Transfer of Knowledge and Forgetting in Islamic Religious Educational Psychology

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ABSTRACT

This study aims to examine the phenomenon of learning transfer and forgetting within the context of Islamic Religious Education from the perspective of educational psychology. A qualitative method was employed, utilizing a literature review approach to analyze relevant theories related to learning, memory, and the process of forgetting. The data were analyzed using content analysis techniques based on scientific sources discussing the concepts of learning transfer and forgetting, along with their implications for Islamic Religious Education instruction. The findings indicate that learning transfer often fails due to rote-based, less meaningful, and non-contextual learning approaches. Meanwhile, forgetting occurs due to a lack of reinforcement, the material's minimal relevance to students' real-life experiences, and interference from other information. The study concludes that to enhance the effectiveness of Islamic Religious Education learning, educators should implement strategies that emphasize meaningful comprehension, repeated reinforcement, and contextual linkage between the material and students' daily lives, thereby optimizing learning transfer and minimizing the likelihood of forgetting.

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1. INTRODUCTION

The learning process should ideally not be limited to the acquisition of information. Still, it should also cultivate students' ability to apply the knowledge they have acquired in various real-life contexts. The concept of transfer of learning plays a crucial role in ensuring that learning has a long-term and practical impact. It refers to the extent to which knowledge or skills gained in one situation can be applied effectively in different or novel situations. Recent research emphasizes that successful learning transfer is fostered by contextual engagement, active participation, and meaningful learning experiences [1], [2], [3].

Conversely, the phenomenon of forgetting previously learned material remains a persistent challenge in the field of education. Forgetting is not merely the result of carelessness but a complex psychological process influenced by multiple factors, such as a lack of repetition, weak associative meaning, and limited application in daily life [4], [5], [6]. Within the context of Islamic Religious Education, this issue is particularly evident when students struggle to recall memorized Qur'anic verses or apply religious principles in practice [7].

Previous studies have commonly examined transfer of learning and forgetting as separate constructs within educational research. Studies on transfer often emphasize the importance of generalization and the role of active learning strategies in this context [2], [3], while theories of forgetting focus on interference, decay, and retrieval failure [8], [9]. However, there is a noticeable lack of integrated studies that examine how these two phenomena interact, particularly in Islamic Religious Education, which aims not only to transmit cognitive knowledge but also to shape affective and psychomotor domains [7]. Although recent scholarship has advocated for Islamic learning models that integrate character-building and spirituality in the digital era [10]and address the urgency of value-based instruction in technology-driven contexts [11]. These works still fall short of exploring the cognitive mechanisms of forgetting and how they impair or influence knowledge transfer.

This study aims to address the research gap by examining how knowledge transfer and forgetting operate and interact within Islamic Religious Education from the perspective of educational

psychology. The study also aims to offer both theoretical insights and practical implications for more effective religious instruction.

2. METHOD

This study employs a library research approach, aiming to collect and examine relevant information from various existing literature sources, including reference books, scholarly journals, academic articles, research reports, and other similar publications [12]. The research design follows a structured qualitative synthesis, utilizing five key stages adapted from grounded theory and systematic review procedures: Define, Search, Select, Analyze, and Present.

2.1 Define

The research scope focuses on studies related to knowledge transfer and forgetting within the field of Islamic Religious Education and educational psychology. Inclusion criteria:

2.1.1   Literature published between 2015 and 2025
2.1.2   Peer-reviewed journal articles, academic books, and credible research reports
2.1.3   Relevant to either theory or application in Islamic education
2.1.4   English or Indonesian language

Exclusion criteria:

2.1.5   Non-academic sources (e.g., blogs, informal articles)
2.1.6   Literature without a clear methodological foundation
2.1.7   Publications before 2015

Table 1. Inclusion & Exclusion Criteria of Library Research Process

NO	Inclusion Criteria	Exclusion Criteria
1	Published between 2015 and 2025	Published before 2015
2	Related to knowledge transfer, forgetting, or Islamic Religious Education	Unrelated to education or psychology
3	Peer-reviewed journal articles, books, and academic reports	books, academic reports, Non-academic sources (blogs, social media, etc.)
4	English or Bahasa Indonesia	Other languages
5	Full-text available	Incomplete or inaccessible full-text

2.2 Search

Searches were conducted using academic databases such as Google Scholar, DOAJ, ScienceDirect, and Garuda Ristekbrin, with Boolean keyword combinations: "*transfer of learning*, "forgetting," "educational psychology," and "Islamic religious education." Filtering tools were applied to restrict publication year and source type.

