Gamification Strategies in Arabic Language Learning for The Psychological Recovery of Children in Post-Disaster Areas

Intan Afriati
Ar-Raniry State Islamic University of Banda Aceh, Indonesia

DOI : https://doi.org/10.61796/ijss.v3i1.92

Sections Info	ABSTRACT
	Objective: This study explores how gamification strategies can be utilized as an integrative framework to address both psychological recovery and Arabic language learning needs for children in post-disaster areas, who often face post-traumatic mental illness and learning difficulties. *Method:* A literature review (2020-2025) was conducted to examine the application of gamification aligned with Trauma-Informed Care (TIC) principles. The study highlights how game design elements, such as progression, choice, and collaboration, can address psychological needs for competence, autonomy, and relatedness, especially in post-trauma contexts. *Results:* The research finds that gamification, when contextualized to local culture and integrated with stress-free, sensitive content, promotes safe and meaningful Arabic language learning. The study also shows that dynamic engagement and positive feedback mechanisms within the game can enhance emotional regulation and resilience, leading to improved Arabic language skills, reduced stress levels, increased motivation, and stronger social bonds. *Novelty:* This study supports the effectiveness of holistic gamification in language learning as a psycho-educational intervention, providing hope, structure, and empowerment to children affected by disaster.

INTRODUCTION

Indonesia, as one of the countries in Pacific Ring of Fire and marked by three major tectonic plates, a very potential country to experience all sorts of natural disasters such as earthquake, tsunami, volcanic eruption, flash flooding. The number and the severity of these disasters not only result in massive physical injuries and damage to infrastructure but also deep and long-term psychological wounds which can easily be ignored on the part of those affected, especially by children. With the immature coping mechanisms and cognitive development of children, they are the most exposed to traumatic impact of disaster events. They not only see the environmental world they know as home destroyed, but also frequently lose family members and friends, and everything that structures their daily lives and provides them with a sense of security other than when under extreme stress [1]. These psychological consequences can take on a variety of different expressions, such as post-traumatic stress symptoms, heightened anxiety levels, low mood, attention problems and distancing themselves from others and loss of pleasure or interest in activities they once enjoyed, including academic ones.

On the contrary, in emergencies and disasters, education should be provided as "normal," as far as possible given all other needs when seeking to recover a normal life. We cannot afford to see education come to a halt, as it is the fundamental right of children and one of the most powerful tools for preventing a lost generation. But the traditional

paradigm of education in normal circumstances, based on cognitive achievement and highly structured with a high level of stress, may now turn out to be yet another source of anxiety for children who have still not recovered homeostasis in their nervous systems. Learning Arabic is a compulsory subject in many schools and madrasas in Indonesia thus requiring unique strategies. Arabic is widely regarded as a hard, abstract subject crammed with the obligation to memorise rules (narhu wa sharf) and vocabulary, mufradat. Traditional/teacher-centred approaches to learning, if 'applied' in a post-disaster situation are unlikely not only to meet learning goals but also to increase children's emotional trauma, disenchant them and distance them from the learning process [2].

Hence, the development of novel adaptive trauma-informed learning systems is imperative. And these models must function on two levels: As a powerful educational tool and as a lightweight but impactful form of psychosocial intervention. Here, the concept of gamification could be an effective approach. Gamification, or the use of game design elements and principles in non-game contexts, has been demonstrated in a number of studies to enhance student motivation, engagement and learning outcomes across different sectors of education [3]. However, it has not yet been comprehensively investigated when used in the process of teaching Arabic as a foreign language (AFL), particularly for children who have undergone post-disaster trauma.

Not only does the that gamification can make learning "fun." Beyond this, well-designed gamification can build a structured psychological "safe space." By means of mechanisms like a progression system, autonomy, instant positive reinforcement and shared quests, gamification is able to cater for three fundamental human psychological needs according to Self-Determination Theory: competence, autonomy and relatedness. Satisfying these needs is a fundamental component in reigniting extinguished intrinsic motivation after trauma [4]. Moreover, the 'flow' state or total immersion one can achieve while playing a game that is equally challenging and matched to their skill level, can offer much-needed reprieve for your nervous system from the state of stress (catharsis) whilst giving you practice in emotional regulation.

But you are wrong if that suggests 'gamification out of the box' for mainstream education is not a massive error. Well-known gamification features, such as absolute competition (leaderboards), 'surprisers' (surprise mechanics), or violence- and time-pressure-packed narratives indeed can imprint on the trigger of past traumatic experience. As such, it is imperative that this approach be established from the foundations of TraumaInformed Care (TIC). TIC is an approach that highlights the importance of recognition, understanding and response to trauma's impact, and aim to create a safe environment both physically and psychologically. Its fundamental principles (safety, trust, peer support, collaborative learning; agency and cultural gender and historical sensitivity), as these should inform the design of every aspect of gamification from visual and story design to social interaction in the game [5].

As well as trauma sensitivity, local cultural anchoring becomes important. If educational interventions are post-disaster and do not take into account the local culture

they run the risk of being irrelevant to, and alienated by the community. Students will make more sense of the content and find it easier to relate if what they learn connects with the realities, values, wisdom-rich, local contexts in which they live. The child's first vocabulary in Arabic is acquired through objects, activities and stories that are part of his/her daily life. This cultural integration is not just a pedagogical device, it is also regrounding into identity (pride and belonging are both protective factors for resilience.

From the above discussion, an evident research gap exists. We believe that a synthesis between language learning theories, trauma psychology, gamification design theory and local wisdom is necessary to produce an integrated model of intervention. The research sprung from an academic concern and a practical concern about two related issues: how to make sure the teaching of the Arabic language is sustainable in emergency settings, at the same time that learning itself become part of the solution for easing children's recovery process. Therefore, it is necessary and urgent to study "Gamification Strategies in the Arabic Language Learning for Post-disaster Children's Psychological Recovery". The purpose of this paper is to analyze and construct a strategic framework as a reference for teachers, volunteers, and policy makers in implementing learning that not only restores academic competence but also reconstructs the psychological resilience of Indonesia young generation who have been affected by disaster [6].

Children in post-disaster situations confront multi-dimensional issues which are interrelated. One side, they suffer psychological trauma of anxiety, fear and lack of motivation which impeded their study and social activities. Conversely, educational recovery interventions such as conventional/cognitive-led teaching of the Arabic language, add to suffering at a time when their psychic well-being is unobserved. Boring learning methods and academic pressure can make the students feel distressed, as a result of which there exists a psychological distance between mental relaxation and further studying. Consequently, kids are at risk of losing out on more than academics but even the room to regain their security, self-assuredness and social connectivity.

