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Effectiveness of the training process in the collaborative learning method

Key words: cooperative learning, teaching methods, training effectiveness

S u m m a r y: Abundant and extensive literature on training and employee development contains, apart from description of training methods, more and more information about evaluation of effectiveness of this process. Cooperative learning involves deepened reflection of a learner and discussion with other participants of the course. Knowledge is created during the learning process and its aim is to comprehensively process the situation. A teacher is a participant in this process, an advisor who cooperates, searches and shapes the active learning environment. The aim of the article is to present the method of cooperative learning and determine the factors that may significantly influence the effectiveness of training based on this method. The article contains theoretical remarks regarding cooperative learning process as well as the nature of factors conditioning the effectiveness of the training process.

1. Initial remarks

The learning process is one of the most crucial thought processes taken by a human being. Resources of acquired and utilised knowledge depend not only on the availability but also on the methods of acquisition thereof. In the case of the training process, seen as a narrower element of the education process, there are many different methods to use. Appropriate preparation of the training itself increases the probability of obtaining the expected effects, which is obviously related to the higher effectiveness of such training. This process is extremely important in the case of new methods, which have not yet been utilised in a given training process.

For a longer period of time the education process and, therefore, the training process, was geared towards acquisition of knowledge by a learner from a teacher, with-

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out inclusion of the resources of knowledge of the co-learners. In the traditional education process the knowledge is seen as a non-material resource that is directly bound to the teacher.

This solution is used in the Kirkpatrick's model, which describes four grades of training effectiveness (1, pp. 511–512), namely reactions, learning, behaviours, and effects.¹

Kirkpatrick's model, although it is known and accepted by the authors, raises some doubts and objections. The most important one is the fact that the model has high requirements towards a researcher in the field of training contents and knowledge on practical reality. Moreover, low quality of information acquired from the average respondent of a survey research should be emphasised. Therefore, the cognitive perspective of the Kirkpatrick's model, diagnosticity of this tool depends on the competences of a researcher, his/ her professionalism.

This article presents the most important remarks regarding the improvement of effectiveness of training conducted with the use of collaborative learning method.

The article is addressed to both practitioners and theoreticians dealing with the issues related to human resources management. It may appear interesting to students of economic schools of any field of study, particularly the management.

2. The essence of the collaborative learning method

In the era of digitalisation of information resources and development of principles and ways of communication, knowledge becomes a more available resource in terms of time and space; however, still desired and diffused. The flow of information somehow forces forming of groups of learners, including those who learn together (2, pp. 59–67).²

Transfer of knowledge is no longer an imitative process but it has some constructivist characteristics (3, p. 35). Changes in the ways of thinking also cause the evolution of paradigms of pedagogy towards highlighting the importance of cooperation of all learners in the process of knowledge acquisition. On the one hand, some conceptions refer to the postmodernist views showing a lack of objectivism in perceiving the world, on the other hand, however, they are based on the necessity of forming a reflective way of building one's own knowledge. Being based on these paradigms, modern pedagogy turns to building an individual's mental image based on self-reflec-

¹ Levels of assessment proposed by Hamblin and levels defined by Kirkpatrick are interconnected. Training evokes a reaction, which leads to learning, and this changes the behaviour at work, giving defined effects at the individual or organisational level. More details about the levels of training assessment according to Hambling and Kirkpatrick (1, pp. 511–513).

² Largely, the E. Hutchins's diffused cognitive conception is used in this field, aimed at cognition of thought processes and qualification thereof as those generating the creation of new knowledge and those failing to produce such effect.

tion of a learner inspired not only by a teacher but also by other members of a learning group. Due to the complexity and extensiveness of the real world image, it is necessary to use the experience of a trained subject, and this, in turn, is based on the knowledge other group members have.

The process of collaborative learning is not only a group experience exchange but also a problem solving method,³ since it requires producing a mental construct which will allow to obtain a comprehensive answer. Due to the mentioned complexity of the world, creation of these mental constructs may be more effective through the process of a special kind of negotiation between different visions of the same fragment of reality. Methods of cooperative learning assume not only the future development of a reflective attitude towards perception of the world but also utilisation of assessments of that perception to date. These methods are characterised by several elements distinguishing them from strictly traditional as well as modern teaching methods (3, p. 42). Cooperative learning involves deepened reflection of a learner and discussion with other participants of the course. Knowledge is created during the learning process and its aim is to comprehensively process the situation. A teacher is a participant in this process, an advisor who cooperates, searches and shapes the active learning environment. Feedback is internally moulded, which means that knowledge, when generated by a sender (teacher), is subject to reflection of a recipient. The latter, however, does not receive it as an axiom but negotiates it with the sender. This results in a group interaction and exchange of mental constructs. A style of learning is open and based on network connections between participants of the interaction.

As human is not a *non-reflective* being, it is their natural feature to assess and bias the reception of the reality based on empirical experiences. Therefore, the learning process and knowledge acquisition uses background knowledge as well (4, p. 20).

