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# Enhancing Maharah Kitabah in Arabic Language Education: Improving Arabic Typing Proficiency through Mnemonic Arabic Keyboard Techniques

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**Abstract**

In the modern era, illiteracy is no longer defined by the inability to read and write but by the inability to navigate digitalization, which cannot be achieved without mastering the keyboard. To ensure Arabic language education integrates seamlessly with the digital world and enhances Maharah Kitabah, proficiency in Arabic keyboard typing is indispensable. However, many students face challenges in typing Arabic efficiently, relying heavily on visual aids and stickers rather than developing muscle memory. This study investigates the effectiveness of mnemonic-based techniques in mastering the Arabic keyboard to improve students' Arabic writing skills at Universitas Islam Internasional Darullughah Wadda'wah. Employing a mixed-methods approach, qualitative data from interviews and observations were combined with quantitative analysis of pre- and post-test performance. Results demonstrate significant improvements, with participants increasing their typing speed from 12 to 25 words per minute and accuracy from 55% to 85% ($p < 0.01$). The mnemonic approach proved effective in fostering muscle memory, enabling students to achieve proficiency within three sessions. By bridging the gap between Arabic linguistic excellence and digital literacy, this research offers a transformative pathway for integrating Arabic language education into the digital era, enhancing productivity, and ensuring students are better prepared for academic and professional success.

**Keywords:** Arabic Keyboard, Digital Literacy, Mnemonic Techniques, Maharah Kitabah, Typing Proficiency.

## A. Introduction

The meaning of literacy has expanded alongside technological advancements. In the digital era, literacy is no longer confined to traditional reading and writing skills; it now encompasses the ability to operate digital devices and type. For students studying the Arabic language, the skill of typing in Arabic script is particularly vital, as it supports teaching and

learning processes, facilitates the creation of written assignments, and enhances digital communication.

However, many students lack adequate skills in typing Arabic, especially when using the Arabic Keyboard, One of the technologies to support text writing, including that of Arabic, is a computer keyboard (Aknuranda et al., 2020). This difficulty presents a significant barrier to the learning process, given that Arabic has a letter structure and writing system that differs from languages such as Latin. Therefore, effective learning methods are necessary to address these challenges and enhance students' typing abilities in Arabic.

Selecting appropriate and effective learning methods can improve students' achievements in writing (Ramli et al., 2022), the use of the Arabic Keyboard supported by a mnemonic approach is a promising solution. The mnemonic approach, which employs memorization techniques to aid information retention, can help students master the placement of letters and symbols on the Arabic Keyboard more quickly and efficiently. Consequently, improvements in students' typing skills are anticipated, which would enhance their ability to write and process texts in Arabic.

This research is grounded in several years of empirical experience in teaching and utilizing the Arabic Keyboard at UII Darullughah Wadda'wah. The focus of this study is to explore the effectiveness of the mnemonic approach in teaching the Arabic Keyboard, as well as to identify the time required for students to achieve proficiency in this skill. Additionally, this study aims to assess the impact of mastering the Arabic Keyboard on time efficiency in academic writing.

In This research, it is highly recommended for those who will be writing a lot and have mastered the keyboard typing system with "10 fingers." The typing method used to achieve this ability is not much different from before, namely the typing method using 10 fingers. Typing with 10 fingers is a typing method in which each finger taps on the keys according to a specific task and area of operation, and finger movements must be done with regular and automatic rhythms (Nasiha et al., 2023).

In the modern era, proficiency in typing Arabic efficiently remains an unresolved challenge, especially for university students majoring in Arabic language studies. Despite the necessity of this skill for academic and professional purposes, many students continue to struggle with typing in Arabic fluently and accurately. This issue becomes apparent as students resort to temporary solutions, such as applying stickers on their keyboards to indicate each Arabic letter, thus relying heavily on visual aids rather than muscle memory or typing proficiency.

This gap in typing proficiency highlights a critical area for intervention, as the lack of efficient Arabic typing skills directly impacts students' productivity and can create additional mental strain. Moreover, this gap can hinder students' overall progress in Arabic writing skills (Maharah Kitabah) and time management, both essential for effective learning and practical applications in their future careers. Addressing this gap is crucial, as advancements in Arabic typing methods, particularly those leveraging mnemonic techniques, could provide a sustainable solution to enhance typing fluency, improve writing efficiency, and support a more streamlined educational experience for Arabic language learners. This ongoing need has motivated the researcher to investigate methods that enable faster and more intuitive Arabic typing. This research aims to bridge the identified gap, providing students with practical skills that contribute to both academic success and enhanced digital literacy in Arabic.