2.3 Select

The selection process included:

2.3.1 Screening based on title and abstract
2.3.2 Review of full-text relevance
2.3.3 Application of inclusion/exclusion criteria

A total of 39 sources published between 2015 and 2025 were included for analysis after applying the inclusion and exclusion criteria.

2.4 Analyze

Using qualitative content analysis, the literature was coded and categorized into thematic areas:

2.4.1 Conceptual models of knowledge transfer
2.4.2 Psychological explanations of forgetting
2.4.3 Educational implications in Islamic contexts
2.4.4 Interconnections between memory and application

Coding was conducted iteratively (open → axial → selective) to ensure depth and validity.

2.5 Present

The results were synthesized into an integrated narrative that addressed the research questions. A conceptual taxonomy was developed to classify factors influencing knowledge transfer and forgetting within Islamic Religious Education.

Figure 1. Stages of the Library Research Process

3. RESULTS AND DISCUSSION

3.1 Transfer Knowledge

Transfer of learning, or transfer of knowledge, fundamentally concerns the question of "how we come to know things," that is, how knowledge is acquired within the framework of epistemological analysis [13]. To fully understand the process of transferring knowledge, it is essential first to grasp the meanings of learning and knowing. A solid mastery of information forms the foundation for deeper and more meaningful understanding [13]. Hence, transfer of learning is commonly understood as the process by which knowledge and skills acquired in one context can be applied or transferred to another.

In the psychology of learning, transfer of learning refers to the process of transmitting knowledge that creates a connection between the knowledge provider and the recipient in an active and communicative interaction [14]. As cited from L.D. Crow and A. Crow in Mansyur define transfer of learning as the transfer of habits of thinking, feelings, knowledge, or skills from one situation to another learning context [14].

In the book compiled by Bransford, transfer of learning is described as the ability to apply knowledge or skills acquired in one situation to another [15]. Therefore, every required ability must first be learned and then adapted to subsequent situations.

The various definitions of transfer of learning emphasize a common theme: the application of acquired knowledge to new situations. However, these theories do not operate in isolation. For instance, Edward Thorndike's *Theory of Identical Elements* emphasizes similarity of context, while Charles Judd's *Theory of Generalization* highlights the learner's ability to extract and apply general principles. These perspectives, though different, complement one another. Thorndike's approach is beneficial for procedural learning in Islamic Religious Education, such as performing ablution, where precise steps are crucial. In contrast, Judd's theory becomes relevant in moral education, such as applying the concept of justice from fiqh to daily social life.

3.2 Types of Learning Transfer

In psychology, transfer of learning is a broad and flexible area of discussion, supported by various theories. One such theory is the Theory of Identical Elements by Edward Thorndike, which posits that transfer occurs when there are identical elements between the original learning situation and the new one. The greater the number of similar components, the higher the likelihood of successful transfer [16]. In contrast to Thorndike, Charles Judd, through his Theory of Generalization, argues that transfer is not merely about the similarity of elements, but also about the learner's ability to understand general principles that can be applied across different situations [17].

On the other hand, there is the Gestalt Theory, also known as the theory of insight, which emphasizes that transfer occurs due to a comprehensive understanding of the structure or meaning of the material being learned, rather than merely its parts [18]. This theory highlights insight or deep understanding as the key to effective transfer of learning. In the context of Islamic Religious Education, students who understand the values of tolerance within Islamic teachings can apply these values to their diverse social lives. Meanwhile, Kurt Lewin, through Field Theory, views transfer of learning as the result of interactions between the individual and their psychological environment [19]. There are also cognitive theories of understanding, as well as behavioral theories of habituation [20].

The theories mentioned above are interconnected and related to the topic of transfer of learning, resulting in a variety of perspectives. However, one theory that frequently appears is Gagné's theory, as presented in his book, *The Conditions of Learning*. Cited in Muhibbin Syah, he adopts Robert M. Gagné's view, stating that the transfer of learning, or transfer of knowledge, is divided into four types [10], namely:

3.2.1 Positive Transfer

Positive transfer is a form of learning transfer that occurs when previous learning experiences contribute to or positively influence the understanding and mastery of new material or skills.

