



# **Gaming for Mutual Learning in Elder Care GAMLEC**

## **IO 3.1. Educational Framework**



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## Document information

This document presents theoretical and methodological perspectives of educational framework and curriculum design for GAMLEC board game.

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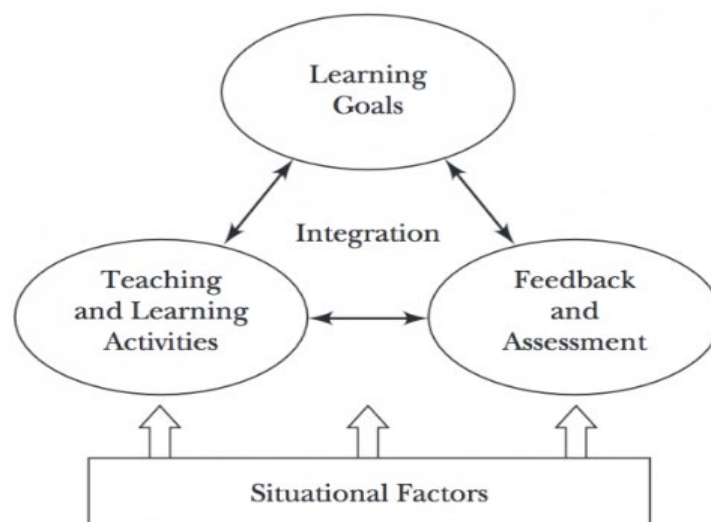
The results of the Erasmus+ project GAMLEC consist of this Educational Framework, of a guide to the design of format of the card content, of the rules of the learning board game for the game version with Game Coach, of the rules of the learning board game without Game Coach, of the learning game cards for adults about the quality of life of nursing home residents, a Compendium, the learning goals, and objectives of the learning board game, the rules of the learning board game, an instruction manual for the game version with Coach, Guidelines for the learning board game, and an interactive E-learning platform. The results are available in English, German, Italian, Dutch and Lithuanian at [www.gamlec.eu](http://www.gamlec.eu).

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## INTRODUCTION

Educational framework is the most essential supporting educational structure, and when designed correctly, it becomes the foundation upon which everything else is built. Item, the educational framework that transforms a vision into a plan of action. Fink (2013) developed Integrated Course Design that includes key components: *Learning Goals*, *Teaching and Learning Activities*, *Feedback and Assessment* and *Situational Factors* (Figure 1).



**Figure 1.** Key Components of Integrated Course Design by Fink (2013).

The educational framework for the learning board game integrate approaches from the theory and practice of game-based learning (GBL). GBL is defined as “learning through the game”. Many authors agree that games could serve as an effective tool. Schrier (2014) notes that it is important to consider “whether a game can teach, but [to also understand] the conditions under which it can (or cannot) help someone learn” (p. 2). Author argues that the design of game for learning requires knowledge of game design and of instructional design. Also, a learning game must be designed to meet pre-specific learning objectives arguing that the set of learning objectives is lacking in a traditional game but must be first and foremost present in an educational one (p. 182). Finally, educational games require specific design skills: they are entertaining, instructional, interactive, visually appealing and replayable.

In the GAMLEC project a learning board game is used as an educational offer for care workers, volunteers and committed family members of dependent residents in care homes. As such, an educational game “must be capable of achieving the stated learning objectives as well as maintaining players’ engagement and motivation” (Santos, 2019).

Educationalists put forward that the educational framework is equally important as the game design. Others refer to this integration as relations between learning components (pedagogy) and game components (game itself), and to the aspect that high-level pedagogical intents can

be translated and implemented through low-level game mechanics. For the elaboration of the educational framework (EF) for the purposes of this project, several theoretical perspectives including Huizinga's (1971) theory of play (as it relates to learning), and Vygotsky's (1978) idea of a social constructivist pedagogy will be considered.

The experiential learning theory is used as some authors underline that this theory is a fruitful basis for integration game play and pedagogy. The experiential learning tradition is relevant for the pedagogy of game-based learning as it contains at least two ideas: 1) people do learn from active engagement with the environment and 2) this experience coupled with instructional support can provide an effective learning environment. The experiential learning theory is a basis of the exploratory learning model developed by de Freitas and Neumann (2009) that is also a component of pedagogy of serious games as well. In this model learning has progressed from didactic to dynamic and collaborative experience; learning is cyclical; learning is exploratory; learning is about constructing and testing ideas and meanings; learning benefits from feedback; learning is motivational; learning is self-regulatory and autonomous; and learning can give rise to feelings of flow in certain circumstances.

The educational framework for the learning board game relates to an approach to the role of trainers in game-based learning. A culture of participation is of the essence. Molin (2017) notes that the participation model should also be viewed as an opportunity to trainer learning and empowerment. In the educational framework, these theoretical ideas are considered in elaboration of the role of game coaches.

Finally, the educational framework is oriented at the learning outcome approach as introduced in the European Qualification Framework. Learning outcomes are defined as 'statements of what a learner knows, understands and what they are able to do on completion of a learning process, which are defined in terms of knowledge, skills and competences' (CEDEFOP, 2014). Learning outcomes makes it easier to assess the match between needs for learning (GAMLEC project's IO1) and the content of a board game (GAMLEC project's IO2).

## 1. THEORETICAL APPROACHES TO LEARNING THROUGH PLAYING GAMES

### 1.1. GAME-BASED LEARNING AND GAMIFICATION

The scientific community is aware that we are just at the beginning of a proper use of gaming technologies for education and training and, in particular, there is a need for scientific and engineering methods for building games not only as more realistic simulations of the physical world, but as means that provide effective learning experiences. This requires an even closer cooperation among the various actors involved in the overall serious game life chain, putting pedagogy in a central role, given the educational target of the serious games. Serious Games represent an important opportunity for improving education thanks to their ability to compel players and to present realistic simulations of real-life situations. The serious game educational potential and actual effectiveness may vary appreciably because of the pedagogical choices made a priori by the game designer (Squire, 2005). Thus, a proper design is key to meet the end-user and stakeholder requirements, that are twofold, on the entertainment and education sides. Some authors argue that several games have “per se” the capacity to elicit and trigger some kind of learning, for instance in the field of reasoning and problem-solving skills (Garris & Ahlers & Driskell, 2002). However, it is undeniable that a fine-tuned pedagogy plays a major role in sustaining learning effectiveness. According to Troussas, Krouska, & Sgouropoulou, (2020), it is important to promote a student centric learning experience, personalization techniques and intelligent methods, which are employed in digital learning environments, including GBL ones (van Roy & Zaman, 2018). According to Hanghøj (2013) games are not viewed as self-explanatory aims or efficient “techniques”, but as more or less open-ended scenarios that may or may not be integrated with the pedagogical and curricular knowledge practices of any context. In this way, game scenarios involve both opportunities and challenges for fulfilling specific learning objectives.

One of the keywords of current board games is “experience”. According to Kolb’s (1984) definition of learning as “the process whereby knowledge is created through the transformation of experience”. In Kolb’s experiential model of learning, individuals are encouraged to reflect on the actions and consequences, to foster understanding and reapplying this understanding to future actions. Kolb defines four possible learning styles: (i) Divergent (feel and watch), (ii) Assimilative (watch and think), (iii) Convergent (do and think) and (iv) Accommodative (do and feel). These Kolb’s styles are possibly interrelated depending on individual preferences and may result in four different outcomes: Concrete Experience (feel), Reflective Observation (watch), Abstract Conceptualization (think) and Active Experimentation (do). A similar cataloguing of learning styles has been proposed by (Fleming and Mills, 1992), that developed a theory – VARK, that categorizes learners: Visual learners (with a preference for tools such as pictures, concept maps), Aural learners (listening and discussion), Reading/Writing Preference learners (textual stimulus), and Kinesthetic or Tactile learners (movement and hands-on practice).

