

Collaborative Learning in a Business Setting: An Evolutionary Perspective Towards a Learning Organisation

Iva Slivar¹, Tea Golja², Marlena Plavšić³

¹*University of Economics and Tourism dr. M. Mirković, Juraj Dobrila Universtiy of Pula, Preradovićeveva 1/1, Pula, Croatia*

²*Faculty of Interdisciplinary, Italian and Cultural Studies, Juraj Dobrila Universtiy of Pula, I.M. Ronjgova 1, Pula, Croatia*

³*Faculty of Humanities, Juraj Dobrila University of Pula, I. M. Ronjgova 1, Pula, Croatia*

Abstract – This paper applies the concept of collaborative learning in function of organisations from a classroom setting.

The concept of collaborative learning in a business setting is compared to “similar” broad concepts also used in organisations, namely: collaborative management and learning organisation. Differences and similarities of these concepts are discussed with the scope of helping organisations grow by implementing these notions in practice. It also provides an insight into the suitability of collaborative learning as the base to evolve into a learning organisation.

Keywords – collaborative learning, learning organisation, collaborative management.

1. Introduction

Collaboration and learning are in the essence of human survival. People spend a substantial amount of their lives interacting with other people and they learn from or with each other. Sometimes interactions take place at one-to-one base, sometimes

among more than two people. If two or more people share a common goal, collaboration between them is a necessity. Regardless of the nature of their individual motivation to join the dyad or the group, each member has some needs that other people can help him/her fulfil. Other people with their knowledge, skills, attitudes, power, personality traits, equipment, goods, etc. are significant and sometimes inevitable resources for achieving both, personal and group goals. In a business setting, those goals are incorporated in the concept of learning organisation.

All organisations' members are part of a dynamic group, trying to adapt to the new circumstances and new elements with more or less success. Hence important roles play, among others, skills and knowledge of organisations' members. Solving problems in teams, resulting in new skills and knowledge gaining, are concepts related to collaborative learning.

As top management behaviour and leadership style significantly impact a companies' learning orientation [8] whereas collaborative management is seen as the key mediator for the process in the organisation.

This paper will provide a definition of collaborative learning in a business setting and a step-by-step guide to apply collaborative learning in organisations. The term organisations will be used further on to refer to all different business entities. It highlights the main difference in the application of collaborative learning in organisations vs. in classrooms.

Furthermore, since there is still no consensus about what a learning organisation is [27],[17], the aim is to define it better by comparing it to a narrower and more concrete term: collaborative learning, adopted for organisations.

The hypothesis of this paper is that the principles of collaborative learning are incorporated in the concept of a learning organisation. Therefore,

DOI: 10.18421/TEM72-30

<https://dx.doi.org/10.18421/TEM72-30>

Corresponding author: Iva Slivar,
University of Economics and Tourism dr. M. Mirković, Juraj Dobrila Universtiy of Pula, Pula, Croatia
Email: iva.slivar@unipu.hr

Received: 03 March 2018.

Accepted: 08 May 2018.

Published: 25 May 2018.

 © 2018 Iva Slivar, Tea Golja, Marlena Plavšić; published by UIKTEN. This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 License.

The article is published with Open Access at www.temjournal.com

collaborative learning and learning organisations are analysed to examine the potential connection. To the comparative set is also added collaborative management, given its role of catalyst for both concepts.

2. Theoretical review

2.1. Collaborative learning

People learn in all kinds of circumstances, sometimes intentionally, sometimes unintentionally, sometimes individually, sometimes with others. The same happens in the classroom. Teachers intentionally create situations that encourage learning processes that will lead towards the planned learning outcomes. One of the purposefully created situations is collaborative learning. “The broadest (but unsatisfactory) definition of ‘collaborative learning’ is that it is a situation in which two or more people learn or attempt to learn something together” [7, p.1.]. The author further elaborates that ‘two or more people’ refers to groups of any sizes, varying from a pair to the society of millions of people. ‘To learn something’ does not limit the context of leaning only to a formal context, such as school, but also any non-formal (e.g. a language course at a community centre) or informal (e. g. a group of friends learning to play a new game or a group of colleagues trying to solve a problem). The term ‘together’ in the definition includes diverse forms, time and intensity of interaction (e.g. more or less structured, face-to-face or computer mediated, more or less frequent, synchronous or not, etc.).