For example, in Islamic Religious Education, students who have learned the correct procedure of performing *wudu* (ablution) will find it easier to understand and perform the prayer, as *wudu* is

a prerequisite for a valid prayer. This is an example of positive transfer, aligning with Thorndike's theory, as both tasks share identical procedural elements.

3.2.2 Negative Transfer

Negative transfer is a process in which previous learning experiences become an obstacle to acquiring new skills or information. This occurs when concepts, habits, or responses that have been previously formed are incompatible or even contradictory with the latest learning context, resulting in cognitive interference. It should be emphasized that negative transfer often arises from partial understanding, erroneous experiences, or unreflected habits. This tendency can be considered a memory error and becomes a barrier to new insights, thus hindering personal growth.

For example, in Islamic Religious Education, after learning that music is considered haram (forbidden) within a specific fiqh context, students may mistakenly conclude that all forms of art are haram, including calligraphy or poetic praise of the Prophet.

3.2.3 Vertikal Transfer

Vertical transfer refers to the transfer of learning influence from simpler or more basic material to more complex and advanced material. This transfer requires a hierarchical relationship where mastery of fundamental concepts or skills becomes a prerequisite for understanding subsequent learning.

For example, in Islamic Religious Education, a student who has learned the *Hijaiyah* letters and how to read the Qur'an correctly (*tartil*) then uses these skills to study Qur'anic tafsir (interpretation). Mastery of basic Qur'anic reading lays the essential foundation for progressing to a deeper understanding of the meanings and interpretations of Qur'anic verses.

3.2.4 Lateral Transfer (Horizontal)

Lateral transfer, also known as horizontal transfer, occurs when knowledge or skills learned in one context are applied in another context of similar complexity. This form of transfer emphasizes the ability to generalize principles across different learning situations that are not hierarchically related.

A student who has understood the concept of honesty in moral education (*akhlaq*) can then apply it in *fiqh* lessons, such as

when discussing honesty in trade according to Islamic law. This demonstrates lateral transfer and supports Judd's generalization theory, which posits that abstract values, such as honesty, are transferred across contexts with different surface characteristics. The ability to abstract and apply a moral principle across disciplines reflects higher-order cognitive processing and the success of meaningful learning transfer.

3.3 The Occurrence of Forgetfulness in Individuals

Forgetting is the inability of an individual to recall or reproduce information that was previously acquired or learned [22]. This ability involves encoding, storing, and retrieving experienced or known information [23].

As described earlier, forgetting is defined as the inability of an individual to recall or reproduce information that was previously acquired or learned. It represents a natural and often unavoidable part of the cognitive process. Forgetting occurs when the information that has been encoded and stored in the brain becomes inaccessible or is no longer retrievable when needed. This process involves three main stages of memory functioning: encoding, which is the initial process of perceiving and learning information; storage, which refers to maintaining that information over time; and retrieval, which is the ability to access and bring the stored information back into conscious awareness.

When forgetting happens, it is typically due to breakdowns or disruptions in one or more of these stages. For example, information may never have been appropriately encoded in the first place, or it may have decayed over time due to a lack of reinforcement. It can also be caused by interference from other information, making retrieval more difficult. Forgetting is influenced by various psychological, biological, and environmental factors, and understanding its mechanisms is crucial for enhancing learning strategies and improving memory retention.

In the context of learning psychology, forgetting refers to the process of losing stored memories. Memory is understood through various models known as models of memory. The first is the buffer model, and the second is the human associative memory model (HAM model) [22]. Regarding the structure of memory, there are

three systems: the sensory memory system, the short-term memory system (STM), and the long-term memory system (LTM)[24].

Feldman explains that forgetting can occur either temporarily or permanently, depending on how the information is stored, reinforced, and managed.[8] Similarly, Atkinson and Shiffrin emphasize that information not regularly reinforced is at high risk of being lost [5]. Meanwhile, forgetting can also result from interference by either new or old information [6]. From an Islamic perspective, forgetting can be categorized into three types: forgetting specific aspects of events, forgetting due to negligence, and forgetting due to a loss of attention [9].