Porting the design pattern concept into the educational games' field, Ketamo and Kiili (2010) has identified a number of patterns, for which he proposed several categories. In the following we briefly sketch how these categories address crucial educational aspects that game designers should take into account when designing educational games.

Firstly, **integration patterns** describe solutions that harmoniously integrate game elements and learning objectives in pedagogically meaningful ways. The integration of learning objectives and gameplay creates the foundation of a game and usually arouses constraints that affect the whole design.

Secondly, **cognition patterns** describe solutions that trigger reflective and metacognitive processes in players and stimulate players to process relevant content experienced through gameplay. Ketamo and Kiili (2010) emphasize the meaning of cognitive feedback in educational games. The aim of cognitive feedback is to grasp a player's attention, focus it on essential learning content and stimulate the player to reflect on his or her experiences and tested solutions in order to further develop his mental models, validation of hypothesis and formation of new playing strategies. The results have indicated that the sooner the player notices the cognitive feedback and grasps its meaning, the more effectively can he play the game.

Thirdly, **presentation patterns** aim to ensure that the player's processing of the content is effective. Learners are challenged to extract relevant information from a game world, select corresponding parts of information and integrate all such elements in a coherent representation. This is demanding, because the game world may change while playing, important information may be presented only a while, and thus it needs to be kept active in working memory in order to allow integration of information. This may impose an excessively high cognitive load and hinder learning. Thus, game designers should consider the cognitive price of every element and that visual effects should be used to highlight the crucial elements. It is not enough that players can cope with challenges, but they need to process game content so to learn. Test results have indicated that players' perception patterns tend to vary a lot and players miss relevant information during playing.

Fourthly, **social interaction and teaching patterns** are interwoven into cognition patterns. They describe solutions that facilitate learning or teaching (trigger reflective and metacognitive processes) through social activities and socially constructed game elements. This pattern category is not restricted to direct game activities, but can also include patterns that guide debriefing sessions, for example. In particular, teaching patterns describe solutions that facilitate teacher's work by providing observation, assessment and participation possibilities. Games could be armed with effective tools that provide diagnostics and summarizations of learners' gaming behavior.

Finally, **engagement patterns** provide a means of wrapping the whole gaming experience into a meaningful and motivating package. They describe solutions that motivate players to perform better in a game, facilitate learning and increase playing time.

Gamification is an important concept to be discussed within educational framework. Gamification is defined as ‘an application of game-design elements and game principles in non-game contexts’ (Robson et al., 2015). Some authors define it ‘as a set of activities and processes to solve problems by using or applying the characteristics of game elements. Gamification commonly employs game design elements to improve user engagement, organizational productivity, flow, learning, crowdsourcing, employee recruitment and evaluation and etc. A collection of research on gamification shows that a majority of studies on gamification find it has positive effects on individuals. However, individual and contextual differences exist (<https://en.wikipedia.org/wiki/Gamification>).

Kim with colleagues (2018) note that ‘Gamification is not just designed for learner fun and enjoyment. It is also an instructional approach that can be used to enhance the effectiveness of instruction on student learning’. Gamification in educational settings let to increase student engagement and motivation, enhance learning performance and academic achievement, improve recall and retention, provide instant feedback on students’ progress and activity, catalyze behavioral changes, allow learners to check their progress and promote collaboration skills (p. 5).

Game design elements are the basic building blocks of gamification applications and as argue Costa (2019) ‘gamification consists of using game elements, in order to reach non-game purposes. As author notes the most common triad, used in gamified experiences are points, badges and leaderboards.

A review of the gamification literature (Chu, & Fowler, 2020; Mora et al., 2017) also highlighted some of the most common game-based elements used in education: points, levels/stages, badges, leaderboards, prizes/rewards, progress bars, storylines, and feedback (Brull & Finlayson, 2016). Gamification allows educators to integrate a few or many of these game-based elements into a learning environment. Similar to game-based environments, gamification aims to increase people motivation and engagement during their learning by providing challenging goals (Faiella & Ricciardi, 2015). However, these two approaches differ on their foundations: game-based learning uses the game environment to teach specific learner outcomes, while gamification focuses on using game-based elements in an education context (Nah et al., 2014; Oritz, Chiluiza, & Valcke, 2016). Similar to game-based learning, many studies have indicated that gamification increased students’ affect and cognition (Dicheva et al. 2015; Mora et al., 2017).

## **1.2. PEDAGOGICAL APPROACHES IN GAME-BASED TEACHING (GBT)**

Hanghøj (2013) analyses the relationship between the pedagogical approaches of the teachers and the embedded pedagogies of the games to be used for teaching. Here, the term pedagogy refers not only to the act of teaching, but also to the values, discourses, and theories of learning that support it (Alexander, 2008).

Hanghøj (2013) identified four different pedagogical approaches among teachers who use games in their classrooms. These approaches include: a) explorative approaches, b) scripted approaches, c) pragmatic approaches, and d) playful approaches. Table 1, below, shows that



each of these approaches involves different perspectives on game scenarios and the forms of learning they can facilitate, i.e. games as inquiry, training/revision, tools, or self-expression. Finally, each of the four approaches also involves different knowledge criteria (Barth, 2002) for validating what kinds of knowledge that can – and cannot – be learned through games.

**Table 1:** Pedagogical approaches to GBT (by Hanghøj, 2013).

Pedagogical Approach	Game As	Knowledge Criteria
Explorative	Inquiry	Produce new knowledge
Drill and skill	Training/revision	Reproduction of knowledge
Pragmatic	Simulation	Realistic knowledge
Playful	Self-expression	Fun and play

Seen from a pragmatic perspective, it is not possible to determine a priori which pedagogies and games will create the most educational value as this issue always depends on the complex interplay between contextual aims, means, and situations for learning (Biesta & Burbules, 2003).

We can analyze how educational games can be used as a teaching method, for instance, by focusing on how games can be understood in terms of multimodal texts, cultural phenomena, and design processes. Thus, distinguishing between three didactical aims for GBT, shown below in Table 2, is helpful (Hanghøj, 2013).

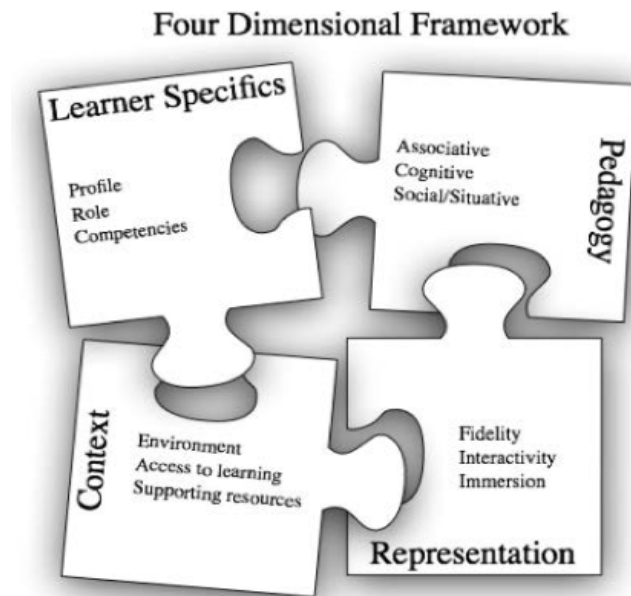
**Table 2:** Didactical aims for GBT.

Didactical Aim	Game As
Teaching <i>about</i> games	Text/cultural phenomenon
Teaching <i>with</i> games	Teaching method
Teaching <i>through</i> game design	Design process and product

As a result, the different pedagogical approaches teachers have toward games cannot be understood without relating them to their didactical aims.

