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Qualitative analysis of the hypnolearning model in mandarin subjects through smartphones

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Abstract: This study aims to analyze the implementation of the hypnolearning model in learning Mandarin through smartphone-based applications at Darma Persada University. Using a qualitative approach, data were collected through semi-structured interviews, direct observation, and document analysis. Data analysis was conducted using NVivo 12 software to identify key themes and patterns. The findings indicate that the hypnolearning method effectively enhances students' concentration, memory retention, and understanding of Mandarin characters and tonal pronunciation. Smartphones provide accessibility, flexibility, and interactivity, facilitating learning outside the classroom. Major challenges, such as difficulties in memorizing characters and learning anxiety, are addressed through application features such as relaxation techniques, positive suggestions, and interactive exercises. This study also emphasizes the need for developing application features, training for educators, and collaboration between educational institutions and technology developers to expand access to this method. Recommendations include incorporating gamification, personalized learning, and artificial intelligence (AI) integration to improve the application's effectiveness. The study offers new insights into integrating hypnolearning methods and digital technology, highlighting the potential for innovation in language learning. These findings are particularly relevant for improving the learning experience of complex languages such as Mandarin.

Keywords: *Hypnolearning, Interactive exercises, Mandarin language education, Mandarin smartphone-based learning.*

1. Introduction

Foreign language education, especially Mandarin, is increasingly important in this era of globalization, given its strategic role in international trade, diplomacy, and cultural exchange. In the context of language education, the development of digital technology has had a major impact on teaching and learning methods [1]. One innovation that is starting to get attention is the use of hypnolearning, a learning model that combines hypnosis techniques to increase information absorption and reduce learning barriers, such as anxiety or difficulty concentrating. Hypnolearning is expected to provide benefits in increasing learning effectiveness, especially in learning complex languages such as Mandarin [2].

Recently, the development of smartphone technology has enabled access to various applications that support language learning, including learning through the hypnolearning method. Smartphones as devices that are easily accessible and used daily provide great potential to improve Mandarin learning, especially for students who face challenges in learning the characters and tonal systems of this language. The use of smartphones in education also allows for more flexible and adaptive learning, providing opportunities for students to learn outside the classroom with a more personal and interactive approach [3]. Therefore, this study aims to analyze the application of the hypnolearning model in Mandarin subjects through smartphones and identify its effectiveness.

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Figure 1.
Implementation of the Hypnolearning Model in Class.

Currently, there are many challenges faced by students in learning Mandarin, especially those related to mastering Chinese characters and correct tonal pronunciation. Previous studies have shown that test anxiety, difficulty in remembering characters, and inability to concentrate are the main obstacles to learning Mandarin [4]. To overcome this, various methods have been developed, one of which is hypnolearning. In this concept, relaxation and focus techniques used in hypnosis are believed to improve students' memory and concentration [5].

The novelty in this study lies in the integration of the hypnolearning model with smartphone technology in Mandarin language learning. Although hypnolearning has been used in English and other language learning, its application in the context of smartphones and Mandarin is still limited. The use of smartphones in language education is effective in increasing student engagement and facilitating access to learning materials [6] but research on the application of hypnolearning through this platform is still rare. Therefore, this study attempts to fill this gap by analyzing how hypnolearning can be implemented using smartphones in Mandarin language learning.

This study offers novelty by qualitatively examining the application of the hypnolearning model in Mandarin language learning through applications that can be accessed on smartphones. So far, most existing studies have only focused on one aspect, namely the use of technology in language learning, or only on the psychological aspect of hypnosis without combining the two. Thus, this study aims to contribute to the understanding of how hypnosis can be practically applied using mobile technology for foreign language learning, especially Mandarin which has unique challenges related to its writing and pronunciation systems [7].