The basic principles of collaborative learning comprise: 1) interpersonal and collaborative skills 2) face-to-face interaction 3) beneficial interdependence 4) individual responsibility and 5) group interaction processing [19].

There is evidence that collaborative learning yields a list of advantages. Generally it raises students’ achievement, group performance and inspires innovation e. g. [12], [30]. There are different aspects the achievement can be ascribed to. Looking from the *cognitive aspect*, while learning in a collaborative environment, participants discuss and articulate their thoughts more clearly and from different angles. Learning in a group allows distribution of the cognitive load among members, thus more cognitive capacity is free for grasping the information at a deeper level [14]. Students have to produce and explicate their ideas to each other and verbalisation of their thoughts can facilitate cognitive structuring of the learning content. Since thinking seems to be more elaborated, information tends to be stored longer [13].

As far as *affective aspect* is looked at, collaborative learning usually enhances the use of humour and enables shared responsibility, thus it increases a more relaxed atmosphere and reduces stress and anxiety associated with the task [3].

Good relationships are encouraged [12] and socially shared regulation frequency is amplified [30]. Collaboration is more likely to occur between people with a similar, symmetrical situation or status (e.g. among students) than between asymmetrical (e.g. boss and employee) [7]. Collaborative learning offers a great opportunity for practicing numerous social skills, such as negotiating, providing arguments, compromising, justifying the standpoints, persuading, etc.

Collaborative learning stimulates students’ positive attitudes and progressive development [12]. Participants also perceive collaborative learning as useful and easy to use [30].

Numerous factors and strategies that enhance chances for higher participants’ motivation and consequentially successful collaborative learning have been studied. Problem-based learning, role based scenarios, as well clear rules and procedures of interaction among participants improve the collaborative learning context. Teacher or tutor moderation plays a significant role in successful learning. Monitoring teamwork, providing meaningful and timely feedback, as well as practicing clear communication seem to be crucial in teacher or moderator’s scope of work [5]. It is very beneficial that participants get feedback from the others on their thoughts, and the feedback then reinforces learning. It is important and required that a collaborative learning system is adaptable and flexible. Such tailorable collaborative learning systems allow teachers and/or students to use external tools easily and facilitate coping with new situations [28].

However, there are challenges as well. There is no guarantee that learning mechanisms will be triggered and that they will happen [7]. Not everyone feels comfortable, patient, skilled or eager to learn or work collaboratively, and some people might have had bad experience that they are not happy to be exposed to again.

Some of the most reported shortcomings of collaborative learning include: domination of some members, holding back ideas, fear of being rejected by the group; time consumption for explanations of any element of the task or process to group members; no actual interaction taking place; focusing only on the cognitive dimension of the task, while overlooking the social dimension; also huge quantity of information that a group produces can be difficult to cope with individually [3]. However, good preparation can prevent some of these processes to

occur and some effective interventions can be employed when they do occur.

Collaborative learning environment forms the good basis for developing a learning organisation and empowers managers to implement collaborative management techniques within the work environment.

2.2. Collaborative management

Contemporary and hyper-connected business environment has influenced the use and impacts of the vast variety of management techniques. The environment today requires agility and adaptability of complex socio-ecological and socio-cultural systems. For this case, the collaborative management, seen as a concept that combines various management techniques with the key role of emphasizing the sense of unity and teamwork within the organization, becomes efficient way of achieving organization's ultimate goals, increasing revenues, boosting efficiency and productivity whilst enhancing motivation and employees' morale. Collaborative management methods differ in their scope due to different characteristics of an organization, its management structure and management style, different business models and accepted business strategies. Collaborative management can be associated with an ideal work environment in which everyone is dedicated to achieving a common objective and where large number of people within the organization or external to the organization review decisions to ensure that a diversity of viewpoints are considered before bringing any final decision [10]. It puts focus on communication, consultation, discussion and collaboration of different stakeholders. Stakeholders communicate and discuss between each other prior to moving forward or bringing any decision that has an impact on the organization.