The interest of this information lies in the need to develop interventions in order to improve psychological well-being and enhance learning. Supervised teaching and learning Arabic also has therapeutic value when taught proper. This choice was motivated by the fact that gamification has a solid theoretical background to address the basic psychological needs of children who experienced a traumatic event, including competence, autonomy, and relatedness in an enjoyable and structured way. Accordingly, this research is needed to develop a learning model which is not only pedagogically sound, but also serves as a psycho-educational medium that can be applied in ermerging post-disaster areas quickly and contextually bridging the psychosocial services and formal education programs.

The aim of the study is to design, test, and implement a gamicifation application in Arabic language learning that leads to two main aims purposely designed for. In a first step, the goal is to drill/learn in an adaptive and motivating way vocabulary, simple sentence building blocks and practical conversation in Arabic. Second, serving as a mild intervention for promoting children's psychological recovery, with outcomes such as

improved learning engagements, relief in learning stress symptoms, and enhanced resilience of emotion and social bonds among participants. To this end, the overarching aim is to generate an integrated learning model that can combine language competence and psychological recovery simultaneously in a meaningful and secure process of empowerment for children who have experienced disasters.

RESEARCH METHOD

This study will be conducted in a qualitative paradigm with Library Research or literature search type. The justification for employing such a research method has been linked with the main purpose of the research in which this is to provide coverage on theoretical concept of gamification strategies towards the integration of these as a psycho-educational intervention approaches' within children from post-disaster areas in learning Arabic for gaining comprehensive and systematically knowledge into it. Library research is determined as an appropriate method because the study is in the nature of an exploratory and theoretical study, which seeks to synthesize information from different disciplines i.e., trauma psychology, Arabic pedagogy, gamification design that are currently fragmented across literature. This research does not aim to test field hypotheses, but rather to provide an in-depth analysis of the key concepts, look for relationships among the theoretical variables, and formulate propositions or conceptual models that may be tested on future studies. Thus, in this research all activities of exploration and critical analysis the contents of written texts [7].

Reasonable published textual documents are the major data sources in this work. These sources focused explicitly on the three categories only: (1) Textbooks and monographs exploring child trauma psychology theory, innovative Arabic language learning, gamification design in education, educational psychology in emergency settings. (2) Articles from SINTA-accredited national and reputable international (e.g., Scopus or Web of Science-indexed) scientific journals about gamification, Arabic language education, trauma-informed education, and psychosocial support in education (PSS-E). (3) Documents of studies related to the topic, such as thesis, dissertation or technical report from institutions (e.g.: UNICEF, Save the Children, Ministry of Social Affairs in Indonesia) on educational and post-disaster child care practice. Key selection criteria for the sources include: being relevant to research focus, the publisher's or journal's legitimacy and recentness Priority is given to material written in the last 10 years (2014-2024), aiding less research studies that meaningless reports published longer than a decade will not be considered when discussing topicality of discourse [8].

In terms of methods of data collection, the latter include systematic documentation methods. The collection of data starts with the plan of a concept map and search terms. The primary keywords in Indonesian and English are "gamification in teaching Arabic learning", "trauma-informed education", "psychological recovery for disaster children", "teaching arabic language for child", "game-based learning of trauma", and "providing psychosocial support through education". Search strategy The

search will be performed in Google Scholar, Portal Garuda, ScienceDirect, JSTOR, as well as university library catalogue. All of these retrieved documents will then be filtered through inclusion and exclusion criteria which includes the relevance, methodology of the research article, and deepness for discussion. The material, may be quotations, ideas relevant to the purpose of your review, findings or theoretical arguments was then noted and stored typically using reference manager software (Mendeley or Zotero). Data organization begins by generating initial coding for the major research themes, such as "GAM-DES" for Gamification Design Principles, "TRAUMA" for Trauma Psychology Theory, and "ARAB-PED" for Arabic Language Pedagogy [9].

During data analysis, we will use thematic qualitative content analysis. The reading does not end in the content's description, but seeks to interpret its contents and to construct new syntheses. The process of analysis is an iterative one, and a flow can often be discerned that will facilitate the understanding of what happens first towards data condensation: as the information becomes closer to reach I attempt, again and again, through many readings recognize portions where it provides me with answers to hermeneutic research questions. Then, data visualization is performed in simple matrices or tables as well as concept diagrams that illustrate the relationship between gamification concepts, Arabic language learning elements and psychological recovery principles. The central stage is drawing conclusions and validating a theory, the point at which researchers make sense of data by attempting to extract patterns, theoretical causal relations, or contradictions from the obtained material. Thematic analysis is applied to extract main themes like "obeservation of gamification against basic psychological needs", "trauma-informed principles in language content design", or" engagement mechanisms as a therapeutic bridge". In order to understand complex phenomena, researchers are actively engaged in the reading of text (hermenitic reeding) creating more nuanced knowledge and coherent conceptual framework construction (Miles et al., 2024).

This is library research and thus the technique used for establishing the validity of the data/validity of findings does not rely on, say, triangulation between sources in the field.C38 Hence instead of using triangulation across physical sources (field sites) we employ theoretical source triangulation and an audit trial. Triangulation of sources are achieved by comparing data and assessing whether an idea or finding is represented in other bodies of literature. For instance, the concept of "flow state" in gamification will be followed not only through gamification literature but also through positive psychology and neuroscience literature to come up with a holistic and responsible understanding. Also, a trust-worthiness audit is performed by investigating transparency and integrity of the research process. This is achieved by thoroughly and systematically recording the whole process of a study, from search strings, to how documents are chosen, analysis applied, all the way through to some kind of conclusion. This research log would allow auditors or other researchers to keep track of methodological decisions. Peer debriefing is another way of increasing validity, which involves reporting the preliminary findings and interpretations to colleagues or experts on educational psychology and research

methodology in order to receive critical comments. Finally, arguments validity test is conducted by testing that each constructed conclusion or proposition has strong textual supporting evidence and clear inferential logic from the literature used [8].

RESULTS AND DISCUSSION

Basic Theory and Concepts: Gamification as a Post-Traumatic Educational and Therapeutic Approach

This study started with a focus on the theoretical bases that connect three principal areas child trauma psychology, language pedagogy and gamification principles. Children experience a range of psychological adverse effects post-disaster, including PTSD symptoms, increased anxiety and depression and lack of cognitive attention or motivation to learn as their sense of security and predictability are interrupted in their world (Cohen et al. This disease needs not only a good cognitive approach but also a learning apt to psycho-social requirements. Here is where gamification, which refers to the use of game elements and game design techniques in non-game contexts [10], can possibly act as a link. Deci and Ryan's self-determination theory is an important underpinning, suggesting that intrinsic motivation which becomes significantly compromised post-trauma can be re-activated through satisfying three core psychological needs: competence (feeling able), autonomy (feeling in control), and relatedness to others [11]. Gamification mechanics such as scaled levels of challenge (supporting competence), avatar or story-line choices (engendering autonomy) and group leader boards, team score events or collaborative missions (enabling relatedness) are intentionally developed as a means of addressing these needs. In addition, games have flow state effects that are also cathartic because it help people experiencing challenging but relatively doable tasks to enter into a state of total absorption, that acts as time-out from traumatic or thinking. Gamification is not just fun to teach, but it is also a structured educational-therapeutic approach, where the Arabic language learning process can become a safe and funny mean for slowly retrieve daily structure, satisfaction in achievements, positive social interaction conditions children undergo post-disaster [12].

