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Bunker/shelter as a Situated Learning Space: An Example of a Life Protection Experiment in Threatening

Abstract

The article describes the assumptions of an experiment and training conducted at the barracks of the Higher School of Justice (currently the Academy of Justice) in Kalisz. Sixty individuals were subjected to 12 hours of bunker deprivation. The studies conducted during the experiment focused on the utilization of bunkers as educational spaces where individuals learn effective life protection strategies in threatening conditions. The analyses encompass practical aspects such as physical preparedness for crisis situations and psychosocial aspects of learning in stressful conditions. The participants of the experiment underwent simulations of crisis situations. The project's aim was to describe the adaptation mechanisms of individuals to threatening situations in the context of life protection. The shelter/bunker can serve as a space supporting situated learning, preparing individuals for effective action in crisis conditions. The text presents those elements of the theory and research from the field of situated learning that should be taken into account in the didactic planning of training sessions for services conducted in bunkers/shelters.

Keywords: bunker/shelter conditions, shelter experiment, situational learning, situated learning theory.

Introduction

Nowadays, there is a complex network of serious threats in the world. There are currently five wars and territorial conflicts, seven civil wars, three interstate

conflicts, four political unrests, international terrorism and sectarianism. This poses a significant challenge to global stability (Krawczyk, 2022). It is worth noting that although many of these conflicts may seem geographically distant from Poland, they have important implications for the economic, political and social situation of our country. The global nature of contemporary conflicts means that events at one end of the world have the ability to affect the other, even if the geographical differences seem significant. In the context of the economic situation, global conflicts can affect global markets, commodity prices, access to resources, and overall economic stability. In the social dimension, the impact of conflicts on the situation of people in areas affected by wars or humanitarian crises may generate waves of migration, which in turn may have consequences for Poland as a country hosting refugees or participating in international aid efforts. Behind our eastern border, the Russian-Ukrainian war is taking place. Current CBOS research shows that 76% of Poles believe that the war in Ukraine threatens the security of Poles, 28% of respondents believe that the war will escalate and involve other countries (CBOS, 2023). As Krzysztof Kowalczyk points out,

> Russia does not want to give up the tool of territorial annexation (as in the times of the Russian Empire or the former *Pax Sovietica*) in favor of economic annexation (i.e. a possible *Pax Russiae*). It must therefore face the consequences of losing direct influence in Spykman's Rimland to stronger China and Germany, as well as a newly emerging Islamic power that will emerge from one of the three largest Muslim countries: Turkey, Iran or Saudi Arabia,

and he continues,

> […] in the event of a possible aggression against the Russian Federation, buffer zones will become a training ground for military operations, and the war, which is devastating to the economy and society, will plunge them into a multifaceted crisis for decades. This will make it easier to subordinate these countries as dependent or incorporated areas. The impossibility of becoming a strong regional hegemon will prevent Russian rule from extending beyond the territory of the former Soviet Union… (Kowalczyk, 2019, pp. 78–92).

Unfortunately, the possibility of a conflict between NATO countries and Russia is confirmed by Frank Hofmann's statements, "NATO countries in Europe have only «five to nine years» to prepare militarily for a possible Russian attack on Alliance territory" ("NATO vs. Russia", 2023). Unfortunately, in the DGAP document entitled *Preventing the Next War* (*#EDINA III*) *Germany and NATO Are in a Race Against Time* (*#EDINA III*) by Christian Mölling and Torben Schütz, we read that the reconstruction of the Russian army may take 6–10 years (Mölling, Schütz, 2023). The authors suggest possible actions that, in the light of their analysis, should be aimed at supporting Ukraine, integrating it into the European defence sector, strengthening Europe's war capability (through a more balanced relationship with the US), introducing sanctions and trade restrictions against Russia (Mölling, Schütz, 2023). According to the authors, it is important to re-

build the armed forces and create a strong army. Society-oriented measures are also an important aspect (Mölling, Schütz, 2023).

