing and physiotherapy undergraduate students, as described in Vargas et al. (18). However, the participants did not stay in the group just while they were in the physiology course: they stayed during the rest of their academic life and sometimes during their professional careers. Thus we investigated why they remained in the FB group after the conclusion of the physiology course.

Participants were asked about how long ago they attended the human physiology course. Most of them (54.76%; n = 46) attended >1 yr before the questionnaire application, and others attended in the earlier semesters or the current semester (Fig. 2A). A significant percentage of the participants affirmed that they still participated in the group for ≥1 yr after concluding the physiology course (79.75%; n = 67) (Fig. 2B). Participants were also asked if they were active participants in the group (i.e., interacting with the content liking, sharing, or commenting on the publications). In response, 23.82% (n = 20) affirmed that they were, 9.52% (n = 8) reported not being active, and 66.66% (n = 56) referred to be active sometimes. Participants affirmed that they joined the group because of their interest in physiology (40.47%; n = 34), recommendation from a physiology professor (39.28%; n = 33), indication by colleagues (14.28%; n = 12), or by FB suggestion (2.38%; n = 2). Three participants (3.57%) mentioned other reasons.

Regarding the motivation to remain in the group after finishing the physiology course, the most cited factor was the interest in the publications regarding physiology-related contents (sharing of scientific publications, news related to physiology, or didactic materials) (45.58%; n = 62), followed by a general appreciation for physiology (30.14%; n = 41) (Fig. 2C). When they were asked about which of the activities proposed in the FB group they consider the most relevant, most of the participants cited the sharing of didactic material (44.04%; n = 74), followed by the publication and comments about recent physiology papers and news (39.28%; n = 66) (Fig. 2D).

Finally, as the main contribution of the FB group, 25.51% (n = 71) cited the opportunity to have extra-class contact with physiology contents; 24.03% (n = 62) mentioned the possibility of having a better relationship between physiology and their personal and professional life; 23.25% (n = 60) cited the opportunity to complement their physiology knowledge regarding more complex topics; 15.50% (n = 40) cited help in forming relationships between physiology and content from other courses, integrating the contents; and 9.69% (n = 25) reported the possibility of having knowledge exchange with persons who share a common interest in physiology. Participants were also asked whether, even after they had finished their physiology course, the group still helped them: 89.33% (n = 67) said yes, and 10.67% (n = 8) said no. All of the respondents (100%; n = 84) affirmed that they would recommend the FB group to other colleagues.

Final remarks. We believe that participants generally enter in the physiology FB group because they like physiology or by recommendation. Generally, they enter during the period that they are attending the physiology course, and they continue following the group even after concluding the physiology course. Several factors may account for the participants remain in the FB group, such as keeping themselves updated of the latest physiology discoveries, sharing and exchanging material with colleagues, and trying to understand the importance of physiology in daily life.

Most of the respondents attended the physiology course >1 yr before responding to the questionnaire; some of them 2 or 3 yr before. Therefore, maintaining a group in a public social network, such as Facebook, may enable participants to exchange knowledge about physiology beyond the class and keep up to date on the recent discoveries. This is remarkably
important, since the students only retain a small fraction of what is taught during the traditional classes (10), and maintaining the contact with physiology through other strategies is increasingly important (12). Besides that, physiology is a core component for students from health sciences, not only helping those who want to stay in academia but also the ones outside the universities, in professional life (15).

It is important to consider that our data collection has limitations. For example, it would be interesting to follow specifically the participants who joined the FB group in 2013 and were previously evaluated (18), but we were not able to do it because every academic semester more students are invited to join the group. We also do not know the exact number of participants joining the FB group per year, but we could assume that 50–60% (~60/yr) of all physiology students join the group (18). It is also difficult to quantify people who join and leave the group, as the participation in the group is voluntary, and the students can enter or leave at any time. Furthermore, at this time, considering the FB configurations, we were able to access FB retrospective data only for the last 3 yr (2017, 2018, and 2019).

Taking together, our results are important for physiology education. Previous research demonstrated that physiology is hard to learn, and professors expect more than just learning from their students (8, 10). Goodman and others (8, 9, 11) notice that the amount of content in physiology classes is one of the most challenging obstacles to the students’ learning. In this regard, providing opportunities to promote contact with physiology content after concluding the physiology course contributes to a better understanding of some content that may
not have been completely understood during the course, to elucidate misconceptions, to update information according to recent discoveries, and to review information previously learned so that it will not be forgotten (10).

Furthermore, physiology concepts will be part of the students’ professional lives, which helps to explain the large number of participants who remain in the group after the end of the physiology course. Besides that, previous work demonstrated that similar activities involving the understanding of human physiology through activities that create a bond between theoretical and applied concepts play an important role in professional practice (5).

Lastly, our findings contribute to the idea that a social network group, where people can access, study, and discuss physiology concepts, can be a useful tool in physiology education. We reach this conclusion based on FB, but this concept may apply for other social networks. Especially for a moment like the one experienced in 2020 when most of the world canceled in-person classes and moved teaching to an online environment due to the COVID-19 pandemic, our results are important, as they reveal a possible way to keep students in contact with physiology and related topics. For many students and young professionals, this contact can be essential to motivating them to continue their studies and avoid a break in their training.

DISCLOSURES

No conflicts of interest, financial or otherwise, are declared by the authors.

AUTHOR CONTRIBUTIONS

R.G. and P.B.M.-C. conceived and designed research; P.M.S., R.G., and P.B.M.-C. performed experiments; P.M.S., G.S.C., R.G., and P.B.M.-C. analyzed data; P.M.S., G.S.C., R.G., and P.B.M.-C. interpreted results of experiments; P.M.S. and G.S.C. prepared figures; P.M.S., G.S.C., R.G., and P.B.M.-C. interpreted results of experiments; P.M.S., G.S.C., R.G., and P.B.M.-C. analyzed data; P.M.S. and G.S.C. prepared figures; P.M.S., G.S.C., R.G., and P.B.M.-C. interpreted results of experiments; P.M.S., G.S.C., R.G., and P.B.M.-C. drafted manuscript; G.S.C. and P.B.M.-C. edited and revised manuscript; P.M.S., G.S.C., R.G., and P.B.M.-C. approved final version of manuscript.

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