Alongside presented pedagogical approaches it is important to discuss the Fourth Dimensional Framework presented by de Freitas and Oliver (2006, in de Freitas, 2014). This Framework was developed for selecting and using games in formal learning contexts and also supports design and development process of games. This Framework integrates “four generic principles – context, mode of representation, pedagogic approach used and the specifics about the learner – as in need of consideration in order to support effective learning outcomes.” (p.97). As argue author, these four dimensions or factors: *context*, *learner*, *pedagogy* and

representation “need to be taken into consideration when selecting and using games for learning” (p. 98).



**Figure 2.** Author: de Freitas (2014, p. 98).

The Four-dimensional framework offers a starting point for tutors considering using games in their practice, mapping well onto activity theory as well as other pedagogic theories (de Freitas & Oliver, 2006). The framework may be used to frame the selection and use of games in practice, as well as for supporting more critical approaches to considering game-based learning.

## 2. PLAY AS A MODE OF ACTIVITY AND LEARNING

### 2.1. LEARNING THROUGH PLAY

According to Huizinga (1992) who published his book “Homo Ludens” in 1938, play is the essential element of culture, one of “the great archetypal activities of human society”. Huizinga discusses the notion of playing man, *homo ludens*, as opposed to the idea of producing man, *homo faber*, which is related to duty and rigorous work, seriousness, control over nature. Having performed an historic analysis of elements of play in a systematic way, Huizinga aims to prove that numerous forms of culture – poetry, art, performance, dance, religious cults, speech, music, sports – are based on the logic of play, just as they would have been in the past. Play is also present in the roots of such serious activities as war, philosophy, politics, and courts of law. Huizinga provides universal, recurring principles and elements of play.

From the standpoint of form, we can define play, in short, as a free activity, experienced as “make-believe” and situated outside of everyday life, but nevertheless capable of totally absorbing the player; an activity entirely lacking in material interest and in utility. It transpires in an explicitly circumscribed time and space, is carried out in an orderly fashion according to given rules, and gives rise to group relationships which often surround themselves with

mystery or emphasize through disguises their difference from the ordinary world (Huizinga 1992, 31-32).

Historically, play is something unserious, an activity that opposes work or occupation, which requires hard effort. Play is usually associated with freedom, activity based on free will that cannot be imposed. Play is mostly associated with leisure time for relaxation, or time out of work. From the perspective of the development of civilization, if work is done out of necessity, then play is excess, something that does not have material necessity. Another feature mentioned by Huizinga that characterizes play is fictiveness. It is accompanied by a specific awareness of a second reality or of straightforward unreality in relation to everyday life. Play activity seems to happen in real life but is in fact not real. Play deals with uncertainty: its course cannot be determined, nor its outcome reached in advance, a certain latitude for innovation being left necessarily to the initiative of the player (Huizinga, 1992).

According to Mažeikienė and Gerulaitienė (2015) the most important cultural function of play is that it happens because of communication and because of being together. Play happens in a certain space and time, has its own physical and symbolic space, with its own internal order. Rules create the world of play. Play possesses a certain course; rules of the play create the story – stress, equilibrium, balancing, contrast, variance, rising and falling action. Stress is the most important element that creates suspense and instability, chance and opportunity. Play ends with overcoming the stress and resulting in relief and relaxation. Moreover, play implies winning, placing bets, a prize, an award. Therefore, competition and struggle for the first place must be present in play. Evidently, elements of play are implemented through simulation games. However, simulation games are primarily designed with a pedagogical outcome in mind. This brings us to the concept of learning through play, which combines elements of play and seriousness.

Huizinga's theory of playing man notes the importance of play in any activity (including learning). Vygotsky's theory of social constructivism gives us an important theoretical basis that helps to conceptualize the game as a learning mediator. Vygotsky's theory was elaborated with a specific focus on children's cognitive development, however, some of his concepts can be meaningfully applied to the situation under study. Vygotsky (1987) posited that, during a pedagogical process, a child enters "a zone of proximal development" which is the "difference between the child's actual level of development and the level of performance that he achieves in collaboration with the adult" (209). The zone of proximal development is the level of potential which a child can reach performing a task through cultural mediation and collaboration with an adult or with more competent and capable peers. Vygotsky emphasizes not only on cognitive, but also on cultural development, habits and forms of cultural behavior, and cultural methods of reasoning. The child integrates mental processes that are undergone with the assistance of more capable and competent members of the culture (adults and peers) through internalization of culturally-constructed mediational means. If play forms the basis of the cultural activity as Huizinga has explained, then, according to Vygotsky, it could be argued that play is an activity that transfers valuable knowledge accumulated by society. A game (as a concrete form of play) could be seen as a mediator and artifact, as a cultural and educational

tool to be used in the zone of proximal development. It is a tool that could be used to mediate social environments and to internalize knowledge and develop skills in play for various groups of learners.

Since the zone of proximal development described by Vygotsky is used as a model of children's cognitive development, there is a question as to whether the same teleological concept of progress of development could be applied to the development of social competencies. The course of child development described by Vygotsky certainly cannot be applied as such to adult learning. However, certain developmental models in education of intercultural competence, have identified more progressive stages in the process of learning and personal development, which is a life-long process. Hence, Vygotsky's idea about the possible educative role of social interaction could be basically applicable in adult education. In adult education facilitators/teachers aim to encourage the development of players' social skills and moral development, and to lead students towards another level of development of social competence, because they understand the concept of development of intercultural competence and possess certain didactic skills, knowledge and information about logic and the principles of organization of the game to be played, as well as complete information about the game (unlike the players). Tudge (1992) notes that if development is considered to be a teleological process with a certain pre-defined logic of maturity and certain embryonic forms of future development, socialization can be interpreted as involvement in the dominant culture, pre-existing social world, embodied in the adult or more competent peer. At the same time, creation of the zone of proximal development by involving more knowledgeable peers and using mediational tools would mean a transfer of values of tolerance and respect to otherness which are inherent in democratic society.

It is equally important to define how Vygotsky's theory can be applied in the context of peer collaboration, which also plays a strong role in simulation games. Authors such as Tudge (1992), referring to Vygotsky's theory, emphasize the role of collaboration between peers, peer work and interaction in groups in specific problem-based environments. In the case of this study, games as mediational tools provide collaborative, problem-based interaction which is created by the authors of the game, the game as a set of rules, and the roles and activities of facilitators and players.

## **2.2. CROSS-CULTURE/INTERCULTURAL SENSITIVITY AND VALUES**

Cross-culture or intercultural sensitivity, being defined as an attitude reflecting the degree of willingness to interact with people from different cultures, is considered to be crucial to promote dialogue between cultures and social cohesion in today's diverse and globalized world. The issues of intercultural sensitivity are frequently viewed as important in both theoretical analyses of people's adjustment to other cultures and in applied programs to prepare people to live and work effectively in cultures other than their own. An interesting research was carried out by Bhawuk (1992), who attempted to specify exactly what people should be sensitive to when they find themselves in other cultures. Bhawuk (1992) measured

intercultural sensitivity by examining people's understanding of the different ways they can behave depending upon whether they are interacting in an individualistic or a collectivist culture, their open-mindedness concerning the differences they encounter in other cultures, and their flexibility concerning the behavior in unfamiliar ways that is determined by norms of other cultures. The researcher arrived at a practical conclusion for the content of cross-cultural training programs, i. e. people can be encouraged to modify specific behaviors so that they are appropriate to the culture in which they find themselves and so that they will have a greater chance of achieving their goals. Another researcher S. Hurtado (2005) in her description of research findings indicates a relevant pedagogical technique called "relational sculpting" that could be used in order to enhance students' emotional awareness and understanding of other people's perspectives as well as empathy for them. Intercultural sensitivity being interrelated with empathy was also reported by P. Mico-Cebrian, and M. J. Cava (2014) in their research that aimed at establishing the link between intercultural sensitivity, empathy, self-concept and satisfaction with life of 10–13 year-old-students. Their findings revealed that students who had higher levels of emotional empathy, social self-concept and satisfaction with life demonstrated higher intercultural sensitivity. Intercultural sensitivity, being defined by some authors (Ruiz-Bernardo, Ferrández-Berrueco, & Sales-Ciges, 2012) as an attitude reflecting the degree of willingness to interact with people from different cultures, is considered to be crucial to promote dialogue between cultures and social cohesion in today's diverse and globalised world. Some researchers (Brew & Cairns, 2004; Marsella, 2005; Hammer, 2011) look into the importance of intercultural sensitivity in workplace surroundings and the ways how possible intercultural conflicts in workplaces can be avoided. Marsella (2005) argues that we must recognize the power of culture in constructing our realities and the reluctance we have as human beings to tolerate challenges to these realities because they introduce unacceptable levels of uncertainty and doubt. Following a discussion of various examples of cultures in conflict associated with political and religious reasons, the latter provides recommendations for understanding, negotiating, and mediating conflict via the use of cultural understanding, learning, and the development of cultures of peace.