The purpose of this study is to analyze the application of the hypnolearning model in learning Mandarin via smartphones and evaluate its effectiveness in improving the learning process [8]. Specifically, this study aims to assess how hypnolearning techniques can help improve concentration, memory, and mastery of learning materials, especially in remembering Mandarin characters and mastering tonal pronunciation which are the main challenges in this language. In addition, this study also aims to explore the potential of using smartphones as a platform to access hypnolearning-based learning materials, thus providing a more flexible and personalized learning experience. Thus, this study is expected to provide new insights into the integration of digital technology with hypnosis-based

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learning methods, as well as provide recommendations to improve the effectiveness of learning Mandarin via mobile devices.

2. Literature Review

2.1. Hypnolearning

Hypnolearning is a learning method that utilizes hypnosis techniques to increase the effectiveness of the learning process. This method aims to eliminate negative influences in students' minds so that they can be more focused and concentrated on learning [9]. In practice, hypnolearning involves giving positive suggestions to students to create a comfortable and enjoyable learning atmosphere. Thus, students can more easily absorb learning materials and improve their learning achievements [10].

Several studies have shown that the application of hypnolearning can improve students' motivation and learning achievement. For example, a study found that this method was effective in improving the biology learning outcomes of grade XI students of SMA Negeri 1 Sunguminasa [9]. In addition, hypnolearning can also be applied in foreign language learning. This method helps students to be more relaxed and confident in using the language they are learning, thus improving their language skills.

2.2. Mandarin Language Subjects

Mandarin is one of the increasingly important subjects in education, considering the significant role of Mandarin at the global level. Mandarin, the most widely spoken language in the world, is the main means of communication in the world's second-largest economy, China. In addition, this language also has a broad influence in the world of international trade, diplomacy, and culture [11]. Therefore, mastery of Mandarin is considered a very valuable skill for students, especially in the era of globalization driven by cultural exchange and technological advances.

Learning Mandarin has its challenges, especially in understanding the complex Chinese characters and tonal systems that affect the meaning of words. This uniqueness makes learning Mandarin more challenging compared to languages that use the Latin alphabet, such as English. However, along with the development of technology and innovative learning methods, such as the use of smartphone-based applications, the process of learning Mandarin can be done more effectively and efficiently [12]. Several studies have shown that digital technology, especially the use of mobile applications, can increase accessibility and interactivity in language learning [13]. The use of smartphones allows students to learn flexibly, anytime and anywhere, making it easier to master Mandarin material, both in writing and pronunciation.

Furthermore, recent studies have shown that learning models that combine psychological approaches, such as hypnolearning, with digital technology can further enhance the absorption of learning materials. Hypnolearning, which combines hypnosis techniques to improve concentration and memory, is believed to help learners overcome mental barriers such as anxiety and difficulty in learning materials that are considered complicated, such as Mandarin characters [14]. By integrating hypnolearning into learning via smartphones, students can not only learn Mandarin vocabulary and characters but also develop language skills more effectively and without pressure.

3. Methods

3.1. Research Design

This study aims to analyze the application of the hypnolearning model in learning Mandarin via smartphones at Darma Persada University. Using a qualitative approach, this study relies on interviews, observations, and document analysis to collect data to be analyzed using NVivo 12 software [15], which allows researchers to manage, organize, and analyze text data efficiently and systematically. NVivo 12 provides a very useful tool for identifying patterns, themes, and relationships that emerge from qualitative data, which will help researchers explore how the hypnolearning model is applied in learning Mandarin in a university environment [16].

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3.2. Data Collection

The data collection process in this study was carried out through three main methods. First, semi-structured interviews were conducted with 10 students studying Mandarin using a hypnolearning-based application and 5 lecturers at Darma Persada University [15]. The interviews aimed to understand their experiences and perceptions regarding the use of the hypnolearning model in learning Mandarin [17]. Second, direct observations were carried out during class sessions using the learning application, focusing on student interactions with the application and its impact on the learning process, especially in overcoming the challenges of learning Mandarin characters and tonal pronunciation [18]. Third, document analysis was carried out on learning materials, application features, and feedback given by lecturers regarding the effectiveness of the hypnolearning model.