Many studies have shown benefits collaborative management can bring: (1) competitive advantage; (2) fostering partnership between management and science [29]; (3) provision of benefits in terms of allocation of resources to distantly located users who would otherwise be excluded from the value chain [15]; (4) strengthen the capability of the system for self-learning and self-adaptation [9]; (5) efficient response to disasters and other catastrophic events [18]; (6) reducing negative environmental impacts of business operations; (7) effective ways of surviving the supply-chain crisis [16]; (8) delivering ecological objectives at the landscape level due to management

at a landscape scale likely to be far more effective than the single-site approaches favored [1]. Hansen [11] underlined 6 benefits of collaborative work management: collaboration is possible, regardless of location, collaborative work management tools provide a central location for communication, increased visibility and transparency keeps stakeholders up to date, saves time through eliminating meetings and spreadsheet management, allows for greater agility when demand changes and inspires collaboration and innovation across the team.

The above mentioned can be correlated with Henry Ford's words: "*Coming together is a beginning. Keeping together is progress. Working together is success.*"

For this case there is a need to advance the ultimate practice in managing complex systems. Not only business and for-profit organizations should be considered examples of complex systems. Moreover, tourist destinations can profit from collaborative management, NGOs, social businesses, protected areas like natural and cultural sites etc. are all good examples of complex systems where there would be beneficial to introduce collaborative management.

Collaborative management requires new ways of leadership meaning the society requires 2.0 leaders that foster collaboration. In their ground-breaking book Chrislip and Larson [6] pointed to the need of different kind of leadership that can sustain a constructive and collaborative process. They differentiate leaders in terms of their ability to safeguard the process, facilitate interactions and deal with high level of frustrations. Some of the qualities of a manager diligent in this style include also the ability to lead with a firm hand.

In the table that follows authors will highlight the summary of four approaches of collaboration between management research and practice provided by Shani, B. A. et al. [25]. It clearly differentiates various levels of collaboration that impact organization at the operational level and the ability of organization to use benefits of collaborative management in reaching long-term sustainability (economic, ecological and socio-cultural responsibility). Authors have added 3 additional benefits that result from the depth of the level of collaboration and researcher skills and that could be applied to different socio-ecological and socio-cultural complex systems (organizations alike).

Table 1.: Four approaches of collaboration between management research and practice [25].

| | David and Hatchuel, From Actionable Knowledge to Universal Theory in Management Research | Tenkasi and Hay, Following the Second Legacy of Aristotle: The Scholar-Practitioner as an Epistemic Technician | Bartunek Insider/Outsider Team Research | Werr and Greiner, Collaboration and the Production of Management Knowledge |
|--------------------------------------|--|--|---|--|
| Form of collaboration | Contract defining scientific aims. Long-term empirical studies. | Scholar-practitioner carries out a consultancy project. | A team of insiders collaborates with, outside researcher to publish, accounts that give a better public understanding of the setting. | Establishment of a collaborative, knowledge-creating triad of practitioners, consultants and researcher. |
| Essential researcher skills | Theoretical thinking. Skills in field research. | Consultancy skills. Good command of existing theories. | Skills of team-building, trust creation and handling conflicts of insiders. | Conventional researcher skills that in fact could provide value to managers and consultants. |
| Payoff for management science | Discovery of new management models. | Feeling for what is relevant in practice. Possibility of applying models. | More and richer data that can be used for comparative studies. | Access to research site. Possibility of testing hypothesis. Access to consultants' broad experience. |
| Payoff for practice | A new model for dealing with changing business conditions | Better-grounded consultations. | Better-grounded understanding of the setting. Feeling of | Ensuring quality of management knowledge. New understanding and |

| | | |
|--|-------------|--|
| . Better understanding of the way the organization operates. | confidence. | inspiration. (Economic, ecological and socio-cultural sustainability. High level of stakeholder engagement and efficient stakeholder management.) |
|--|-------------|--|

2.3. Learning organisation

Senge's [24] definition is the one most frequently cited stating learning organisation is „a place where people are continually discovering how they create their reality. And how they can change it. “ It can be defined as an organisation with a particular and continuous ability to learn, adapt and change its culture [2] or the capacity or processes within an organisation used to maintain or improve performance based on collective experience. A learning organization focuses on facilitating learning of all its members, „thereby enabling it to continually transform itself in accordance with the prevailing operating context“ [20], accentuating thus the transformative function, as opposed to organisational learning (with a dominant functional component). The concept of LO is developed in Senge’s model of five components / disciplines [24]: systems thinking, personal mastery, mental models, team learning, and building shared vision.