This situation calls for action to be taken in relation to civil protection and public education. In April 2023, the Ministry of the Interior and Administration presented a draft regulation on technical conditions and use of protective structures (*Projekt Rozporządzenia…*, n.d.). It concerns activities aimed at strengthening the security of citizens through the development of protective infrastructure, including shelters and places of hiding. At the same time, the project assumes the creation of optimal conditions for the effective operation of the authorities responsible for ensuring the safety of citizens. As part of these activities, it is planned to intensify training for uniformed services, including special educational programs for civil society. This project assumes that the effectiveness of defence operations is based not only on the training of services, but also on the involvement of citizens (*Projekt Rozporządzenia…*, n.d.).

Bunkers & Shelters

On the basis of Decision No. 57 of September 30, 2022, from 10.2022-02.2023, the Fire Brigade carried out an inventory of protective buildings and places of emergency shelter. In Poland, there are 10,600 protective buildings, of which 1,903 are shelters and 8,719 are hideouts. In the event of an emergency, 1.43 million people will find shelter in these structures ("National Fire Brigade (PSP) Report on Protective Structures 2023," 2023). A shelter

> is a protective structure with a structurally closed, hermetic enclosure that provides protection for persons, equipment, material supplies or other material goods against assumed factors of destruction acting from all sides ("PSP Report on Protective Structures 2023," 2023).

Recent research studies focus on the analysis of shelter needs in the context of hazards and natural disasters in urban areas, population movement is studied and needs are determined on the basis of data (Chen et al., 2020), dynamic evacuation simulation methods are also used to improve population allocations (Yu et al., 2018, pp. 1884-1910), other studies deal with spatial accessibility and optimization of emergency shelter locations (Zhang et al., 2023). People's behaviour in an emergency situation and their preferences regarding the choice of shelter and the impact of these decisions on the time of evacuation and the filling of possible places to save lives were also studied (Nagarajan, Shaw, 2021), other studies focused on the safe placement of people. The studies were conducted on the basis of the analysis of people's behaviour during evacuation, geographic information systems have been used in the developed model (Chang, Liao, 2015, pp. 1551–1571).

Bunkers/shelters are not only spaces of refuge, but can also be used as places where military and civil services can check their level of preparedness for crisis management, communications and security procedures in the event of threats of conflict or natural disasters. Simulating an emergency situation allows you to learn how to react quickly in emergency situations and improves your decision-making skills.

Description and assumptions of the bunker deprivation experiment[1]

The use of bunkers/shelters as places of situated learning requires the use of special procedures to control the education process and ensure the safety of participants of such training. In his famous experiment from 1971, Philip Zimbardo ("Stanford Prison Experiment") drew attention to the impact of situational factors on the decisions and behaviors of individuals, which is why

> simulations of crisis situations are of fundamental importance in the process of improving crisis management procedures and in preparing individuals to adequately and safely respond to threatening situations. In the course of training combined with experimental research, the aim is to acquire knowledge that contributes to the optimization of crisis management procedures, as well as to a better understanding of the social aspects of human behavior.[2]

An interesting experiment combined with the training of uniformed services was carried out on December 9, 2022, and was led by Piotr Kośmider, Maciej Tanaś, Marcin Strzelec and Michał Sopiński (the current Rector Commandant of the Academy of Justice in Warsaw). The experiment and its objectives concerned the protection of life in the conditions of placement in shelters in the event of disasters and catastrophes[3]. The aim of the project was also to

> [...] not only to check the psychological aspects of the volunteers, but also to realistically assess the possibilities of the shelter itself in order to motivate local authorities to be more active in the modernization of other facilities (Łużyński, 2022).

The place where it took place was a bunker from 1905 located in the barracks of the SWWS (Higher School of Justice) in Kalisz. 60 people (students, SWWS lecturers and volunteers) took part in the experiment (Bąkowska, 2022). It is worth noting that the people were selected "regardless of rank, military rank or position…" due to the fact that

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[1] A more detailed description of the experiment was published in Siemieniecka, Majewska (2023, in print). Elements of the project description were taken from the invitation to take part in it, containing the assumptions of the experiment.

[2] Ibidem.

