

Peer-Reviewed Articles

Action E-Learning: An Exploratory Case Study of Action Learning Applied Online

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ABSTRACT *Web-based instruction, also called e-learning, is currently one of the most talked-about education and training media. To prepare courses for online delivery and to maintain their effectiveness, the designer must have an understanding of e-learning instructional design principles. Action learning is a proven, effective management development process that has not been implemented to date as an e-learning instructional methodology. The purpose of this exploratory case study was to examine the impact of the action learning process on the effectiveness of management level web-based instruction (WBI). A leader-led, management-level course using face-to-face delivery was converted to web-based instruction where action learning was the delivery methodology. Kirkpatrick's Four Levels of Evaluation served as the evaluation tool to determine effectiveness of the intervention. It was found that, though challenging to facilitate, the action learning online method is effective and yields changes in participants' knowledge. However, contrary to expectations, online learning communities did not form.*

KEY WORDS: Web-based instruction, action learning, instructional design, management learning

In the current challenging business environment, executives and managers alike must continually upgrade their skills and knowledge through learning. When considering all the cost variables such as travel and materials for participants, physical facilities and maintenance, employee time away from work and the average time required to take a call (Driscoll, 1999; Forman, 2002; Hall, 1997; Khan, 1997; Phillips *et al.*, 2002), the courses offered over corporate intranets (also called web-based instruction, web-based training, or e-learning) offer time-saving and cost-effective training delivery options. In a comparison of face-to-face and WBI delivery time and costs '[t]here's about a 50-percent reduction in time and cost over classroom training' (Roberts, 1998, p. 98).

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To prepare courseware for online delivery to adults, the designer should understand the range and variety of instructional design methods for WBI. Online courseware delivery differs from face-to-face delivery although research demonstrates that there is no significant difference in the learning outcomes (Arbaugh, 2000; Yoo *et al.*, 2002). Action learning is a powerful learning and management development process (Revans, 1980, 1982; Mumford, 1995; Dilworth, 1998a, 1998b; Pedler, 1998; Marquardt, 1999, 2004). Action learning has been used as an instructional methodology for face-to-face delivery in classroom courses (Bannan-Ritland, 2001; Dilworth and Willis, 2003), but it has not been implemented to date as an e-learning instructional methodology. Given its effectiveness in the face-to-face implementation, the question is: can action learning be applied as an effective e-learning course delivery method? This study examined how action learning impacted on the effectiveness of an e-learning course. The effectiveness of this delivery method was evaluated using Kirkpatrick's Four Levels of Evaluation (1994).

Critique of the Relevant Literature

Increasingly, educational and business organizations invest in e-learning as 'one of the fastest growing and most promising markets in the education industry' (Downey *et al.*, 2005, p. 48). In a comparison of face-to-face and WBI, the learning outcomes have been reported to show no significant difference, yet that does not imply that e-learning should attempt to emulate or copy the face-to-face classroom (Poole, 2000). E-learning provides a variety of distinctive benefits. E-learning enables learners to receive training or assistance just-in-time. Downey *et al.* in their article on the usability of e-learning, state 'e-learning solutions facilitate the delivery of the right information and skills to the right people at the right time' (2005, p. 48). The flexibility of e-learning systems allows individuals to learn at their own convenience and pace with time for reflection (Arbaugh and Duray, 2002). Web-based instruction enables adults to have more control of their own learning (Rossett, 2002).

The literature tells us that adult learners have many life experiences upon which to build and from which others may benefit in a learning environment, so adults need a learning environment where their life experiences are acknowledged and utilized (Knowles, 1970, 1984; Knowles *et al.*, 1998). Additionally, adults need realistic situations. They are motivated to learn when the learning situation incorporates real workplace problems (Gray, 2001). Gijsselaers (1995) and Dolmans *et al.* (2002) specify that real problems further motivate the adult learner if working on them can yield answers.