3.4 Theories of forgetting in learning psychology

Various theories have been developed to explain the causes and mechanisms of forgetting. The following are some crucial and significant theories of forgetting that are important to examine:

3.4.1 Decay Theory

This theory states that memory tends to fade over time if the information is not rehearsed or utilized. According to Ebbinghaus, the forgetting curve illustrates the decline in memory retention as time passes without the use or reinforcement of the information [19].

3.4.2 Interference Theory

This theory posits that forgetting is caused by interference from competing information. Interference is divided into two types: proactive interference, where old information hinders the recall of new information; and retroactive interference, where new information disrupts the recall of previously learned material [6].

3.4.3 Consolidation Memory Theory

According to this theory, forgetting is viewed as a failure in the memory consolidation process, in which new information has not been fully processed or encoded into long-term memory [26].

3.4.4 Disuse Theory

One theory emphasizes that information will be forgotten if it is not consistently reinforced through use. In this context, "disuse" refers to a condition in which information is no longer accessed, leading to the natural fading of memory traces over time [27].

3.5 Efforts to Prevent and Reduce the Potential Occurrence of Forgetting

Strategies can be implemented to minimize forgetting in individuals, such as spaced repetition, which involves reviewing material at specific intervals to allow the brain to process information more effectively and consolidate it.[28]This approach is considered to improve the quality of memory storage and enhance information retention capacity [29]. It provides the brain with a better opportunity to recall the information [27]. It can also be done by linking new information with previously acquired knowledge (elaboration) to create meaningful connections [30], or by engaging in retrieval practice, which strengthens memory connections and facilitates easier recall of information in the future [28]. This strategy has been proven effective in strengthening memory retention [25].

Additionally, sleep can also serve as a means to minimize forgetting in individuals, as it plays a crucial role in memory consolidation [32]. Furthermore, other strategies to reduce forgetting in individuals, as explained by Muhibbin Syah in his book "*Psikologi Pendidikan Dengan Pendekatan Baru"* and subsequently cited in his journal [33], are presented as follows:

3.5.1 Overlearning and Extra Study Time

Overlearning refers to the learning effort that goes beyond the basic mastery of a particular subject matter. Meanwhile, extra study time refers to the attempt to increase the allocation of study time or the frequency of learning activities. In the context of Islamic Religious Education, overlearning can be applied through daily repetition of memorizing short surahs by extending the time dedicated to memorization; the more frequently it is repeated, the stronger the memorization becomes.

3.5.2 Mnemonic Device

A mnemonic device is a special technique used as a mental "hook" to help students encode information into their cognitive system [34]. Some of the most well-known types of mnemonic techniques include:

3.5.2.1   Rhyme

A rhyme consists of words and terms that students need to remember. This rhyme is more effective when accompanied by musical notes, allowing it to be sung. In Islamic Education, rhymes

can be used to memorize the pillars of Islam or the names of the prophets.

3.5.2.2 Acronym

The initial letters of names or terms that need to be remembered. In Islamic Religious Education, for example, to remember the prayer times, the acronym ISLAM can be used (Isha, Subuh, Dhuhr, Asr, and Maghrib).

3.5.2.3 Peg Word System

Using previously mastered components as anchors to recall new information [35]. Words are paired to help remember terms or concepts that have similarities. In the context of Islamic Education, students can connect concepts such as "prayer–supplication "and fasting–abstinence."

3.5.2.4 Method of Loci

Using specific and well-known places to associate with words or terms that need to be remembered. For example, the names of cities or famous buildings are used to recall certain terms. In Islamic Education learning, students can visualize a mosque as a place to remember the sequence of wudhu by imagining the areas for washing the face, hands, and feet.

3.5.2.5 Key Word System

This technique is commonly used in teaching foreign languages. For example, foreign words are associated with local words that sound similar to the target word being learned, and then the meaning of the foreign word is identified. In Islamic Education, this technique can be applied to memorize the meanings of words in the Qur'an. For instance, the word "*sabr*" is linked to the local word "*sabar*".

3.5.3 Grouping (clustering)

Clustering is a technique used to reorganize material items into smaller, more logical groups that are easier to remember. These groups are formed based on similarities or likeness in meaning or pronunciation.