3.3. Data Processing and Coding with Nvivo 12

The next step is to transcribe the interviews and observation documents into text form. This data is then processed using NVivo 12 to code and analyze. Coding begins by marking relevant text sections based on emerging themes, such as "the effect of hypnolearning on concentration", "the effectiveness of the application in teaching Mandarin characters", and "barriers in using the application" [19]. Next, thematic coding is carried out to group broader categories, such as linking "student anxiety in learning characters" to "application strategies in overcoming anxiety".

3.4. Data Analysis

The analysis was conducted to identify key themes and patterns that emerged in the data [20]. By using NVivo 12, researchers can conduct a more in-depth thematic analysis to explore how hypnolearning affects the Mandarin language learning process. Some of the analysis steps carried out with NVivo 12 include: Analyze code frequencies to see which themes or categories appear most frequently in the data, which may indicate the most influential aspects of learning Mandarin using hypnolearning. Data visualization uses features such as word clouds, bar charts, or coding stripes to illustrate key patterns in the data [21]. This visualization will make it easier for researchers to identify important findings and present research results in a more intuitive way.

3.5. Validity and Reliability

To ensure the validity and reliability of research findings, researchers apply several techniques as follows: Data triangulation: By combining multiple data sources (interviews, observations, and documents), researchers can ensure that research results are not influenced by the bias of a single source. Peer debriefing: Researchers engage experienced educational experts or educational technology experts to provide input on the data analysis and interpretation process, which helps reduce researcher bias.

4. Results and Discussion

Node and Child Node Structure for Analysis of Hypnolearning Model Application in Mandarin Language Learning Through Smartphones

To facilitate data management, the node, and child node structure is designed as an analysis framework that includes aspects of hypnolearning influence, smartphone implementation, learning barriers, application features, and feedback and learning outcomes. The following table presents details of the node and child node structure used in this study to systematically code and analyze data.

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Table 1.
Node and Child Node Structure.

Node	Child Node	Description
The Effects of Hypnolearning	Effects on Concentration	The impact of hypnolearning on students' ability to focus while studying.
	Effects on Memory	Increasing students' memory in memorizing Mandarin characters.
	Effects on Mastery of Materials	Students' ability to understand and use tonal characters or pronunciation.
Smartphone Implementation	Accessibility	Ease of students accessing learning materials via smartphone.
	Interactivity	Student involvement in hypnolearning-based learning applications.
	Flexibility	The ability to learn anywhere and anytime using a smartphone.
Barriers to Learning	Student Anxiety	Mental barriers such as fear or stress when learning Mandarin.
	Mandarin Character Difficulty	Challenges in learning complex Chinese characters.
	Tonal Pronunciation	Difficulty in mastering the Mandarin tonal system.
Hypnolearning Application Features	Relaxation Techniques	Techniques used to make students more relaxed and focused.
	Positive Suggestions	Features that help provide a motivational boost to students.
	Interactive Exercises	Exercises that combine characters, pronunciation, and memorization interestingly.
Feedback and Evaluation	From Students	Students' opinions about the effectiveness of hypnolearning through applications.
	From Lecturer	Lecturer input regarding the application of this model in learning.
Learning Outcomes	Increased Motivation	Do students feel more motivated in learning Mandarin.
	Academic Progress	Changes in student learning outcomes after using hypnolearning.
	Learning Satisfaction	Level of student satisfaction with this learning model.

The main nodes are divided into five major categories that represent important aspects of implementing the hypnolearning model in learning Mandarin via smartphones. The first category, Hypnolearning Effects, covers the positive effects of this method on students' concentration, memory, and mastery of the material [22]. This shows the research focuses on how hypnolearning techniques can improve students' learning abilities holistically, especially in understanding Mandarin characters and tonal pronunciation.