Action Learning

Action learning is a powerful learning process that builds upon personal experience through working with live problems. Reginald Revans, the creator and 'father' of action learning, instituted action learning in his work overseeing the nationalization of the coal industry during the mid-1900s. In an effort to solve thorny business problems, he had managers visit each other's work sites where they examined problems and learned new solutions by asking questions, reflecting on those questions posed and acting on the solutions that emerged. Later he refined his action

learning method so that it involved not only the managers but also those who were considered part of the problem. Revans provides the following description of action learning:

Action learning is a means of development, intellectual, emotional or physical that requires its subjects, through responsible involvement in some real, complex and stressful problem, to achieve intended change to improve their observable behaviour henceforth in the problem field.

(Revans, 1982, pp. 626–7)

Action learning assumes that the learner must have the power to make decisions about the business problems and the authority to implement solutions to those problems. This process is most successful when the problem is significant and urgent. Action learning is based upon a reflective inquiry process where participants ask questions and reflect upon the questions asked with the goal of learning. Action learning has been implemented in organizations throughout the world (Noel and Charan, 1988; Dixon, 1998a; Marquardt, 1999, 2004).

Various adaptations of action learning exist. Dixon (1998b) was the first to identify the differences between the Revans' model and the American version where the American version uses a learning set that is more like a task force. More recently distinctions have been made between the Dutch and American models (Poell *et al.*, 2005). It was Marquardt (1999, 2004) who distilled the action learning process into six essential elements that include the following: 1) a group of people, also called the action set, 2) a commitment to learning, 3) a problem in need of resolution, 4) a commitment to the use of a questioning and reflection process, 5) a commitment to taking action by one with the authority to take action and 6) a facilitator/coach to enable the process. The advantage of Marquardt's approach is that it provides a workable set of actions and conditions that specify exactly how action learning can succeed.

Action learning has been applied in a variety of ways including for organizational development (Revans, 1980, 1982), management education (Dilworth and Willis, 2003), leadership development (Mumford, 1995), as a succession-planning tool (Marquardt, 2004), as an online course (Sandelands, 1999) and even as an online problem-solving tool (Ingram *et al.*, 2002). Most relevant to this study, however, is Bannan-Ritland's use of action learning as an instructional method in a face-to-face classroom (2001). This case study research examines action learning's effectiveness when applied as a WBI, e-learning instructional delivery method.

Design of Web-Based Instruction (WBI) E-Learning

Though WBI has only been with us for only a couple decades, WBI design has been researched and necessary design elements articulated over that time period. Some key research findings indicate that WBI should: 1) create a sense of perceived flexibility (Arbaugh and Duray, 2002); 2) encourage community through the online social interaction (Palloff and Pratt, 1999; Swan, 2002; Yoo *et al.*, 2002; Sloman and Reynolds, 2003); 3) provide resources on a just-in-time basis in order to yield more control to the adult learner (Rossett, 2002); 4) promote a facilitative, less directive

approach for the instructor (Poole, 2000; Clark, 2001) who should also refrain from exerting a dominant point of view (Poole, 2000).

To attract and maintain adult learners, web-based instruction should address adult learning needs. For instance, if adults learn through social interaction, then it is counterproductive to create pre-programmed online instruction where there is neither interaction with an instructor/facilitator nor with another learner. Saba, an authority on e-learning design, states: '[human] interaction strategies must be built into the design of a [WBI] course or instructional session for it to be effective' (2000, p. 3). Cho and Berge (2002) concur with Saba and reiterate that, when there is a lack of interactivity with other humans, the resulting sense of isolation inhibits learning.

For adults, learner control is especially important when the topic being discussed is ill-structured or ill-defined; meaning the topic presents issues that have no 'right' answers, rather many possible solutions. The constructivist learning theory addresses working with ill-defined content in a learning situation. The goals of constructivism are: a) providing learners a part in the knowledge construction process, b) providing experience in and appreciation for multiple perspectives, c) embedding learning in realistic and relevant contexts and d) embedding learning in a social experience (Duffy and Jonassen, 1993; Honebein, 1996). In e-learning, as in the classroom, when the topic to be learned is ill structured or ill defined the course design should allow the learner to have control.

When talking about learning in general Kirkpatrick provides a valid tool to determine effectiveness. For e-learning in particular, how do we know when the design of WBI actually is effective in promoting learning that achieves the stated goals? Evaluation of WBI is in its early stages; however, Kirkpatrick's Four Levels of Evaluation have also been used to examine the effectiveness of e-learning.