Previous studies indicate that Voice-Enabled Interfaces (VEI) can provide faster Arabic text composition compared to Traditional Email Interfaces (TEI), though users generally find TEI more comfortable and productive due to challenges with voice recognition accuracy and editing capabilities (Majrashi, 2022). This suggests a limitation in current Arabic input technologies, especially in educational contexts, where efficient and reliable text input methods are essential. However, the studies reviewed could benefit from greater coherence, as they are presented separately without explaining how findings from one study complement or contradict another. For example, the speed advantages of VEI could be contextualized with research on alternative keyboard layouts, providing a more comprehensive understanding of methods to enhance Arabic typing proficiency.

Moreover, this review focuses primarily on empirical findings, lacking a robust theoretical framework. The inclusion of theories such as psycholinguistics, which examines cognitive processing in language acquisition, and usability theory, which assesses user interactions with technology (Norman, 2013), would establish a stronger foundation for why mnemonic approaches or optimized layouts are beneficial in developing Arabic language skills. These theories could contextualize the cognitive benefits of mnemonic techniques and structured layout designs, clarifying the psychological basis for these methods' effectiveness in enhancing Arabic typing.

While input technology limitations are acknowledged, particularly in educational settings, the review would benefit from a clearer articulation of the implications for Arabic language learning specifically. Highlighting these educational applications would strengthen the argument for the relevance of this research for Arabic educators and students. Benabid

Najjar conducted a project that designed an optimized Arabic keyboard layout for single-pointer devices, such as smartphones and gaze-controlled interfaces (Benabid Najjar, 2013). This study demonstrated that an optimized layout, which reduces pointer movement and aligns with Arabic character transition frequencies, significantly improves typing speed compared to traditional layouts. This finding supports the importance of well-designed layouts for Arabic typing, especially on digital platforms, and aligns with the mnemonic approach as an innovative method for enhancing Arabic typing skills.

Furthermore, while the review emphasizes the benefits of VEI and optimized layouts, it could be enriched by addressing limitations in previous studies. By discussing the potential drawbacks of VEI and layout optimizations—such as accuracy issues in VEI (Majrashi, 2022) or the unfamiliarity with non-QWERTY Arabic layouts (Aknuranda et al., 2020) the review could present a more balanced view. This would further support the need for alternative methods, such as mnemonic strategies, in addressing Arabic typing challenges.

Existing studies align closely with the objectives of this research, particularly in examining how technology supports language learning through writing. Technology plays a crucial role in facilitating language acquisition, especially in writing, a productive skill that enables students to convey thoughts through various methods and expressions (Alharbi, 2023; Haleem et al., 2022). Proficiency in keyboard use, specifically with the Arabic keyboard, forms the basis for effective writing capabilities, making digital tools more accessible and intuitive for language learners.

Additionally, online resources enhance interaction between students and instructors, fostering engagement that is essential in language learning (Alexander, 2023). The Arabic keyboard component in this study contributes to this by simplifying the physical demands of learning, aiding students' visual-motor coordination in interactive tasks (Crandall & Karadoğan, 2021). Through structured writing practice, mnemonic techniques can assist students in familiarizing themselves with the Arabic keyboard layout, improving typing speed and accuracy.

Advancements in digital writing, supported by mnemonic strategies and keyboard mastery, demonstrate that without a solid grasp of the Arabic keyboard, the full educational benefits of digital learning and effective writing practices cannot be realized.

Lastly, the current review could clarify the gap in research by emphasizing the specific issues mnemonic approaches can address. While suggesting mnemonic methods as a solution, it could better highlight how these techniques solve particular issues in Arabic

typing, reinforcing the relevance and urgency of this approach within the existing research landscape.

The integration of technology into Arabic language learning has significantly transformed the educational landscape, offering innovative tools to enhance teaching and learning processes. For instance, platforms such as Google Classroom and Zoom Meeting have facilitated greater accessibility, efficiency, and flexibility, especially during online learning. These tools enable interactive and multimedia-based sessions that actively engage students in activities such as vocabulary practice and simulated conversations (Azhar & Rahmawati, 2022). Additionally, digital applications like Kahoot! and HATI have proven effective in improving student engagement by providing automated assessments that track progress and minimize the risk of academic dishonesty (Al Ahqaf et al., 2022; Hamid et al., 2023).

Advanced technologies, such as Augmented Reality (AR) and Virtual Reality (VR), have further enhanced Arabic language education by creating immersive learning environments. Through these tools, students can engage with virtual characters or participate in simulated Arabic-speaking scenarios, fostering a deeper understanding of linguistic and cultural contexts (De Freitas et al., 2010; Kuswinardi et al., 2023). Meanwhile, the development of root-based digital dictionaries has offered students an intuitive way to understand Arabic morphology, aiding in vocabulary acquisition and grammar mastery. These digital resources are particularly beneficial for fostering independent learning (Rahimadinullah et al., 2023).