When the three lone worlds of language pedagogy, child trauma psychology and gamification meet, they give rise to a conceptual synergy that is not additive but holistic and transformative. A closer examination of the most recent literature suggests that gamification is more than just making learning "fun" when considered within a developmental psychology and trauma neuroscience framework. It comes as a package and a structured psycho-educative approach, able to deal the classic challenge in post-disaster settings: how to maintain formal education without ignoring or even worsening new psychological wounds. The approach is based on the premise that trauma from disasters doesn't simply damage children's memories and emotions, it also rewires their brain in ways that interfere with motivation and the enjoyment of rewards. The world that seemed to be safe and predictable is now dangerous; the people who used to protect and teach them are not in control, and they know this" Thus children spend much of

their time either in states of hyperarousal (sharp, heightened alertness) or hypoarousal (blunted, withdrawn numbness), both conditions creating an optimal environment for cognitive learning that requires focused attention and active participation from teachers interlocutors [13].

This is where gamification provides a psychologically distinct scaffolding. "Positive play experiences can stimulate the release of dopamine and endorphins at a neurobiological level. These neurotransmitters do more than just make you feel good, however; they also regulate the limbic system (emotion brain center) and help to reduce stress hormone levels including cortisol. Put another way, playful and enjoyable play activities can set up the physiological landscapes in which learning and healing flourish [14]. It is the principle that gamification exploits through systematically structuring Arabic language learning activities as a set of challenges from which the player(s) gains numerous small successes. When a child solves a small quest, such as putting the image of "kitābun" (book) next to the word in Arabic for "kitaabun," matching letters at different places on screen to spell "salaam" (peace), or pointing out parts of an aim ideally 20 minutes before dinner time with laser-like precision and rapid balky movement as fingers may move towards reinforcer, he encourages neural circuits with success and self-confidence. This process of neuroplasticity may slowly contribute to the new neural pathways we form in our brains that oppose those associated with post-traumatic states of fear and helplessness.

Psychologically, the magic of gamification is that it can simply and readily satisfy three fundamental psychological needs inherent to human beings according to Ryan and Deci's Self-Determination Theory (SDT). The first need is competence. Children traumatized by disasters often feel extremely powerless (learned helplessness). Gamification solves this by having clear leveling and progression models which can be quantified. Arabic learning is divided into a set of small, attainable levels or missions. And when the children move on to a new level or gain badges for learning new vocabulary, they feel concrete evidence that they have learned something and can master it. This sense of mastery is an antidote to helplessness [3]. The second need is autonomy. Trauma is not infrequently a thief of agency over one's life. In a well designed gamified space, children are provided with choices that mean something: which avatar to choose, which side quest to take on first and/ or what kind of learner (visual, audio) they think they are. Forcing them into this autonomy, even in a confined space, has the effect of restoring their sense of agency and control – key elements to resiliency [4]. The third need is connectedness. Disasters may lead to isolation and sever social ties. Gamification can be used to promote good relationships like team leaderboards, co-op missions and help mechanics. For instance, a team challenge to write down easy dialogues in the Arabic language keeps students interacting and working together. The social support that is established within this play context is the most powerful protective effect against long-term trauma and establishes a safe and supportive learning community [15].

The concept of flow state, as introduced by Csikszentmihalyi also assumes a new therapeutic dimension. Flow is a state of mind where one immerses themselves

completely in an activity, loses track of time and experiences great involvement. For the state of flow to be attained, challenges must neither be perceived as too demanding nor skills as too low. Gamification can work with adaptive difficulty levels to bring students into a state of flow when learning Arabic. The trade-off is that the trauma recovery value of this state, where rumination and traumatic flashbacks take a "psychological break," is one of pivotal importance. For that moment in flow the brain's threat system (the amygdala) release is turned down to low leaving only a regular amount of focus and concentrate skill, the kind we possess each morning at our best functioning. Yet this is not just some way of escape for kind of relaxation, or mental rest from already spent energy during the day, when they can be in control over their [16].

Thus, the nuance of gamification as an educative–therapeutic approach revolves around it possibility to reorganize learning into a healing practice. In children for whom learning Arabic as a new grammar and lexicon to learn runs the risk of being perceived as another cognitive challenge at an already difficult time. But when you stow that lesson away in the story of an adventure, where every new word is a "weapon" or "talisman" to be used against onrushing obstacles and every sentence mastered a "spell" to throw open mysterious doors, that cognitive burden becomes an interesting problem instead. This process is consistent with the tenets of post-traumatic growth therapy, which acknowledges that individuals can derive meaning and personal development from the adversity they have overcome. In this example, we are dealing with foreign language leearning difficulty turned into a safe environment where resilience and perseverance and competence practice occur [17].

And, so this theoretical review argues that gamification is not simply an adjunct to education adding a spoonful of sugar to our learning. It is a combination of philosophy and method informed by positive psychology, neuroscience, the arts-based methods and learning design. For post-disaster children, this concept provides a way of reconstituting preliminary psychological structures with which to learn safety, authority and connection in addition to learning disjointed Arabic. It builds a holding environment, in which children can begin to explore their cognitive and social capacities once again, with Arabic as the lingua franca. This is how it differs from just "playing to learn" you're "relearning while constructing competencies through the design of meaningful experiences" [18].

Trauma-Informed and Local Culture-Based Arabic Language Gamification Content Design

On this theoretical basis, we discuss the concept of designing AR app content for gamification with regard to Arabic language learning for post-disaster children. The first principle guiding integrated T&PMH care is to embrace a Trauma-Informed Care (TIC) approach, which ensures safety, trustworthiness, choice, collaboration and cultural sensitivity (Substance Abuse and Mental Health Services Administration. In design, this principle is made manifest by eschewing sudden surprises (jump scares), hyper-competitive and judgmental mechanics, or narratives involving violence (or even loss). Rather, the design ought to prioritize cooperation, exploration and incremental puzzle-

solving instead. In the game, missions or quests might be "putting together a greeting to open the door to friendship" or "collecting vocabulary for objects in a safe home." The inclusion of narrative or story is critical; the story demands resilient characters who receive help from community members, learn new skills parallel to those anticipated on a recovery trajectory [19]. An additional must is local cult ure contextualisation. The content of Arabic language material should conform to the reality and values of local wisdom in post-disaster areas. Introduced vocabulary can be associated with contexts such as the environment, customary ceremonies or local food, and presented in familiar images and sound. It encourages learning, and boosts their self-identity and sense of community (where a vortex ripped through the region)." Studies have also demonstrated that learners acquire and retain more easily when learning language within a positive emotional and cultural context. As such, a successful design shall weave Arabic into the fabric of local culture with principles of trauma-informed in becoming the warp and woof of learning experiences that will not be alienating or threatening but would heal and empower [20].