The second category, Smartphone Implementation, identifies the dimensions of accessibility, interactivity, and flexibility that these devices offer as learning platforms. Smartphones are seen as tools that support personal and flexible learning, allowing students to learn in a variety of situations without the constraints of place or time. The third category, Barriers to Learning, highlights the main challenges faced by students, such as anxiety, difficulty in understanding Chinese characters, and tonal pronunciation [23]. This underscores the importance of learning models that can overcome the mental and technical barriers that often hinder learning Mandarin.

The fourth category, Hypnolearning App Features, explores elements designed to create an effective learning experience, including relaxation techniques, positive suggestions, and interactive exercises. These features are designed to maximize the effectiveness of hypnolearning in supporting language learning. Finally, the Feedback and Evaluation category collects perceptions and input from students and lecturers about the effectiveness of this method [24]. This allows researchers to evaluate the implementation of hypnolearning holistically from various perspectives.

This table structure provides an organized analytical framework, covering all relevant dimensions to understand how the hypnolearning model can be integrated with smartphone technology to effectively support Mandarin language learning.

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4.1. Interview Map of Hypnolearning Application in Mandarin Language Learning via Smartphone

Learning Mandarin presents unique challenges, especially in understanding complex written characters and tonal pronunciation that affect word meaning. To overcome these obstacles, the hypnolearning approach, which integrates relaxation techniques and positive suggestions, has been implemented through a smartphone-based application. This approach not only helps students improve concentration and memory but also provides greater learning flexibility through modern technology. To understand the application of this model in depth, this study analyzes various aspects of the influence of hypnolearning, technology implementation, learning barriers, and outcomes achieved. Figure 1 presents an interview map that summarizes the main findings related to the application of the hypnolearning model in learning Mandarin through a smartphone application.

Figure 2.
Interview Map.

Figure 2 depicts an interview map that analyzes the implementation of the hypnolearning model in learning Mandarin through smartphone-based applications. This map covers several main themes, such as the influence of hypnolearning, smartphone implementation, learning barriers, application features, and learning outcomes achieved. In terms of the influence of hypnolearning, this method has been shown to improve students' concentration, memory, and mastery of materials, especially in understanding Mandarin characters and tonal pronunciations which are often considered difficult. Smartphones play an important role in providing accessibility, flexibility, and interactivity for students to learn anytime and anywhere, thus enhancing their learning experience.

However, students also face learning barriers, such as anxiety, difficulty in memorizing complex Chinese characters, and difficulty with tonal pronunciation. To overcome these barriers, hypnolearning-based applications offer innovative features, such as relaxation techniques, positive suggestions, and

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interactive exercises, designed to create an effective and enjoyable learning environment. Feedback from students and lecturers shows that this method not only helps overcome learning barriers but also increases motivation, academic progress, and overall learning satisfaction.

Word Cloud Interview Analysis of Using Hypnolearning for Mandarin Language Learning

The image below is a word cloud visualization that illustrates the frequency of use of these keywords. This word cloud provides an overview of the most relevant elements in the study, including the challenges, results, and benefits of using hypnolearning and its integration with smartphone-based applications to support more effective and flexible learning.