One of the most concrete definitions and perhaps the most distinctive one, views learning organisation as „an advanced approach to Human Resource Development, incorporating self-responsibility and continuous improvement“ [21]. As noted by Roper and Pettit [23] the notions of self-knowledge and self-improvement are frequently mentioned.

There are many model variations developed so far.

Learning organisation is not just the sum of individual knowledge, but embedding of this knowledge into organisational „mental models or cognitive system and memories“ [26]. In case of a learning organisation functional knowledge is used to transform the organisation itself. The learning organisation „is the product or result of a critical combination of internal change mechanisms concerned with structure, process and human

capability allied to continuous environmental reviews intended to maintain or improve performance“ [27]. Research in the field of organisational learning and learning organisations shows these main directions [23]:

- management science focuses on knowledge management;
- from a sociological perspective on the construct of organisations;
- from a business perspective on LO impact on business outputs, profitability and competitiveness,
- psychological and behavioural aspects of organisational learning

The values core to a LO include [23]:

- “valuing different kinds of knowledge and learning styles and creating a ‘learning environment’ so that each organizational member can realize his/her full potential;
- encouraging dialogue and the exploration of different perspectives and experiences to generate creative thinking;
- working collectively and breaking down traditional barriers or blinders within organizations so as to release creative potential;
- fostering leadership potential throughout the organization and reducing distinctions, such as those between management and staff, between strategists and implementers, between support and professional staff, and so on.”

When can an organisation be considered a LO? Several authors suggested a classification or a measurement tool to assess particular aspects of LO.

Criticisms of the concept in terms of business are related to the insufficiently clear connection to business performance [27]. Therefore, Blackman and Henderson [4] deem a learning organisation is as a management strategy aiming to better facilitate the acquisition and dissemination of knowledge in order to achieve organisational transformation. Research on LO has widened into specific related topics such as: single- and double-loop learning; transformational and adaptive learning; the learning process; and system thinking [21] to name just a few.

Farell [8] proved a market orientation facilitates learning and changes are mutually reinforcing processes. As stated by Roper and Pettit [23] learning and change are mutually reinforcing processes. As stated, despite the concept is a broad term and researched intensively during the 90-ties of the last century, it is still not enough clear [27], [17].

3. Application of collaborative learning in a business setting

Collaborative learning takes place since olden times in informal organisational settings. According to an ATD study ‘Building a Culture of Learning’ employees in highly successful companies shared knowledge with their colleagues at rates of four times greater than that of lower performing companies [22].

Knowledge sharing is the classical paradigm that has a non-equal relationship among participants, whereas collaborative learning promotes the principles of same rights. The application of collaborative learning gives employees empowerment, as their engagement is also creative and progressive in nature, not merely operative. This phenomenon is known to positively affect job satisfaction and can help employees’ loyalty to the company, minimising workforce fluctuations. Productivity increases as knowledge and skills creation and sharing is divided among all the employees as well as because of the increased job satisfaction on the personal level. Replacement of workers internally is simplified, as there is free access to knowledge [22].

Another advantage of collaborative learning in a business setting is saving time. Namely with the support of ICT based collaborative learning platforms the process of learning can be speeded. A good „collaborative learning system ensures that workers can access crucial information at their fingertips“[22].

Collaborative environment is an important prerequisite of the implementation of collaborative learning. Among the classical types of organisational structures, the following are deemed to be more adequate to applicate the concept:

- the project organisational structure – whereas team members are selected from their classical functional organisation units, in accordance to the needs of a certain project
- the matrix organisational structure – a structure combining project organisation with a functional organisation.

Other, temporary organisational structures responsive to environmental change are also suitable.