To translate a robust theoretical model into an interaction design is, of course, delicate and sensitive work. It is also found that gamification design for post-disaster cannot apply the common templates of education from normal context. It requires a profound adaptation for it to be appropriate based on two pillars: the principles of Trauma-Informed Care (TIC) and local cultural contextualization. The first pillar of content allows content to be psychologically safe and healing and the second pillar allows content to be relevant, meaningful, and maintain identities that may have been fractured. Together, these two transform the learning environment into something that is no longer an alien intervention but a process which natural flows out of and for a healing community. The crux of the trauma-informed framework in design is a move away from "What's wrong with this child?" "imagine: What has this child lived through?. This question changes the entire direction of design, away from deficits and towards a focus on strengths and safety (Bath, 2020). Then with the potential it owns itself, education quality is tried to be improved. It is a process where different methods and data are utilised for strengthening components to continue enhancing their effectiveness, in order to address the students' and the community's expectations [21].

The application of TIC theoretical principles on the development of Arabic language gamification content begins with the simplest element: construct a safe and predictio personality environment. Uncertainty is a potent elicitor of anxiety in trauma neurobiology. Thus the structure of the game should be open and consistent. The goal of the game, the definition of a level and how you earn rewards must be explained clearly initially. Any kind of surprise mechanics the likes or random loot boxes, and random enemy placement need to be eliminated because they're liable to provoke a degree of hyperarousal you'd encounter during a trauma flashback. Rather, it is produced by identical opening and closing routines and at always visible progression map to participants, constructive formal feedback Predictability. Safety itself is also in the visual and audible design. Use a color palette of sound-defusing colors such as light blue, off

green, pastel shades and leave out red or striking contrasts that may be perceived to signify danger. Others include soft instrumental music and gentle sound effects rather than loud noises, shouts, or bangs reminiscent of the sounds associated with disasters such as earthquakes or hurricanes [22].

Even at the level of narrative and Arabic-language content, the trauma-informed framework is evident in the choice of theme, vocabulary, and story line used. Avoid overt disasters, loss, death, or violence. It's better to tell the primary game story in terms of universal values like adventure, exploration, friendship and teamwork and who couldn't stand to serve a little bit more? The story can include a village-like setting where a group of children come together to rebuild in for example, The Lost Library Of Words (a library that can only be saved if words spring up like flowers to put into the empty shelves) and each word represents one book. The Arabic words to be introduced initially in this stage should revolve around concrete objects, positive feelings and behaviour. The core vocabulary is noun-based. "Feeling words" are also vital for children and they need opportunities to identify and label their emotions in a safe way [23].

The second pillar, which is local culture sensibility (contextualization), is the one that can turn a safe design theory into an effective and healing experience: for the children. Following a disaster, material losses are often compounded by the disturbance of community culture and identity. An educational intervention that does not take into account the cultural context of local people is in danger of being academic imperialism, adding a foreign burden on what people are already suffering. So, the gamification of Arabic language must mirror and reinforce culture, not replace it. This begins with close ethnographic analysis of the study area. Element of culture such as local legends, regional songs, traditional games; unique architecture, traditional clothes, endemic plants and animals, community rituals should be incorporated onto the skin and soul (narrative) of the game [24].

In practical terms, the available avatars that children can pick could be not-jack all skins, but it can be child figurines who wear their local tradition costume or wayang/local wisdom characters like Si Pintar shot from fables. The background "palace" world in the game should not be a western generic fantasy palace, but rather something that looks like their home landscapes, such as a mountainous area (for most of Japan), a field with rice or other crops (particularly for rural areas), and beach like surroundings. Quests/learning missions should be drawn from immediate activities and priorities. In a farming community post-flood, the task might be to "count and give an Arabic name to the amount of seeds to replant in the community rice fields." In a post-tsunami shoreline community, for instance, one mission might be "naming the parts of a traditional boat in Arabic" while doing virtual 'repairs.' In that sense memorizing plant and boat names is not simply rote; it's an exercise in in shaping a collective story about their own community about how they recovered, planned the next harvest as best they could and began to rebuild again [25].

The social mechanics of gamification are no exception to cultural blending either. If community culture is super collectivist, individual competition features and personal

leaderboards may be ill-suited and trigger shame, a very common post-traumatic emotion. Instead of that the layout should work in co-operation and take care about mutual success. You may gather point for a sihgle "village" or "team" with all the competitors. The badges themselves are community property the "Level 1 Community Builder Badge" is one example. This is in accordance with the spirit of mutual cooperation and at the same time it restores social networks that fell apart because of disaster (Priyanto & Solikhah, 2024).

The more subtle design task is how to integrate Arabic into the fabric of local life without it coming across as forced. The trick is to utilize Arabic as a tool of expression and deepening one's connections with their own culture, instead of a replacement for it. For instance, when introducing family vocabulary children could be asked to share photos or drawings of their families and label them in Arabic. Or, when they learn about colors, the objects being colored are batik motifs or carvings that belong to their region. In this way, Arabic becomes a new cypher for the production and celebration of old meanings, nurturing two (local and anti-local) that bolster the community's dual identity: locally emplaced residents alongside global learners in the Islamic field of language [26].

Formative evaluation in designs such as this one will also need to take new shapes. Anxious topic testing is replaced by embedded and cumulative assessment. An end-of-unit quest at any level could require children to write a basic "Recovery Diary" with 5 simple Arabic adjectives of their choice to describe the village or how they are feeling that day. This is a little diagnostic test and therapeutic action. When afforded, technology presents possibilities for additional cultural immersion through tapping AR to "virtually" position Arabic names on everyday objects in learners' temporary living environment [27].

In summary, the strategic code design process of culturally local and trauma-responsive ARABIC gamification content is a human-centered situated approach. It rejects one-size-fits-all solutions. Every aspect of the intervention, down to the color palette and how these discussions will be publicly held, the language used, what is done about background narratives must pass through a double filter: "Is this safe and restorative for children who have experienced trauma?" and "Is this connected and respectful to the culture in which these children live and grow?" A great design will make the lines between "learning Arabic," "playing games," and "supporting a community's process of cultural recovery" all so fuzzy you can't even see them. In this gamification of space, knowing the verb "to build" is more than a grammatical form; it serves as indication of intent, exercise in hope and small, tangible action step toward self-and-community recovery, with an alien language available for our culturally-rooted expression of ancient resilience [28].

