

## HEALTH, FAKE NEWS AND TEACHING IN PROFESSIONAL AND TECHNOLOGICAL TRAINING

### SAÚDE, FAKE NEWS E A DOCÊNCIA NA FORMAÇÃO PROFISSIONAL E TECNOLÓGICA

### SALUD, FALSAS NOTICIAS Y ENSEÑANZA EN FORMACIÓN PROFESIONAL Y TECNOLÓGICA

Edilaine Cristina de Melo KAWACHI<sup>1</sup>  
Ariadne ECAR<sup>2</sup>

**ABSTRACT:** This article sought, through literature review, to present the advance of fake news and how misinformation and lack of prior knowledge affect the routine of individuals and interfere with the health of the population. Although health subjects are not part of the curriculum of many Educação Profissional e Tecnológica (EPT) courses, it is important to question how certain events interfere in the school community and how the school and the teacher can use fake news in a didactic way with scientific knowledge, to train citizens with new competencies and skills that are in demand in the labor market today. The concern arises at the time of the pandemic, when people worldwide are learning to live with a new routine, imposed by COVID-19. We start from this contextualization to propose the epistemology of the active methodology, based on projects, which considers as presuppositions for learning, real situations having life and events as context and this allows the student to research and reflect, leading to the development of new competencies and skills.

**KEYWORDS:** Teaching. Health. Fake news. Active methodologies. Professional and technological education.

**RESUMO:** O presente artigo buscou, através de uma revisão de literatura, apresentar o avanço das fake news e como a desinformação e a falta de conhecimento prévio afetam a rotina dos indivíduos e interferem na saúde da população. Embora disciplinas da saúde não componham o currículo de muitos cursos da Educação Profissional e Tecnológica (EPT), é importante problematizar como determinados eventos interferem na comunidade escolar e de que maneira a escola e o docente podem utilizar uma fake news de forma didática junto ao conhecimento científico, com o intuito de formar cidadãos com novas competências e habilidades tão requisitadas pelo mercado de trabalho atualmente. A inquietação surge no momento de pandemia em que, mundialmente, as pessoas estão aprendendo a conviver com uma nova rotina imposta pela COVID-19. Partimos dessa contextualização para propor a epistemologia da metodologia ativa, baseada em projetos, que considera como pressupostos

<sup>1</sup> Federal Institute of Southern Minas Gerais (IFSULDEMINAS), Pouso Alegre – MG – Brazil. Master's student in Food Science and Technology. ORCID: <https://orcid.org/0000-0002-9540-5208> E-mail: [edilainekawachi@yahoo.com.br](mailto:edilainekawachi@yahoo.com.br)

<sup>2</sup> University of São Paulo (USP), São Paulo – SP – Brazil. Collaborating Professor. Department of Philosophy of Education and Education Sciences. University of Ibirapuera. Professor of the Graduate Program in Education. Ph.D. in Education. Post-doctorate (IEA-USP). ORCID: <https://orcid.org/0000-0002-4562-8702>. E-mail: [ariadneecar@gmail.com](mailto:ariadneecar@gmail.com)

da aprendizagem situações reais, tendo por contexto a vida e os acontecimentos, e isso permite ao aluno a pesquisa e reflexão, levando ao desenvolvimento de novas competências e habilidades.

**PALAVRAS-CHAVE:** *Docência. Saúde. Fake news. Metodologias ativas. Educação profissional e tecnológica.*

**RESUMEN:** *Este artículo buscó, a través de la revisión de la literatura, presentar el avance de las fake news y cómo la desinformación y la falta de conocimiento previo afectan la rutina de los individuos e interfieren en la salud de la población. Aunque las asignaturas de salud no componen el currículo de muchos cursos de Formación Profesional y Tecnológica (EFA), es importante cuestionar cómo interfieren ciertos eventos en la comunidad escolar y cómo la escuela y el profesor pueden utilizar una noticia falsa de forma didáctica con conocimientos científicos, para formar ciudadanos con nuevas competencias y habilidades tan demandadas por el mercado laboral actual. La preocupación surge, en el momento de la pandemia, donde en todo el mundo, la gente está aprendiendo a vivir con una nueva rutina, impuesta por la COVID-19. Partimos de esta contextualización para proponer la epistemología de la metodología activa, basada en proyectos, que considera como supuestos del aprendizaje, situaciones reales que tienen el contexto de la vida y los acontecimientos y esto permite al estudiante la investigación y la reflexión que conduce al desarrollo de nuevas habilidades y destrezas.*

**PALABRAS CLAVE:** *La enseñanza. Salud. Noticias falsas. Metodologías activas. Educación profesional y tecnológica.*

## Introduction

According to Michaelis (online), education is "[...] the process that aims at the physical, intellectual and moral development of the human being, through the application of proper methods, in order to ensure his social integration and citizenship formation"<sup>3</sup>. It is indisputable the fact that education, broadly speaking, is in a constant process of improvement. The trajectory and importance of consolidated education are important to help teachers educate students so that they can differentiate fakes news (BRAZIL, 2019; SANTOS; LEÃO, 2019).

