

Pedagogical strategies for inclusion and retention of students in the pandemic period: an experience report

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ABSTRACT

This experience report describes technological tools and strategies adopted by Nova Esperança Faculty (Facene) and provides examples of inclusion and retention of students during suspension of in-person academic activities. Facene provided an interface platform, the Virtual Learning Environment, which enabled professors to continue with theoretical classes via synchronous modality on the same day and time of in-person modality, enhancing interaction and engagement during classes. Different and adapted modalities of evaluations and undergraduate dissertation and psychological and pedagogical assistance helped decrease dropout rates of the semester, considering the pandemic context. Pedagogical strategies of the institutional contingency plan of Nova Esperança Faculty were successful in minimizing limitations experienced by students in the continuity of their academic routine, assisting in the remote teaching process, learning, and evaluation.

Descriptors: Schools. Pandemics. Education, Higher. Student Dropouts.

1 INTRODUCTION

On March 11th, 2020, the World Health Organization (WHO) confirmed the pandemic caused by a novel coronavirus. The disease called COVID-19 became a severe and emergent health problem¹. In this context, attention has been drawn to health systems and professionals. However, educational and teaching systems were directly compromised and, in less than a month, 1.5 billion students left school in at least 174 countries². Despite several cities and states adopted social isolation measures of different intensities and rigorousness in Brazil, the number of cases and deaths continued to grow, reaching 2,442,375 diagnoses and 87,618 deaths by July 2020³.

Social isolation is a historical and sanitary heritage of the Spanish flu (1918) and an important measure to fight the virus⁴. Public authorities implemented social isolation, thus allowing the population to leave their homes only in cases of extreme necessity. Consequently, educational institutions, including day nurseries, schools, universities, trading industry, and services networks, had to be closed^{4,5}.

Students were impacted by imposed restrictions in educational routines, such as interruption of practical activities and classes that were postponed, canceled, or taught in other modalities. Distance and remote educational models also brought obstacles to the routine of faculty members. Therefore, the creation of remote alternatives allowed continuation of teaching and learning processes^{4,5}.

Although the current focus is on the searching for drugs and vaccines to fight COVID-19, there is an urgent social demand to prepare and launch health professionals into the job market. However, the effects of the pandemic and reduction of training periods

may impair the formative processes of these professionals⁶.

The global context of transformation in educational and healthcare policies requires changes in the formation of health professionals, offering a more globalized academic journey and contributing to the development of a versatile professional with humanized view towards the patient. Undergraduate and graduate courses call for new guidelines for curricular content, teaching methodologies, and qualification processes. Remote learning urgently needs to follow these changes⁷.

Professors and students were obliged to migrate to remote and online learning modalities due to the suspension of in-person courses. Professors started using technological tools to allow pedagogical practice⁸. Remote learning holds potential and pedagogical value because it speeds up information exchange among students, professors, and institutions. However, this modality requires investments in structure, human resources, and constant update and adaptation⁶.

Previous experiences directly influence adaptation to remote educational systems. Institutions must monitor, evaluate, and manage the learning process of students once the pandemic is expected to take time to be controlled⁹.

Social isolation measures and other aspects imposed by the pandemic impacted the entire academic community, especially students, creating a gap in the regular teaching system and functioning of Higher Educational Institutions (HEI)¹⁰. The Brazilian Association of Higher Educational Maintenance (ABMES) identified interruption of classes in HEI from all Brazilian states¹¹. Mandatory curricular internship and clinical and laboratory practices were interrupted, while theoretical activities

were adapted to the virtual environment. Technological resources became the only pathway to unite professors and students, even though these tools were not efficient for complete and absolute teaching approaches¹.

While the Brazilian epidemiological situation is stagnated, the economy is partially reestablished, and the state of emergency remains, there is a need for well-trained professionals and efficient resources within HEI. In addition, emerging countries, such as Brazil, struggle to educate professionals in an unprecedented scenario of adversities¹².

On March 3rd, 2020, before suspension of educational activities by the government, Nova Esperança Faculty (Facene) already had a contingency plan based on epidemiological, social, sanitary, and political contexts. The plan offered different and improved pedagogical strategies to protect the academic community and ensure continuity of learning by students¹². This study reports the experience of using tools and strategies at Facene to include and retain students during the suspension of in-person activities.