Obviously, there are many classifications of values. Therefore, philosophers are still unable to agree on a hierarchy of values, and there is still a controversial debate among scientists (philosophers, psychologists, scientists of education). A representative of educational philosophy, Terence McLaughlin (1997), for example, claims that most of the discussions in contemporary democratic societies evolve around the choice of moral values. Being a representative of a liberal educational trend, he suggests that there should be societal values which, due to their inevitably fundamental nature, should be obligatory to all the members of the society and personal values that could be chosen by everyone freely. However numerous and complicated the classifications of values might be, there has been a trend to give priority to moral values: solidarity, peacefulness, respect, love, which usually manifest themselves in relationships with oneself, others and the world at large. Some authors (Wick, Freeman, Werhane, Martin, 2010) also suggest that a way out might be universal values, however, many contemporary philosophers reject this idea claiming that the context and culture play a substantial role in shaping morality. On the other hand, others acknowledge that there is a

cross-cultural aspect of morality. Thus, there should be universal moral principles that cut across different cultures and that most people can at least agree, such as fairness, justice, helping others in distress, etc., around which the moral reflection can take place leading to the most appropriate solution for the interested parties in a conflicting situation. As it has been mentioned, intercultural communication and the domain of values are interconnected and are integral components of our daily life, the questions raised in the research are whether conflicting situations in intercultural workplace environments can be primarily viewed from an ethical rather than intercultural perspective.

The Developmental Model of Intercultural Sensitivity (DMIS) created by Milton J. Bennett is a grounded theory based on constructivist perception and communication theory. Developmental Model of Intercultural Sensitivity (DMIS), the framework consisting of six stages of increasing sensitivity to cultural difference, claiming that one's experience of cultural difference becomes more complex and sophisticated, one's competence in intercultural relations increases. Each stage of DMIS indicates a particular cognitive structure that is expressed in certain kinds of attitudes and behavior related to cultural difference (Bennett, 1993). Bennett's model is based on how we subjectively experience differences; he organizes these experiences within a developmental sequence of stages. He presents his model as a tool to diagnose the stage of a given individual or group. He seeks to empower educators with this information so they can create curriculum that facilitate movement through these stages of intercultural sensitivity. His objective is to help us deal with the "concept of fundamental difference," which is the "most problematic and threatening idea that many of us will ever encounter" (Bennett, 1993, pp. 22-24).

Ethnocentric			Ethnorelative		
Denial	Defense	Minimization	Acceptance	Adaptation	Integration
My cultural experience is the only one that is real and valid. There is little to no thought of "other."	"We" are superior and "they" are inferior. One feels threatened and is highly critical. What is strange may be labeled as stupid.	Other cultures are trivialized or romanticized. One tends to deny differences (e.g., "color blind") and only seek similarities.	I accept but may not agree with other cultures. Generally, I am curious and respectful.	I "see" the world through different eyes and make intentional changes in my own behavior and values.	I easily move in and out of different cultural worldviews.

**Figure 3.** The development model of intercultural sensitivity according to Bennet (1993).

**Denial.** The default condition of DMIS is the denial of cultural difference – the failure to perceive the existence or the relevance of culturally different others. Perceptual categories for otherness are not elaborate enough to allow discriminations among different kinds of others, who may be perceived vaguely as "foreigners" or "minorities" or not perceived at all. The constructs available for perceiving one's own culture are far more complex than those



available for other cultures, so people experience themselves as more “real” than others – even to the point that others may not seem fully human. People are disinterested or perhaps even hostilely dismissive of intercultural communication. In organizations, Denial is a condition wherein there are no structures (policies and procedures) to recognize and deal with cultural diversity. The issue experienced as Denial is created when people who prefer stability (sameness) are forced by some circumstance to become aware of others (differentness). This occurs when, for instance, significant numbers of refugees or immigrants enter a community, or when people must face cultural differences in a changing workforce or globalized organization. Initially, the sameness pole is exaggerated while the differentness pole is suppressed; one’s self and compatriots are perceived as complex compared to the simplicity of others. Resolution of the contradiction involves beginning to perceive others in more specific and complex ways. Personally, this occurs when others are personified through media or personal contact. Organizationally, resolution of Denial occurs when difference is acknowledged by procedures such as multiple-language forms or incorporating visual diversity into corporate publications.

**Defense.** When the resolution of Denial issues allows it, people can move into the experience of defense against cultural difference. The perceptual structure of this stage is a dichotomous categorization of “us and them,” where others are perceived more fully than in Denial but also in highly stereotyped ways. People at this stage tend to be critical of other cultures and apt to blame cultural differences for general ills of society; they experience “us” as superior and “them” as inferior. A variation of Defense is reversal, where people switch poles so that “them” are superior and “us” are inferior. People in this form tend to simplistically romanticize or exotify another culture while being more complexly critical of their own culture. In international contexts, the informal term for reversal is “going native.” In domestic contexts, the term “false ally” may refer to a dominant-culture member in reversal who takes on the cause of “oppression” without much experience or understanding. An organization indicates Defense by rhetoric that exalts the superiority of its national cultural roots and its current organizational culture. Occasionally an organization shows reversal by supporting activities for non-dominant others based on simplistic stereotypes (e.g. shopping trips for the assumedly female spouses of conferencing executives, when a) the spouses might not all be female, and b) even if they are female they might not fit the stereotype and could resent having it applied). The contradiction experienced as Defense occurs when “us” and “them” are forced into contact. The greater visibility and exaggerated stereotypes of others generate an experience of threat, fueling redlining, exclusive membership, and other segregationist strategies. When actual contact is inevitable, focusing on power differences (such as privilege or oppression) supports the polarized Defense or reversal experiences. Conversely, resolution of Defense is accomplished by focusing on commonalities – equal humanity, shared values, etc. In organizations, Defense is routinely resolved by team-building exercises that stress mutual dependence and define differences as in-group variations of personality and style. Minimization The resolution of “us and them” allows the move to the minimization of cultural difference. As the term implies, cultural differences that were initially defined in Defense are now minimized in favor of the assumedly more important similarities between self and others.

Those similarities are based on the familiar elements of one's own cultural worldview; people assume that their own experiences are shared by others, or that certain basic values and beliefs transcend cultural boundaries and thus apply to everyone (whether they know it or not). The stressing of cross-cultural similarity generates "tolerance," wherein superficial cultural differences are perceived as variations on the shared universal themes of humanity. However, Minimization obscures deep cultural differences both for individuals and for organizations. At this stage, organizations tend to exaggerate the benefits of unbiased equal opportunity, thus masking the continued operation of dominant culture privilege. Confrontation with these deeper differences may cause people to retreat to the earlier ethnocentric stage of Defense. The Minimization issue for individuals is their desire to project similarity on a wider world and the stubborn resistance of that world to losing its real difference. This means that the more contact people seek out with others in the name of shared values, the more likely it is that they will be forced to confront significant cultural differences. Something similar happens in organizations, where an overstressing of "unity" yields too much uniformity, which forces the organization to decentralize and focus on its diversity, sometimes with the result of divisiveness. In both the individual and organizational cases, resolution of the issue occurs when similarity and difference, unity and diversity, are put into dialectical form: assuming similarity allows us to appreciate differences, and unity provides focus for diversity.