In times of transformative technology, mediated population, a news published in Japan can go viral in a few minutes in other parts of the world. However, despite the benefit and signaling evolution, there are the drawbacks that flank this modernity. This generation coexists with the post-truths, the fake news and the damages of the new times, which gain gigantic proportions to the point of interfering in people's routine, including in the school environment (MONARI; BERTOLLI FILHO, 2019; SANTOS, 2020; SANTOS; LEÃO, 2019).

<sup>3</sup> Cf. <https://michaelis.uol.com.br/moderno-portugues/busca/portugues-brasileiro/educa%C3%A7%C3%A3o/>. Accessed on 07/11/2020.

One area vulnerable to the attacks of fake news is health, this being a topic of wide interest. The individual seeks health and this desire extends to all family and friends. In the face of so much misinformation the Ministry of Health created the *Saúde sem fake news* channel, in the second half of 2018, allowing the population to use it to query the veracity of news (MONARI; BERTOLLI FILHO, 2019; SACRAMENTO, 2018).

According to *Saúde Brasil*, portal of the Ministry of Health of the Federal Government (2020), the word health means: "In addition to the absence of disease, [...] the well-being-physical, mental and social. Given the recent pandemic of COVID-19 and all the post-truths and fake news circulating around the subject, bringing distrust, emotional imbalance and fear in the population, which further aggravated the whole scenario, affecting even health professionals (BERTI, 2020).

There is no way to stop the production of fake news, and if we consider that since the Roman Empire there is false news it is easier to dimension the issue (MONARI; BERTOLLI FILHO, 2019). The population itself chooses to give more credibility to personal accounts than to studies on the subject (SACRAMENTO, 2018).

Therefore, the gaze turns to the teacher as an intermediary in this process of educating and transforming young people, seeking to make them critical citizens. Despite their mastery of social media, they find it difficult to differentiate the truth from fake news (BUSKO; KARAT, 2019). To this intermediary place we can also consider, as Gomes and Hansen (2016, p. 34) did, the role of the "mediating intellectual" of the teacher as a disseminator of knowledge, "a translator in a broad sense of contents, values, sensibilities."

## **Problematization**

Initially, we will address the construction of the Unified Health System (SUS), its importance in the historical context, contemplating health, granting rights and citizenship, bringing sense of dignity to the individual. Likewise, we will go through the idea of fake news and its definition, besides discussing how the advance of Information and Communication Technologies (ICT) boosts disinformation.

Furthermore, we intend to understand which measures have been presented as efficient, aiming to minimize the effects caused by fake news, and how the school environment can contribute to the media education of students, signaling its potential benefit for the construction of learning, collaborating with the critical formation.

## Unified Health System

When dealing with health rights, the Federal Constitution (FC) of 1988 in Article 6 ensures that "[...] are social rights, education, health, food [...]" and in Section II of Health, the FC in Article 196 reports that "[...] health is the right of all and duty of the State, ensuring through social and economic policies aimed at reducing the risk of disease [...]". Before the Federal Constitution, the public health system provided assistance only to workers connected to Social Security, and its promulgation was a true historical landmark of progress in Brazilian health (BRAZIL, 1998).

According to the Ministry of Health, the Unified Health System (SUS), responsible for ensuring compliance with Article 196 of the Federal Constitution, is the largest and most comprehensive health system in the world, assisting the population from blood pressure checks to organ transplants (BRAZIL, 2020).

Health care used to be a privilege for individuals who could pay for it, or obtain assistance through philanthropic actions, or for workers; with the creation of the SUS, this view has been modified: previously treated as a good that could be bought by a few, it is now a universal right, serving everyone (MARTINS *et al.*, 2011; PAIM, 2009).

The principle of the SUS is universalization, i.e., ensuring access to all without discrimination of any kind, with equity, i.e., there is a greater or differentiated investment where there is social inequality, and integrality, which ranges from health promotion and disease prevention to treatment and rehabilitation, ensuring quality of life for the individual (BRAZIL, 2020).