Interactive media, such as digital textbooks and animated videos, also contribute to effective Arabic language learning. Digital books enable students to access learning materials from any device, while animated videos employ visual storytelling techniques to make lessons more engaging and effective (Hamidah et al., 2023; Hijriyah et al., 2022). Similarly, the use of platforms like Google Classroom and Microsoft Teams has created collaborative and flexible virtual learning spaces. Studies indicate that these platforms have significantly enhanced academic performance compared to traditional teaching methods (Kusuma et al., 2019).

While previous research has focused on integrating advanced technologies like AR, VR, and interactive media into Arabic language education, this study distinguishes itself by addressing a seemingly simple yet foundational aspect of digital literacy: the Arabic keyboard. The innovation of this research lies in its focus on enhancing keyboard proficiency through mnemonic techniques, emphasizing how this skill is a critical gateway

to the digital world. Unlike prior studies that primarily explore digital tools as supplementary aids for learning, this research delves into the fundamental mechanics of digital communication, equipping students with the ability to type efficiently in Arabic, thereby unlocking broader digital competencies.

The keyboard might appear to be a simple topic. However, it serves as the pathway for individuals to access the digital world. Without mastering the keyboard, one cannot fully engage with digitalization. This is akin to a person harboring words in their heart but unable to express them, leaving their message unspoken and their interlocutor misunderstood. Similarly, someone surrounded by digital technology yet unable to navigate a keyboard—or doing so inefficiently—will fail to connect with the digital world and comprehend its dynamics. Mastery of the keyboard is not just a technical skill, it is the key to unlocking the broader possibilities of digital interaction and communication. Just as one seeks to master a language through a sequence of vocabulary and letters (Hanifansyah & Mahmudah, 2024), similarly, to excel in *insya* and *imla'* tasks within frequently used Microsoft Word technology, one must first attain proficiency in Arabic keyboard typing. At Darullughah Wadda'wah (DALWA), the majority of teachers, approximately 90%, possess advanced proficiency in Arabic (Solehudin & Arisandi, 2024), with many having completed their studies at renowned institutions in Mecca, Medina, Egypt, and Yemen. However, despite their strong Arabic language skills, most students struggle to master Arabic typing. This is because Arabic typing is a distinct skill that involves technological proficiency, requiring a different set of competencies beyond language mastery.

By focusing on the Arabic keyboard, this research highlights a practical and impactful approach that bridges the gap between traditional language education and digital literacy. This study's unique contribution lies in its ability to address a core challenge that has often been overlooked in previous studies, offering a novel methodology to empower students with the skills necessary for thriving in both academic and professional digital environments.

Through this research, it is expected that effective learning strategies will be identified and can be adopted by other educational institutions to improve Arabic typing skills among students and accelerate digital literacy in the Arabic language. This study also aims to contribute to the development of proficient writers who are skilled in using the Arabic Keyboard, ultimately supporting the dissemination of literature and knowledge in Arabic, This ability will be very beneficial in the future because Arabic is one of the most widely spoken languages in the world and is taught extensively in schools and universities,

as well as used in workplaces and media (Benabid Najjar et al., 2021).

The mnemonic method is a technique used to help the memory process by optimizing visual and associative imagination, A mnemonic is a method of memorizing something with "assistance." The assistance can take the form of acronyms, object analogies, or "linking" (remembering something based on its connection to something else) (Rahayu et al., 2023).

## B. Method

This study adopts a mixed-methods approach, combining qualitative and quantitative methods to comprehensively analyze the effectiveness of mnemonic techniques in enhancing Arabic typing proficiency (Maharah Kitabah) (Creswell, 2021). Data collection involved several processes, each tailored to address specific aspects of the research objectives. Participants in this study are 30 students from Universitas Islam Internasional Darullughah Wadda'wah, selected purposively based on their willingness to participate and their diverse backgrounds in Arabic typing skills. Pre-tests and post-tests were conducted to measure participants' typing speed and accuracy before and after the training sessions. The pre-test provided baseline data on students' initial abilities, while the post-test assessed improvements following the intervention. This method was chosen for its ability to provide measurable and comparable results, allowing the researcher to quantify the impact of the mnemonic approach. The training sessions themselves formed the intervention phase, consisting of three structured sessions that focused on mnemonic-based keyboard mastery. Participants were introduced to the Arabic keyboard layout using mnemonic cues, practiced typing simple Arabic phrases with guided feedback, and later engaged in independent exercises to reinforce their skills. Mnemonic techniques were selected due to their proven effectiveness in enhancing memory retention and recall, particularly for tasks requiring spatial awareness, such as typing.

Semi-structured interviews were also conducted after the training sessions to explore participants' experiences, challenges, and perceptions of the mnemonic techniques (Adeoye-Olatunde & Olenik, 2021). This qualitative method provided in-depth insights into individual experiences, capturing nuances not evident through quantitative data. Open-ended questions guided the discussions, focusing on participants' struggles, progress, and usability of the mnemonic approach. Observations during training sessions complemented the interviews by offering real-time insights into participants' behaviors, challenges, and adaptability. Initially, participants' difficulties in locating Arabic letters on the keyboard were noted, followed by their gradual improvement in typing fluency and confidence during

subsequent sessions.