**Acceptance.** Movement out of the ethnocentric condition of Minimization allows cultural difference to be organized into categories that are potentially as complex as one's own. In other words, people become conscious of themselves and others in cultural contexts that are equal in complexity but different in form. The acceptance of cultural difference does not mean agreement – cultural difference may be judged negatively – but the judgment is not ethnocentric in the sense that it is not automatically based on deviation from one's own cultural position. For the same reason that an oenophile wants to learn more about wine or a bibliophile wants to finish the novel, people at Acceptance are curious about cultures and cultural differences. But their limited knowledge of other cultures and their nascent perceptual flexibility does not allow them to easily adapt their behavior to different cultural contexts. In organizations, the rhetoric and support structure for "diversity and inclusion" exists at this point of development, but the incorporation of intercultural sensitivity as a criterion for global or multicultural leadership is not yet established. The challenge (issue) of Acceptance is the need to reconcile cultural relativity with ethicality. People at this stage want to be respectful of other cultures, and for that reason they may adopt the naïve and paralytic position of "it's not bad or good, it's just different." However, all behavior demands that judgments be made (including doing nothing), and the demand is to find a basis of judgment that is not ethnocentric in either Defense (superiority) or Minimization (universalist) terms. One such system that can be applied in both personal and organizational contexts is William Perry's Ethical Scheme (1999). After resolving the ethnocentric ethical positions of dualism and multiplicity, the Scheme demands that decision-makers engage contextual relativism – an understanding of "goodness in context" – before they make an ethical commitment.



**Adaptation.** Resolving the issue of ethicality allows the move to adaptation to cultural difference. The perceptual mechanism is that of “perspective taking” or empathy. This is a kind of context-shifting, assumedly enabled by a neurological executive function, that allows one to experience the world “as if” one was participating in a different culture. This imaginative participation generates “feelings of appropriateness” that guide the generation of authentic behavior in the alternative culture. The ultimate example of this shift in cultural terms is biculturalism, a mirror of bilingualism. In either case, the outcome of the context shift is the competent enactment of alternative behavior that is appropriate to the different context. Organizations at this point of development have policies and procedures that are intentionally flexible enough to work without undue cultural imposition in a range of cultural contexts. The issue of Adaptation is authenticity. If people can shift among several cultural contexts, in which contexts do their true identities reside? The resolution of this dilemma lies in the extension of the definition of identity into a more dynamic container – one that can contain a wider repertoire of ways of being in the world. At an organizational level, Adaptation is the essence of “inclusion” of both global and domestic diversity into organizational processes.

**Integration.** The resolution of authentic identity allows for the sustainable integration of cultural difference into communication. In this integrated condition, communication can shift from in-context to between context states, allowing for the meta-coordination of meaning and action that defines intercultural communication. On a personal level, Integration is experienced as a kind of developmental liminality, where one’s experience of self is expanded to include the movement in and out of different cultural worldviews. Cultural liminality can be used to construct cultural bridges and to conduct sophisticated cross-cultural mediation. Organizations at Integration encourage the construction of third-culture positions based on mutual adaptation in multicultural work groups, with the anticipation that third culture solutions generate added value.

### 2.3. THE CONTEXT OF LEARNING

De Freitas (2014) states that many authors argue that ‘*the context* of learning plays an extremely important role in the *processes* of learning’. Author discusses the education system on national and regional level and indicates socio-political, institutional and disciplinary contexts that do influence a learning process. Using de Freitas logic ‘board game’ for staff in residential care is part of the training system in long-term learning process on national level. In Lithuania there are formalized systems for raising qualification of employees working in residential care. All programs offered for the residential care system have to be accredited in the Department of Supervision of Social Services under the Ministry of Social Security and Labor.

The Netherlands have several educational provisions to become a qualified formal caregiver in residential care. The training in The Netherlands is divided in two mainstream offers: theoretical learning with internships and learning on the job with 1 day per week theory. Both are available on applied sciences level or on VET level. The national Ministry of Education defines the standards of learning; the Inspectorate of Education continuously monitors the quality of the educational offers.

In Italy, continuous training and updating of professionals working in healthcare services – and among them professionals working in residential care homes – is compulsory. Specific training programs are defined by the Italian Ministry of Health guidelines and ruled by regional accreditation systems.

Homes for old age people are institutions that incorporate ‘embodied’ roles. de Freitas with reference to the *Stanford Encyclopedia of Philosophy*, states that organization ‘consists of an embodied (occupied by human persons) structure of differentiated roles. These roles are defined in terms of tasks, and rules regulating the performance of those tasks.[...] Further, these roles are often related to one another hierarchically, and hence involve different levels of status and degrees of authority (de Freitas, 2014, p.19).

‘Game board’ in residential care organizations as an informal education program brings a learner role for staff involved in training. As argue de Freitas (2014), in the modern models of education a learner has to have an active role and has to be not isolated from the wider context of learning.

Further, physical and virtual space has to be considered in any learning process. Playing ‘game board’ in residential care is possible when players (staff, volunteers) have physical space convenient to engage in the game, and also, has all the necessary technological environment (computers, tablets, Internet, etc.). Time dimension is extremely important because we talk about staff members that have a very intensive timetable in their working day.

## 2.4. INTERACTIVITY IN GAME-BASED LEARNING

Ritterfeld, Cody and Vorderer (2009) state that interactivity allows for communication between an individual player and the digital gaming system through different forms of activities. These activities could range from freely exploring the gaming environment, interacting with game elements, to actively seeking information and influencing the trajectories of game play through decision making and subsequent actions. It is a distinct and crucial gaming feature that allows for “more degrees of freedom in communication choices” (Klimmt & Vorderer & Ritterfeld, 2007, p.170) (see also Vorderer, 2000). Noninteractive format, on the other hand, does not allow for any forms of interaction between player and the gaming system. These functions of interactivity have critical implications for learning. Interactivity could potentially promote player engagement through both behavioral participation and cognitive processing (Wouters & Tabbers & Paas, 2007; Kennedy G., 2004). The behavioral responses in game could help enhance player involvement and participation, thus boosting learner interest and enabling more active learning processes. Instant reactions allow for quick feedback loops to provoke deeper thinking and learning with player engagement in the plot development through dialogues, constant decision-making, and sense-making of previous decisions, which can be limited in television and radio programs due to airtime constraints. With player’s personal well-being at stake (Garris R. et al., 2002; Klimmt, et al., 2007) the situated learning becomes more powerful in stimulating and sustaining changes through increased player engagement and participation. According to Pivec (2007) it is necessary to provide a complex level of interactivity stimulating the users’ engagement, and to apply different interactivity concepts such as object, linear, construct or hyperlinked interactivity, no immersive contextual interactivity as well as immersive virtual

interactivity. Despite many decades of research, the present e-learning solutions still focus on technology instead on instructional support and support of learners'; needs. Educators often compare video games to the act of teaching and do not always embrace the cognitive learning that modern commercial computer games can offer. Yet being an e-learner means often being confronted with boring and poorly structured learning materials in the form of pdf files and PowerPoint, learning within learning management systems where interactions prove to be complicated, and where the entire e-learning process is, in most cases, still focused on the replication of facts and data instead of challenging the learner and enabling active interaction with the knowledge.

Based on the model of game-based learning by Garris, Ahlers and Driskell (2002) it is important to consider how and when learning occurs when learners interact and play a game. The main characteristic of an educational game is the fact that instructional content is blurred with game characteristics. The game should be motivating, so that the learner repeats cycles within a game context; Garris et al termed this persistent reengagement, where the player returns to the task unprompted. While repeating to play a game, the learner is expected to elicit desirable behaviors based on emotional or cognitive reactions that result from interaction with and feedback from gameplay. In Figure 1, one can see the debriefing process between the game cycle and the achievement of the learning outcomes. Debriefing provides a link between simulation and the real world, draws a relationship between the game events and real-world events and connects game experience and learning. This part of the model corresponds, as Kolb, Rubin and McIntyre (1971) have written, to the 'doing, reflecting, understanding, and applying' process of study in a game.