Kirkpatrick's Four Levels of Evaluation

Kirkpatrick's Four Levels of Evaluation form one of several viable tools available to evaluate the effectiveness of training. While some have attempted to develop alternatives (Kaufman and Keller, 1994; Holton, 1996), the Kirkpatrick model still remains a standard in both the business and education realms. For this study, Kirkpatrick's tool provides benefits over other models. First, Kirkpatrick's method is accepted and endorsed in the e-learning literature as a valid and effective process for evaluating the effectiveness of online instruction (Hall and LeCavalier, 2000; Singh, 2001; Hughes and Attwell, 2003; Mayberry, 2005). Second, in comparison to other more prescriptive evaluation checklists, Kirkpatrick's Four Levels of Evaluation provide the flexibility necessary to assess a constructivist design where participants develop their own learning outcomes. The use of this tool also provided another source of data for this exploratory case study.

Purpose of the Study and Rationale

As stated before, the action learning method is one proven process for organizational, team and management development. More recently, action learning has been applied in classrooms as an instructional methodology; however, until now, its efficacy as an online, instructional methodology has not been examined. Targeting

a management-level audience, the purpose of this study was to examine the impact of the action learning process as an instructional delivery method on the effectiveness of e-learning course for managers. The research question for this study was: how does action learning impact the effectiveness of an online, management-level course? The unit of analysis was the individual manager within the action learning set. Managers were chosen as the target audience because they have the authority to implement solutions to complex business problems.

Research Background and Methodology

This study followed a qualitative, exploratory case-study method. The same kinds of questions generated for a quantitative study underlie the measure of trustworthiness for a qualitative research effort (Lincoln and Guba, 1985, p. 219). According to Yin (2003), case-study research is most appropriate as a method when the question to be answered is a 'how' question. It was chosen as the methodology for this study because '[i]t tries to illuminate a decision or set of decisions: Why they were taken, how they were implemented, and with what result' (Schramm in Yin, 2003, p. 12). An existing course that was offered in a traditional classroom was modified to implement action learning as a delivery method for a web-based instruction version of the course. Its effectiveness was evaluated using Kirkpatrick's Four Levels of Evaluation. The WBI courseware was labelled action e-learning or AEL.

Site Selection

The site for this study, 'Management University', is an educational organization that provides training to United States government employees. Management University (MU) delivers hundreds of face-to-face and online courses on a wide variety of topics to United States' Federal employees. The director of training at MU agreed to allow me to conduct the AEL study, without remuneration, because of its relevance to and potential impact on their courseware design.

Management University's Leadership Program (LP) grooms managers for upper-level management. It is a year-long management development programme. Managers who wish to participate in this training must be nominated by their own management and then must go through a rigorous selection process that includes a pre- and post-programme 360-degree review, a personality test and other evaluative measures. At the end of the LP programme, managers create their own leadership development plan (LDP).

Participants

The participants were management-level individuals, graduates of Management University's Leadership Program. In response to a recruitment letter sent out to the LP alumni, twelve recent graduates of the programme volunteered to take the Action E-Learning course.

The twelve volunteers had the following common characteristics: they were all senior managers in different government agencies, they worked in a variety of locations throughout the US, they had ongoing Internet access and typically used the

Internet in their daily business transactions, they were familiar with computer-based learning, they were committed to rendering positive change within their organizations and they each had completed the Leadership Program.

During the course these twelve volunteers were grouped into three groups or sets. Since the online environment often changes and even reverses personal assertiveness and communication styles (Weasenforth *et al.*, 2002), participants were grouped with the intent to establish a gender balance rather than a mix of personalities (Arbaugh, 2000).

Technology Selection

The asynchronous technology approach was selected in order to extend the offering to a widely dispersed audience in different time zones. Asynchronous means that everyone did not have to be online at the same time. The asynchronous approach favours participation by those in different time zones, with complicated schedules or both. It also enables reflection, a cornerstone of action learning. Since managers composed the target audience, the asynchronous mode fitted their on-demand learning needs rather than imposing another 'meeting'.

