International Journal of Current Innovations in Interdisciplinary Scientific Studies

Volume 7, Issue 2, (2023) 69-75

www.ij-ciss.eu

Analyzing the peer learning chain

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Suggested Citation:

Alibrahim, A.A. (2023). Analyzing the peer learning chain. *International Journal of Current Innovations in Interdisciplinary Scientific Studies. 7(2)*, 69-75. https://doi.org/10.18844/ijciss.v7i2.9185

Received from August 27, 2023; revised from September 21, 2023; accepted from; December 1, 2023
Selection and peer review under the responsibility of Assist. Prof. Dr. Ezgi Pelin YILDIZ, Kars Kafkas University, Turkey.

Abstract

With the proliferation of information in scientific fields, it is difficult for educational institutions to keep the curriculum up-to-date and relevant, and this could lead to individuals overlooking new information. To bridge the gap, it is important to improve on current learning strategies. Hence, this paper presents a new strategy for learning, the Peer Learning Chain (PLC). The PLC is where the learning process takes place between two persons just as in peer learning; the main difference is in the chain. Some characteristics of the PLC strategy include that it supports lifelong learning and facilitates continuous learning. In this paper, I explain how the PLC works, when it should be used, and why it is needed. In addition, I explain in detail how to keep up with the chain of new dynamic developments and maintain the accuracy of the information in the learning process.

Keywords: Adult learning; learning chain; learning feedback; peer learning; technology chain.

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1. Introduction

As I am a specialist in teaching ICT, I have encountered some interesting situations while teaching new technologies to my colleagues and postgraduate students. Whenever I present a workshop or presentation to introduce a new technology in education, several audience members come up to me after the event individually to ask more questions. This has made me wonder if it is because the technologies are hard to comprehend or if they prefer to learn individually to maintain their prestige. Another interesting observation is that when teaching or showing one of my colleagues a new technique, the same technique would spread to other colleagues, resulting in the passing on of new information through a series of colleagues. Similarly, I have ruminated on new techniques in other fields, such as medicine (e.g., how doctors can learn new complex techniques or use new devices and how to spread useful information to everyone in the field so they can benefit).

Consequently, I have thought about the best way to teach, as well as learn, new technologies to adults or postgraduate students, keeping in mind these main points:

This is the power of the knowledge and information management era.

- With the rapid development of information and knowledge, individuals in the workplace should keep track of the changes and developments happening. Otherwise, a professional lag may occur.
- Educational institutions may no longer be the main source of knowledge and information. In addition, these educational institutions may not be up to date with recent knowledge developments.
- Learning in this age should support continuous, lifelong learning.
- Feedback and assessment of learning are crucial and should be connected with learning, even in some fields such as medicine fields.
- Learning is a continuous process in this era. The learner can learn from anywhere and everywhere; however, the credibility of information, how to track learning, and the source of information are important.

However, I acknowledge there have been significant efforts by researchers to face this challenge. With the power of technology, many strategies have been proposed to bridge the gap. One such solution is to transfer to a mobile university [1-3]. Bryndin [1] claims that mobility learning may help the university respond quickly to the change and demands of individuals in a rapid society. Students can enhance their educational programs with the creation of information networks, knowledge bases, and data banks [4]. Another attempt is an e-learning module to fulfill the rapid needs of school nurses with a training program that is quick, efficient, and accessible [5].

Communities of practice are another solution to some of the problems mentioned earlier, where a group of people share the same interests and learn from each other in the workplace [6]. The Eureka system at Xerox Corporation is one of such successful communities, and it saved the corporation millions of dollars; Globally, about 20,000 customer service engineers engaged in it to learn from each other [7].

1.1. Purpose of study

However, the above-mentioned suggestions and solutions are for specific cases or involve software creation. Hence, I devised a new strategy that I propose for education—the “peer learning chain” (PLC), which is similar to the peer learning strategy and has the added advantages of a “chain.” The chain ensures continuous learning, as learners teach other learners who will do the same for others and so on. In the

following paragraphs, I will discuss this strategy in more detail and demonstrate how it differs from the peer learning strategy.

2. Method

This study is a qualitative study that discusses the concept of PLC. The discussion is done while considering ethical standards. As such, the study, the findings, and the reporting did not affect any individual, group, organization, or environment.