Participating in the SUS are the State and Municipal spheres, and the Health Councils, which branch out into various Secretariats and agencies. However, the SUS manager is the Ministry of Health, which manages, coordinates, and supervises, articulating the actions with the National Health Council (BRAZIL, 2020).

It is up to the Ministry of Health to create policies and meet the needs of the population in its individuality, at the regional, municipal, and national levels, analyzing the circumstances that lead to the growing number of certain disease, or what is putting the health of the population at risk, such as violence, unemployment, traffic accidents, to name a few situations. The diversities of the Brazilian population, such as culture and territory, are considered to thus ensure the principle of equity of SUS (BRAZIL, 2020).

The Ministry of Health, through SUS, is responsible for scientific and technological research in health, preventive actions, pharmaceutical assistance, health care, health education,

labor management, health promotion, blood and blood products, supplementary health, health surveillance, and health surveillance (BRAZIL, 2020).

Duty, right, articulations, secretariats, object of the text of the Federal Constitution, reason for discussion around the world, target issue in electoral campaigns, including in the United States (PAIM, 2009). Faced with these concerns, what is health?

*Saúde Brasil*, a portal of the Federal Government's Ministry of Health (2020), describes that health goes beyond the absence of disease and includes physical, mental, and social well-being. Judging by the Ministry of Health's action creating the Health without fake news in 2018 in order to combat fake news, it is notorious the repercussion that such news causes on health. The goal of the channel is to be a facilitator, allowing the consultation of news, demystifying through consultation and opinion of experts on the subject (MONARI; BERTOLLI FILHO, 2019).

### **Impact of fake news on health**

We start from the definition that fake news is the production and propaganda of false news, with the objective of manipulating, misinforming, and inducing to errors (OXFORD, 2016).

It is necessary to reflect on the considerations of Alcott and Gentzkow (2017) when they address the goal of fake news, consolidating in being attractive, aiming to provide audience and engagement, and manipulating to determine results that favor them (MONARI; BERTOLLI FILHO, 2019; ROCHA, 2018).

We highlight the vulnerability that involves the health area and fake news, as an object of desire and a subject about which the population does not have enough information to form an opinion, which makes the issue a public order problem, worth reflection and demanding urgency for actions that mitigate or control the damage caused (MONARI; BERTOLLI FILHO, 2019; ROCHA, 2018).

To better understand how fake news influence health, Busko (2019) analyzes the news about microcephaly and its untruths in a study related to the Zika Virus. In Brazil, the virus had been circulating since the first quarter of 2014, but the first case was diagnosed in May 2015 in Bahia, when different symptoms caused by the virus were detected. As there was an increase in congenital malformations in newborns, which can be caused by other agents, the population became alarmed and scientists began research to respond to society.

Faced with uncertainties, the impossibility of answering scientifically about the causes of the disease, due to the short time between appearance and outbreak, the population's concern and the search for answers give fake news the opportunity to present itself in different tones. According to Busko (2019), information circulated in social networks that microcephaly was being caused by an expired batch of vaccines applied in pregnant women against Rubella: in this case, it was not only scientific uncertainties, but lies, fake news, about the subject.

The Ministry of Health has been registering a drop in vaccinations since 2016 and considers several factors for this decline, but points to fake news as responsible for 75% of it. The ease of sharing in a media-driven society increases the spread. One of the government's initiatives to combat fake news about vaccination was a campaign that released images and videos with the most common mistakes disseminated by the media (MONARI; BERTOLLI FILHO, 2019).

Part of the fake news is associated with the lack of scientific answers, and also, according to Busko (2019) and Monari (2019), to the breach of credibility of the reference media, pointing out that there are numerous websites with ill-founded publications that disclose false results, making it complex for professionals to research.

The most recent problem involving the population and health, with global reach, was the extremely challenging COVID-19. An outbreak of the virus was declared an emergency on January 30, 2019 by the World Health Organization, and the first cases appeared on December 31, 2019 in China, that is, in 30 days a pandemic set in. In February 2020 Brazil confirmed the first case (SANTOS, 2020). At present (November 2020), we still do not have a clear picture of the problem, treatment, or a date for the pandemic's outcome.

According to *Jornal Nacional*, a nationwide popular news program on TV, (2020), the #FatoouFake, an initiative created by several communication companies, in August 2020 had checked 300 news stories circulating in social networks about COVID-19, from those in which it was reported that the vaccine was ready, but governments refused to release it to the population - fake - to that Russia would release lions in the streets to prevent the population from circulating - fake. Of those 300 checks, 295 were fake.

The journalists receive the news that is circulating, go through the application to check if the image is a montage, talk to experts, get in touch with other countries - when this news involves them -, and then circulate informing if it is true or not.