Management University used the Blackboard Learning Management System (LMS) for their e-learning course offerings; therefore Blackboard was used in this study. The course followed a prescribed format. Participants were placed in sets of four or five individuals. At the beginning of the week-long discussion cycle, participants posted their problem/issue in the threaded discussion, then, for the first half of the week, the other set members asked questions about the problems posed. In the second half of the week, the questions were answered and more questions were posted relative to the presented issues. Each participant asked questions of his or her set members. At the beginning of the second week-long cycle of interaction, the participants had the option of re-posting the same problem or reframing the problem based upon what had transpired online the week before.

Course for Modification

I was given permission to use and modify a doctoral-level course for the purpose of this study. I modified the course and renamed it Action E-Learning (AEL), then offered it online over Management University's learning management system. The AEL courseware maintained the original doctoral-level course's purpose, goals and content.

Problem/Issue Selection

Each participant was required to identify a 'live', urgent business problem. It had to be one within their own area of responsibility and authority and one on which they had the authority to act should a solution be identified. As course facilitator, at the beginning of the course I examined the issues that each participant presented to ensure they conformed to these requirements. The purpose of having each participant present a problem was to motivate the volunteer participants: I assumed they would finish the course in order to solve the problem.

The types of problems presented by the participants included difficulties making career decisions, a problem with brand recognition, methods to distribute security information, career derailment, costly computer system updates that would be out-of-date by the time of implementation, the need to become a more collaborative manager, an attempt to deal with a difficult superior and methods to gain participation of volunteers in an association.

Course Design Modifications

An existing face-to-face delivery course was modified with permission to create the online version using action learning as the method. The resulting product was a single course: Action E-Learning. AEL was a five-week course instead of fourteen weeks. The course activities included participant development of individualized goals that were tied to their Leadership Development Plans. This was not in the original course. The requirements for participants were to: a) present a 'live' business issue/problem, b) participate in setting online norms, c) abide by the 'netiquette' rules provided, d) use the reflective inquiry process, e) submit a learning log, f) reframe their personal issues/problems, g) keep a learning journal, h) make a commitment to take action and i) complete an end-of-course interview.

The six action learning design elements were represented in the course in the following ways: 1) *the action learning sets* were composed of volunteers, graduates of Management University's Leadership Program who were placed in three sets, with four participants in each group; 2) *the commitment to learning* was evidenced by the fact that the course participants developed their own learning goals based upon the individual Leadership Development Plans they had created in the MU Leadership Program; 3) *the problem(s) in need of resolution* were offered by each participant who submitted her own urgent, difficult business issue/problem, called the open group approach, to the facilitator and then posted it in the online threaded discussion; 4) *the commitment to the use of a questioning and reflection process* was formalized in the online requirement to post or reframe a problem and complete the weeklong cycle of questioning each other and answering questions posed; 5) a *commitment to taking action*, by one having the authority to do so, was a prerequisite for participation; 6) a *facilitator/coach* enabled the process by asking questions about the learning, and, based on participant cues through topics raised, supplied resources and information as needed.

Data Gathering and Analysis

Constructivism served as theoretical foundation for the course modifications. Constructivism assumes that the learner controls her learning, and constructs meaning from it (Savery and Duffy, 1994). The unit of analysis was the individual within the action learning set. The action learning process by Marquardt (1999, 2004) was chosen as the delivery method. Evidence of the impact of this innovation was observable from the standpoint of the effectiveness of the courseware to achieve its stated purpose and the participants' goal(s). Theory that developed from this case study relates to the use of action learning as a constructivist design for delivery of online management-level instruction.