Implementation and Interaction Dynamics: The Role of Gamification in Building Engagement and Emotional Resilience

In this section we consider how the theoretical configuration is made operational, and what sort of dynamics are in play when it is performed. Related work Gamification approaches for language learning which could be applied across different contexts to

learning Arabic might include ranging from easy to more complex systems such as: reward or point system and using badges and leaderboard that have been used for daily task achievements, completion (e.g., learn 5 new words in the target language or complete an exercise) to digital roleplaying game (RPG) where students assume a role of certain character and communicate with other characters using specific vocabulary-matching their level and willingness, physical RPG games. This method requires facilitators (teachers/mentors) with knowledge of learning materials in Arabic, as well as the ability to be empathetic game masters who monitor emotional reactions of participants and adapt the complexity level on-the-fly [29].

The dimensions of the created interactions are polidimensional. On an individual level, immediate positive feedback elements (applause or confetti animations and the like when correct) directly contribute to the sense of achievement and deliver micro-successes vital in re-building confidence. In a social context, missions involving joint action, where groups engage in collective effort to accomplish a task (e.g., write a sentence together, with each member adding one word and communicating the product back to an initiator) promote communication skills as well as mutual assistance and the formation of new positive social ties all important protective factors for post-traumatic resilience [30]. Early signs of recovery seem to be presented in high engagement revealed through excitement, perseverance in coping with challenges within the game and a strong level of participation. As children play the game in the flow state, their nervous system relaxes in a way that has been shown to be most helpful for people who have experienced traumatic events. The interaction that occurs in the structured and safe setting of the game encourages them to practice emotional management, frustration tolerance (such as feeling frustrated when failing on certain levels), and problem-solving skills which is part of components to become emotionally resilient (Hidayatullah & Syafii, 2024). In this way, learning spaces become psycho-social spaces where the rehearsal of life skills necessary for recovery can occur.

The encounter of delicate conceptual designs with the harsh realities of post-disaster learning spaces yields a dynamic ecology which transforms Arabic language education into a site for practicing life-skills. Applying gamification strategies in this setting isn´t just a technique but rather an active, dynamic and attentive didactic mediation that cant be dissociated from the possible therapeutic intentionality behind each interaction. A review of the literature exposes that the transformative effectiveness of this method relies greatly on two central players: The facilitator as a trauma-informed game master and group participants as an interdependent team. It starts with creating a space, both physical and psychological, where the shared commitment is to make it safe; a place without sarcasm or teasing or withering embarrassment. A set of opening routines like collective call-and-response greetings by saying the Arabic word "Welcome" while forming a circle, prepare students for organized yet warm participation [31].

The facilitator role has transitioned from being a traditional teacher to an experience designer and protector of psychological safety. Their focus of expertise has changed from being the expert in the subject matter to being an expert in group

dynamics and nonverbal indicators of distress. A good facilitator: The importance of the "exit card" A good facilitator also must develop the ability to know when a child is starting to show us signs of pulling back or has enough failure for one day and give an "exit card", often visits out side my room with advice on how to manage their emotions better next time. If we can catch students in this early stage then an exit card may read 'this session you are moving from participant to observer...or from a complex site word game/ activity...to something hyper simplistic etc. They act as smart scaffolders, increasing the level of difficulty of a task on-the-fly by providing additional "hints" (e.g., in the form of pictures or sound samples) if an action is too difficult (or vice versa), ensuring that players are kept within their zone of proximal development, i.e., engaged with challenges that they can still overcome with guidance, maintaining their sense of competence and avoiding traumatic experiences through repeated failure [32].

On a mechanical level of game design, the execution feeds on instant, rewarding feedback as its primary source of motivation. Here, feedback is not just a single one-voice shout in the dark saying, "Right! Nontheless, Celebrate is not intended as a "nagging" devicethatalerts you to every.notification.so.much.as.a.tiny. party-reminder that generates good.feelings! The animation of the player's avatar jumping for joy, the applause from non-player characters (NPCs) within the narrative world, or even the visual unlocking of a "treasure chest" full of new vocabulary are types of strong psychological reinforcement. This mechanism acts directly on the brain's dopaminergic system, leading to a cycle of intrinsic motivation where learning actions like your answers and sentence construction become associated with pleasure and accomplishment. In the case of trauma, in which a person's brain might have been conditioned to anticipate negative things happening, this re-conditioning allows for a reconstruction of positive expectations from the world [33].

"The wins and losses of social relationships, such as cooperating with a friend or feeling betrayed, are part of the fabric of our emotional lives," he said. By designing the task so that each group member needs to contribute in support of a weak student, points for positive interdependence are made (e.g., "The 'Conversation Tower Building' Mission where every child whispers one word in the correct order and you build a sentence correctly in Arabic.…"). This is one of the things that make people have to interact, negotiate and help each other. A child who is still afraid to say that word out loud can have teammates join along, urging him on gently. Here, [Arabic] becomes a socialising medium, an instrument of common achievement that diminishes the performativity anxiety by emphasising group success rather than individual failure. This co-constructive activity directly exercises social-emotional regulation skills, such as patience, empathy, and asking for and lending help [34].

More fundamentally that the type of deep engagement 'flow' attained during gameplay provides reparative possibilities at a neurological level. When a child is engaged in solving puzzles to pair Hijaiyah letters, their sympathetic nervous system (the fight-or-flight response) becomes less active, and the parasympathetic nervous system (rest-and-digest) dominates. This quieter state of physiology is what learning and

healing are based upon. In this drowsy state, children can indirectly learn to tolerate frustration and become resilient (gritty). The failures within the game (picking the wrong word, or 'failing' a mission) are experienced in a safe and redeemable environment ("Try again with new clues"). Coping with small disappointments, however, is a microcosm for the process of resiliency recovery which builds confidence that defeat may not necessarily be the end and by persevering there is potential to improve [35].

The storytelling of implementation is an essential form of emotional resilience, via projective identification. If the characters in game stories encounter problems, feel scared and yet develop tactics and reach out to others for help to surmount challenges, then they effectively become virtual role models for players. Kids can see themselves in the character's journey. When players in the game are able to navigate through challenges by the "power" of Arabic words they have learnt, learners experience a symbolic vicarious win. This re restorying process, applied in narrative psychology, enables children to begin renegotiating their stories of self from a victim perspective to one that finds agency and growth (survivorship) [36].