**Figure 4.** Model of game-based learning by Garris et al. (2002)

Salmon (2013) identified five stages of interactivity for e-learning, including Stage 1 access and motivation, Stage 2 online socialization, Stage 3 information exchange, Stage 4 knowledge construction and Stage 5 development. Salmon believes that the stages require students to progressively increase their level of interactivity, resulting in higher levels of learning. Wang (2010) studied how social network position relates to knowledge building in online learning communities. Within learning communities, there are central and peripheral roles and Wang posited that actors within the learning community have different levels of knowledge building capability according to their role. He referred to five levels of roles: periphery, semi-periphery, opinion leaders, meaning negotiators and brokers. It is important to note here that these roles are in relation to social network position within the learning community and can be adopted

by either teacher or student. Roblyer and Wiencke (2004) offered a rubric for assessing interactive qualities in distance courses: Element 1 social/rapport-building designs for interaction, Element 2 instructional designs for interaction, Element 3 interactivity of technology resources, Element 4 evidence of learner engagement and Element 5 evidence of instructor engagement. However, the rubric provides little information on how much instructor interaction is required to take advantage of the pedagogical benefits of online threaded discussions (Mandernach, Gonzales, & Garrett, 2006).

Jensen (1998) subdivides interactivity to four sub-notions: “transmissional interactivity”, “consultational interactivity”, conversational interactivity” and “registrational interactivity”. The first two sub-concepts of interactivity are associated with making choices. Transmissional interactivity “lets the user choose from a continuous stream of information in a one way media system without a return channel” (p. 201). Consultational interactivity allows the user to choose “by request, from an existing selection of preproduced information in a two-way media system” (p. 201). Conversational interactivity “lets the user produce and input his/her own information in a two-way media system” (p. 201). Registrational interactivity is “a measure of a media’s potential ability to register information from and thereby also adapt and/or respond to a given user’s needs and actions” (p. 201). An essential factor of Jensen’s definitions of interactivity is their connection to the medium. This definition seems to be close to the interaction studies in informatics. Consistent with this approach, Kiouisis (2002) suggests two additional elements: *“Interactivity can be defined as the degree to which a communication technology can create a mediated environment in which participants can communicate (one-to-one, one-to-many, and many-to-many), both synchronously and asynchronously, and participate in reciprocal message exchanges (third-order dependency). With ... human users, it additionally refers to their ability to perceive the experience as a simulation of interpersonal communication and increase their awareness of telepresence”* (p. 372).

Fisk, Rogers, Charness, Czaja, and Sharti (2009), who conducted several focus groups with elderly people, found that more than 50% of the problems reported by participants in using technological tools related to usability, and they could be solved by improving the design (25%) or by providing training (28%). Input and output devices are particularly delicate because they involve an interaction with the sensory or perceptual system of the user; those user systems undergo several changes with age that can hamper usability. Fisk et al. (2004) consider “usability” as the possibility to have access to a product; they define “utility” as the capability to provide the functionality the product possesses.

They also identify five characteristics related to usability that are particularly important when speaking about older adults: 1. **Learnability**: how difficult it is to learn to use a device and to understand and to integrate functioning instruction. Time needed to complete a task correctly and results obtained in a certain amount of time are possible measures of learnability. 2. **Efficiency**: the extent to which technological applications satisfy users’ needs, avoiding loss of time, frustration, and dissatisfaction. Efficiency can be measured by an experienced user’s performance on a specific task. 3. **Memorability**: elderly users’ memorability of a device’s functioning is very important in order to avoid frustration and loss of time. A simple measure of this characteristic can be obtained by considering the time needed to perform a previously

experienced task. **4. Errors:** how easily a product can induce errors for elderly users and how easily it recovers from them. **5. Satisfaction:** users' attitude and adoption of technological applications could be influenced by the pleasure derived from their usage.

It is very important to ensure the dependability of an interactive system. The dependability of a computer system reflects the extent that a system can be trusted to operate without failure in a particular environment (Sommerville & Dewsbury, 2007). The attributes of dependability include availability, reliability, safety, confidentiality, integrity and maintainability. The means by which dependability can be achieved are within the notions of fault prevention, fault tolerance, fault removal, and fault forecasting (Laprie, 1995). Furthermore, an engaging educational game should not only provide course content, but also facilitate the flow of experiences of learners (Kiili, 2005). This study was interested in exploring the relationship between the usability and dependability of the computer system environment and the elders' flow experiences. Flow is the mental state of operation in which the person is fully immersed in what he or she is doing by a feeling of energized focus, full involvement, and success in the process of the activity.

Csikszentmihalyi (1993) developed the concept of flow and identified the following nine factors as accompanying experiences of flow: **1. Clear goals** (expectations and rules are discernible and goals are attainable and align appropriately with one's skill set and abilities). **2. Concentrating and focusing**, a high degree of concentration on a limited field of attention (a person engaged in the activity will have the opportunity to focus and to delve deeply into it). **3. A loss of the feeling of self-consciousness**, the merging of action and awareness. **4. Distorted sense of time**—one's subjective experiences of time is altered. **5. Direct and immediate feedback** (successes and failures during the activity are apparent so that behavior can be adjusted as needed). **6. Balance between ability level and challenge** (the activity is neither too easy nor too difficult). **7. A sense of personal control over the situation or activity.** **8. The activity is intrinsically rewarding so there is an effortlessness of action.** **9. People become absorbed in their activity, and the focus of awareness is narrowed down to the activity itself.**

### 3. THE AIM OF EDUCATIONAL FRAMEWORK AND CURRICULUM DESIGN

#### 3.1. THE MATRIX OF A CURRICULUM

The aim of the educational framework is to construct learning components that support learning through board game for promotion of awareness for the quality of life of care home residents through self-reflection, critical thinking and empathy of paid staff, volunteers and relatives of care home residents.

To implement the aim of educational framework curriculum design has to be elaborated. Curriculum design is a term used to describe the purposeful, deliberate, and systematic organization of curriculum (instructional blocks) within a course (Schweitzer, 2019). Author presents three types of curriculum design: There are three basic types of curriculum design. The first is *subject-centered* design, that considers a particular subject matter or discipline. The second, *learner-centered* design takes each individual's needs, interests, and goals into consideration. The third, *problem-centered* design could be considered as a form of learner-centered design and it focuses on teaching learners how to look at a problem and come up with a solution to the problem. So, learners face real life problems and through the learning process develop skills that are transferable to the real world. This design allows learners to be creative and innovate as they are learning. The disadvantage of this form of curriculum is that it does not always take into consideration learning styles of individual learner (Schweitzer, 2019).

