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The effectiveness of inquiry-based learning in eLearning courses

Exploring what inquiry-based learning is, the advantages it offers for online training, and strategies for applying it in the eLearning environment.

To develop a lasting and effective training path, it is essential that students feel like protagonists of this process. **Active learning** is a useful method to allow students to assimilate concepts and notions, but also to experience concrete situations firsthand. Among the various possibilities offered to teachers and students to implement training methods that include involvement, **inquiry-based learning** offers numerous advantages, not only in traditional training but also in eLearning. This is why it is important to understand what it is and how to adapt this educational type to the digital environment, ensuring its effectiveness not only for in-person training but also for the eLearning world.

What is inquiry-based learning?

Despite significant changes, we often still imagine training as a classroom full of students sitting at their desks, equipped with notebooks and pens, ready to passively absorb the notions and concepts provided by a teacher. This image is now outdated, and the world of learning has made great strides, especially in **engaging** students and creating active participation. This is where inquiry-based learning comes into play, a teaching method that places students at the center of the learning process by making them active elements of knowledge.

This training method involves **students researching the information relevant to their study path**. Rather than receiving information directly from their teachers, students are stimulated to actively search for answers to their questions and the information they need to tackle a specific situation. It is about conducting an investigation that, while satisfying curiosity and acquiring a specific concept, also allows users to develop their social and problem-solving skills. It is no longer just about memorizing information provided by the teacher or found in books, but **acting firsthand to search for what satisfies one's interest or solves a problem**, allowing knowledge acquisition in a fun, collaborative, and interactive way.

To implement inquiry-based learning, **four forms of research** can be utilized:

1. **Confirmation:** the teacher provides students with a problem to solve or a question to answer, with the final result already known. The goal is to confirm the result through an investigation or practical activity. This way, students can use their prior knowledge and proceed according to the investigation method to confirm what was initially established.
2. **Structured inquiry:** the teacher provides students with the question and the procedure to achieve the result or a series of steps to follow to answer the request. The goal is to reach a result by following a precise investigation method, collecting evidence and justifications for the final answer.
3. **Guided inquiry:** the teacher poses a question to the students. To find the solution, it is necessary to design the investigation method and conduct the necessary research to find a convincing answer. Students are assisted with guidelines, resources, or hints but are free to find their investigation method without a precise structure of steps to follow.
4. **Open inquiry:** students identify their topic of interest, develop the questions they find most interesting, then design the best investigation method to reach a final result. This last form immerses students more in reality by making them completely autonomous without teacher involvement.

Inquiry-based learning allows students to explore realistic situations and problems firsthand, so they can **learn not only from the results but from the entire research process**. This encourages them to develop their curiosity, ask questions, and explore the world around them, allowing them to cultivate social and problem-solving skills in addition to acquiring knowledge. This training mode is effective not only in traditional education but also in digital education, where it can also be used to engage users more, making the learning experience more personal and interactive.

How to apply it in online courses?

To apply the inquiry-based learning method in **eLearning**, it is not enough to simply transfer the same strategies online. It is necessary to adapt it and adopt methods that allow students to carry out the training path, taking advantage of the inquiry method even remotely.

It is not always easy to reproduce in the digital world the actions, methods, and emotions of reality. This also applies to online learning, which, to be effective, requires particular precautions. It is essential to avoid equating eLearning with in-person training and instead adequately exploit all the resources offered by the virtual world. To make inquiry-based learning effective in digital courses, one or more of the following strategies can be used:

1. **Start with a question:** inquiry-based learning is a teaching method, and therefore the course design from a content point of view does not change. However, the approach to training does change. To provide content following the inquiry method, it is important to start with a question that can be posed by the teacher based on the course content or presented by the users themselves. To allow users to formulate it online, a typing space can be provided.
2. **Anticipate students:** once questions are collected or posed, it is essential to meet students' expectations. Therefore, it is important to anticipate their desires and curiosities. A survey can be used, which the course creator can submit to users before the training path begins. This way, you can understand the students' interests and orient your lessons accordingly, avoiding the risk of going in a completely different direction and boring the course participants.
3. **Guide students:** once the question (or questions) is defined, the inquiry method can be implemented. However, in a virtual classroom, the teacher does not have the freedom to move and answer students' doubts as they arise throughout the course. Therefore, in an online environment, a more structured guide is essential, providing precise and detailed instructions on conducting research, data analysis, and presenting results. If you want to use the confirmation strategy, which consists of working backward from the solution to verify the provided result, it is useful to provide users with examples, such as case studies that include solutions. To guide students in experimenting with the inquiry-based method, it is also useful to provide them with structured guides that include designing a research module based on the provided instructions.
4. **Use digital resources:** the online world offers a series of resources not always present in traditional training, such as the ability to retrieve videos, articles, or images from the web useful for the research process. In an eLearning course, these materials are fundamental allies, allowing users to have an infinite amount of information and ideas available.
5. **Plan virtual labs and simulations:** virtual labs allow students to practically approach real situations and problems without any risks. Simulations also offer students glimpses of real life that they can face without any danger. This way, students can concretely apply their knowledge and directly experiment with the inquiry-based method, applying it to real situations they might encounter in the workplace.
6. **Encourage collaboration:** bringing students together to solve problems is an important and advantageous resource. In a physical class, this interaction is easy to achieve, but in a virtual class, the right tools are needed. Therefore, it is important to encourage participation in virtual group boards, forums, or online discussions. This way, real-time collaboration between users is guaranteed.
7. **Plan feedback:** to provide students with the necessary support, the teacher can plan verification sessions where doubts or difficulties arising from using the training method are expressed. This way, adjustments can be made if necessary.

The effectiveness of inquiry-based learning

Research-based training is an effective method to use in both traditional and digital learning to increase student understanding and participation. This teaching methodology offers several advantages:

1. **Develops student curiosity:** students are led to analyze their interests and ask questions to clarify their doubts.
2. **Improves problem-solving skills:** students face real situations and provide practical solutions through situation analysis, solution research, and goal achievement.
3. **Strengthens peer collaboration:** interaction with others is necessary to find the best solution to the problem.
4. **Enhances user knowledge:** by allowing students to apply their knowledge concretely, they develop related skills by actively participating in the learning process.
5. **Increases confidence in their abilities:** it shows students that they can solve real situations with their training background and skills.

Therefore, inquiry-based learning is an effective method in online training because it allows students to feel like active participants in the entire process, directly involving them in their education.