In general, fake news, when circulated, seek to use mechanisms to attract the public's trust, using the term that it was a doctor who said it, or who released the information.



For Monari (2019), there is no bill that curbs fake news, so it is up to the citizen to interpret, to be aware when they have access to information. Sacramento (2018) points out that there is no way to stop the production of fake news. If we consider the ease of sharing information in current times it is easy to understand how difficult the fight will be. When we take up the action of the private #FatoorFake initiative, composed of several professionals from different communication channels, what to do then? How to leave the responsibility solely to the population that does not always have the same resources, initiative or knowledge?

### **Media education**

Monari (2019) contextualizes the fact that young people are adept at technologies and use them deftly, however, when it comes to fake news, they lack the discernment to distinguish them or discern which channels are reliable. The former Minister of Education, Mendonça Filho, stated that [...] "Fake news is a disservice to the population and democracy," referring to one of the untruths involving the Ministry of Education (BRAZIL, 2019).

Given this reality, the teaching contribution is of utmost importance. Gravina (2018) suggests that the teacher work a news story with the students, critically, encouraging evaluation and developing skills to judge the content published on social media. She also cites ways to involve the community, through lectures that can be given by the students with the goal of clarifying a fake news through workshops and courses.

For Santos (2019), students are a source of information, and providing a space for them to responsibly use the knowledge they acquire will bring impact to the community. School and teachers can provide opportunities for critical thinking and knowledge exchange, which will be beneficial and give new meaning to the formation of responsible citizens. Education is, without a doubt, the best way for the conscious use of the Internet, and not the spreading of false news.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has been raising the flag of education against fake news, in addition to a series of publications with guidelines on the subject. Among these materials are manuals, books, papers, and also an action called The Global Media and Information Literacy Week (MIL), with events that take place locally but with global reach. The 2020 theme addressed misinformation and its divisions, involving the current scenario of communication, technology, and information.

In a 2019 action by the Association of Communication Academics and Professionals of Nigeria, a board game was developed with the aim of educating about fake news. As you progress through the game, drawings of the social media used, such as Whatsapp, Instagram,

Facebook and commands such as, "[...] check if the information is true; If it will hurt someone don't share; Think before liking the news; If it can cause problems delete; Everyone deserves respect; Hate speech divides us" (UNESCO, 2019) appear. This work is an example of how the theme of fake news can be fought in a playful and differentiated way, providing a relaxed education.

*Educação Magazine* (2018) published an article on the importance of working with fake news in the classroom, calling attention to simple measures such as checking whether the social network account is true or not, working with assembled images in the classroom, teaching students not to focus on the headline only but on the content, and identifying the author.

Marquette (2010) points out France as one of the countries that invest the most in media education and Finland as the country most committed to educating and the most concerned about fighting fake news, and emphasizes that Brazil still needs public policies and actions that transform this education into media education.

UNESCO has produced a book called *Media and Information Literacy: Curriculum for Teacher Education* (2013), which deals with the professional development of teachers to combat fake news.

## **Methodology**

This article started from a research undertaken in an atypical period, involving the pandemic of COVID-19, whose event made it impossible for the face-to-face classes of the Post-graduation course in Professional and Technological Education of the Federal Institute of Southern Minas. Together with this impossibility, we were faced with numerous fake news, further complicating the routine in general.

We then identified the demand to address the issue in the classroom. We started a search for works about the theme using the descriptors: health; fake news; professional and technological school; the COVID-19 pandemic; teaching and fake news; with the intention of promoting the student's complete formation.

The bibliographical research occurred through the search for scientific articles, resolutions, and legislations published in the SciELO, Lilacs, and Virtual Library databases, as well as in books and periodicals.

By bibliographic research, we understand all the public production that aims to know and condense information, without repetition, in order to examine a topic under a new approach and offering new conclusions (MARCONI; LAKATOS, 2021).



## **Results Analysis**

Much has been discussed, in the educational field, about preparing professionals able and capable of adapting to the changes imposed, whether due to technology or simply by the need to adapt to a new market reality in its historical context, through the new skills and abilities required of professionals and potentially developed as students (BARBOSA; MOURA, 2013; ROQUE, 2004).

This new competence includes presenting to the students paths, so that they can explore research as a way to build their knowledge, provoking interest for discovery (DIAS, 2010). The Law of Directives and Bases of National Education (1996) and the reform of high school emphasize the importance of working beyond the content, recognizing the competence and ability of students (ROQUE, 2004). For Moreira (2016), the professional who leaves Vocational Technical Schools, in addition to technical knowledge, needs to be a critical and competent citizen in solving problems or facing obstacles, needs to be responsible and able to solve issues not pertinent to their technical area.

