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Confirmation bias in eLearning

Many trainees approach the online course with prejudice. This could affect their learning success.

In psychology we speak of cognitive bias to indicate "judgments (or prejudices) that do not necessarily correspond to reality, developed on the basis of the interpretation of the information in our possession (even if not connected to each other) that lead to an evaluation error. "

Why do we fall into cognitive bias and distort reality? The answer is evolutionary. Man has always adopted mental shortcuts to make quick decisions in the presence of certain signals (especially the warning signs). These shortcuts are mostly correct and allow us to interpret reality quickly and efficiently, but not always: sometimes they instead lead us to wrong conclusions about the world around us. It is in these cases that we speak of bias.

What is confirmation bias?

"Be open to learning new lessons, even if they contradict the lessons you learned yesterday."

Professor Brendan Nyhan of Dartmouth College defines the confirmation bias as " the exclusive acceptance of information that reinforces a predisposition, a belief or a personal attitude". In general we can define confirmation bias as a "wrong mental shortcut", "an irrational bias in favor of the preconceptions we prefer to believe, even when they are not correct ", which occurs, for example among supporters of political parties or other ideologies (for example food fanatics). It consists in giving greater importance to information that can confirm our initial thesis. Nyhan also points out that the other side of the coin is "the prejudice to disconfirmation: people tend to be unduly skeptical of information that contradicts certain positions or points of view they have previously assumed". For this reason, "confrontation" with other ideas and theories is often overrated and completely ineffective.

And if the students also approach the online courses they are enrolled with, with some prejudices that could influence their success in learning? What could teachers, tutors and instructional designers do to overcome confirmation bias and help students learn more effectively?

It is common and completely human not to be able to ignore the facts and easily adhere to information that reinforces what we already believe. People have emotional, religious, political, ideological and psychosocial reasons for doing so and the role of training professionals is not to judge this predisposition, but rather to recognize it and be aware of how it can influence the learning of the students.

Here are 3 ways in which confirmation bias can affect learning in eLearning, accompanied by approaches that can help online course professionals mitigate their effects.

1. Students may be convinced that they have an exclusive learning style

While not a true example of confirmation bias, many beliefs about one's own learning style can create psychological barriers to learning itself. Many students have heard or been taught that each person has their own learning style, which is useful for learning better. For example, some people say they have a purely visual memory and use this belief to rationalize why they have difficulty learning from textbooks or audio sources.

In fact, recent research has shown us that many people have learning preferences: they choose a particular learning medium (such as text, audio or video) because they are better with it, but this preference does not mean that they are not able to even learn in other formats. It simply means that they will be more motivated if the course content is presented to them in that format. Therefore, it is not always necessary to "pedagogically" evaluate the learning style of each one to create an adhoc course, but it is possible to create personalized courses taking into consideration the possibility of providing more options on e-learning

platforms to enrich the learning experience ("Learning styles: concepts and evidences", Psychological Science in the Public Interest).

2. Students can show a confirmation bias against the course content based on what they know or think they know about the teacher

For e-learning courses taught by a teacher, students are usually provided with biographical and background information of the teacher. This does not mean that students can do research on the teacher to find out more. How teachers can have race and gender bias towards their students (and there are several studies that attest to this), also the prejudices of students towards teachers or didactic designers can influence the learning experience, even in the case of an online course.

Students who have racial or gender bias towards their teachers or who do not agree with the political, philosophical or religious beliefs that they seem to marry can become resistant to learning or even withdraw from a course based on these preconceptions, even if the content of the course itself is not objectively problematic. On the contrary, the confirmation bias of trainees can lead them to seek only courses and lecturers that seem to support their preconceived convictions, rather than enrolling in courses that could challenge their beliefs or expand their knowledge.

3. Students may have preconceived ideas about the content of the course

Confirmation bias can also have a negative impact on how students perceive course content. If they have strong distortions with respect to some or all the contents of the course for personal, political, religious or ideological reasons, or simply because they were previously ill-informed on the subject, they can consciously or unconsciously exercise resistance to learning the contents, decide not to follow the course or abandon it.

Trying to align educational goals with corporate or personal values is certainly an important choice. Offer tailor-made e-learning courses means allowing students to select the information they want to learn. This is good, but we must not exaggerate: in fact, if they select the learning contents based on their confirmation bias, they may not benefit from the balanced and complete learning that was designed for them.

How can educators and instructional designers mitigate the confirmation bias?

Everyone brings with him his own convictions and prejudices, even within his own training path and this is a fact. The challenge for both training professionals and students is to become more aware of such biases in order to recognize and contain them, ensuring greater openness to learning ideas that challenge one's thinking, rather than limiting the scope of one's knowledge.

If you are an e-learning content creator, it may be interesting to consider the demographic data of the students and clarify any prejudices that the course content can present and be willing to:

- challenge the trainees to be aware and transparent with themselves about their own prejudices (for or against the contents of the training);
- initiate dialogues with the students during the course and help them identify the parts in which their prejudices could create resistance to learning or even lead them to abandon the course simply because they cannot reconcile their preconceived ideas with what they are learning.