3. Results

3.1. Peer learning chain PLC

The PLC is a new strategy for learning and teaching that is similar to peer learning, with the main difference being the chain. The chain is the most important element to keep learning continuous and maintain the accuracy of the information in the learning process. Also, the chain works as an assessment technique, where any node of the chain (learner) can refer to one of the earlier nodes (who was previously a learner and is now a tutor) to assess the learning. There are different ways to maintain the chain, and they can be classified into two categories: manual and electronic. I will describe these categories in more detail in the following sections.

To illustrate the method, consider a scenario in the medical field as an example. Imagine a novel surgical technique involving a new device, and a hospital sends out one of its doctors to learn more about this technique. After he or she finishes learning and training with the required technique, he or she returns to tutor other doctors in the hospital. This procedure called the PLC, is vital so that the flow of information from the source flows accurately (maintained by the chain) by assessment of learning.

This learning strategy is mostly needed for adult and specialist education, especially if the field requires continuous learning and sensitive information to keep up with new sophisticated techniques, which may be an action process or new technology. This strategy may also be used on new techniques that require practice. The chain supports learning and acts as an evaluation of the learning process, where the later learner can refer to any earlier learner/tutor to assess his or her learning, with help and guidance provided when needed.

This new strategy is important to ensure no one is left behind regarding quick knowledge revelations and that everyone in the field is up to date. In addition, the PLC reduces the gap in any field that is caused by rapid technology introduction into the sector and significantly reduces the learning cost, benefiting individual learners and the entire field. Teachers can also use this strategy. I claim that PLC is a faster way to learn and spread new knowledge with a higher accuracy level.

This strategy is supported by connective theory and social constructivism as peer learning [8-10], as there is no single theory that can explain human learning [11]. Connectivism is one of the network learning theories. With a network connection, the learner's knowledge in his or her field is current, and he or she learns from the network community [12].

Furthermore, the PLC supports continuous, lifelong learning, which is extremely vital in this era. The PLC would most likely take place outside educational institutions, but it is also useful within such institutions. Moreover, this kind of learning is flexible, as the learner sets the time and place for learning. The time is open, and there is no specific or limited place for it to take place, as it can be in a virtual environment the virtual environment has proven to be a very effective forum for educational exchanges [13-15]. Hence, the chain could spread in any direction like a tree, so, surely, the information/knowledge will spread rapidly near and far. The intention of learning comes from the learner who asks to learn (personal need) and takes the next necessary steps to find a tutor (previous learner). In addition, the PLC uses technology to facilitate

communication, being the learning context and/or the mediator between the tutor and the learner. Also, technology can be used to preserve the chain.

Most of the benefits of the PLC are for adults, as the PLC tends to involve sensitive knowledge and complex devices. Nevertheless, younger learners can use it with more consideration. The PLC reduces the learning cost by eliminating unnecessary training and workshops, as members in a workplace can teach each other instead of using extra aid. Moreover, every institute can be sure that its members are up to date with the current information and technology available in the field.

3.2. How the PLC is conducted and how it works

Mostly, this kind of learning will be done outside the classroom. The initialized node starts from the expert in the field who is a tutor, and he or she sets his or her node with his or her contact details. After that, the chain is set up. It is important that the learner has the passion or need to learn so that he or she searches through the chain and then selects a tutor (who was a learner, i.e., learned from a previous tutor/learner). Then the learner contacts the tutor to set the learning environment and specify the learning content. After the learning takes place, the new learner can now update the chain by adding a new node with his or her information and connecting it with his or her tutor node to become a new tutor. To assess this learning, he or she (learner) can contact an earlier node (tutor) in the chain to assess his or her learning with feedback. This person can be the learner's tutor or another tutor in a previous chain.

3.3. The characteristics of PLC

There are slight differences between the PLC and the peer learning strategy, which excludes the chain. Both share the same characteristics, such as peer learning, but the PLC is more concentrated on assessments and maintaining the chain.

The PLC can be divided into two main components: peer learning and the chain. The first component, peer learning, has the same characteristics as classic peer learning, where the former tends to be for sophisticated information and/or processes and is preferable in one-on-one scenarios. The second component is the chain, which is more important. Its importance is derived from maintaining and assessing learning, as the PLC tends to be used when the learning content is sensitive and feedback on the learning process is important. The PLC is also usually used if the content is quite complex and is involved in adult learning. The chain can be either manual or electronic.