[3] Information attached to the invitation to participate in the project. Cf. Siemieniecka, Majewska (2023, in print).

[…] Everyone in the shelter is supposed to be equal, and the volunteers have been "mixed" in a random way. None of the people will also have predetermined tasks to complete. Such an approach is to check the mechanism of natural emergence of leaders from a wider group of study participants. Test participants are also people who do not know directly the facility they are going to. All these factors are to reflect as closely as possible the real crisis situation that volunteers have to deal with – in terms of logistics, sanitation, medicine or, for example, evacuation (Łużyński, 2022).

The subjects were observed by cameras during the entire duration of the experiment (12 hours) by observers invited to participate in the study.

These people experienced simulated situations (they had the impression of being attacked, they went out through the dungeons). The subjects also experienced physical difficulties (one of the participants simulated pregnancy). Crisis management was studied, and personal behaviours and reactions were analysed. Difficulties, barriers and the process of emergence of natural leaders and how they cope with situations of deep stress were also observed. The situation in which the participants of the experiment found themselves was deliberately difficult, e.g. there was no drain in the toilets, the number of lying and sitting places was limited, after simulated attacks, the wounded appeared in the group.[4]

The aim was to assess the functionality of the shelter and observe how humans cope with extreme situations (Samulak-Andrzejczak, 2022). Marcin Strzelec reports on RMF24 (Polish radio station) as follows:

The classes were unpredictable and assumed difficult conditions. These difficult conditions include, among others, the failure of the power supply system, turning off the emergency systems. The last 3 hours were spent absolute darkness. The students were well organized, for example, with the redistribution of provisions, supplies accumulated in the shelter, as well as in the exercise of duties. It played well (Piłat, 2022).

Safety procedures, resistance to stress, emotional reactions of the participants of the experiment, coping with difficult situations (isolation, bunker deprivation) and group processes were studied. Attention was paid to the individual needs of different age groups regarding crisis management planning. Maciej Tanaś emphasizes that,

the idea for the research appeared when the fire brigade started reviewing shelters in Poland, which created a situation in which it was possible to conduct scientific research, in which several teams participated. There is a need for research on the behaviour of people staying in shelters in situations when there is a shortage of air and a manual generator needs to be started, or when there is a lack of lighting and the air is smoky. These situations are real in conditions of war or armed attack. The research concerned the effectiveness of the functioning of systems ensuring the protection of life in the conditions of placement in shelters in the event of disasters or catastrophes.[5]

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[4]   Siemieniecka, Majewska (2023, in print), after: interview with Prof. Maciej Tanaś, who is in charge of the scientific project.

[5]   Siemieniecka, Majewska (2023, in print), after: interview with Prof. Maciej Tanaś, who is in charge of the scientific project.

Unfortunately, the description of the training and the experiment presented here does not contain detailed data due to the confidentiality of some of the results of the experiment. During the press conference, Professor Tomasz Kośmider pointed to the importance of

> creating the right dimension of personal and structural security in the military and non-military dimension, which are to counteract threats and create a protective umbrella. This experiment aims to check the structural security dimension at the level of shelter functionality and personal level in the context of building citizens' protective competences (Innovative scientific experiment at the University of Justice, December 12, 2022).

Bunker/shelter as a place of situated learning

Situational learning is based on taking context and environment into account in the process of acquiring knowledge. According to this concept, learning is not isolated from the situation in which it occurs, and is closely linked to the actual experiences and social context of the individual. The literature (Goel, Johnson, Junglas, Ives, 2010) lists the building blocks of situated learning, which allows the learner to concentrate on a task and learn in a specific context that covers the full spectrum of knowledge in a given area. This learning requires a cognitive engagement that enables the acquisition of lasting knowledge. An important aspect here is learning through social interaction and informal learning in relationships with others. The social learning process takes into account the impact of the understanding of the roles performed and the knowledge and competences of the participants of the learning process during situated learning.