Kirkpatrick's Four Levels of Evaluation were used to examine the effectiveness of this action e-learning course. The four levels are:

- Level one: what were the students' perceptions of the learning approach to the course? (Reaction)
- Level two: what was learned? (Learnings)
- Level three: was the learning being used and, if so, how? (Behaviour)
- Level four: did the learning have a positive effect on the host organization? (Results) (Kirkpatrick 1994)

At course completion, each participant was interviewed. Stake refers to the questions within this protocol as 'topical information questions' (1995, p. 25); the constructs for this study and Kirkpatrick's Four Levels of Evaluation impacted on the design of the interview protocol. The interview protocol was developed alongside the course design proposal; it was submitted concurrently to the client and to a professor of qualitative research for their review. After the course, all of the participant interview responses, their emails, learning journals and online threaded discussions were converted to text files and analysed using Atlas Ti to code emergent themes. The study participants completed a member check of all interview write-ups; additionally dissertation committee members and an HRD professional implemented the peer review of the code assignment and analysis. Finally, there was triangulation of all research documents.

One important piece of information relevant to the findings is that two of the volunteer participants dropped the course in the first two weeks. Nevertheless, both of those who dropped the course participated in the interviews.

Role of Researcher

As I was researcher, course designer, course facilitator and technical assistant for Blackboard, controls were built into the study. Researcher bias was managed in the following ways. Evidence of my constructivist stance towards courseware design is identified throughout this study. Creswell specifies the need for clarifying researcher bias 'from the outset of the study... so that the reader understands the researcher's position and any biases or assumptions that impact the inquiry' (1998, p. 203). Evidence that contradict assumptions is provided. For instance, with regard to the expected emergence of a community as the result of the Action E-Learning course, that did not occur.

Results and Findings

The organization of these results and findings reflects the sequence of Kirkpatrick's Four Levels since that tool was used to assess course effectiveness.

Level One: Reaction

Kirkpatrick states, 'Positive reaction may not ensure learning, but negative reaction almost certainly reduces the possibility of its [learning] occurring' (1994, p. 22). The

participants responded to questions that gauged their reactions to facets of how action learning was applied online as well as the Action E-Learning online course as a whole. Of primary interest was whether or not participants thought the purpose and goals of the module/course were achieved. Ten of the twelve participants indicated that their learning goals were achieved. The two who said that they did not achieve their learning goals were the two who dropped the course.

What follow are individual comments that demonstrate the participants' reactions. The names used are pseudonyms. Laura said: 'The questions and answers... definitely worked for me.' In response to the question as to whether the purpose of the course was achieved, Sarah's reaction was: 'Yes, the purpose of the course was to ask thought provoking questions to help you arrive at a solution to the problem. That was great'.

For the most part, the negative comments were about the technology. Participants commented that the pre-programmed courseware they had taken (in the cases where they had taken an online course before) was much 'easier'. They mentioned that the pre-programmed instruction usually was one to two hours long and had questions or a quiz at the end. Both Paula and Laura preferred the face-to-face environment, and they made that clear. Laura said: 'There are some shortcomings, I've mentioned, part was my own failure to read and to participate aggressively, part was the medium itself and my experience with this type of medium'.

Two powerful reactions evidenced learning and offered a commentary on the effectiveness of the online application of action learning. Victor said: 'I don't think a face-to-face approach would work with this [Action E-Learning] course!' Mark, speaking about the asynchronous online approach, stated: 'I'm not sure this [action learning] process could be done any other way'. These two reactions totally contradicted the expected response by critics of this study who said that action learning could not be conducted effectively online.

Level Two: Learning

Level two evaluation relied heavily on the online discussion and the interview data to indicate the fulfilment of course objectives. Kirkpatrick states that level two evaluation establishes that learning has taken place when one or more of the following occurs: 'Attitudes are changed. Knowledge is increased. Skill is improved' (1994, p. 22).

All twelve participants said they learned something from the course, either about action learning or about their problem or both. Tom said: 'I think the most important thing I learned is to take the time to clarify and question what the real issue is'. Victor stated: 'I learned that you shouldn't take anything personally; do not assume the reasons for the problem'.

Reframing – when the one who owns the problem changes his or her perception of the core problem – indicates learning has taken place. In this online course, each time the problem was reframed at the beginning of the new session it indicated that the participant had changed his or her perception of the problem. Of the ten participants who completed Action E-Learning, nine of them reframed their issue at least once.

All of the participants successfully employed the reflective inquiry approach; they posed questions and desisted from giving advice. None of the participants was

familiar with the action learning process before they took the course. They had to learn the reflective inquiry question and reflection method in order to participate.