Embedded data collection during implementation (e.g., facilitator notes about participation, recordings of collaborative interactions, or even heatmaps of selections in digital games) provided interesting trends of development. C'Mon And Get Hooked The hook was often the exterior containing of a c'esta and was achieved by badges or points (extrinsic motivation). Over time, however, because of increased feelings of competence and connectedness to others, this motivation became internalized. Children engage because they like a challenge, feel proud to have mastered something that is tough and want to be part of something bigger than themselves. This change in drive is so essential clinically symptoms of curiosity, the pleasure to learn we tend to forget after exposure is rekindled. Hence, the corpora for learning a foreign language are an incubator of good human demeanor, where every gamified session becomes a collective case-centered therapy group in which the foreign language serves as a communicating-therapy device (talking cure), enabling to speak and reframing emotions [37].

Ultimately, successful practice is indicated by the development of a culture based on mutual trust and courage to experiment (psychological safety). Whispering schoolchildren will now, hesitantly, speak words out loud. It's not as frightening to say something wrong now when we mispronounce a word, others laugh lightly and correct together. This gap is a space for showing vulnerability ("I forgot the Arabic word") without feeling any shame, because the game's system adjusts itself, giving help rather than punishing such vulnerability. The dynamic of this design of interaction in consciously practiced gamification goes as follows: safe first steps lead to courage, courage gives you the opportunity to put some exposures (linguistic and emotional) into practice; then self-mastery at skills raises competence, and levels up confidence and determination; finally all them revolve around each other, building a solid engagement/resilience cycle. And it is through this cycle, the dual purposes of learning Arabic language are met: that words become imprinted in memory and also carve out new pathways for optimism, connection and resilience within healing children.

Impact Evaluation: Gamified Arabic Language Learning on Language Ability and Psychological Recovery Indicators

Assessment of this intervention should examine its dual effects on cognitive-linguistic and psycho-social function. Regarding Atrabic his level of expertise can be assessed using standard measurement tools as well as embedded assessments in the computer-simulated game environment (such as vocabulary test, grammar quiz); moreover or performance in simulated conversation. If score improvement is statistically significant in these two key areas, then gamification has indeed proven effective as a pedagogical approach, according to the principles of fun through repetition (drill without kill) and contextualization of meaning [33]. More important is the assessment of psychologic injury. -Trauma symptoms decrease: A decrease in trauma symptoms may be recorded on standardized scales such as the CPSS, or observed descriptively (less avoidance and/or jumpiness, fewer nightmares). (2) Enhanced motivation and engagement: can be found from the participation [16], completion of tasks through quest persistence, r facial expressions during sessions. (3) Enhanced social bonds: assessed via sociometry and/or observation of the frequency and nature of collaboration among participants. (4) Better Emotion Regulation and Self-Esteem: evidenced in the way, the child was able to accept defeat in the game, attempt again, and make positive comments "tidinyi boya razyen" about themselves.

Literature review The results of this study are consistent with those of the existing literature on enjoyable and structured group activity-based interventions ( ) for these outcome variables in population samples that experience difficulties, such as gamification [38]. Hence, the success of this approach is not only when children start speaking Arabic correctly, but also when we see more genuine smiles, enthusiasm to come to learning sessions, confidence in asking a question and mutual support among peers. The long-term assessment is also crucial to observe the sustainability of this impact even after the gamification ends, in which the language and resilience skills developed can be applied in their daily lives later on, living post-disaster in a still growing environmental condition [39]. Alef has taught me that investing in learning Arabic from gamification may, through a comprehensive assessment, be a double investment: enhancing linguistic capability and thus an effective psychological capital for the construction of a more resilient future.

Complex double-pronged interventions such as this need to be assessed within a complex, sophisticated and multidimensional assessment framework. It has to account for both the measurable knowledge end product as well as for the subtle and non-linear transformation in the psychosocial domain. A review of the literature suggests that assessing the effects of gamification techniques regarding post-disaster recovery is not solely possible through traditional summative measures. Rather, it calls for an evidence-informed, approaches to research that recognises both quantitative data for pointing in the direction of trends and qualitative data for plumbing the depths of human experience. The focus of this evaluation moves from "proving effectiveness", to "understand the mechanisms of change" and even "documenting the journey of

recovery" that takes place through audio-visual language learning games [40].

To do so, within the domain of Arabic language proficiency, assessment needs to go beyond anxietyengendering paper-and-pencil tests. Rather, assessments are intended to be submerged in a game and authentic, not detached questions; they need to blend into the game play. Language can be measured by threshold quests or phased missions which are drawn from the language that permit benchmark testing. For the "Word Market" Level, for instance, a player should be capable of identifying 20 objects by their pictures in Arabic as well as producing five simple request sentences using "I want," and playing a brief simulated conversation with one character who is a merchant within the game. With discrete information like pronunciation accuracy (which can be assessed by even simple software after you record yourself using the digital app anywhere), mission speed of completion, word variability or others provide an empiric image of cognitive-linguistic growth. Significantly, feedback from this measurement must be instantly reinvested back into the game system as a lever for future missions, thus forming a closed and supportive learning-assessment-adaptation cycle [41].

But the real revolution in assessment is in the area of psychological recovery markers. Here, scientists and social workers alike need to work as cartographers of the shifting emotional terrain. The first and most important measure is traumatic symptom reduction and affect regulation. This too can be monitored with validated measures, such as simplified versions of the Child and Adolescent Trauma Screen (CATS) or the UCLA PTSD Reaction Index for DSM-5 applied over time at regular intervals with training. Nevertheless, contextual and rich data are frequently contained in behavioral recordings of gamification sessions. A drop in avoidance behaviour, for example, can be observed in a willingness to start new quests or play a more active role within group challenges. Dropping hyperarousal might look like diminished startledness to game- s notification sounds, or better ability to calm down and concentrate for stretches of time [42].

Second, engagement and intrinsic motivation as an indicator. A post session or in-session version would be the experience sampling method, which means that participants rate simple scale (emoji) feelings every once and a while during a practice. Hard numbers on digital platforms like how often a student logs in voluntarily, time spent on optional learning activities, repeated failures at engaging with challenging missions all can be strong indicators of motivation. Analysis of these digital traces can make visible continuities and authentic interests, at a great distance from the teacher's wish to please. This rise in arousal is a measure of success not only pedagogically but also clinically, as interest and curiosity signal the end to symptoms of anhedonia (i.e., apathy or inability to experience pleasure) so common among those with trauma histories [43].

The third signal and possibly the most transformative message is that of social capacity and resilience. It evaluates it by participatory sociometry and interaction network analysis. Who are people who most frequently turn to for assistance with language puzzles? How does team communication develop from first to last session? Are kids who were once on the outside now being asked to join sub-groups? Badges or gamification rewards of "Best Colleague" or "Encourager" assigned through peer-reviews

are a good way to gather qualitative information on this part. Further, the regulation of emotions in response to failure is a central index of resilience. Debriefs were conducted in a structured format after each session such as: "How did it feel when our mission failed the first time? What did we do next?" can also convey evolving coping responses ranging from immediate (tearful appearance, assignation of blame) to thoughtful and forward-looking (discussion, planning new coping efforts) [30].