This learning is related to constructivism, whose representatives attach particular importance to the role of the learner in the construction of knowledge, which takes place in situations that require active interaction with the environment and experience (Dewey, Vygotsky, Piaget), and contextualism, which emphasizes the importance of social and physical context. Knowledge results from human participation in certain situations and environment. The acquisition of knowledge, therefore, requires active participation. These assumptions can be found in *The Theory of Localized Learning* by Jean Lave, Etienne Wenger, John Seely Brown, Allan Collins, and Paul Duguid. These authors emphasize the relationship between learning and social situation (Siemieniecka, Siemieniecki, 2019, after Hanks, 1991, p. 14). This theory assumes that "learning should not be seen as a simple transmission of abstract and de-contextualized knowledge from one person to another, but as a social process" (Siemieniecka, Siemieniecki, 2019, p. 172 after Lave, Wenger, 1991). The relationship between social engagement and the context of learning (Siemieniecka, Siemieniecki, 2019, after Lave, Wenger, 1991) and culture (Siemieniecka, Siemieniecki, 2019, after

Kruszewski, 1987, p. 45) and language is sought. The process of learning requires experiencing everyday situations, creating situations in which a person can learn from others and use the acquired knowledge in practice (Siemieniecka, Siemieniecki, 2019, after Collins, Brown, Holum, 1991, pp. 6–13). It can be said that

> the theory of localized learning assumes that cognitive practice is focused on four dimensions that constitute any educational environment: the content (type of knowledge), the method (the way of learning), sequencing (the keys to ordering educational activities) and the social characteristics of the educational environment. The content dimension includes: domain knowledge, i.e. declarative knowledge, e.g. concepts, facts and procedures; heuristic strategies, i.e. general techniques for performing tasks; control strategies, i.e. general steps to guide the process of solving a task (problem); learning strategies, i.e. knowledge of how to acquire new information (Siemieniecka, Siemieniecki, 2019, cited in Collins, 2006, in Sawyer, 2006, pp. 47–60).

In the conditions of bunker isolation, where learners acquire knowledge and skills in specific conditions, it is possible to use various cognitive methods. In this context, those proposed by Allan Collins in his cognitive practice are particularly valuable (Siemieniecka, Siemieniecki, 2019, after Collins, Brown, Newman, 1988). Here's how some of these methods can be adapted to a bunker deprivation training situation: **modelling – learners can benefit from modelling by tracking the decision-making processes and actions of others**. Before conducting a training simulation in a bunker/shelter, it is worth discussing examples of properly selected training material or recorded experiences of people who were characterized by safe behaviors (exemplarism). This allows participants to see what effective actions look like and how the decision-making process and procedures work in similar situations. Participants can describe or *imitate* the behaviour of people who have coped with similar situations in an exemplary way. Before the training begins, participants can use examples and materials to create their own model responses. *Coaching* is a very useful form of individual support, preparing participants for training in bunker conditions, for example through individual preparation for possible difficult situations or support from superiors. Proper psychological preparation of the training participants is also an important element. The next stage of the learning process is *scaffolding*, which involves challenging the learner and assigning roles according to their abilities. *Articulation,* i.e. reflection on the experience and knowledge gained in the context of the experiences of others, is an important part of training to prepare for services. After the simulation of a difficult situation and the completed bunker deprivation, it is worth discussing any problems that occurred during the training, as well as distinguishing good examples of reactions, behaviors and actions. *Reflection and comparison of the acquired knowledge* with other participants are conducive to this process. ***Exploration,* which is a component of Collins' cognitive methods, is based on the fact that the acquired knowledge is**

expanded as a result of involvement in the process. An important aspect of the use of bunker/shelter in training is sequencing. Collins (cf. Siemieniecka, Siemieniecki, 2019, after Collins, Brown, Newman, 1988, pp. 2–10) points to the importance of skills development so that it is based on increasing complexity. Therefore, running simulations in a bunker/shelter requires mastering basic knowledge, while broadening this knowledge and developing reactions to more complex situations is based on it. The level of difficulty and complexity of the situations to which the participants in the simulation are subjected should vary. In this way, learners are allowed to apply what they have learned in practice. It is also important for the participants of such training to have a global view of the problem situation, which allows them to plan partial actions and is important for the strategies of complex actions in multi-tasking situations.