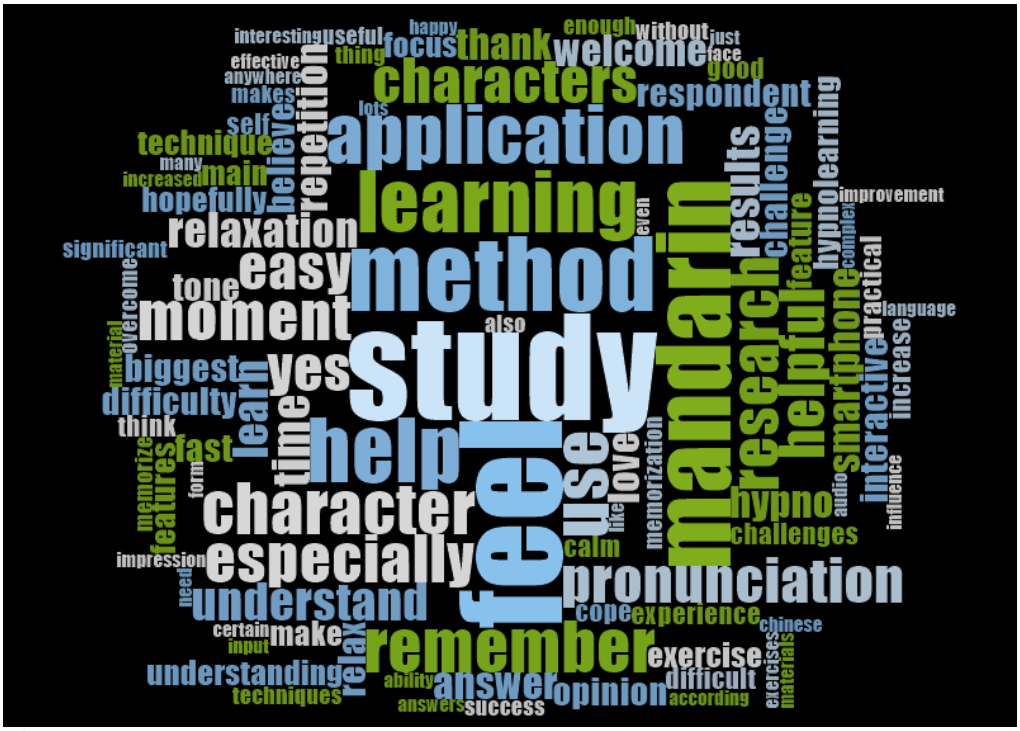

Figure 3.
WordCloud.

The word cloud image above illustrates the analysis of keywords that often appear in interviews or data related to the application of the hypnolearning model in learning Mandarin. Words that have a larger size, such as "study," "feel," "method," "learning," "mandarin," and "application," reflect the main focus of the study. This shows that the learning process (study) through the hypnolearning method (method) plays an important role in improving the Mandarin learning experience, especially through smartphone-based applications.

Other keywords, such as "remember," "relaxation," "pronunciation," and "character," show the main challenges in learning Mandarin, namely remembering complex characters and understanding tonal pronunciation. Meanwhile, words such as "help," "easy," "use," and "techniques" show how the hypnolearning method and features in the app help students overcome these obstacles by providing a more flexible, interactive, and fun approach.

In addition, the presence of words such as "research," "results," "helpful," and "improvement" reflects the positive impact of this method on students' learning outcomes. This visualization as a whole shows that hypnolearning, which integrates relaxation techniques and the use of modern technology, provides significant benefits in learning Mandarin by overcoming the mental and technical challenges faced by students.

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Categorization Map of Hypnolearning Application in Mandarin Language Learning

The table presents a list of keywords along with their length and frequency of occurrence, providing an in-depth overview of the themes of primary concern in the application of this method.