2 EXPERIENCE REPORT

Pedagogical strategy

Facene is a medium-sized private institution located in João Pessoa/PB. In 2020, 1,494 students were distributed among agronomy, physical education, nursing, pharmacy, physical therapy, veterinary medicine, dentistry, psychology, and technology in radiography courses. The present report focused on descriptions and examples from the dentistry course. Until the second semester of 2019, Facene had a full-time and in-person pedagogical purpose. However, the faculty suspended activities on March 18th, 2020, following a state decree and unanimous decision of the administrative council.

According to state and city measures, the institution maintained internal activities and academic community services with reduced staff for essential activities (e.g., emission of documents and building maintenance).

The Ministry of Education (MEC) ordinance n° 345 of March 19th, 2020¹³, later edited by MEC ordinance n° 544 of June 16th, 2020¹⁴, authorized federal institutions to substitute ongoing in-person activities using information and communication technologies. Facene promptly provided an interface platform called Virtual Learning Environment (VLE) AcadWeb that allowed delivery of theoretical classes on the same day and time of in-person modality, encouraging student interaction and commitment. Later, the platform transformed synchronous classes into asynchronous, reaching more students simultaneously and allowing unrestricted revision and more profound studies according to the preferred schedule of each student. The entire academic staff was trained using videos tutorials.

Besides support offered by the platform for technical assistance, recording, and release of videos on VLE, Facene also provided and oriented professors (via optional and periodic tutorials) about the use of auxiliary platforms for remote classes (e.g., Google for Education and Google Hangout) and learning platforms (Moodle). An institutional e-mail address was also offered for students and professors, facilitating access to these platforms.

Remote classes were authorized by normative acts released by the MEC to protect the continuity of educational content already initiated, maintaining some in-person characteristics. Facene followed programmatic content plans for the first semester of 2020, developed based on original classes, extra activities, and complementary material. After each class, professors were asked to post the material in discussion forums created to enhance academic

interaction using text or chat.

Each class consisted of a video produced by the professor, open-ended questions, complementary material, and a discussion forum. Classes will remain available during the entire pandemic period or suspension of in-person activities, stimulating continuous learning.

All professors adhered to the remote modality and were responsible for arranging pedagogical activities: class preparation, correction of activities, and interactions with students via discussion forums and videoconferences.

Virtual classrooms

The HEI created virtual classrooms via links inside VLE platform to strengthen bonds within the academic community and minimize pedagogical gaps. Students and professors had free access to discussions that surpassed the programmatic content, including extra and out-of-schedule meetings. Some professors adopted virtual classrooms to review and discuss the content, especially before the cognitive evaluation

period. Before the academic semester, 572 virtual classrooms were created in the first semester of 2020 (table 1) and remained available between 03/18/2020 and 06/19/2020. Within dentistry, 63 classrooms were distributed in this period. The number of open classrooms was proportional to the number of modules/disciplines of each course period.

Regular evaluations

Items used in evaluations were inserted in an institutional database with peer correction. Each item underwent validation by two other professors and was formatted following a standard to increase evaluation quality.

The technological sector of the HEI developed an electronic form in which professors scheduled evaluations and provided information to insert and configure evaluations on VLE platform. Students received an access key and answered evaluations using the digital environment, with pre-established rules, deadlines, and respecting the initial schedule of the semester.

Table 1. Virtual classrooms of Facene/PB developed in VLE platform during suspension of in-person classes.

Course	Period								Virtual Classrooms
	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	
Agronomy	12	12	11	12	11	10	N/A	N/A	68
Physical Education	10	10	11	12	13	N/A	8	N/A	64
Nursing	10	10	10	8	8	10	7	6	69
Pharmacy	11	12	13	13	14	13	8	6	90
Physical Therapy	10	10	10	12	12	10	7	N/A	71
Veterinary Medicine	12	12	11	12	10	13	N/A	N/A	70
Dentistry	8	10	9	8	8	8	9	3	63
Psychology	9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9
Radiography	10	10	12	12	11	13	N/A	N/A	68
Total	102	96	97	99	97	87	50	26	572

N/A – periods not yet met by the course (not applicable)

Six hundred and forty remote evaluations were performed across courses, and students presented an academic performance equivalent to data from regular in-class evaluations. The dentistry course performed 71 evaluations in this period, corresponding to 11% of all evaluations. For students who could not attend evaluations, coordination committees of each course created an alternative and individualized monitoring calendar and scheduled evaluations in exceptional hours to reach all enrolled students.