In Islamic Education, materials can be grouped, such as the names of the Ulul Azmi Prophets, categories of prayer (obligatory and sunnah), or types of impurities (*najis*) in *fiqh*.

3.5.4 Serial Position Effect

To obtain a positive effect from the serial position effect, students are advised to arrange lists of words (such as names,

terms, etc.) starting and ending with the key words that need to be remembered. These important words should be written in bold letters or bright colors to make them easily recognizable and memorable.

3.6 Barriers to Transfer of Knowledge (Unsuccessful Transfer) and Causes of Forgetting

Obstacles to successful knowledge transfer and the phenomenon of forgetting are interconnected in the psychology of learning. Many of the same factors that hinder transfer also contribute to the loss of information over time. Several factors inhibit the successful transfer of knowledge and simultaneously contribute to the occurrence of forgetting. These include insufficient understanding of basic concepts, the disconnect between learning and real-life applications, over-reliance on theoretical instruction, and a lack of reinforcement or practice [3]. These are not only barriers to transfer but also triggers for memory decay and interference.

According to the decay theory, as introduced by Ebbinghaus, information that is not reinforced tends to fade from memory over time [26]. Likewise, interference theory describes how competing information, whether new or old, can disrupt recall. This includes both proactive interference (older memories interfering with new ones) and retroactive interference (new learning affecting recall of earlier content) [9] Other explanations emphasize that memory traces naturally weaken when not retrieved, as supported by studies showing that unused information gradually fades until it disappears entirely [36], [37].

Furthermore, monotonous teaching methods and context-insensitive instruction, often seen in rote-based Islamic Religious Education, further intensify both forgetting and failed transfer. When students memorize verses or hadiths without understanding their application, the transfer to real-life contexts is inhibited. According to Feldman, ineffective memory reinforcement leads to either temporary or permanent forgetting, depending on the strength of encoding and storage [5].

From an Islamic psychological perspective, forgetting can stem from negligence, loss of attention, or insufficient repetition

factors, also acknowledged in Western cognitive frameworks [25], [33]. Moreover, the phenomenon of motivated forgetting, where information is intentionally suppressed due to emotional or personal reasons, can also contribute to this process [31].

Strategies such as spaced repetition and retrieval practice directly counteract decay and interference by strengthening memory traces over time. The use of mnemonics in Islamic Education, such as acronyms or rhymes, to memorize the pillars of Islam can reduce cognitive overload and promote long-term retention. These techniques align with the Atkinson-Shiffrin memory model, which highlights the importance of encoding and rehearsal for information transfer from short-term to long-term memory [28], [29].

3.7 The Interplay Between Knowledge Transfer and Forgetting in Islamic Religious Education

The dynamic relationship between knowledge transfer and forgetting is pivotal in educational psychology. While knowledge transfer involves applying acquired knowledge or skills to new contexts, forgetting pertains to the inability to retrieve previously learned information. These processes are interconnected; effective knowledge transfer can mitigate forgetting, whereas certain learning methods may exacerbate it [38], [39].

One significant barrier to effective knowledge transfer is rote memorization. Although this method facilitates quick recall, it often leads to superficial understanding, making information more susceptible to forgetting and less adaptable to new situations [1]. In contrast, meaningful learning, which involves deep comprehension and connecting new information to prior knowledge, enhances both long-term retention and the ability to transfer knowledge effectively [4].

In the context of Islamic Religious Education, the emphasis on rote memorization, such as memorizing Qur'anic verses without understanding, can hinder students' ability to apply religious teachings in real-life situations. This approach leads to rapid forgetting and limited practical application of religious principles [7].

Analyzing this through the lens of educational psychology, Thorndike's theory emphasizes that learning results from forming

associations between stimuli and responses, which are strengthened through repetition [38]. This perspective supports the value of practice and reinforcement. In contrast, Gestalt theory posits that learning involves insight and holistic understanding, highlighting comprehension as central to knowledge transfer [39]. These two perspectives suggest that a balanced instructional approach in Islamic Religious Education, combining repetition with deep understanding, is essential.