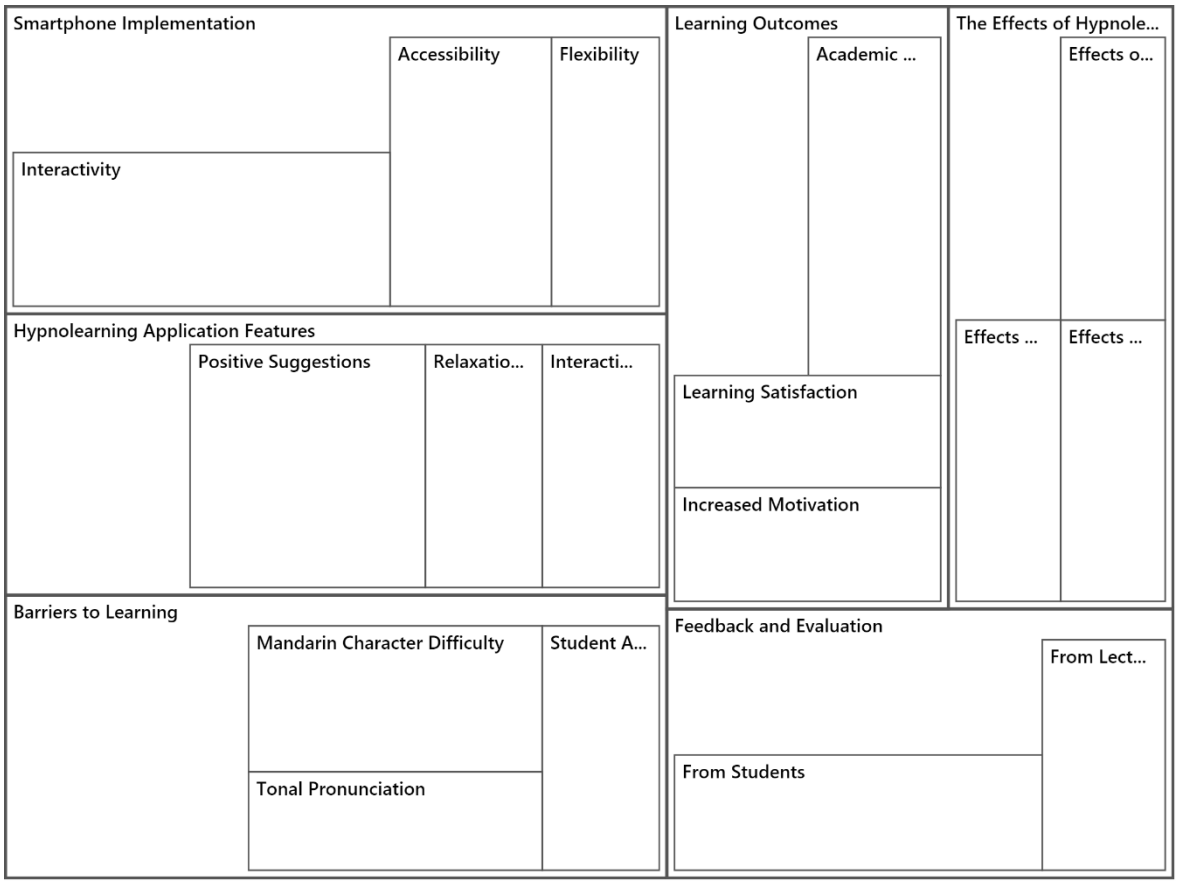

Figure 4.
Categorization Map.

Figure 4 is a categorization map that illustrates various important elements in the implementation of the hypnolearning method for learning Mandarin through smartphone-based applications. The main categories displayed include smartphone implementation, learning outcomes, hypnolearning effects, application features, learning barriers, and feedback and evaluation. In the smartphone implementation category, the accessibility and flexibility aspects highlight the ease of students learning anytime and anywhere, while the interactivity features help maintain student engagement during the learning process. The learning outcome category shows that this method can improve academic progress, learning satisfaction, and student motivation, all of which contribute to a better learning experience.

The hypnolearning effects category describes the positive impact of the method on concentration, memory, and mastery of the material, especially in understanding complex Mandarin characters and tonal pronunciation. In addition, the hypnolearning application features category includes positive suggestions, relaxation techniques, and interactive exercises, which are designed to help students learn more effectively and without pressure. Meanwhile, the learning barriers category identifies the main challenges faced by students, such as difficulties in understanding Mandarin characters, tonal pronunciation, and student anxiety. The last category, feedback, and evaluation, reflects the views of

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students and lecturers on the effectiveness of the method, which generally gives positive results for learning.