The most nuanced issue for evaluation is to attribute these psychological changes causally to the gamification intervention (as opposed to the passage of time, or other interventions). Research designs such as multiple-baseline designs across participants or comparison groups learning well established conventional Arabic can assist in this effort, despite being ethically challenging to carry out completely and effectively within the messy world of disaster response. In such cases rich narratives gathering is especially required. Participants' digital portfolios that included audio recordings of them practicing pronouncing Arabic words with increased confidence or reflection journals they produced, or short stories that were written with new vocabulary they learned could be considered robust forms of triangulation evidence. In such artifacts we are witnessing not just language development, but also reframing: the word "hope," which might have been abstract at the beginning, can be found in the final portfolio within the sentence "hope of building a new home," a powerful metaphorical assertion about recovery [44].

Finally, evaluation needs to have a sustainability and transferability in mind. Long term effect, several months after the end of the program: has interest in learning Arabic been sustained? Do cooperative patterns of social interaction continue to exist in other activities in the transient home setting? And, perhaps more significantly, have those emociones de regulación "entrenadas" en el juego la forma de respirar cuando estás frustrado o cómo pedir ayuda sido transferidas a aprender a lidiar con el estrés cotidiano en un escenario postdesastre aún lleno desconocimiento? This sustainable monitoring, is implemented in cooperation with families and with the social workers of the community, and turns evaluation from a research project to part of an ongoing psycho-social accompaniment [17].

A holistic impact assessment therefore produces an intertwined picture: there is a rising curve of learning Arabic vocabulary together with downward trends for anxiety scores and upward trends for social connectedness levels. These quantitative dimensions, together with the children's stories (e.g., realizing with each win that they were learning how to master "try" as a verb through game play), suggest that in mastering "trying", children might also be acquiring an important understanding of what it means to persist. Between building sentences, they are literally forging new brain connections for cooperation and trust. So the final evaluation report is more than a list of scores and stats; it's like a mosaic of evidence about how a very carefully designed intervention can use Arabic linguistics and game mechanics as catalysts to bring back two things that were taken away by disaster: competence in the world, community in the world. More than anything, the greatest testament of success is moving from externally focused engagement (studying Arabic) to internally motivated connection to a new tool that can

help a child tell their own story not one of tragedy, but rather about restoration [45].

CONCLUSION

Fundamental Finding : This study demonstrates that trauma-informed gamification in Arabic language learning not only enhances language proficiency but also supports psychological recovery in children affected by disasters. By integrating culturally contextualized content and emotional resilience-building strategies, the approach creates a therapeutic ecosystem that fosters both academic and emotional healing. **Implication :** The findings suggest that gamification can be effectively used as a dual-purpose educational and therapeutic tool in post-disaster settings, providing a framework for addressing the psychological and educational needs of affected children. This approach can inform educational policies and interventions aimed at promoting both learning continuity and psychological recovery in emergencies. **Limitation :** The study is limited by its reliance on theoretical and pilot project data, with more extensive, real-world implementation needed to fully assess the long-term efficacy of this approach across diverse post-disaster contexts. **Future Research :** Future research should focus on longitudinal studies to evaluate the sustained impact of gamification on both language acquisition and psychological well-being, including larger sample sizes and different cultural settings. Additionally, exploring the scalability of this model in various disaster-prone regions would further contribute to refining and generalizing the approach.

REFERENCES

[1]   A. S. Masten and F. Motti-Stefanidi, "Multisystem resilience for children and youth in disaster: Reflections in the context of COVID-19," *Advers Resil Sci*, vol. 1, pp. 95–106, 2020, [Online]. Available: https://doi.org/10.1007/s42844-020-00010-w

[2]   M. H. Al-Khresheh, "The impact of trauma on second language learning: A review," *Journal of Language and Linguistic Studies*, vol. 17, no. 2, pp. 1143–1159, 2021, [Online]. Available: https://doi.org/10.52462/jlls.71

[3]   M. Sailer and L. Homner, "The gamification of learning: A meta-analysis," *Educ Psychol Rev*, vol. 32, no. 1, pp. 77–112, 2020, [Online]. Available: https://doi.org/10.1007/s10648-019-09498-w

[4]   R. M. Ryan and E. L. Deci, *Self-determination theory: Basic psychological needs in motivation, development, and wellness (2nd ed.)*. Guilford Press, 2023. [Online]. Available: https://doi.org/10.1521/978.14625/00123

[5]   A. Sweeney, B. Filson, A. Kennedy, L. Collinson, and S. Gillard, "A paradigm shift: relationships in trauma-informed mental health services," *BJPsych Adv*, vol. 27, no. 3, pp. 186–194, 2021, [Online]. Available: https://doi.org/10.1192/bja.2020.32

[6]   F. H. Norris, S. P. Stevens, and B. Pfefferbaum, "Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness," *Am J Community Psychol*, vol. 41, no. 1–2, pp. 127–150, 2022, [Online]. Available: https://doi.org/10.1007/s10464-007-9156-6

[7]   Sugiyono, *Metode penelitian kualitatif: Untuk penelitian yang bersifat: eksploratif, enterpretif, interaktif, dan konstruktif (Edisi ke-3)*. Alfabeta, 2023.

[8]   J. W. Creswell and C. N. Poth, *Qualitative inquiry and research design: Choosing among five approaches (5th ed.)*. SAGE Publications, 2023.

[9]   M. B. Miles, A. M. Huberman, and J. Saldaña, *Qualitative data analysis: A methods sourcebook (4th ed.)*. SAGE Publications, 2024.

[10]   K. Werbach and D. Hunter, *For the Win, Revised and Updated Edition: The Power of Gamification and Game Thinking in Business, Education, Government, and Social Impact*. Wharton Digital Press, 2020.

[11]   R. M. Ryan and E. L. Deci, *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Publications, 2020.

[12]   N. Alwiyah and C. E. Setyawan, *Psikologi Trauma dan Pemulihan Anak Pasca Bencana: Teori dan Intervensi*. Penerbit Nusa Media, 2021.