3.1. Implementation of collaborative learning in a business setting

Collaborative learning can be implemented in organisation in its classical form, as a model borrowed from teaching methodologies. Steps to implement a collaborative learning in the form of workshops in an organisational setting include:

a) PLANNING

1. **Set a collaborative environment** – a basic prerequisite requiring constant work upon
2. **Define the goals of collaborative learning** – these refer to a real business task
3. **Selection of a coordinator** – the key role of this process. It is of paramount importance to set the tasks appropriately and to motivate the group to provide their full engagement
4. **Formation of teams** – this step is highly related to collaborative learning goals, however, it is recommended to mix employees with different expertise and levels of expertise as non-homogenous group are associated with higher levels of creativity. The coordinator should guide the team in order to avoid primacy of expert staff. Also, group size is advised to be a non-pair number ranging from 3-7 persons.

b) IMPLEMENTATION

5. **Organisation of the collaborative learning workshop** – invitation of participants and logistical issues performed by the coordinator
6. **Assignment of tasks** – is done by the coordinator
7. **Brainstorming phase** – according to the principle of brainstorming, no ideas are to be rejected. Other techniques of increasing creativity in business should be applied.
8. **Discussion** – some ideas get immediately discharged, while others demand a deeper discussion and evaluation.
9. **Conclusion** – consensus is the key word, whereas the best solutions, according to the goals set, are selected.

c) CONTROL

10. **Assessment** – done by the coordinator after the collaborative learning workshop: what new knowledge/skills have been gained?
11. **Self-assessment** – done by the participants themselves after a certain time period – by acknowledging when they implemented the knowledge and skills gained through the collaborative learning workshop.

The recurrence of collaborative learning in business settings, is however, more frequently encountered as a sporadic consequence to various discussions and problem solving processes in teams such as improvements of procedures, crises situations analyses, creation of new products, dealing with complaints etc., or simply as part of learning by working in various interactions whereas new knowledge is formed. However, in order to make the most of collaborative learning, it should be adequately directed, in order to improve the organisation as a whole (elaborated further on).

ICT based collaborative learning tools are usually part of LMS (Learning Management System). Many LMS providers integrate communication modules in their solutions. Namely, modules as real time chat rooms, discussion forums and email support enable virtual collaborative learning [12]. Again, the tool is useless without a strategic approach. It is advised to companies to take time, for example, twice a month, to come up with conclusions about what has been learned recently and to discuss it in order to increase the organisation's knowledge. Making knowledge sharing a priority is what differentiates learning organisations from others.

3.2 From collaborative learning to a learning organisation

The term of collaborative learning in a business setting will be further defined using a comparison with the concepts of collaborative management and learning organisation (Table 2.). Collaborative learning is taken in this example in its purest form, for the sake of clarity.

Table 2. Comparison of collaborative learning in organisations vs. collaborative management vs. learning organisation; Source: authors' contribution

| | Collaborative learning in organisations | Collaborative management | Learning organisation |
|---------------------------|--|--|--|
| Situational applicability | Workshops | Team management | Business operations in general |
| Executor | Coordinator of collaborative learning | Manager | All employee |
| Participants | Participants of the workshop/working group | Managed employees | All employee |
| Goal | Solution to a business problem involving also gaining new knowledge / skills | Business success through teamwork | Business success and growth using collective knowledge |
| Timeframe | Till the business problem / task is solved | Depending on the management and their management style | Permanent pursuit in line with corporate culture |
| Environment | Collaborative | Collaborative | Collaborative |

A horizontal approach to understanding Table 2. is given below:

- **Situational applicability:** The closest to the classical paradigm of collaborative learning in business is the form of guided workshops or working groups set for solving a task in organisation. Collaborative management depends on the personal manager's style or on the managements' style, while in case of a learning organisation, the concept is applicable all of the time in business operations in general.

- **Executor:** A coordinator is the person in charge of collaborative learning workshops and previous experience in this is desirable. In collaborative management, the responsible person is the manager, while in case of learning organisations there is no central figure, since it is part of the corporate culture.
- **Participants:** In the purest form of collaborative learning workshops, the attendees are the participants of the workshop, in collaborative management employees are the ones being managed and in the last concept, all employees take part in the process.
- **Goal:** The concept of collaborative learning is more suitable to operational issues, rather than strategic issues, to finding solutions to business problems together. Business success is the goal for both business management and learning organisations, whereas the latter thrive to a continuous growth using collective knowledge.
- **Timeframe:** The time frame of collaborative learning in the form of workshops lasts according to the duration of the workshop itself, i.e. until the task is solved. In collaborative management it depends on the manager's / managements' style, while in learning organisations it is a permanent pursuit in line with corporate culture.
- **Environment** - The environment must be collaborative to enable all three concepts, as knowledge sharing fluidness is the key.