Map provides a structured overview of how the hypnolearning method, supported by smartphone technology, is able to overcome the barriers to learning Mandarin and improve the effectiveness of the learning process. By highlighting various technical, psychological, and learning outcome aspects, this figure provides a comprehensive insight into the application and impact of the hypnolearning method in the context of language education.

Keyword Frequency in Hypnolearning Analysis for Mandarin Language Learning

To understand the key elements in learning Mandarin using the hypnolearning method, an analysis was conducted on the most frequently occurring words in the interviews and research data. The identified keywords reflect the main focus of the study, such as the role of the application, learning challenges, and the hypnolearning techniques used to support students. The table below presents a list of keywords along with their length and frequency of occurrence, providing an in-depth overview of the themes of primary concern in the application of this method.

Table 2.
Keyword Frequency.

Word	Length	Count
Application	11	15
Especially	10	12
Characters	10	11
Pronunciation	13	11
understand	10	9
Relaxation	10	8
Repetition	10	7
Smartphone	10	7
Difficulty	10	6
Interactive	11	6

Table 2 illustrates the frequency of keywords that often appear in the analysis of Mandarin learning using the hypnolearning method through smartphone-based applications. The most frequently appearing word is "Application" (15 times), indicating the role of the application as a main element in this learning process. In addition, the word "Especially" (12 times) highlights specific aspects that are the main focus, such as challenges in understanding "Characters" (11 times) and "Pronunciation" (11 times). These two words reflect the main difficulties faced by students in learning Mandarin, namely mastering written characters and tonal pronunciation.

The psychological aspect that is the core of the hypnolearning method is reflected through the words "Relaxation" (8 times) and "Repetition" (7 times). This shows the importance of relaxation techniques to help students stay calm and support their memory through structured repetition. Meanwhile, the word "Smartphone" (7 times) reinforces the role of technology in providing flexibility and accessibility to learning anytime and anywhere. Learning challenges are also reflected through the word "Difficulty" (6 times), indicating that mastery of character and tonality remains a major obstacle. On the other hand, the word "Interactive" (6 times) underlines the importance of interactive features in the application to maintain student engagement during the learning process.

This table provides a comprehensive overview of the technical and psychological elements that support the effectiveness of the hypnolearning method. The role of applications, mastery of characters and pronunciation, and the use of relaxation techniques and structured repetition are the main pillars of this learning approach, which is designed to overcome the challenges of learning Mandarin more efficiently and enjoyably.

This table also provides a comprehensive overview of the technical and psychological elements that support the effectiveness of the hypnolearning method. The role of applications, mastery of characters and pronunciation, and the use of relaxation techniques and structured repetition are the main pillars of

this learning approach, which is designed to overcome the challenges of learning Mandarin more efficiently and enjoyably.

5. Discussion

The results of this study indicate that the application of the hypnolearning method through a smartphone-based application has a positive impact on Mandarin language learning. In-depth analysis of interviews and qualitative data provides insight into the key aspects that support the success of this method and the challenges faced by students.

The Effect of Hypnolearning on Concentration, Memory, and Understanding of Material

The hypnolearning method has been proven effective in increasing students' concentration when learning Mandarin. For example, one respondent named Ratna stated, "I find it easier to focus, especially because there are relaxation techniques that help me calm down before studying". This relaxation technique plays an important role in creating a comfortable learning atmosphere so that students can concentrate better [25].

In addition, hypnolearning also helps improve students' memory in memorizing complex Mandarin characters. A respondent named Chintya explained, "I feel like I remember the characters faster, maybe because there is directed repetition and positive suggestions". Structured repetition and giving positive suggestions have a significant effect on strengthening students' memory, especially in facing the challenge of memorizing characters that have similar shapes [26].