Also, attention should be paid to the organisation of such process of knowledge acquisition itself. Cooperative learning has to provide an opportunity to accomplish certain goals set at the beginning of a training programme (5, p. 2–3). These goals may be modified and developed by both teacher/ trainer and learners themselves (trainees, course participants). Regardless of this fact, cooperative learning provides the learners with opportunities to jointly solve problems and broaden their knowledge. It is pointed out that the most valuable form of cooperative learning is the one in which the effort of participants is focused on a searching for solutions of a problem covered by the course, presented as a comprehensive thematic whole (6, p. 62). Therefore, the learners who learn according to a thematically planned training course, based on topics (e.g. traditional, already used) but geared towards a new method of broadening the knowledge resources, will be the most beneficiary ones.

³ World literature authors differentiate cooperative learning and collaborative learning. The former is focused on the result of teaching process, the latter on the learning itself. However, for the sake of simplification of this paper, it is assumed that both definitions are close to each other, particularly due to systematic reasons as well as difficulties in translation of both definitions.

It should be stressed that the role of a trainer transforms, in this particular case, from a controller and transmitter of knowledge into a coordinator of the organisation process and knowledge transfer among learners themselves. Cooperative learning is usually held in small groups under a watchful eye of a trainer. At the initial stage, learners have some knowledge which is split and incomplete. An increase in knowledge in a group is based mainly on experience exchange taking place within a group of learners as well as between a trainer and course participants. Joint knowledge is the result, which has usually already been of an organised nature (7, p. 20). The process of transfer and creation of knowledge may take place in different ways. Four basic forms should be indicated while qualifying these methods in terms of identity or differentiation of place and time (7, p. 20):

- the same time and place—*face-to-face* work;
- the same time, different places—teleconferences, a diffused system of documents (tools of synchronous work);
- different time, the same place—utilisation of tools for cooperative work planning as well as tools supporting decision making;
- different time and places—e-mail, news groups (asynchronous work tools).

Choice of conditions of knowledge transfer therefore becomes an integral part of appropriate knowledge transfer shaping, which in the case of methods such as cooperative learning is necessary to achieve a set goal.

3. Remarks regarding the effectiveness of the training process in the cooperative learning method

Effectiveness, in its nature, is defined as a relation of benefits achieved through actions to the effort that has had to be put in order to obtain those benefits (8, p. 42). Being oriented towards achievement of certain effects makes it necessary to plan in details not only training actions but also its goals and expected results. However, it is not easy due to the comprehensiveness of the training process (the most general aim of which is to increase the level of knowledge or develop a new skill) as well as the nature of the subject of these actions, namely a human being. The reference books point out that the effectiveness of the training process (and generally—education process) is very hard to define. It is so due to several reasons (9, p. 105). Education goals are changing very often depending on human attitudes, including learners themselves.

They result partially from expectations as well as established paradigms, which are often based on different epistemological or scientific attitudes. It frequently happens that there is a gap in the process of education between theory and practice, which is also influenced by internal inconsistency of the definitions or paradigms. However, any successful development of consensus (pertaining to a theoretical as-

pect) means a very difficult operationalisation of practical actions in a way that ensures consistency between each element of the elaborated theory. Moreover, many theoretical problems are complex enough to make the application of practical actions much harder. Despite the observed theoretical inconsistency it is common that the educational goals depend on trends, which causes that they may be indicated, and paradigms while they are not such at all.

While analysing the definition of effectiveness in the context of these remarks it is necessary to state that one should not omit the perspective from which it will be considered. Macroperspective, related to e.g. the entire system of education or training, is something completely different than microscale, related to e.g. individual training project. It appears that when preparing a course, while taking an increase in effectiveness into consideration, one must focus intensively on actions at the phase of planning thereof, especially if the training is to be carried out according to cooperative learning method (10, p. 102).

The main actions that need to be taken on that account are clustered in three areas: (1) *introduction to the training*, (2) *group*, (3) *climate of the exchange*. The first one comprises the following factors:

- principles of participation, including compulsory or voluntary participation;
- goals of participation;
- organisation information, including the topic of the training and its meaning for future vocational work.

The area referred to as the *group* focuses on the structure of a trained group and standards of cooperation which will have to be observed by its members. It is worth mentioning that in this scope, prior to commencing a training cycle, it is important to recognise and identify the level of cooperation, constructive support, sharing, participation, listening, and communication skills the participants demonstrate (11, p. 53). These skills are also pointed out as crucial in the case of cooperative learning.

Organisation (logistic) support and top-down support, which is obviously necessary in the case of training for employees, are highlighted in the last area, the *climate of cooperation*.

The effectiveness itself, as it is emphasised by some authors, is strictly connected with the vocational activity of the trainees. In this context, practicality is of particular importance in terms of both the contents and form of the training. Training, in its nature, includes practical elements; therefore, their inclusion in the programme seems to be an important element that may impact the effectiveness of a course. It results from a common opinion that training does not increase the knowledge or resources of skills of a trained person. Inadequate content presented during the training as well as wrong practical examples may be the cause. The reference books suggest that the case studies or examples should be suggested by the learners (10, p. 101).