Responses from interviews and observations were analyzed using thematic analysis to identify recurring themes related to the effectiveness of the mnemonic techniques and the challenges faced by participants{Citation}. This approach provided a structured framework for interpreting qualitative data. The training itself followed a three-phase model for skill development: an orientation phase where participants were introduced to mnemonic techniques and the Arabic keyboard layout, a practice phase emphasizing guided learning with incremental complexity, and a consolidation phase where independent practice fostered muscle memory and confidence in Arabic typing. By integrating these methods, the study captured both immediate improvements and long-term retention of skills, addressing a critical gap in digital literacy within Arabic language education.

Responses from interviews and observations were analyzed using thematic analysis to identify recurring themes related to the effectiveness of the mnemonic techniques and the challenges faced by participants. For quantitative data, pre-test and post-test scores were analyzed using statistical methods, including a paired-samples t-test, to determine the significance of improvements in typing speed and accuracy.

To ensure the validity and reliability of the quantitative analysis, the test instruments were reviewed by experts in Arabic language education and digital literacy. A pilot test was conducted, and consistency was verified using Cronbach's Alpha ($\alpha = 0.87$) and inter-rater reliability (Cohen's Kappa = 0.85). The statistical results, including a significant increase in pre-test and post-test scores ($p < 0.01$) and a large effect size ($d = 1.2$), confirm the robustness of the findings. These steps ensure that the analysis is both methodologically sound and contextually relevant.

## C. Result and Discussion

Arabic proficiency at Darullughah Wadda'wah is remarkably strong (S. Baharun & Hanifansyah, 2024), however, this excellence does not align with Arabic typing skills. Without adequate typing abilities, this linguistic mastery risks becoming futile in the digital world—a challenge mirrored in other pesantren and academic institutions. In the modern era, a recurring question and concern revolves around the ability to type in Arabic efficiently, which has become a significant challenge, particularly for university students majoring in Arabic. Many of these students still struggle to type in Arabic fluently. Even when they do pursue Arabic studies, their laptop keyboards often end up covered with stickers indicating each Arabic letter, providing them with visual assistance in typing. Arabic language learning involves four main skills: *Istima'* (listening), *Kalam* (speaking), *Qira'ah*

(reading), and *Kitabah* (writing) (Nur Hanifansyah & Syarif Muhammad Syaheed Bin Khalid, 2023). In this discussion, we focus on *Kitabah*, as it plays a vital role in mastering the Arabic language.

This study utilizes several key terms that warrant further clarification to ensure their contextual and academic relevance. The term "Maharah Kitabah" refers specifically to writing proficiency in Arabic, encompassing both technical skills like script formation and the broader ability to compose coherent texts in Arabic. It is a crucial component of language acquisition, often emphasized in Arabic language education to foster effective written communication. Additionally, the concept of "Mnemonic Arabic Keyboard Techniques" refers to the use of memory aids or strategies to enhance the learning and retention of Arabic keyboard layouts. These techniques involve associating keyboard positions with visual or spatial cues to accelerate the learning process and establish muscle memory. While the use of mnemonic devices is widely recognized in educational psychology, their application in mastering keyboard skills, especially for Arabic, represents an innovative adaptation in this study. Lastly, "Digital Literacy in Arabic" signifies the competency required to engage with Arabic digital content, such as typing, editing, and communicating in Arabic within digital platforms. These clarifications aim to contextualize the terms within the framework of this research, aligning them with broader academic discourse on language learning and technology integration. This ongoing concern and the challenges associated with it have inspired the researcher to explore methods for faster Arabic typing. Such advancements are anticipated to not only enhance students' writing skills (Maharah Kitabah) but also improve their time management, offering a more efficient learning experience.

In the context of using Arabic Keyboard, this method is applied by remembering the position of letters through a description of the relative position on the keyboard, not by memorizing the position of letters based on the Latin letter labels on the keys. For example, *the letter alif* (ا) is remembered as the letter located in the "center right" of the keyboard, while the letter *lam* (ل) is remembered as the letter located in the "center of the left section." By avoiding direct mentions of key positions such as "H" for *alif* and "G" for *lam*, this method prevents confusion that may arise from searching for the Latin key in question, making the recall process more efficient and intuitive by Visualization in our mind, By visualizing through imagination, it becomes easier for us to remember (Mahmudah et al., 2024).

Here is a table showing the alphabetical order on the Arabic keyboard that we will

master.