A vertical approach to Table 1. (applying synthesis) provides the definitions of the compared concepts. Collaborative learning in a business setting in its purest form can thus be defined as *a form of workshop consisting of a selected working group of employees guided by a coordinator with the goal of solving a business problem or task whose secondary outcome involves new skill and knowledge gaining.*

In case of a learning organisation, the concept is applicable to a wider scale than collaborative learning: in terms of situational applicability, executor, participants, goals and timeframe. Furthermore, within a learning organisation, „new and expansive patterns of thinking are nurtured, and people continually learn how to learn together“ [24]. It can thus be stated that *the introduction of collaborative learning in a business setting can be the base to the evolution of the organisation towards a learning organisation.*

4. Conclusion

What is the difference between collaborative learning in classroom vs. in a business setting? In a business setting the problem is real and the goal of collaborative learning is its solution. Consequences to that process are new knowledge / skill gaining. In education the goal is to learn through problem solving (whether the problems are real or imaginary) – however the solution to those problems are already known.

Collaborative learning in organisations occurs usually as an unplanned consequence of dealing with business issues. In order to maximise its benefits, this process should be guided. There are many ICT based solutions to support that.

Practical implications are reflected primary in the step by step guide of implementation of collaborative learning in organisations and secondary by the acknowledgement of organisation structures more adequate to apply the concept.

The comparison among collaborative learning in a business setting vs. collaborative management vs. learning organisation features a theoretical framework clarifying the extent of these terms and defining them in more detail. However, the notion of learning organisation remains still not enough explained and difficult to implement in practice, making it thus a call to action for future research, whereas no uniform solution could represent an ideal fit since organisations are complex and dynamic entities. Nevertheless, the concept of collaborative learning can be the base for a learning organisation. Turning knowledge gaining, sharing, usage and learning how to learn in a business philosophy - is one of the key prerequisites for that.

References

- [1]. Austin, Z., Smart, J. C., Yearley, S., Irvine, R. J., & White, P. C. (2014). Incentivising the collaborative management of mobile ecological resources. *Land Use Policy*, 36, 485-491.
- [2]. Bennett, J. K., & O'Brien, M. J. (1994). The Building Blocks of the Learning Organization. *Training*, 31(6), 41.
- [3]. Bishnoi, N. (2017). Collaborative learning: A learning tool advantages and disadvantages. *Indian Journal of Health and Well-being*, 8(8), 850-852.
- [4]. Blackman, D., & Henderson, S. (2001). Does a learning organisation facilitate knowledge acquisition and transfer. *Electronic Journal of Radical Organization Theory*, 7(1), 1-19.
- [5]. Cairns, D., & Castelli, P. A. (2017). Team Assignments: Planning a Collaborative Online Learning Environment. *Business Education Innovation Journal*, 9(1), 18-24.
- [6]. Chrislip, D. D. and Larson, C. E. (1994). *Collaborative Leadership: How Citizens and Civic Leaders Can Make a Difference*. 1st Ed. San Francisco: Jossey-Bass.
- [7]. Dillenbourg, P. (1999). What do you mean by collaborative learning? In P. Dillenbourg (Ed): *Collaborative-learning: Cognitive and Computational Approaches*, 1–19. Oxford: Elsevier.
- [8]. Farrell, M. A. (2000). Developing a market-oriented learning organisation. *Australian journal of management*, 25(2), 201-222.
- [9]. Fu, J., & Fu, Y. (2015). An adaptive multi-agent system for cost collaborative management in supply chains. *Engineering applications of artificial intelligence*, 44, 91-100.
- [10]. Garber, P. (2006). *51 activities for collaborative management*. Human Resource Development.
- [11]. Hansen, B. (2016). *6 Benefits of Collaborative Work Management*. Available at: <https://www.wrike.com/blog/benefits-collaborative-work-management/> [Retrieved: 13. February 2018].
- [12]. Johnson, D. W., & Johnson, R. T. (1996). Cooperation and the use of technology. *Handbook of research for educational communications and technology: A project of the Association for Educational Communications and Technology*, 1017-1044.
- [13]. Johnson, R. T., & Johnson, D. W. (1986). Cooperative learning in the science classroom. *Science and children*, 24(2), 31-32.
- [14]. Kirschner, F., Paas, F., & Kirschner, P. A. (2009). Individual and group-based learning from complex cognitive tasks: Effects on retention and transfer efficiency. *Computers in Human Behavior*, 25(2), 306-314.
- [15]. Rai, R. K., Dhakal, A., Khadayat, M. S., & Ranabhat, S. (2017). Is collaborative forest management in Nepal able to provide benefits to distantly located users?. *Forest Policy and Economics*, 83, 156-161.
- [16]. Liu, Y., & Wang, S. (2011). Research on collaborative management in supply chain crisis. *Procedia Environmental Sciences*, 10, 141-146.
- [17]. Mohd-Zainal, A., Mohd Yusof, S. & Goodyer, J. (2017). Validity, reliability and variations of perception of dimensions of learning organisation at different organisational levels in Malaysian manufacturing companies. *Jurnal Mekanikal* June 2017, Vol 40, 37-52.
- [18]. Noran, O. (2014). Collaborative disaster management: An interdisciplinary approach. *Computers in Industry*, 65(6), 1032-1040.
- [19]. Pappas, C. (2014). *Instructional Design Models and Theories: Cooperative and Collaborative Theory*. Available at: <https://elearningindustry.com/cooperative-and-collaborative-theory> [Retrieved: 16 February 2018].
- [20]. Pedler M., Burgoyne, J. G. & Boydell, T. (1991). *The learning company: a strategy for sustainable development*. Maidenhead: McGraw-Hill.