Undergraduate dissertation

Senior students enrolled in Thesis I and II disciplines continued with orientations. Mandatory meetings were conducted weekly by videoconference, and orientations were registered by e-mail. The research design of the dissertation was flexible to endorse social isolation and prevent COVID-19 spread. The integrative review design (with defined structure and scientific rigor¹⁵), previously accepted as one possibility of dissertation, became the preferred option during suspension of in-person activities.

Presentation of the two dissertation phases, qualification of the research project, and its final presentation were performed via Google Meet. Among physical education, nursing, pharmacy, physical therapy (7th and 8th periods), and radiography (5th and 6th periods) courses, 122 qualifications and 56 undergraduate dissertations were presented. Since the MEC officially authorized the dentistry course in 2016¹⁶ and classes started in the second semester of 2016, the most advanced class (8th period) had not yet taken undergraduate dissertation disciplines. Students from all courses neither interrupted the course nor abandoned dissertation activities.

PsycForum

During the COVID-19 pandemic, the Psychopedagogical Support Sector of Nova Esperança Faculty (NAP – Facene) assisted the academic community via VLE. The institution offered psychological and pedagogical support for students, professors, and staff via PsycForum, a permanent forum held on a website. Support was available during the entire week, including weekends if necessary. From March 22nd to June 19th of 2020, 127 care services were provided to students, 20 to professors, and 6 to staff. Most frequent complaints were anxiety, depression, learning difficulties, and diverse emotional issues enhanced by social distancing.

In addition to NAP activities aimed at preserving mental health of the academic community, Facene supported physical health maintenance. Students and professors from the physical education course developed a project based on labor gymnastics in the Education Academy of HEI. The group developed ten classes and shared videos via texting apps and VLE, attracting an average of 40 users per class.

Strategies for inclusion and retention of students

Despite strategies, tools, and cautions previously described, some students did not embrace the remote proposal due to the pandemic. However, HEI launched a strategy to include absent students. The coordination of each course identified and contacted students by e-mail, telephone, social media, and through family and neighbors. These students actively participated in the development of individualized plans and evaluations, respecting their needs. The main strategy encompassed customization of classes and

adequate evaluations that suited students' needs.

For example, classes of the 4th semester of dentistry were composed of fourteen scholarship students from the University for All Program (ProUni) who had no regular access to internet or electronic devices. Due to inclusion of absent students and individualized planning (i.e., students could choose date and time of their classes and evaluations), 100% of students concluded remote activities.

Table 2 presents a comparison between regularly enrolled students and active students with regular online participation via VLE platform in the first semester of 2020. Regular

online participation refers to students with 75% attendance to classes that completed evaluations. An assessment was performed after using the tool to measure access of students to pedagogical strategies adopted by the institution during the social isolation period. Results showed that 98.6% of students from Facene actively participated.

Reasons for absence included lack of access to internet and electronic devices, difficulties in balancing remote classes with work and family issues. Twenty-one students (1.4%) were absent from remote activities, and all were enrolled in the four initial periods of their courses.

Table 2. Enrolled and active students in remote education during the first semester of 2020 at Facene/PB.

Course	Enrolled Students	Active Students
Agronomy	104	103
Physical Education	131	129
Nursing	216	211
Pharmacy	226	224
Physical Therapy	205	203
Veterinarian Medicine	217	213
Dentistry	264	262
Psychology	30	30
Radiography	101	98
Total	1,494	1,473

During the pandemic, data from ABMES showed continuity in the academic calendar using the remote educational modality. However, public institutions presented greater difficulties in adopting remote systems. In Brazil, many students are vulnerable, thus challenging the continuation of educational activities¹¹.