Peer learning depends heavily on the teacher and how he or she performs the main role in the learning process. Conversely, the teacher's role in the PLC is nearly non-existent. Although in peer learning the teacher has to set the learning environment, supervise the learning process, instruct the learning, and facilitate learning, in the PLC, the role of the teacher is less significant. It may, however, teacher initialized the chain by setting up the learning first node of the series. After that, the learner discovers his or her need for learning and contacts the tutor from the series (node). Next, they set up the environment, and learning begins. Nevertheless, learning can take place without teacher involvement in peer learning, but it is usually ineffective [8].

In addition, in peer learning, the learning peers are equal, and no authority is given to any of them [8], but in the PLC, the tutor has the authority in the learning process, while they equally set the learning environment. While peer learning is a two-way activity, where peer individual groups can learn from each other [8], for the PLC, the learning process tends to be one way—one person being the tutor and the other the tutee.

Feedback in the PLC is creative and flexible, where the learner self seeks feedback from the learning chain. This is in contrast with peer learning, where the feedback comes from the teacher with no

connection with the peer learning process. Nevertheless, teachers can set peer learning feedback or peer feedback to sustain it and allow individuals to provide feedback to one another [16]. In the PLC, the learning feedback can be received from any earlier learner (tutor) in the chain, where the feedback comes from one of the previous members of the chain.

Peer learning can be divided into five types of learning: same-age, cross-age, class-wide, incidental, and structured peer tutoring [8]. I claim that the PLC can be divided into two types: individual and group learning. In individual learning, there is a tutor and a learner, but group learning is a teaching method where the tutor teaches a group of learners. In the PLC, the individuals have the same interests in a specific field.

3.4. The process of maintaining the chain

The chain consists of many nodes and the connections between them. The nodes represent the learners who will become future tutors in any subject to another node (learner), and each node contains relative information about the tutor, contact details being the most important. The learning content can be the main subject of the chain (a specific chain). The connection between the nodes explains who taught whom. When the learner finishes learning, he or she can connect to his or her tutor node and become a tutor of others, expanding the chain and spreading new information, or he or she may just have studied only. Nevertheless, the learning is registered in the chain. Everyone can register in this series if he or she is interested in the field. The chain spreads while being maintained through identification cards, a web page design, or a mobile application.

The feedback comes back from the chain itself, where the learner can choose any former node to be his or her assessor, and after the assessment, the decision will be to either modify the chain and add a new node or specify the need for more learning and suggest another tutor in the chain to be the learner's tutor. The chain can be manual or electronic.

3.4.1. Manual chain

A manual chain can be done through a hard copy of a certification. When the learner finishes learning, a certificate can be obtained directly from the tutor, who personally writes in the certificate all the tutors who participated in the chain in a hierarchy (who learned from whom and the name of the learner at the end of the chain). The chain in the certification will appear like a series of names. It is important to keep the name, contact details, and other relevant information of each tutor in an excluded document to refer to information when needed.

3.4.2. Electronic chain

With the help of technology, a chain can be created electronically by designing an application or a website, with a database containing all tutors' relevant information. The chain grows like a tree, where the nodes represent the tutors. To choose a tutor, the learner selects a node and the information of the tutor is displayed. It is easy to add a new tutor/learner by adding a node after the tutor's node. If the tutor's node connects with another learner, a new branch is created. The electronic chain facilitates the learning flow and adds tutor information. This would help keep track of all the information within the chain and its components easily and efficiently.

4. Conclusion

In this paper, I proposed a new teaching method called the PLC, where its main component and what makes it different from peer learning is the chain. This strategy fulfilled the new need for this knowledge era, especially for an expertise field. The PLC's most important characteristics are feedback and assessment of learning, which ensure high credibility of the learning content. Also, I described how to

create the PLC and how to maintain the chain and flow of learning. The two types of chains—manual and electronic—are presented in detail.

As a new method for learning, the PLC poses many challenges, the most important being how to make the chain clear to everyone who needs it and ensure it is accessible at all times. Another issue worth mentioning is how to make the feedback creative and easily obtainable from other scholars in the chain. This new proposed strategy is open to discussion and modifications. Studies applying this strategy in real life are needed to explore its effectiveness and efficiency in lifelong education. Finally, one of my new projects involves a collaboration with my colleagues to create an application for the PLC for all fields. This app would allow anyone to register, as it will be quickly and easily accessible worldwide.

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