Situated learning involves taking into account the social environment. According to Collins, we are dealing here with situated learning based on real problems, learning through group action and mutual contacts, cooperation in the performance of tasks. Participation in emergency situations in the situation of bunker deprivation allows the services to acquire new skills in the situation of an observer and participant of events. Knowledge is combined with direct practical action. William J. Clancey (Clancey, 1995, in Self (ed.), 1995, pp. 49–70) in his text *A tutorial on situated learning* points out that situated learning is based on the situational notion of knowledge, he emphasizes that scheme behaviors or procedures are limited in comparison with the complexity of conceptualization. A person does not use the same previously learned procedures, but changes them. The text discusses the relationship between situated learning and situated action theory, and points out that there are two types of situational and plan-based activity. The paper contains a critique of learning and the so-called "transfer". The author points to the lack of usefulness of theoretical generalizations in various contexts, the transfer takes place between activities and actions. It emphasizes the crucial role of the context of knowledge in its application. The author analyses the literature from which emerges a critique of the symbolic concept based on the fact that knowledge cannot be reduced to descriptions, schemes or symbols, because it does not take into account aspects related to perception and interaction with the environment. The context of the impact of individual differences in the learning process is also important here. Another aspect that is addressed is that knowledge is not located in people's minds, but develops in the course of interaction. Effective teaching in this context means individuals creating their own solutions with the help of teaching aids or tools. Therefore, this process can take place in two variants: the participants of the training find themselves in unexpected situations or they can be prepared for them in the course of the training.

Practical proposal for the implementation of training for uniformed services, taking into account elements of situated learning

When planning a training in a bunker/shelter, the first thing to do is to conduct a needs analysis, which consists in determining the main purpose of the training and identifying the training needs (Serafin, 2011) of uniformed services. At this stage, it is necessary to analyse the critical moments of the training and the risks for the participants that may arise from the conditions in the shelter/bunker. It is necessary to determine the current state of knowledge of the training participants (their skills, experience), as well as to discern individual training needs. Next, the objectives of the training should be determined: general and specific. This requires defining the basic skills that will be achieved as a result of simulation training in the bunker. The third stage is the selection of the training location and its proper preparation. This requires an assessment of the equipment, accessibility and safety of the training site. The space should be adapted to the conditions allowing for training in the form of a simulation of a real situation, but also take into account the needs and possible threats. It is important to plan individual events (tasks) in the form of a scenario, subordinated to specific objectives and the subsequent possibility of verifying knowledge. The next stage is to plan the training. In this phase, the training program, its implementation stages and a detailed schedule are determined. As part of this phase, the roles of persons performing functions and tasks in the context of the training are also planned. Crisis situations which will be simulated during the training are also planned. The next step is to develop training materials. It is necessary to develop instructions and materials for each stage of the training. The materials should contain safety instructions (based on which practical exercises can be carried out). Action procedures should also be developed. Trainees can be familiarized with this material and properly trained during exercises preceding operations in the bunker. Subsequently, people are selected for training in the bunker according to the objectives of the training and the skills they possess. The selection of people can be directed towards the possibility of the trainees observing different roles and tasks. The training should be conducted with all safety rules in place. It is good for the action to be monitored or recorded, which allows you to discuss the results of the simulated action later. Contact with people in bunker deprivation is also important. Then, after the training is completed, it is necessary to evaluate the training. It is crucial to evaluate the degree of achieved goals, the knowledge of its participants. Apart from the traditional forms of testing the knowledge of the training participants, it is also possible to discuss the tasks performed and their correct solutions in the

group. It is important to discuss the problems and difficulties encountered by the participants. Reflexivity and re-analysis of problematic situations are conducive to the consolidation of action patterns.