- [21]. Raidén, A.B. & Dainty, A.R.J (2006). Human resource development in construction organisations: an example of a 'chaordic' learning organization?. *The Learning Organization*, 13(1) ,63-79. DOI 10.1108/09696470610639130 .
- [22]. Rasmussen, A. (2017). *How collaborative learning leads to business success*. Available at: <https://shareknowledge.com/blog/how-collaborative-learning-leads-business-success>, [Retrieved: 07 December, 2017].
- [23]. Roper,L. & Pettit, (2002) Development and the learning Organisation: an introduction. *Development in Practice*, Volume 12, Numbers 3 & 4, August 2002.
- [24]. SENGE, P. (1990). *The Fifth Discipline, the Art and Practice of the learning organisation* Doubleday Currency, London, cité par G. ROMME et R. DILLEN" Mapping the landscape of organizational learning. *European Management Journal*, 15(1), 68-78.
- [25]. Shani, A. B., Mohrman, S. A., Pasmore, W. A., Stymne, B., & Adler, N. (Eds.). (2007). *Handbook of collaborative management research*. Sage Publications.
- [26]. Simon, H. A. (1991). Bounded rationality and organizational learning. *Organization science*, 2(1), 125-134.
- [27]. Thomas, K. & Allen, S. (2006). The learning organisation: a meta-analysis of themes in literature. *The Learning Organization*, 13(2), 123-139.
- [28]. Vega-Gorgojo, G. Bote-Lorenzo, M. L., Gómez-Sánchez, E., Asensio-Pérez, J. I., Dimitriadis, Y. A., & Jorrín-Abellán, I. M. (2006). Ontoolcole: an ontology for the semantic search of CSCL services. In *Proceedings of the 12th International Workshop on Groupware (CRIWG 2006)*, Medina del Campo, Spain, 310–325.
- [29]. Wilmer, H., Derner, J. D., Fernández-Giménez, M. E., Briske, D. D., Augustine, D. J., & Porensky, L. M. (2017). Collaborative Adaptive Rangeland Management Fosters Management-Science Partnerships. *Rangeland Ecology & Management*.
- [30]. Zheng, L., Li, X., & Huang, R. (2017). The Effect of Socially Shared Regulation Approach on Learning Performance in Computer-Supported Collaborative Learning. *Educational Technology & Society*, 20(4), 35-46.