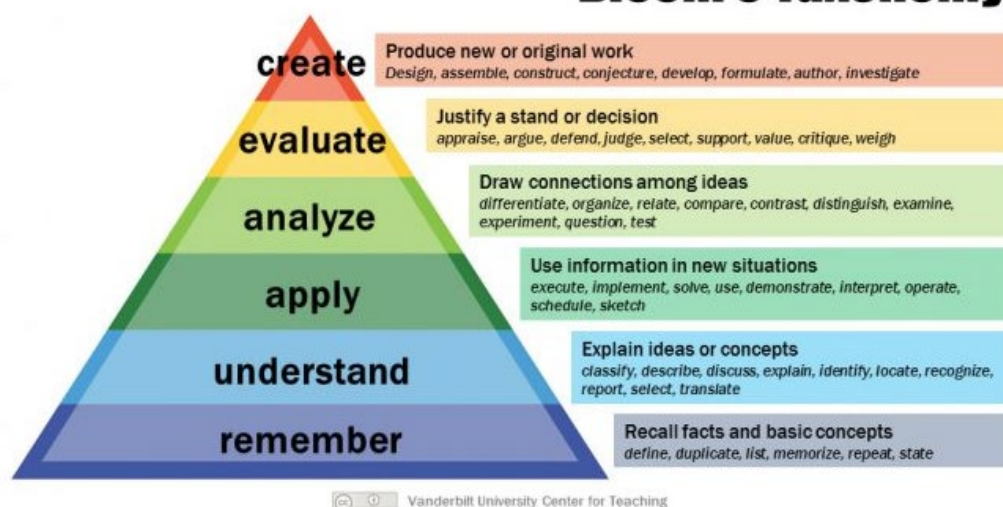
The aim of the GAMLEC project is to provide training that promotes awareness for the quality of life of care home residents through raised awareness, teamwork, sharing knowledge and comparing the different perspectives of paid staff, volunteers and relatives of care home residents. In our project the quality of life of old age people living in residential care is understood as interplay between autonomy, social participation and dignity of the elderly. The *problem-based* design could be considered as the best way to seek the aim of the project.

Traditionally, the Curriculum design starts with identifying stakeholders needs. We found out these needs in part through the development of 'European Compendium on criteria for the quality of life of care home residents' (IO1). In this compendium elaborated dimensions and subcategories of quality of life of older people living in residential care were used as guidelines for constructing learning goals and outcomes.

Creating a list of learning goals, objectives and learning outcomes is the second stage in the development of Curriculum design. Learning goals are the things teachers want students to achieve in the course. Learning outcomes are the measurable knowledge, skills, and attitudes that students should have achieved in the course. Construction of learning goals, objectives and outcomes was made using a logic of Bloom taxonomy, that include six levels of learning (Figure 5).



## Bloom's Taxonomy



**Figure 5.** Bloom's Taxonomy by Patricia Armstrong (<https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy>).

We constructed three learning goals corresponding to three *dimensions* of quality of life of older people living in residential care: autonomy, social participation and human dignity. The content of learning objectives is corresponded to *criteria* developed in 'European Compendium on criteria for the quality of life of care home residents' (IO1) (See tables 4,5,6). In matrix we included themes that correspond with *rationale* presented in Compendium.

Therefore, Curriculum matrix is composed from: learning goals, learning objectives, themes or learning content and learning outcomes.

**The first Learning Goal** - to raise the knowledge and awareness about the meaning of personal autonomy for quality of life of care home residents through playing a board game and to promote self-reflection, critical thinking and empathy of players (paid staff, volunteers, relatives) (See table 3).

**Table. 3.** Learning objectives, themes and learning outcomes of the first learning goal.

Learning objectives	Themes	Learning outcomes
1.1. To critically discuss individually oriented planning of care and provision of funding for care residents.	An individual care plan is drawn up in accordance with the person in need of care and/or their relatives. Knowledgeable employees offer help in applying for care, social and health insurance benefits.	1.1. Learners will be able to name real situations for individually oriented planning of care and provision of funding for care residents.
1.2. To reflect practices for	Attention is paid to offering a varied	1.2. Learners will be able

provision of meals and treats according to individual preferences of care residents.	<p>food menu.</p> <p>The food on offer is appetizing and visually appealing.</p> <p>Residents have the opportunity to drink coffee, tea or water at any time of the day.</p> <p>Residents have the opportunity for eating meals in private.</p> <p>Residents have the opportunity to obtain and consume alcoholic beverages. Smokers have the opportunity to obtain cigarettes and smoke within the facility.</p>	to differentiate the individual needs for provision of meals and treats according to individual preferences of care residents.
1.3. To reflect practices in provision of support in living one's life autonomously.	<p>The physical environment supports the autonomy of care home residents. In private and community rooms of the facility the special needs of people with disability are met.</p> <p>Residents with or without mobility restrictions have the opportunity to leave and return to the facility as they wish.</p> <p>The independence of the residents in body care and cosmetics is supported.</p> <p>Residents who need help in dressing look well-groomed.</p> <p>Residents who need help in eating and drinking receive adequate support.</p> <p>The use of aids, such as putting on glasses, attaching hearing aids or inserting dentures is supported, where needed.</p>	1.3. Learners will be able to recognize best practices in provision of support in living one's life autonomously with empathy.
1.4. To demonstrate practices for support of resident's autonomy in procuring and spending money.	<p>Assistance in the procurement of cash is provided on request.</p> <p>Residents can purchase everyday necessities on their own.</p>	1.4. Learners will be able to share practices for support of resident's autonomy in procuring and spending money.
1.5 To classify practices for promotion of continuity of resident's cultural habits and individually meaningful activities.	<p>Participation in church services or other religious events is made possible.</p> <p>Cultural eating habits are taken into account.</p> <p>Breakfast, lunch and dinner can be chosen within sufficiently big time</p>	1.5 Learners will be able to sketch best practices for promotion of continuity of resident's cultural habits and individually meaningful activities.



	slots for the usual mealtimes. Participation in the preparation of meals is made possible. Pursuing individually meaningful activities is promoted. Keeping pets for company is permitted.	
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**The second Learning Goal** - to raise the knowledge and awareness about the need for social participation of care home residents through playing a board game and to promote self-reflection, critical thinking, and empathy of players (paid staff, volunteers, relatives) (See table 4).

**Table. 4.** Learning objectives, themes and learning outcomes of the second learning goal.

Learning objectives	Themes	Learning outcomes
2.1 To discuss knowledge and practices for facilitating accessibility to public spaces and facilities for old age residents.	Common rooms are designed in a way that the residents can easily orient themselves. The outdoor area is barrier-free and can be used by residents with mobility restrictions. Corridors and common rooms are inviting. The color and light design of common areas and rooms is appealing. The building environment supports the participation of care home residents.	2.1. Learners will be able to demonstrate knowledge and understanding about practices for facilitating accessibility to public spaces and facilities for old age residents.
2.2. To classify activity offers corresponding to individual interests and needs.	The residents' personal history forms the basis for activities offered and the development of actual skills. Activities are offered that promote physical activity, stimulate the mind and take into account different interests and health conditions. Non-pharmacological therapies are offered. The range of activities is varied and multifaceted. Activities on offer take into account new and innovative options. Residents are offered the opportunity to volunteer at the facility.	2.2. Learners will be able to list activity offers corresponding to individual interests and needs.
2.3. To recognize practices for	Contact with circles of friends and	2.3. Learners will be

promotion of relations with friends and relatives.	<p>acquaintances from times before moving into the care home are promoted.</p> <p>The development of trusting relationships and friendships among the residents is encouraged.</p> <p>Residents are supported in writing cards and letters to their friends and other persons to whom they are close.</p> <p>Residents have the opportunity to communicate via the Internet and are supported in using new technologies.</p> <p>There are rooms and communications areas for resident meetings with their relatives and other persons of trust.</p> <p>Relatives and other trusted persons are involved in care and invited to work as volunteers.</p>	able to name good practices for promotion of relations with friends and relatives.
2.4. To demonstrate knowledge and practices for promotion of participation of care home residents in the local community.	<p>Residents are supported in making use of offers in the local environment.</p> <p>Visits by local people and other guests are encouraged.</p> <p>Communication about current events in the institution and in the municipality is promoted.</p>	2.4. Learners will be able to demonstrate specific knowledge and practices for promotion of participation of care home residents in the local community.
2.5. To demonstrate knowledge and practices for promotion of co-determination and participation in social and political events.	<p>A collective viewing of films and television broadcasts is encouraged.</p> <p>Residents can participate in the governance of the care home.</p> <p>Support in exercising the right to vote is provided upon request.</p>	2.5. Learners will be able to demonstrate knowledge and practices for promotion of co-determination and participation in social and political events.