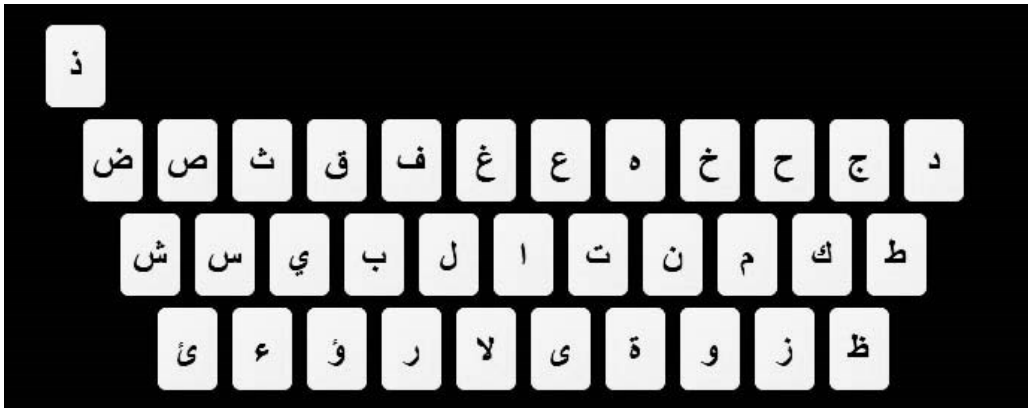


**Image 1**. the Arabic keyboard that we will master

Since we have mastered the Alif and Lam Formation, we will show the following table that we have learned, and we add هـ until we can write the words of Allah, with the diction "on the top right a little not far from the alif" so that we do not hesitate to type the words of Allah

Since we have mastered the formation of the letters Alif and Lam, we will display the following table that we have learned. Next, we will add the letter هـ so that we can write the word "Allah." Use the phrase "on the top right a little not far from Alif" so that we feel confident when typing the word "Allah.", so even though هـ is actually on the I button, we don't need to look for I, just rely on intuition, where the هـ is, then in the future we will get used to typing Arabic because of the musle memory recorded in our hands, that's why if we type a computer or cellphone we never care and look for where the letters are. we will look for it.

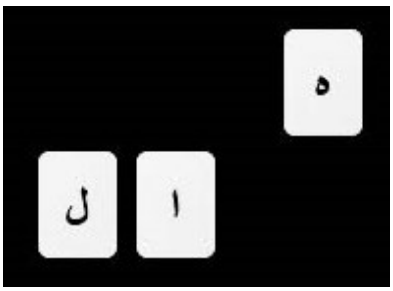


**Image 2.** To write “Allah”

Next, we remember the neighboring letter or the letter that is next to it, namely خ،ح،ج،د, we remember it with the diction "top right from د to خ ", still with the diction "neighbor or side" then we use the diction "top left and far left center", namely from the middle ش،س and then ض،ص, Memory is the human power to receive, store and reproduce understanding, impressions or responses. The ability of humans to learn is greatly influenced by their memory (H. Baharun, 2018).

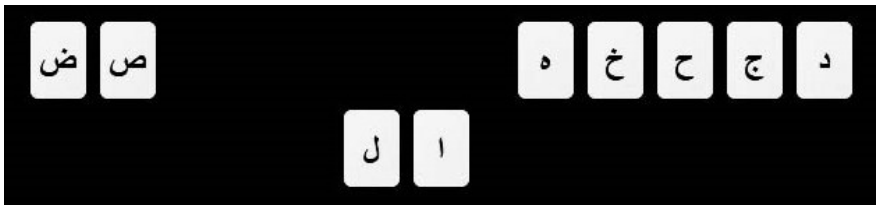


**Image 3.** to master arabic keyboard typing د ج ح خ ه ص ض ا ل

As if we were going to collect a puzzle, then we try to fill the top, in order to satisfy our psychology soul who is thirsty for knowledge, we fill the top first, we use the diction "above the alif on the right part of the sequence of ع، غ، ف ، ق، and after ق there is ث we give the title to ث is a "stray letter", because he is among the letters that are separate from his "neighbor", the giving of diction and titles is only for the "hook" of reminders, for the way of remembering it adapts to our imagination, I use stray because it is not sequential like the other letters, we can name it "separate" and others, that's how the mnemonic approach works.

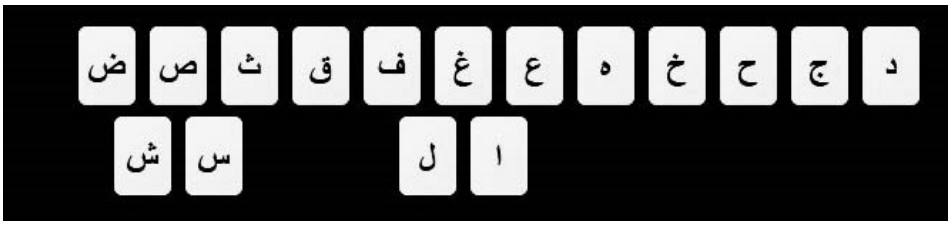


**Image 4**. The mastery of Arabic keyboard typing has reached 50%

Certainly, the environment plays a crucial role , someone accustomed to keyboard stickers may feel reliant on them. By sharing inspiring success stories of mastering Arabic typing without stickers, we can shape their mindset. Over time, these stories create a mental environment of motivation, encouraging them to embrace direct Arabic keyboard typing with confidence (Muhamad Solehudin et al., 2024).