In the context of cooperative learning it is a key aspect due to the necessity of use of background knowledge and experience by the participants of a course carried out according to this method. Possibility to re-analyse the already known contents and

their enrichment with experience and knowledge of other group members makes the knowledge more grounded than in the case of traditional examples, which are usually abstract.

This issue is linked with the specific role of a teacher, which in the case of collaborative learning differs from the traditional role of a guide and master. The effectiveness of work of a trainer depends on several factors, including (12, pp. 9–10):

- the scope of roles which are to be played by a trainer (not only during the training process itself);
- diversity of training goals defined in the programme;
- cognitive abilities of trainees;
- cultural and organisational context of the training;
- background of the lessons and realisation of the cognitive process of trainees.

Each of these factors in the case of collaborative learning imposes, different from traditional, attitude and behaviours of a trainer. Their role, which has already been mentioned, is not guidance and knowledge transfer, but stimulation of a group and supporting during the process of acquisition and shaping new elements of knowledge. General goals of training, despite some convergence with the goals in traditional education process, define different specific goals and may be focused on a quantified measurement of an increase in knowledge levels than it takes place in the traditional process. Cognitive abilities of trainees in the case of collaborative learning are no more such a significant barrier due to a fact that the participants use their own experience and knowledge and, while sharing it, they build new resources. The two last mentioned factors are a premise related to non-material nature of the training. Novelty and originality of this method causes that the entire event is of a different nature than it was the case in trainings conducted so far. Such training may be perceived not as a boring participation in classes or a break from the daily routine, but as a participation in something new. It gives an opportunity to focus on content and group integration, which in the case of vocational training may appear helpful and long-lasting, also after the training.

In the light of the above remarks, it seems that the Phillips's method is a good tool to estimate benefits of training. Specificity of such attitude is based on utilisation, in research on training effectiveness, assessments of estimations carried out by the participants themselves. Particularly, they may define financial benefits from the training together with a percentage credibility of such estimation, as well as give information about concrete actions and improvements which were introduced by a course participant. Description of actions and improvements makes a framework and gives opportunity to verify the financial benefits.

The research itself is based on five questions and answers (13, p. 175 and next):

1. What changes in one's work are visible after the training?
2. What benefits and achievements have been noted after the realisation of training?
3. What financial effects have been achieved upon introducing the mentioned changes?

4. What benefits from the introduced changes may be achieved in one year's time?
5. How do you assess the credibility of given estimations (in %)?

The Phillips's idea that a training participant will play the role of a grading person is quite interesting and controversial. However, the collected data regarding definition of changes in work after the training, results (immediate effects) of these changes and its impact (long-term effects) may appear reliable for accurate assessment of training effectiveness.

4. Conclusion

Collaborative learning is a new, extremely interesting tool of training of employees, where the manner of knowledge sharing is very innovative. The method may be an important element of the operationalisation of knowledge management. The effectiveness of training is a multi-dimensional and multi-thread issue. The diversity of aspects in which it is considered does not allow to indicate a closed catalogue of factors that define its increase. Particularly, the analysis of the definition of effectiveness is important in relation to new training methods. In the case of traditional methods there is a great probability that in the course of time of their utilisation the main goals and indicators allowing to define whether the course was effective are indicated. Using new training methods, such as presented collaborative learning method, at the very beginning of the course it is worth to precisely analyse the goals and expected results as they may appear different from the ones already realised. Opinions of the trainees should be taken into consideration because they, as a subject of all the training activities, will be the last instance of training assessment; therefore, opinion makers about its effectiveness.

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Efektywność procesu szkoleniowego w metodzie kooperatywnego uczenia się (*collaborative learning*)

Streszczenie: W licznej i rozległej literaturze dotyczącej szkoleń i rozwoju pracowników coraz więcej miejsca – oprócz opisu metod szkolenia – poświęca się problematyce oceny efektywności tego procesu. Uczenie się kooperatywne przeprowadzane jest poprzez poszerzoną refleksję osoby uczącej się oraz dyskusję z pozostałymi uczestnikami kursu. Wiedza jest konstruowana podczas procesu uczenia się, jego zaś celem jest kompleksowe przetworzenie sytuacji. Nauczyciel jest w tym procesie uczestnikiem, doradcą, który kooperuje, wyszukuje i kształtuje aktywne środowisko nauczania. Celem niniejszego artykułu jest prezentacja metody kooperatywnego uczenia się i określenie czynników mogących istotnie wpływać na wzrost efektywności szkoleń prowadzonych tą metodą. Artykuł zawiera uwagi teoretyczne odnoszące się do procesu kooperatywnego uczenia się, a także charakterystykę czynników warunkujących efektywność procesu szkoleniowego.

Słowa kluczowe: kooperatywne uczenie się, metody nauczania, efektywność szkoleń