To enhance knowledge transfer and reduce forgetting in Islamic Religious Education, educators should adopt strategies that promote meaningful learning. Instructional approaches such as contextual learning, problem-based learning, and reflective practice help students link religious teachings to daily life, fostering more profound understanding and better retention [2], [4]. Furthermore, retrieval practice and spaced repetition have been shown to strengthen memory and facilitate long-term retention of complex material, including religious content [2].

To provide clarity and enhance comprehension, the following table and figure illustrate the concepts of knowledge transfer and forgetting, as follows:

Table 2. Taxonomy of Key Findings in Transfer of Knowledge and Forgetting

Domain	Sub-Domain	Indicators/Examples
Transfer of Knowledge		Positive, Negative, Vertical, Lateral
	Types of Transfer	Thorndike (Identical Elements), Judd (Generalization), Gestalt, Field Theory, Gagné
	Psychological Theories	
	Educational Applications	Wudhu → Salat (positive transfer), Tolerance → Social ethics (lateral transfer)
	Barriers to Transfer	
		Rote learning, Lack of real-life context, and Minimal reinforcement
Forgetting	Causes of Forgetting	Decay, Interference, Retrieval Failure, Disuse
	Memory Models	

	Islamic View	Atkinson-Shiffrin Model (STM → LTM), Sensory Memory, Associative Memory
	Psychological Interventions	
		Forgetting due to negligence, loss of attention, or divine wisdom
		Spaced repetition, Retrieval practice, Elaboration
		Contextual learning, Mnemonic devices, Overlearning, Reflective practice
Educational Integration	Instructional Strategies	
	Barriers to Integration	Monotonous instruction, Misalignment with students' reality
	Impact on Islamic Learning Outcomes	
		Weak recall of Qur'an memorization, failure to apply moral teachings in daily life
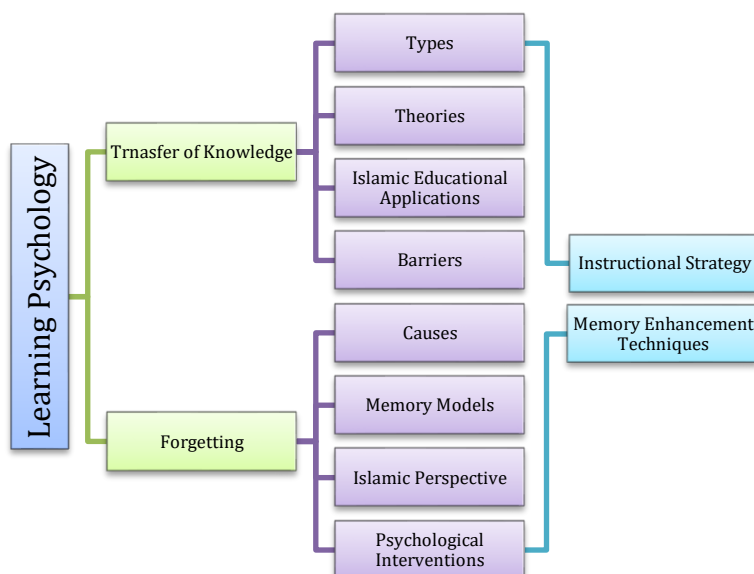
Figure 2. Conceptual Taxonomy of Transfer Knowledge and Forgetting in Islamic Religious Education Based on Educational Psychology Perspectives

4. CONCLUSION

This study highlights the critical role of contextual learning in enhancing knowledge transfer and mitigating forgetting within the learning process. Specifically, integrating real-life applications of knowledge significantly strengthens students' ability to retain and apply what they have learned, thereby reducing the negative effects of forgetting. This finding underscores that effective learning extends beyond rote memorization to encompass meaningful engagement with material in varied contexts.

Practical recommendations for educators, particularly in Islamic Religious Education, include implementing pedagogical techniques such as problem-based learning, case studies, and reflective practice, which actively involve students in applying concepts to everyday life. Additionally, incorporating regular spaced repetition and retrieval practice can reinforce memory retention. Attention to students' physical and psychological well-being, such as promoting adequate sleep and minimizing distractions, further supports these learning processes.

For future research, it is essential to explore longitudinal studies on the effectiveness of mnemonic devices and other memory enhancement strategies within Islamic education settings. Investigating how these approaches influence sustained knowledge transfer and behavioral outcomes over time will provide deeper insights into optimizing religious education.

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