**The third Learning Goal** - to raise the knowledge and awareness about the meaning of human dignity for the quality of life of care home residents through playing a board game and to promote self-reflection, critical thinking and empathy of players (paid staff, volunteers, relatives) (See table 5).

**Table. 5.** Learning objectives, themes and learning outcomes of the third learning goal.

Learning objectives	Themes	Learning outcomes
LO 3.1 To explain the meaning	A code of ethics exists that rules	3.1. Learners will be able to

of Code of ethics in residential care facility.	the conduct of paid staff and volunteers in situations where interests of the care home residents can be harmed. Physical or pharmacological restraints are avoided whilst a reasonable level of safety is maintained.	describe main ethical principle presented in Code of ethics.
LO 3.2. To choose respectful communication style in communication with old age residents.	<p>The tone of staff and volunteers towards the residents is friendly and respectful.</p> <p>Residents can determine how care home staff and volunteers will address them.</p> <p>People suffering from dementia are accepted and respected with their special needs and characteristics.</p> <p>Attention is paid to speaking slowly and clearly and gesticulating appropriately.</p> <p>Residents are personally congratulated on birthdays or other important events.</p> <p>Written house rules communicate useful information and do not educate the residents.</p>	3.2. Learners will be able to determine respectful communication practices and strategies to avoid discrimination of old age residents.
LO 3.3. To illustrate practices for supporting self-determination and privacy in one's living area.	<p>Before entering the residents' rooms, staff and volunteers knock on the door and wait for permission to enter.</p> <p>The residents are able to lock their rooms.</p> <p>The residents can furnish their living area according to their own wishes and are supported in doing so.</p> <p>In supporting the furnishing with personal objects, attention is paid to the field of vision of bedridden residents.</p> <p>During certain periods, the residents are not disturbed in their rooms.</p>	3.3. Learners will be able to list good practices for supporting self-determination and privacy in resident's living area through sharing experiences.

	Telephone calls are private and undisturbed. Postal privacy is observed.	
LO 3.4. To model good practices for promotion of respect of intimacy of old age residents.	During nursing activities, the privacy of the residents is protected. Nursing can be received from persons of the same sex. Sexual activities and relationships among residents are respected. Lesbian, gay, bisexual, and transgender persons are not discriminated against.	3.4. Learners will be able to share good practices for promotion of respect of intimacy of old age residents.
LO 3.5. To present practices for promotion of dignity in the last phase of life.	In case of ambiguities concerning the organization of the final phase of life and the procedure to be followed after death, relatives or other trusted persons are consulted to comply with the presumed will of the person concerned. Pain management (assessment and treatment) and palliative care are guaranteed. Partners, friends, relatives and other residents are given time to say good-bye.	3.5 Learners will be able to share good practices for promotion of dignity in the last phase of life.

### 3.2. DEFINITION OF A GAME AND GAME ELEMENTS

Juul (2003) describes a game as “a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable”. Author summarizes and presents the list of authors who proposed definition of a game (See figure 6).

Source	Definition
<b>Johan Huizinga 1950, p.13.</b>	[...] a free activity standing quite consciously outside "ordinary" life as being "not serious", but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means.
<b>Roger Caillois 1961, p.10-11.</b>	[...] an activity which is essentially: Free (voluntary), separate [in time and space], uncertain, unproductive, governed by rules, make-believe.
<b>Bernard Suits 1978, p. 34.</b>	To play a game is to engage in activity directed towards bringing about a specific state of affairs, using only means permitted by rules, where the rules prohibit more efficient in favor of less efficient means, and where such rules are accepted just because they make possible such activity.
<b>Avedon &amp; Sutton Smith 1981, p.7.</b>	At its most elementary level then we can define game as an exercise of voluntary control systems in which there is an opposition between forces, confined by a procedure and rules in order to produce a disequilibrium outcome.
<b>Chris Crawford 1981, chapter 2.</b>	I perceive four common factors: representation ["a closed formal system that subjectively represents a subset of reality"], interaction, conflict, and safety ["the results of a game are always less harsh than the situations the game models"].
<b>David Kelley 1988, p.50.</b>	a game is a form of recreation constituted by a set of rules that specify an object to be attained and the permissible means of attaining it.
<b>Katie Salen &amp; Eric Zimmerman 2003, p.96.</b>	A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.

**Figure 6.** Definitions of game. Author: Juul, 2003.

Juul (2003) proposed a new definition of game that includes 6 game features. **That is:**

1. **Rules:** Games are rule-based.
2. **Variable, quantifiable outcome:** Games have variable, quantifiable outcomes.
3. **Value assigned to possible outcomes:** That the different potential outcomes of the game are assigned different values, some being positive, some being negative.
4. **Player effort:** That the player invests effort in order to influence the outcome. (I.e. games are challenging.)
5. **Player attached to outcome:** That the players are attached to the outcomes of the game in the sense that a player will be the winner and "happy" if a positive outcome happens, and loser and "unhappy" if a negative outcome happens.

6. **Negotiable consequences:** The same game [set of rules] can be played with or without real-life consequences.

### 3.3. TOWARDS A BOARD GAME DESIGN

Quinn (2005) argues that educational games need to be designed properly to find a balance between learning objectives and gameplay. The matrix presented below (Table 6) allows to combine learning goals and outcomes with elements of the game. In GAMLEC Board Game six categories of cards (IO2) were created. Five card categories were created for playing without a coach and one for playing with a coach. Table 6 shows the card numbers for a game without a coach by assigning them to the corresponding learning outcome.

**Table 6.** Matching Learning Goals, Learning Outcomes and Boards Game Design (categories of cards and number of cards).

Board Game Design (IO2 categories of cards)	1 <sup>st</sup> Learning Goal: to raise the knowledge and awareness about the meaning of personal autonomy for quality of life of care home residents through playing a board game and to promote self-reflection, critical thinking and empathy of players (paid staff, volunteers, relatives).				
	LO 1.1.	LO 1.2.	LO 1.3.	LO 1.4.	LO 1.5.
1.1. Beneficial to Quality of Life	1;2	3;4;11	10;20	18;27	14;28;29;33; 34;37
1.2. Good Fairy		41;42;46	43;47;53		
1.3. Detrimental to Quality of Life	58;94	63;64;72;69; 70;71	59;61;62;67; 75	73	65;68;81
1.4. Evil Fairy		76;99;104	98		105;106
1.5. Cards for professionals	113				
Board Game Design (IO2 categories of cards)	2 <sup>nd</sup> Learning Goal: to raise the knowledge and awareness about the need for social participation of care home residents through playing a board game and to promote self-reflection, critical thinking, and empathy of players (paid staff, volunteers, relatives).				
	LO 2.1.	LO 2.2.	LO 2.3.	LO 2.4.	LO 2.5.
2.1. Beneficial to Quality of Life	16;19;38	15;15;31;32	5;6;7;8;9; 12;17;21; 22	24;25;36	26
2.2. Good Fairy		50;51;52	23;30;54	44;45	49

2.3. Detrimental to Quality of Life	82;83	95	77;84		85
2.4. Evil Fairy		97			
2.5. Cards for professionals		111;114;115	116		
<b>Board Game Design (IO2 categories of cards)</b>	<b>3<sup>rd</sup> Learning Goal:</b> to raise the knowledge and awareness about the meaning of human dignity for the quality of life of care home residents through playing a board game and to promote self-reflection, critical thinking and empathy of players (paid staff, volunteers, relatives).				
	<b>LO 3.1.</b>	<b>LO 3.2.</b>	<b>LO 3.3.</b>	<b>LO 3.4.</b>	<b>LO 3.5.</b>
3.1. Beneficial to Quality of Life		60	40		39
3.2. Good Fairy			55	56;57	
3.3. Detrimental to Quality of Life	79	74;86	78;87;88;89;93	90	80;91;92
3.4. Evil Fairy	101;108	96;100;109	103;107	102;110	
3.5. Cards for professionals	118	117			



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