Level Three: Behaviour

Mann and Stewart in their text entitled *Internet Communication and Qualitative Research* (2000) endorse the researcher's observation of online, written communication as a viable research technique. Kirkpatrick's level three: behaviour (1994) addresses observable changes in the way that the participant acts because he or she attended the course. In the Action E-Learning study, behavioural change manifested itself in a couple ways. When participants proposed solutions, they were asked to rewrite them into insightful, fresh questions so they were probing rather than directive. The rewrites indicate a change in behaviour. Additionally, the behaviour changes were 'observable' in the reports from individual participants on new actions they took as a result of the course. Their statements include Sarah's 'We have a big compliance review at school district and I opened the meeting up to the entire team'. Sarah had never tried that before. Mark's comment indicates a change in behaviour when he said: 'I have met with the [agency's] Webmaster and have requested a forum'. This action emerged from the course process. Each of the above responses demonstrates reported changes in planned actions. Though in written form, they indicate a modification to behaviour. In fact, eight of the ten who completed the course reported that they took action to solve their problems as a result of the course. Those who took action received a positive response.

Level Four: Results

Level four examines what occurred because the participant attended the programme. It measures the impact of the training on the organization. Kirkpatrick (1994) notes that, for transfer of knowledge and skills to behaviour on-the-job, the participant must be in a supportive environment where he or she is encouraged to use the knowledge, skills and attitudes on the job. This level of analysis is of import to research because changed behaviour even at the individual level may impact on the organization. The impact of the AEL course on the agencies represented, however, was not measurable. There were initial responses on the part of the participants that indicate potential impact. These comments include statements such as Tom's 'I got a better sense of what action learning is...I got to experience it. And from the experience I want to see how I can apply it and bring it back to my staff'. Or Dave who said: 'I would like to implement action learning in my organization'. Since I did not have access to the organizations to measure results, they are inconclusive.

One surprising finding contradicts the e-learning literature about the formation of a community. Murphy and Cifuentes predict that e-learning participants will build a community as a result of the online threaded discussion. They state that a sense of community can be built through 'purposeful design of activities that are self-directed, reflect real-life experiences, and provide for collaboration and bonding' (2001, p. 8). The Action E-Learning course followed these design recommendations in an effort to create community through a shared understanding of the business problems presented, yet the AEL participants indicated in the interviews that they

did not form a community during the action learning online process. The participants made comments such as 'I do not think the learning environment impacted relationship building in this case' and 'Well, I am not sure I really built a relationship with any of them in some way. I know they did help me. I'm not sure you could build a relationship in that time period'. It is possible that no community was formed because they worked on individual problems rather than to make a concerted effort on a single problem.

Study Conclusions

Kirkpatrick's (1994) Four Levels of Evaluation provided the basis for evaluating the effectiveness of the online version using the action learning method. The participants set their own goals, pursued their own learning, and evaluated whether or not they liked the approach, how much they learned, the impact of the course on their behaviour and the results for the organization.

The participants' responses demonstrate that management-level participants can learn the action learning process online, using action learning as the course methodology. They reacted positively to the course. Their learning can be perceived as satisfactory; their level of knowledge changed and the process had an impact on their reflective inquiry behaviour that was exhibited online. Thus, action learning can be conducted effectively online as an instructional methodology on the individual level. However, what must be noted is that the participants did not create a sense of community. This contradicts the predictions in the e-learning literature.

The first and second levels of evaluation determine course effectiveness for the individual participant. The value to the organization appears at the third and fourth levels of evaluation. Kirkpatrick's level three evaluates changes in the learner's behaviour.

Before the course began, none of the participants had a clear course of action relative to the urgent issue they presented; they developed a course of action during the course. Each participant had to identify and present an urgent problem in his or her own workplace and had to have the level of authority necessary to implement a solution for that problem. During the online e-learning event, participants were required to make a commitment to action and take action to resolve the problem. The commitment to action and actions taken could be assumed to indicate behaviour changes resulting from the course. The participants who took action during or after the course demonstrated a change in behaviour. I conclude that behaviour can change through action learning that is conducted online as an instructional methodology.