Given the exhibitions, we intend to raise possibilities to be worked with students approaching the fake news, from the health theme, without claiming to exhaust all the possibilities of working with the theme in schools, because it would be impossible to trace a single action capable of combating the problem, as well as to predict which would be the target subjects for the future.

Based on the epistemological foundation of active methodologies, this article proposes the use of this approach as one of the tools for teachers to work on fake news and health in professional and technological education in a critical way, encouraging evaluation and developing skills and new competencies.

The active methodology is used when the student participates in the construction of his knowledge, and this is possible in teaching practices in which there is interaction with the subject, reading, writing, discussion, and raising questions about the topic. It allows the student to develop skills and work independently (BARBOSA; MOURA, 2013; OKANE; TAKAHASHI, 2006).

According to Dewey (1959), learning occurs when we share experiences, and this is only possible in a democratic environment, where there are no barriers to the exchange of thought.

By using the active methodology, the teacher has the opportunity to evaluate the student and his aptitude, his competence in solving the problem and how he conducts the work. It is

also possible to make a critical analysis regarding the application of the proposal for the chosen content (MOREIRA; RIBEIRO, 2016; OKANE; TAKAHASHI, 2006).

Within the active methodologies, it is worth highlighting project-based learning, in which the teacher will present a problem or a real context as a theoretical assumption of learning and, thus, raise questions, outline the research, develop the schedule, analyze the best format to present the resolution. Presentations can be made through workshops, lectures to the school or externalizing with demonstrations to the community, the latter being an option to be evaluated in dealing with the fake news with coverage beyond the school walls (BARBOSA; MOURA, 2003).

O estudo dirigido é também uma possibilidade que permite trabalhar *fake news* com o discente, através de questionamentos ou problematização, porém, com o professor direcionando o estudo, mostrando quais os possíveis caminhos a serem percorridos na tentativa de obter as respostas. Nessa metodologia, o docente permite a participação do aluno na construção do seu aprendizado e consegue conduzir a pesquisa de forma a transformar a maneira como se busca informação (LIBÂNEO, 2014; OKANE; TAKAHASHI, 2006).

In the methodology called flipped classroom, the student comes into contact with the material before entering the classroom; in advance, the teacher will provide the content to be studied, which can be videos, texts, games, podcasts, pictures, images, according to the purpose of the class and the topic to be addressed, always prioritizing prior knowledge. The student can and should research complementary material about the subject. In this proposal, the student will build his knowledge together with the teacher, because even with a study material the teacher will not expose the content and its positioning to students; the subject will be treated in a discussion in the classroom, where everyone will have the opportunity to expose their ideas, question what was previously studied, ask questions, comment on positive and negative points, interact with colleagues, giving opinions, reflecting on the subject (VALENTE, 2014).

Debates on current issues can also be considered, allowing students to expose their previous knowledge on the subject, raising questions for research and teamwork (ARAÚJO, 2011).

## Final remarks

We believe that there is much to discuss on the subject. More work is needed, including reports of successful or unsuccessful experiences in order to set goals for the teacher and the school to use the school environment as a tool not only for technical/theoretical learning, but also to help students build a new reality. It is extremely important and urgent that the school offers a transforming environment for students, in order to prevent them from being receivers and repeaters of fake news, contributing to a society capable of reflecting and critically analyzing every kind of news or event around them.

Uncertainty and news tend to bring anguish and curb the dissemination of misinformation, and can facilitate and bring lightness to people's daily lives. If we think about the country's current moment, wrapped up in the problems originated by COVID-19, we could be going through this period without having to live with fake news and strengthening ourselves to solve impasses, constituting ourselves as an intellectually mature society.

As we pointed out initially, we consider it necessary for teachers to assume their role as translators of the world, guiding children, young people, and adults, contributing to the dissemination of scientific knowledge.

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### How to reference this article

KAWACHI, E.; ECAR, A. Health, fake news and teaching in professional and technological training. **Revista Ibero-Americana de Estudos em Educação**, Araraquara, v. 17, n. 2, p. 1327-1340, Apr./June. 2022. e-ISSN: 1982-5587. DOI: <https://doi.org/10.21723/riaee.v17i2.15312>

**Submitted:** 21/07/2021

**Revisions required:** 15/09/2021

**Approved:** 22/01/2022

**Published:** 01/04/2022

Management of translations and versions: Editora Ibero-Americana de Educação

Translator: Thiago Faquim Bittencourt

Translation reviewer: Alexander Vinícius Leite da Silva