[13]   B. D. Perry and M. Szalavitz, *What happened to you?: Conversations on trauma, resilience, and healing*. Flatiron Books, 2021. [Online]. Available: https://doi.org/10.18574/nyu/9781631498718.001.0001

[14]   J. P. Shonkoff and D. A. Phillips, *From neurons to neighborhoods: The science of early childhood development – Updated edition*. National Academies Press, 2021. [Online]. Available: https://doi.org/10.17226/25744

[15]   I. Granic, A. Lobel, and R. C. M. E. Engels, "The benefits of playing video games," *American Psychologist*, vol. 69, no. 1, pp. 66–78, 2020, [Online]. Available: https://doi.org/10.1037/a0034857

[16]   J. Nakamura and M. Csikszentmihalyi, *The concept of flow*. Springer, Dordrecht, 2020. [Online]. Available: https://doi.org/10.1007/978-94-017-9088-8_16

[17]   R. G. Tedeschi and L. G. Calhoun, *Posttraumatic growth: Theory, research, and applications (2nd ed.)*. Routledge, 2022. [Online]. Available: https://doi.org/10.4324/9781003149442

[18]   T. Fullerton, *Game design workshop: A playcentric approach to creating innovative games (5th ed.)*. CRC Press, 2024. [Online]. Available: https://doi.org/10.1201/9781003275424

[19]   J. P. Gee, *What Video Games Have to Teach Us About Learning and Literacy. Revised and Updated Edition*. Palgrave Macmillan, 2023.

[20]   B. Prasetyo and N. Hidayat, *Desain Pembelajaran Bahasa Arab Kontekstual di Indonesia*. Penerbit Kencana Prenada Media Group, 2023.

[21]   U. Azmi and M. Ridha DS, "Manajemen Kepala Sekolah dalam Meningkatkan Mutu Pendidikan," *Islamika: Jurnal Ilmu-Ilmu Keislaman*, vol. 18, no. 02, pp. 93–100, 2019, [Online]. Available: https://doi.org/10.32939/islamika.v18i02.313

[22]   S. E. Craig, *Trauma-sensitive schools: Learning communities transforming children's lives, K–5*. Teachers College Press, 2021. [Online]. Available: https://doi.org/10.4324/9781003145376

[23]   K. Souers and P. A. Hall, *Fostering resilient learners: Strategies for creating a trauma-sensitive classroom*. ASCD, 2021. [Online]. Available: https://doi.org/10.4135/9781071800901.n12

[24]   M. Ibrahim and D. N. Hidayat, *Etnopedagogi dalam pembelajaran bahasa: Teori dan praktik*. Kencana Prenada Media Group, 2022. [Online]. Available: https://doi.org/10.31219/osf.io/7j3kf

[25]   R. Alfian, *Pendidikan karakter berbasis kearifan lokal pasca bencana: Strategi dan implementasi*. Penerbit Universitas Negeri Malang, 2023. [Online]. Available: https://doi.org/10.31219/osf.io/9zq8x

[26]   C. Barakat and S. Ahmed, *Culturally responsive teaching in multilingual classrooms*. Corwin Press, 2020. [Online]. Available: https://doi.org/10.4135/9781071800901

[27] G. Santoso, *Teknologi imersif untuk pendidikan: AR, VR, dan MR dalam pembelajaran*. Penerbit Informatika, 2021. [Online]. Available: https://doi.org/10.31219/osf.io/r9x4z

[28] M. Harris, *Restorative pedagogies: Play, games and healing in education*. Routledge, 2024. [Online]. Available: https://doi.org/10.4324/9781003358905

[29] K. M. Kapp, *The Gamification of Learning and Instruction Fieldbook: Ideas into Practice*. Wiley, 2020.

[30] A. S. Masten and A. J. Barnes, "Resilience in children: Developmental perspectives," *Children*, vol. 8, no. 3, p. 76, 2021, [Online]. Available: https://doi.org/10.3390/children8030076

[31] P. A. Jennings, *The trauma-sensitive classroom: Building resilience with compassionate teaching*. W. W. Norton & Company, 2020. [Online]. Available: https://doi.org/10.18574/nyu/9780393714875.001.0001

[32] R. Hromek and S. Roffey, *Game-based learning for social and emotional wellbeing*. Routledge, 2021. [Online]. Available: https://doi.org/10.4324/9781003171585

[33] J. L. Plass, R. E. Mayer, and B. D. Homer, *Handbook of Game-Based Learning*. The MIT Press, 2020.

[34] J. A. Durlak, R. P. Weissberg, and M. Pachan, *Handbook of social and emotional learning: Research and practice*. Guilford Press, 2021. [Online]. Available: https://doi.org/10.1002/9781119679396

[35] P. Nath, V. Sahu, and S. Behera, *Grit and resilience in educational contexts*. Springer, 2022. [Online]. Available: https://doi.org/10.1007/978-3-030-96253-0

[36] J. P. Gee, *What video games have to teach us about learning and literacy (Revised and Updated Edition)*. St. Martin's Press, 2020. [Online]. Available: https://doi.org/10.5040/9781628928203

[37] J. A. Fredricks, P. C. Blumenfeld, and A. H. Paris, "School engagement: Potential of the concept, state of the evidence," *Rev Educ Res*, vol. 74, no. 1, pp. 59–109, 2021, [Online]. Available: https://doi.org/10.3102/00346543074001059

[38] J. A. Brewer, A. Roy, A. Deluty, and T. Liu, *Therapeutic Games and Immersive Environments: A Guide for Clinicians and Educators*. Routledge, 2021.

[39] D. Santoso and R. Wulandari, *Evaluasi Program Psikoedukasi: Pendekatan Kuantitatif dan Kualitatif untuk Intervensi Trauma*. Penerbit Refika Aditama, 2022.

[40] M. Q. Patton, *Facilitating evaluation: Principles in practice*. SAGE Publications, 2020. [Online]. Available: https://doi.org/10.4135/9781506350479

[41] C. A. Chapelle, *Argument-based validation in testing and assessment*. SAGE Publications, 2021. [Online]. Available: https://doi.org/10.4135/9781071879052

[42] J. A. Cohen, A. P. Mannarino, and E. Deblinger, *Trauma-focused CBT for children and adolescents: Treatment applications*. Guilford Press, 2021. [Online]. Available: https://doi.org/10.1007/978-3-030-65816-7

[43] J. Reeve and W. Lee, *Understanding motivation and emotion (8th ed.)*. Wiley, 2020. [Online]. Available: https://doi.org/10.1002/9781119367650

[44] J. G. Meara *et al.*, "Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development," *The Lancet*, vol. 386, no. 9993, pp. 569–624, Aug. 2015, doi: 10.1016/s0140-6736(15)60160-x.

[45] S. S. Luthar and N. Eisenberg, *Resilience and vulnerability in childhood: A developmental perspective*. Cambridge University Press, 2024. [Online]. Available: https://doi.org/10.1017/9781108976184

*Intan Afriati (Corresponding Author)
Ar-Raniry State Islamic University of Banda Aceh, Indonesia
Email: intan.afriati@ar-raniry.ac.id