Among the components of situated learning, the influence of four factors has been distinguished (Goel, Johnson, Junglas, Ives, 2010, pp. 215–240). They are crucial for changes in the mental models of individuals. These are: thematic focus – it is important for the group to discuss the topic in detail, for participants to share information and externalize their own mental models. Cognitive absorption is associated with the stimulation of intrinsic motivation, and people who are involved are more likely to take part in activities aimed at situational learning. Participation: participation in social interactions is an important aspect. The externalization of mental models, as the authors write, makes it possible to show differences and internally take over the revised mental models. Perception of social structure: social structure is a pattern of relationships that develops between individuals during educational activities. Therefore, it is important to perceive the roles of individuals in the social structure, which has a positive effect on changes in mental models (Goel, Johnson, Junglas, Ives, 2010, pp. 215–240).

The use of these steps in the bunker/shelter training planning process should contribute to the effective and safe delivery of the coursework, allowing participants to have realistic experience in crisis management in extreme conditions. Table 1 shows the steps involved in the implementation of the training in the bunker/shelter, the description of the activities and the elements of situational learning that should be taken into account while planning the training delivery.

Table 1

Description of activities and elements of situational learning that should be taken into account while planning the implementation of training carried out in bunkers/shelters

Stages of the implementation of the training plan in the bunker/shelter [1]	Description of activities [2]	Elements of situated learning in the context of bunker/shelter training [3]
1. Analysis of training needs	Defining the objectives of the training	Thematic focus – involves the participation of officers in determining training needs, identifying their individual training needs, which allows the content to be adapted to the specific requirements of the group, it is important to share experiences.
	Identification of training needs	Absorption – stimulation of motivation to act in accordance with the needs of the group

Table 1
Description of activities… (cont.)

[1]	[2]	[3]
1. Analysis of training needs	Analysis of critical moments and threats in the bunker.	
	Establishing the knowledge of the participants. This requires an assessment of domain knowledge, declarative knowledge, e.g. concepts, facts and procedures	
2. Setting bunker training objectives	Definition of general and specific objectives	Participation – participation in the process of setting general and specific objectives of the training, participation of representatives of various uniformed services and experts. Focus on activity and collaboration
	Identification of the skills that participants will acquire as a result of the training in the bunker/shelter	Social structure – when planning, it is important to take into account the diversity of the group, the functions performed, roles, the level of skills and experience.
	Selection of specific training areas and delivery methods Developing a learning strategy, i.e. knowing how to acquire new information.	
3. Site selection and preparation	Assessment of the availability and safety of the training site	Participation – inclusion (of all or only part) of the training participants in the process of recognizing possible places of simulation and adaptation of space, active participation in the training environment. Familiarizing the participants with various types of bunkers/shelters/safe places and their specifics, as well as the principles of planning activities in closed places (logistics).
	Adapting the space to the simulation conditions.	
	Anticipating possible threats, the needs of training participants and critical moments.	
4. Creating a training program	Determination of the types of difficult situations that require practice in the conditions of simulation in the bunker.	Sequencing – building skills on the principle of increasing complexity of simulated situations.
	Planning the stages of implementation and the schedule of activities.	Thematic focus – focusing the training program on the types of crisis situations requiring the acquisition of knowledge and ways of responding by officers.

Table 1
Description of activities… (cont.)

[1]	[2]	[3]
4. Creating a training program	Preparation of detailed scenarios of crisis situations and their different variants.	Social structure – taking into account the role of social structure in the training program, as well as factors important for effective communication and exchange of experiences among training participants.
5. Development of training materials	Development of lesson plans, situations requiring simulation Using heuristic strategies, i.e. general techniques for performing tasks	Participation – active participation of trainees in the preparation of: instructions (e.g. before/or after the training), participation in the content creation process.
	Development of safety instructions and operating procedures.	Thematic focus – focusing on realistic risks and integrating them into crisis situation scenarios
	Familiarizing participants with the materials before the training or conducting classes after the training in a bunker situation.	
6. Selection of participants	Selection of training participants according to objectives, taking into account individual characteristics, roles, experience	**Building scaffolding – taking into account the adaptation of roles and tasks to the individual characteristics of the training participant.** Social structure – taking into account the role of social structure in the selection of participants. Indications for the organization of teams in emergency situations.
7. Conducting training	Coaching – individual preparation of training participants before participating in a bunker deprivation situation. Paying attention to psychological preparation aimed at the actions of the participants in a situation of high level of stress and reactivity of others. Using a control strategy, i.e. developing general steps to guide the task (problem) resolution process.	**Building scaffolding – adapting the roles and tasks performed to the individual characteristics of the participant.**
	Building scaffolding – **adapting the roles and tasks performed to the individual characteristics of the participant**	Exploration – the acquisition or expansion of knowledge occurs through the involvement of individuals in the process.