Social isolation forced HEI to apply an educational contingency plan to reduce the impact on student's academic journey and life. Facene adopted measures similar to the Higher School of Health of the Portuguese Red Cross. The Portuguese study reported high levels of satisfaction with adequacy of educational

platforms for online classes¹⁰.

During the pandemic, web resources in dentistry teaching showed that virtual environments allow interactivity, content presentation, schedule continuity, class routine, individual and group activities, evaluations, and other methodologies¹⁶. This remote pedagogical strategy requires access to internet and platforms that facilitate synchronous communication, such as virtual classrooms cited in the present report. Students and professors need to be online simultaneously to promote academic debate and increase similarity to in-person teaching^{6,17}.

The online teaching modality creates feelings of connection and interactivity among people. However, it is questionable whether personal communication via videoconference programs suits affective, intellectual, and material needs¹⁸. Remote teaching in higher education is challenging due to flexible timetable/schedule, class recording, attendance control, and access to educational platforms. During COVID-19 pandemic, Facene chose synchronous classes, momentarily recorded and later available. Also, no measurements were taken to limit or hamper access of students to classes because remote learning efficacy requires planning, organization, information technology, and communication between students and professors¹⁹.

Although remote evaluations are commonly linked to a static idea of concluding the programmatic content, and the pandemic has intensified content- and quantitative-based criteria²⁰, literature endorses that formative and summative evaluation processes can occur in a virtual learning environment using adequate technological tools. Facene maintained its formative evaluation process, including staff participation before (development of items and preparation of students) and after evaluation

(by giving quality feedback); therefore, contributing to the performance of students and fair evaluative process⁶.

Mental health of higher education students was impaired during the pandemic (48.2% had anxiety and learning difficulties), corroborating with the PsycForum study²¹.

A considerable number of students (3.5%) were vulnerable and presented emotional problems (e.g., pathological anxiety) and socio-economic difficulties, such as lack of regular access to internet²¹. We report similar numbers in this experience report.

A broader analysis conducted by the Union of Supporting Entities of Higher Education Establishments (Semesp) showed that the cumulative dropout rate of the private higher education system in the first semester of 2020 in Brazil was 32% higher than the first semester of 2019, representing a total number of 265 thousand students²². At Facene, the dropout rate during suspension of in-person activities was 14% higher than the same period of the previous year.

3 FINAL CONSIDERATIONS

Pedagogical strategies adopted by the institutional contingency plan of Nova Esperança Faculty were successful in minimizing limitations of student's academic routines, thus assisting in their remote educational process. HEI provided a rapid academic response by establishing virtual environments that were fundamental for academic staff adhesion and success of the strategy.

RESUMO

Estratégias pedagógicas de inclusão e retenção de estudantes em tempos de pandemia: relato de experiência

Trata-se de um artigo de relato de experiência

que objetiva descrever o uso das ferramentas e estratégias adotadas pelas Faculdades Nova Esperança (Facene) visando à inclusão e retenção dos estudantes durante a suspensão das atividades acadêmicas presenciais. A Facene disponibilizou uma plataforma de interface, o Ambiente Virtual de Aprendizagem, que possibilitou aos professores continuar com suas aulas teóricas em modalidade síncrona, no mesmo dia e horário da modalidade presencial, visando maior interação e engajamento dos estudantes durante as aulas. Modalidades diferenciadas e adaptadas de avaliações e Trabalho de Conclusão de Curso, além de atendimento psicológico e pedagógico são descritas como fundamentais para que a Facene obtivesse uma evasão acumulada do semestre reduzida, diante da expectativa de maior evasão devido a suspensão das atividades presenciais decorrente da pandemia. As medidas pedagógicas adotadas no Plano de Contingência Institucional da Facene tiveram êxito como estratégias de inclusão e retenção dos estudantes, além de minimizar as limitações por eles vivenciadas na continuidade da sua rotina acadêmica, ajudando-os no processo remoto de ensino, aprendizagem e avaliação.

Descritores: Instituições Acadêmicas. Pandemias. Educação Superior. Evasão Escolar.

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