Then next is the middle right corner there is ط and the right corner below it is ظ, then we complete the middle part from after ط to the left is ت ، ن ، م ، ك , if in our memory of course ن،م،ل،ك but ل is already in the middle then what we need to remember is ك،م،ن، then one letter is lost, namely ت, After ل are ب and ي .

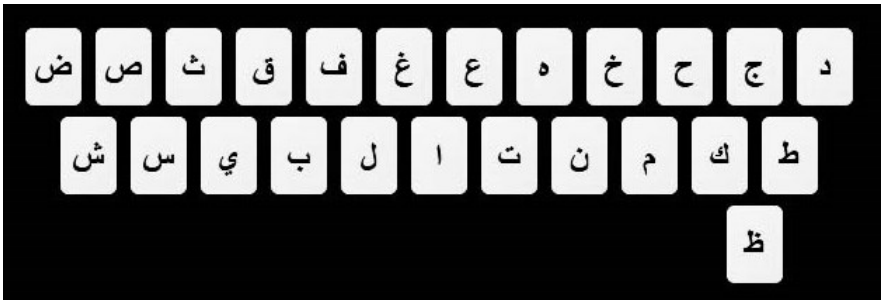


**Image 5.** The mastery of Arabic keyboard typing has reached for about 80%

The final step is a bit difficult but with a little patience we will definitely succeed,

that is, after ظ is ز, and after that is و then ة, then ى without a bottom point or commonly called alif layiinah after that is لا then ر and after that is ؤ and then ء Then the last one is ئ (with the sign of hamzah).

There is still something missing, namely where is the letter ذ located? It's easy to remember, which is under the Esc key, and it will look like this.


**Image 6.** The mastery of Arabic keyboard typing has reached 100%

And this mnemonic approach can be done in one meeting, but often I invite students to memorize the Arabic keyboard in two meetings and practice in the third meeting.

The practice of a simple arabic keyboard is writing

بسم الله الرحمن الرحيم

Then write

الحمد لله رب العالمين

And sentences that are often repeated such as

اللهم صل على سيدنا محمد

After this, they must feel happiness, because they already feel at the level of satisfaction and achievement by opening one of their important abilities, namely the maharah kitabah through Arabic Keybioar

Next step is to harakat, the way to remember it is to press "Shift" starting from "Q": Q for *Fathah*, W for *Fathah* with *tanwin*, E for *Dhammah,* R for *Dhammah* with *tanwin*, under *kasrah*, with tanwin, x for *sukun*, under esc is *tasydid*.

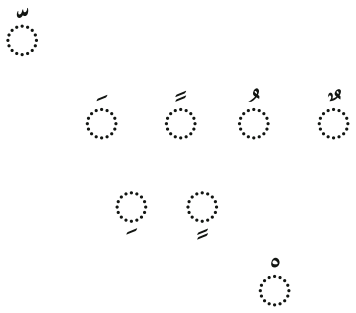

**Image 7**. Keys for Esc, Q, W, E, R, A, S and X with Shift for *Harakat*

We continue by writing the complete Al Fatihah, then we write a simple opening like

بسم الله الرحمن الرحيم الحمد لله رب العالمين وبه نستعين على أمور الدنيا والدين والصلاة والسلام على أشرف الأنبياء والمرسلين وعلى آله وصحبه أجمعين

For writing آ is by pressing shift + N, hamzah above press shift + H, hamzah below press shift + Y, or the way to remember it is "above the alif and below it if it is pressed shift then there will be a type of alif with hamzah or long, let's just try", I often forget this, but it will be quickly remembered, the more we forget and recall the stronger our memory is.

tudents are then trained to type words that are often a source of common errors, especially those frequently used in writing, such as Insya Allah in Arabic, which should be written as إن شاء الله, but is often mistakenly typed as إنشاء الله by beginners. This training also includes vocabulary commonly misspelled, such as noodles, which in Arabic is معكرونة, though it is often incorrectly written as مكرونة. Additionally, students are taught to type standard openings and closings for Arabic speeches, covering formal expressions and commonly used salutations.

The training begins with simple vocabulary related to daily activities, such as eating (أكل) and drinking (شرب), gradually advancing to more complex terms. By focusing on words and phrases frequently used in everyday life, this approach facilitates students' retention and understanding of the vocabulary, thus enhancing their Arabic typing skills in a practical and meaningful way.