Table 1
Description of activities… (cont.)

[1]	[2]	[3]
7. Conducting training	Exploration – the acquisition or expansion of knowledge occurs through involvement in the process.	Sequencing – building skills so that they are based on increasing complexity, e.g. by participating in increasingly demanding and complicated (multitasking) situations.
	Sequencing – building skills based on increasing complexity, e.g. by participating in increasingly demanding and complicated situations	Participation: ensuring the active participation of participants during the training.
	Participation – providing an environment and tasks that enable the active participation of officers in training.	Absorption – monitoring the situation (e.g. by introducing the trainer to the team, observing the actions of people in the bunker deprivation situation) and adapting the training process to the current situation.
8. Evaluation	Social structure – qualitative evaluation allowing to understand the different perspectives of the training participants.	Modelling – discussing examples of situations and the effectiveness of the solutions used, presentation or creation of a model situation by the participants.
	Articulation – the participants' reflection on the experience and knowledge gained in the context of the experiences of other people (observers, participants and people playing different roles).	**Reflection and comparison of knowledge acquired among training participants, which can take place through** dialogue and exchange of observations **among** training participants (different roles), but also between its observers. This allows for a more complete assessment of the course of action and response during the simulation.
	Reflection and comparison of knowledge acquired by other participants. Developing action plans.	Absorption – taking into account the evaluation of training outcomes and identifying areas for correction. What is important is the feedback and the real impact of the trainees on the improvement of the elements that need to be corrected. People involved in the training process are more likely to participate in situational learning activities. It is important to collect feedback in the form of surveys and interviews and inform participants about the incorporation of suggestions and changes made.

Source: author's own elaboration based on the cited literature (Goel, Johnson, Junglas, Ives, 2010, pp. 215–240; Collins, 2006, pp. 47–60; Collins, Brown, Newman, 1988; Collins, Brown, Holum, 1991 Lave & Wenger, 1991; Clancey, 1995).

The assumptions of situated learning are a useful theoretical basis for practical indications of training creation (especially in relation to didactic aspects), as they assume not only active participation and learning in a team, but also take into account the transfer of knowledge acquired in direct experience in a bunker deprivation training situation to real situations in which these experiences can be used in dynamically changing situations. This learning takes into account individual and group factors, as well as the context and holistic approach of knowledge. In addition to didactic principles, training design should take into account the achievement of the following objectives: training participants should learn about the specifics of the situation in the bunker, including physical, psychological and emotional conditions. This is particularly important in the context of the trainees' ability to adapt their actions to the situation (situational context). During the training, it is necessary to develop the participants' skills in the field of quick reaction and adaptation to dynamic training conditions, acquire the ability to act efficiently and to stay calm in the face of unforeseen situations and behaviors. It is also necessary to develop the ability to react quickly and adapt to changing situational conditions. The aim of these activities is to acquire the ability to better adapt to changing conditions in the situation of bunker deprivation. In the course of the training, effective communication skills should be developed, both interpersonal and those focused on maintaining and connecting. Particular attention should be paid to panic control, understanding messages and conveying information. It is important for the trainees to acquire the ability to solve problems in real time under time pressure and under stress. It is also important to gear the objectives of the training in the bunker towards management and team cooperation in crisis situations. Participants of the training in the bunker should develop organizational skills, division of activities and concentration on the tasks performed, efficient execution of orders (or issuing them), adaptation to the changing situation caused by specific threats. Under stress, these people should be able to quickly incorporate safety procedures and adapt them to the prevailing situation, which requires creative thinking and ongoing problem-solving. It is also necessary to develop individual and group responsibility for the tasks undertaken.