Kirkpatrick's level four is, by his own admission, 'more difficult to evaluate' (1994, p. 65), especially for personal, management development issues. However, there were indications of personal and organizational results occurring due to the impact of the Action E-Learning Course. As mentioned above, several of the participants implemented solutions. A conclusion is that this action learning online process generates long-term results. One suggestion for future implementations of AEL is for the sponsor of the problem to indicate at the onset of the course where and how the solution would impact on the organization. In such case the evaluator would know what to examine for organizational results.

A discussion of this study includes several components. The Action E-Learning Course was five weeks long at the client's request. When a course is compressed into such a short time frame (five weeks instead of fourteen), it is difficult to take action on or resolve complex problems. More importantly, it is premature to draw conclusions about the lasting impact on the participants' behaviours. Solutions take time to implement and more passage of time to evaluate. Consequently, in the future short courses should incorporate a follow-up phase; preferably the course should extend over several months.

When action learning is the course method, the course purpose should include a statement verifying that the participants will utilize the processes, principles and skills necessary to participate in action learning sets. The course goals will vary based upon the content and focus of the course, but one of the course goals should be to identify an issue and work on that individually selected or pre-determined issue using the action learning process. The solution's implementation must be within the realm of authority of at least one individual in the set.

Strengths of Action Learning Online

The asynchronous online process allows managers to reflect without giving the impression of indecision. Reflection occurs in response to the questions generated through the action learning process. Reflection is an under-rated skill, especially at the management level where managers are under pressure to make decisions rapidly. From the questioner's perspective, the slower pace enables the questioner to design and examine the question before submitting it. Rather than directive questions, participants form probing, 'fresh' questions that improve the quality of the responses. Additionally, as in the face-to-face approach, the action learning reflective inquiry process provides a powerful tool to spur creative alternatives for solving problems. Other advantages of AEL include the individualized attention online both from colleagues and the learning coach. Through this process, the participant develops a variety of skills including written expression and question formation. AEL simulates the virtual workplace and informs the participant on how to conduct oneself in a virtual team by complying with the agreed-upon norms and netiquette as well as asking questions before making statements. Action learning online provides a safe environment for practice and report.

Limitations and Future Research

This study focused on residents of the US. It would be interesting to see whether or not the action e-learning approach is viable with those in other cultures. In this AEL, each participant presented a problem to the set. In the future a possible area of study would be to analyse the effect of having the set use a single problem or issue.

Missing from this analysis is any mention of body language. Since the course was conducted online, participants were unable to benefit from the subtle messages conveyed through body language. This is an opportunity for future studies, to compare the impact of body language on the action learning process in a face-to-face interaction versus the online environment where no body language is observable.

As mentioned earlier, the participants admitted that they did not observe the development of a sense of community. It is possible that a community did not form because of the open group approach. Perhaps if they had worked on one problem as a set there may have been more of a connection between the set members. The fact that the audience was composed of volunteers also probably had an impact on the level of commitment to each other and their lack of interest in an ongoing relationship.

Adapting the face-to-face process of action learning to the online environment results in the same kinds of issues that occur and are documented in the e-learning literature when converting any face-to-face course offering to the online medium. The online courseware cannot duplicate the atmosphere and interaction of a classroom. The results can be the same with no significant difference, but the online delivery process should be different. Therefore, I conclude that the AEL process must be evaluated on its own merits as a unique approach that differs from face-to-face instruction, with its own set of advantages and limitations.

Implications for HRD

This action e-learning study demonstrates the usability of the action learning approach as an online instructional method. The course design, delivery, format and norms can be applied to a variety of course topics. This study has ramifications for the design of web-based instruction because it unearthed both the successes and limitations of the action learning approach online.

Future research opportunities could include using the single-issue approach within a set and implementing the action e-learning design for a capstone course within a larger curriculum. Additionally, action learning online should be studied for use with virtual teams. In order to obtain Kirkpatrick's level-four information for evaluating the impact on the organization the problem sponsor or owner should identify at the beginning of the course anticipated ways to measure impact of their problem solution on their organizations.

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