To measure the development of participants' skills in mastering the Arabic Keyboard, several instruments were used. These instruments are designed to monitor and assess participants' progress from the beginning of the training to the end. Here is a description of the instruments used and the results of their development:

The typing test was used to measure the speed and accuracy of the participants' typing before and after the training. The test consists of the task of typing short texts in

Arabic that include a variety of letters and punctuation.

**Pre-Test:** At the beginning of the training, a pre-test is conducted to assess the participants' basic ability to type using the Arabic Keyboard. The pre-test data showed that most of the participants were at the beginner level with an average typing speed of 10-15 words per minute and an accuracy rate of about 50-60%.

**Post-Test:** After the training is completed, a post-test is conducted to measure the improvement in ability. The post-test results showed a significant improvement, with typing speed increasing to an average of 20-30 words per minute and accuracy rates reaching 80-90% in 60-80% of participants. This shows that most of the participants managed to master the use of Arabic Keyboard.

Observations were made during each training session to monitor the participants' interaction with the Arabic Keyboard. The researchers noted the difficulties experienced by the participants, their comfort level in using the keyboard, and their development in recognizing and typing Arabic letters.

Observations showed that on the first day, participants generally had difficulty finding the position of the letters on the keyboard. However, by the second day, most of the participants began to show improvements in speed and accuracy, with 50% of participants already able to type simple sentences without many errors. By the end of the third day, about 70% of the participants were able to type fluently enough with few errors.

After the training, semi-structured interviews were conducted to collect qualitative data regarding the participants' experiences. This interview focused on the participants' perceptions of their progress, the difficulties they experienced, and the effectiveness of the mnemonic approach in helping them master the Arabic Keyboard.

The interview results indicate a significant shift in participants' perceptions and abilities regarding Arabic typing. Prior to joining the program, most participants felt that typing in Arabic was extremely challenging and nearly impossible to master. One participant stated, "I used to think it was impossible to type in Arabic. The letters seemed so complicated on the keyboard." This statement reflects psychological barriers and a lack of confidence in Arabic typing skills prior to the training.

However, following the implementation of mnemonic approaches and consistent practice, participants demonstrated significant improvement. Many reported that they could now type in Arabic fluently within a short time. One participant remarked, "Now I can type in Arabic fluently in a short amount of time." This demonstrates that the methods used successfully accelerated the learning process, built confidence, and overcame initial barriers.

Additionally, some participants acknowledged that Arabic typing skills could actually be learned quickly. A participant noted, "Actually, this can be learned in just one day; the rest is just practice." This highlights the importance of continuous practice to reinforce the skills acquired.

Overall, the interview analysis shows that the approach used in this training effectively improved participants' skills and confidence in Arabic typing. Participants experienced not only technical improvement but also a positive shift in their attitudes and perceptions toward Arabic typing. Several participants also expressed that the Arabic typing skills gained through this training greatly facilitated various academic and professional aspects. One participant shared, "This training has truly made it easier for me to type in Arabic, even to write Arabic-language books."

**Qualitative findings:** The results of the interviews showed that the majority of participants felt more confident in typing Arabic after training. About 70% of participants reported that they felt greatly helped by the mnemonic approach, and 60% of them stated that they were able to type fluently after about a week of regular practice.

Participants were also asked to self-assess their abilities before and after the training. This self-assessment scale uses a Likert scale of 1-5, where 1 indicates "not capable at all" and 5 indicates "very capable".

**Self-Assessment Results:** Before the training, most participants rate themselves on a scale of 2 or 3. After training, 65% of participants rated themselves on a scale of 4 or 5, showing a significant increase in self-confidence in their ability to type with the Arabic Keyboard.

**1. Development Table:**

| Stage | Average Typing Speed (words/min) | Average Accuracy (%) | Mastery of Arabic Keyboard (%) |
|---|---|---|---|
| **Pre-Test** | 12 | 55% | 0% |
| **Post-Test** | 25 | 85% | 70% |

**Diagram:**

The diagram shows the improvement in typing speed and accuracy of participants from the pre-test stage to the post-test stage, as well as the percentage of participants who successfully mastered the Arabic Keyboard after training. This diagram visually illustrates how the training successfully improved Arabic typing skills among the participants.

The quantitative aspect of this study is based on pre-test and post-test measurements to evaluate improvements in Arabic typing proficiency. To ensure the validity and reliability of these measurements, several steps were undertaken. Firstly, the test instruments were developed following established guidelines for assessing typing proficiency, including speed (words per minute) and accuracy (percentage of errors). These parameters align with widely recognized metrics in typing studies, ensuring that the results are both comparable and contextually relevant.

To establish **validity**, the test content was reviewed by experts in Arabic language education and digital literacy to confirm its alignment with the study objectives. Additionally, the test tasks were designed to reflect real-world typing scenarios, such as composing short Arabic texts with varied letter structures and common punctuation marks. This content validity ensures that the tests measure the intended skills without bias.