Applications

The use of bunkers as places for situated learning opens up new opportunities for crisis management training and teaching the correct responses to extreme situations. The first one is the simulation of crisis situations whose conditions can recreate real situations in which the participants have to cope with spatial limitations, lack of contact with the outside world, or a situation of bun-

ker deprivation. Conducting training classes in bunkers/shelters allows you to learn how to act in crisis situations. Services (rescuers, doctors, police, firefighters, etc.) can perform various functions (e.g. action managers, participants, people securing resources, rescuers, people responsible for communication). A bunker/shelter is a place with a limited area, so it allows you to carry out exercises in a simulated threat situation. In the conditions of bunker deprivation, services can be trained in providing first aid to the wounded in situations where access to medical aid, means and resources is limited, and in responding to the panic of the population. This is where you can simulate attacks and system failures that require immediate response. People in bunker deprivation situations may have limited access to resources, which requires the ability to manage them well. Participation in bunker simulations allows you to check the knowledge of the services on the principles of evacuation, procedures, management, communication and providing assistance to victims. During the trainings, it is possible to study emotional reactions to group situations and behaviors through observation, measurement of stress reactions, relationships between people, identification of natural leaders. Another area is the development of interpersonal skills, especially communication. Activities in the bunker may be aimed at adapting to difficult conditions (e.g. in the situation of limited access to light, water, sanitary conditions or sleeping places). Training participants have the opportunity to learn or develop strategies for reacting and adapting to extreme situations during the training. The use of bunkers/shelters in service training allows their participants to gain knowledge about the systems that are available in shelters, their operation and resources. The ability to organize an evacuation action, organize communities, and the use of survival techniques are also important. Isolation can affect the behaviour of individuals (e.g. aspects of cultural differences, mastery of stress reactions, panic of other people should be taken into account in training). These trainings require both prior preparation of detailed procedures and knowledge needed to later apply it in the event of a simulated threat. It is also important to discuss the results of the activity in detail with people taking part in such training. The use of bunkers/shelters as places of situated learning allows for the development of skills related to crisis management, as well as learning about human reactions in extreme conditions and ways of coping with difficult situations. Bunkers/shelters are places that allow for the creation of a realistic context of a threat situation, which can contribute to better practical preparation of uniformed services and other groups to take action to protect the lives of the population.

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Bunkier/schron jako miejsce uczenia się sytuacyjnego na przykładzie eksperymentu ochrony życia w warunkach zagrożenia

Streszczenie

Artykuł opisuje założenia eksperymentu i szkolenia przeprowadzonego na terenie koszar Szkoły Wyższej Wymiaru Sprawiedliwości (obecnie Akademii Wymiaru Sprawiedliwości) w Kaliszu. Sześćdziesiąt osób zostało poddanych sytuacji deprywacji bunkrowej przez 12 godzin. Przeprowadzone podczas eksperymentu badania skupiały się na wykorzystaniu bunkrów jako przestrzeni edukacyjnej, w której jednostki uczą się skutecznych strategii ochrony życia w warunkach zagrożenia. Analizy badawcze obejmowały aspekty praktyczne, takie jak fizyczne przygotowanie do sytuacji kryzysowej, oraz psychospołeczne aspekty uczenia się w warunkach stresu. Uczestnicy eksperymentu zostali poddani symulacjom sytuacji kryzysowych. Celem projektu było określenie mechanizmów adaptacji jednostek do sytuacji zagrożenia w kontekście ochrony życia. Schron/bunkier może stanowić przestrzeń wspomagającą sytuacyjne uczenie się, przygotowując jednostki do skutecznego działania w warunkach kryzysowych. W tekście ukazano te elementy teorii i badań z obszaru uczenia się sytuacyjnego, które powinny być uwzględniane w planowaniu dydaktycznym realizacji szkoleń służb prowadzonych w bunkrach/schronach.

Słowa kluczowe: warunki bunkrowe, eksperyment w schronie, sytuacyjne uczenie się, teoria umiejscowionego uczenia się.