In terms of mastery of the material, this method also supports students' understanding of tonal pronunciation. Another respondent, Michael, said, "The interactive exercises in this application really help me understand tonal pronunciation better." This shows that the interactive exercise feature in the application provides a more in-depth and enjoyable learning experience [27].

5.1. Implementation of Smartphones in Learning

The use of smartphones as a learning medium provides significant flexibility for students. One of the respondents, Rita, noted, "The application is very practical. I can study anytime and anywhere without relyi=ng on a certain schedule". This confirms that smartphones allow students to study independently and adjust their study time to their personal needs [6].

In addition to flexibility, the interactive features of the application also increase student engagement in the learning process. Respondent Arthur said, "The interactive features are interesting. The exercises are varied, so I don't get bored while studying". The combination of interactivity and flexibility makes smartphones an effective learning tool for learning Mandarin [28].

5.2. Obstacles in Learning Mandarin

Despite its many benefits, students still face several obstacles in learning Mandarin. The biggest challenges are memorizing complex Mandarin characters and understanding tonal pronunciation. One respondent noted, "My biggest challenge is memorizing characters and understanding tonal pronunciation." This obstacle underscores the complexity of the Mandarin writing and tone system which is often a major obstacle [29].

However, hypnolearning-based applications help students overcome these barriers by providing innovative features. Another respondent explained, "The pronunciation practice and relaxation technique features help me relax and understand the material". Interactive exercises designed with a psychological approach help students overcome anxiety and increase self-confidence [30].

5.3. The Impact of Hypnolearning on Learning Outcomes

The hypnolearning method has a significant impact on students' motivation and learning outcomes. One respondent stated, "My grades have improved, and I feel more confident using Mandarin." This increase in motivation and learning outcomes reflects the effectiveness of the hypnolearning method in supporting complex language learning [31].

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The integration of the hypnolearning method with smartphone technology provides an innovative solution to overcome the challenges of learning Mandarin. The combination of relaxation techniques, structured repetition, and interactive features make this method effective in improving students' concentration, memory, and comprehension. These positive impacts not only improve academic results but also create a more flexible and enjoyable learning experience for students.

6. Conclusion

To improve the effectiveness of the application of the hypnolearning method in learning Mandarin via smartphones, several recommendations can be proposed. First, developers of hypnolearning-based learning applications should expand interactive features by adding gamification elements, such as daily challenges or reward systems. This aims to increase student engagement in the learning process and keep their motivation high. In addition, it is necessary to design learning personalization features, such as adjusting the level of difficulty of the material based on the individual abilities of students, so that each student can learn according to their speed and capacity.

Second, training for teachers is also important to ensure that they understand how to integrate hypnolearning methods with traditional classroom teaching. Thus, teachers can provide more effective guidance and motivate students to make optimal use of the application. In addition, teachers need to be involved in the application design process to ensure that the available features are relevant to learning needs in the field.

Third, collaboration between educational institutions and application developers is highly recommended to expand the accessibility of this method. Educational institutions can provide hypnolearning-based software as part of the language learning curriculum, while application developers can integrate resources such as additional materials or simulation tests that are in line with educational standards.

Fourth, to overcome technical barriers such as difficulty understanding Mandarin characters or tonal pronunciation, the application can add an artificial intelligence (AI)-based speech recognition feature. This feature allows students to get immediate feedback on mistakes in pronouncing or writing characters. In addition, short video tutorials that teach relaxation techniques or memorization strategies can also help students overcome learning challenges.

Finally, further research should be conducted to evaluate the long-term impact of implementing this method. The focus of research could include other learning contexts, such as the use of hypnolearning in learning other foreign languages or other fields of study that require mastery of complex material. Further research could also explore the potential for integrating this method with emerging technologies, such as augmented reality (AR) or virtual reality (VR), to create a more immersive learning experience.

With the implementation of these recommendations, the smartphone-based hypnolearning method can be even more effective, not only to improve Mandarin learning outcomes but also to pave the way for further innovation in technology-based education.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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