For reliability, a pilot test was conducted with a sample group prior to the main study. The results were analyzed using a test-retest method, where participants completed the same test under identical conditions on two separate occasions. The consistency of their scores was calculated using Cronbach's Alpha, which yielded a reliability coefficient of 0.87, indicating a high level of reliability. Furthermore, inter-rater reliability was ensured by involving two independent scorers who assessed the tests separately, achieving a high level of agreement (Cohen's Kappa = 0.85).

Additionally, the data were subjected to statistical analysis to assess the significance of improvements. A paired-samples t-test was employed to compare pre-test and post-test results, ensuring that observed improvements were not due to chance. The results revealed a statistically significant increase in both typing speed ($p < 0.01$) and accuracy ($p < 0.01$), reinforcing the effectiveness of the mnemonic approach. The effect size was also calculated using Cohen's d, which showed a large effect size ($d = 1.2$), indicating a substantial improvement in participants' typing skills.

In the teaching of Arabic, particularly within educational institutions, there are numerous topics that support and facilitate the learning process. Among these is the study of *insya'* (composition) (Soleckah et al., 2023), which plays a crucial role in developing writing skills and language proficiency. This aligns closely with the focus of this study, as the use of mnemonic techniques and optimized keyboard layouts is intended to improve Arabic typing skills, thereby enhancing students' ability to engage with *insya'* and other written assignments more effectively. By integrating both digital tools and structured practice, this research aims to support comprehensive Arabic language learning within

academic settings.

This approach represents a blend of digital and non-digital elements: digital through the use of laptops and software for Arabic typing, and non-digital through the physical effort of typing, mental processes, and use of reference materials or books to be transcribed. Thus, it can be described as a hybrid of digital and non-digital aspects, where each digital component involves a specific non-digital role, and both aspects demand focused attention from students (Refdianti et al., 2024). This integration underscores the importance of balancing technological tools with traditional cognitive and manual efforts to enhance the learning experience.

This topic remains underexplored and represents one of the few academic discussions addressing the challenges and techniques related to Arabic typing proficiency. Current solutions are limited, and effective methodologies have yet to be fully established. This study aspires to shift the perception of Arabic typing from a challenging and specialized skill to a more accessible and widely adopted capability. By doing so, it aims to empower students with the skills needed to efficiently complete Arabic language assignments, ultimately enhancing their academic performance and engagement with the language.

This study initiates the development of a specialized application or website for Arabic language practice in collaboration with IT professionals. The project aims to create a comprehensive platform addressing specific challenges in Arabic typing and language acquisition, thereby facilitating a more accessible and engaging learning experience. Designed around mnemonic-based tools, interactive typing exercises, and structured practice sessions, the application seeks to enhance user proficiency and build confidence in Arabic script and language skills. This endeavor reflects a commitment to advancing effective Arabic language education, with the potential to make Arabic language competencies approachable and widely integrated into educational practices. By leveraging digital technology to tackle the unique challenges of Arabic typing and language learning, this initiative provides accessible, engaging, and effective resources that support students' academic success and linguistic competence. It represents a forward-thinking approach to language education, anticipating a future where Arabic typing and comprehension are widely attainable skills, seamlessly integrated into students' daily learning activities.

## D. CONCLUSION

This research is expected to make a significant contribution to Arabic language learning methods, especially in improving writing skills with Arabic Keyboard among

students. By adopting a mnemonic approach that has proven to be effective, it is hoped that more educational institutions can integrate this method into their curriculum. Another hope is that the ability to type with Arabic Keyboard will become a basic skill mastered by students, not only in the academic environment but also in their future professional lives.

In addition, this research is also expected to inspire further research that explores other approaches and technologies that can improve the efficiency and effectiveness of Arabic language learning. In the long term, the mastery of these skills is expected to accelerate the process of digital literacy in Arabic, support the production and dissemination of literature in Arabic more widely, and increase accessibility and participation in Arabic-based global communication.

This study has explored the effectiveness of using Arabic Keyboard with a mnemonic approach in improving Arabic writing skills (Maharah Kitabah) at UII Darullughah Wadda'wah. The results showed that 60-80% of participants managed to master the use of Arabic Keyboard in a short time, with a significant increase in typing speed and accuracy.

The training method has proven to be effective in helping students recognize and remember the position of Arabic letters on the keyboard, as well as increasing their confidence in typing Arabic text. This training not only improves students' technical skills, but also has a positive impact on time efficiency in academic writing and teaching and learning activities.

Thus, this mnemonic approach can be recommended as an effective method for learning Arabic Keyboard in the context of Arabic language education. The research also opens up opportunities for further research that can explore other more innovative and efficient methods of teaching digital skills related to the Arabic language.

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