



## Development of Hanzi Radical Learning Media 女字旁 (nǚ zì páng) for Students of the Chinese Language Education Program at State University of Semarang

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*learning media, hanzi, radical 女, pull the tab.*

### Abstract

This study aims to develop an innovative learning medium in the form of a pull the tab pop-up book focusing on the understanding of the hanzi radical 女 (nǚ zì páng) for students of the Chinese Language Education Program at Universitas Negeri Semarang. The research is motivated by students difficulties in memorizing and understanding the complex structure and meaning of hanzi. The methodology questionnaires, product design, expert validation, and revision stages. The resulting product is printed on ivory paper with attractive colored visuals, organizing hanzi characters by stroke count, complete with pinyin and translations. Validation results from media and content experts indicate the media is suitable as a learning aid. The validation results of the instructional media by the subject matter expert obtained an average score of 87,4, which falls within score level 4, indicating it is highly appropriate. Meanwhile, validation by the media expert yielded an average score of 86,8 also classified within score level 4, suggesting the media is highly suitable for use. These results were accompanied by improvement suggestions to enhance the quality and effectiveness of the media's utilization.

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## INTRODUCTION

Universitas Negeri Semarang (UNNES) is a public university in Indonesia, located in Semarang, Central Java. UNNES focuses on the development of education, research, and community service across various scientific fields, including education, arts, social sciences, computer science, engineering, sports science, and others. Additionally, UNNES envisions becoming a world-class university that contributes to national development and societal welfare. (Latihan & Pplm, 2023)

One of the study programs offered at UNNES is the Chinese Language Education Program, under the Faculty of Languages and Arts. In this program, students learn Chinese from the basic level, covering the four language skills listening, speaking, reading, and writing along with an understanding of Chinese culture, and the study of phonology, morphology, and more. The Chinese Language Education Program carries a scientific vision to implement the *Tri Dharma* of higher education (education, research, and community service) in the field of Chinese language and education, driven by technology and oriented toward conservation values.

Chinese is a language that utilizes characters known as Hanzi (汉字 hànzi) in its written form. Students learning Chinese are expected to master four language skills: listening (听), speaking (说), reading (读), and writing (写). Thus, learners must be proficient in both spoken and written aspects of the language (Sartika, 2017). Hanzi is an essential component of the Chinese language, and mastery of Hanzi is crucial for understanding and using the language effectively. Learning Hanzi requires careful attention, as there are many characters with visually similar forms but different meanings. A single mistake in writing may lead to a completely different pronunciation and interpretation. Therefore, students are required to develop strong handwriting and memorization skills. Building a strong vocabulary base is also fundamental, as the more words a learner knows, the more fluently they can use the language (Tjaturrini et al., 2021).

Radicals in Mandarin are basic elements in the form of symbols or images (pictograms) and are the main components in the formation of hanzi characters. These radicals can be combined with other elements to form new characters with meanings that are still related to the radicals themselves. In Mandarin Chinese, the basic components used to classify characters are called “部首” (radicals), and these elements play a crucial role in the classification system of Chinese characters. The number of strokes in a radical varies, ranging from one to seventeen. In total, there are approximately 214 radicals in the Chinese writing system, but only around 52 of them are commonly used in everyday life (Adji, 2022).

Understanding radicals is an essential part of learning Chinese, as they accelerate the learning process and assist learners in predicting the meanings of unfamiliar characters (Tjaturrini et al., 2021). Radicals also help in writing Hanzi correctly and contribute to a deeper understanding of the

characters' overall meaning and usage. However, learning Chinese is not easy for many learners. Even recognizing the characters is challenging, let alone writing them. Each Hanzi character has a specific stroke order, and memorizing these strokes presents a considerable challenge. Students often struggle to comprehend Hanzi due to the large number of characters and their complexity. This situation highlights the need for a learning medium that is easy to understand, informative, and engaging.

Radicals (*bùshǒu*, 部首) are fundamental components that form the structure of hanzi characters. Learning Hanzi requires the use of appropriate strategies and techniques to ensure learners can grasp the meaning and structure of characters effectively. A radical is often the semantic component of a Hanzi character, providing clues to its meaning (Tjaturrini et al., 2021). Hanzi radicals are symbols or pictographs that serve as the building blocks of Chinese characters. They can combine with other components to create new meanings while maintaining a connection to their original forms. Examples of commonly used radicals include 女 (*nǚ*), 口 (*kǒu*), 手 (*shǒu*), 辶 (*chuò*), 心 (*xīn*), and 言 (*yán*), among others. There are over 5,000 Chinese characters in existence, and radicals help learners interpret their meanings. For example, in the character 爸 (*bà*, "father"), if the learner forgets its meaning, breaking it down reveals the radical 父 (*fù*), which is associated with parenthood therefore, 爸 refers to "father" (senopatieeducationcenter, 2021).

The topic of Chinese Hanzi radicals is taught in several courses, one of which is *Chūjī Hànyǔ Xiězuò Xia* (Elementary Chinese Writing), a course that focuses specifically on writing Hanzi. The learning objective of this course is for students to be able to write and memorize Hanzi accurately, following the correct rules and principles. However, the learning process often faces obstacles. Many students rely on copying Hanzi from books, translation apps such as Pleco, or Google Translate, which limits their ability to internalize and memorize the characters. As a result, students struggle to understand Hanzi radicals effectively.

Based on responses from 39 students from the 2022 cohort of the Chinese Language Education Program at UNNES, approximately 93.3% reported having prior experience learning Hanzi. However, 50% of them still encountered difficulties in learning 笔画 (*bǐhuà* – strokes), 笔顺 (*bǐshùn* – stroke order), and 偏旁部首 (*piānpáng bùshǒu* – radicals). The primary reason cited was the difficulty in memorizing the characters, given their wide variety of forms and meanings. Upon further investigation, students expressed that the most challenging aspects of Hanzi were understanding and mastering the radicals, the structure of the strokes, and the correct stroke order elements that are often perceived as complex and overwhelming. Nonetheless, students are still expected to memorize Hanzi accurately. In addition to mastering Hanzi, students are also required to develop competence in pronunciation, vocabulary, and grammar.

The radical hanzi 女字旁 (nǚ zì páng) is a character that has a meaning related to women 女 (nǚ), which means woman. When combined with 马 (mǎ), which means horse, it becomes 妈 (mā), which means mother 妈妈 (māmā). Other examples that use the radical hanzi 女 are 姐姐 (Jiějiě), 妹妹 (mèimei), 奶奶 (nǎinai), and many others (Chinese Written., 2014). Mastering radicals will greatly help in understanding hanzi, even guessing the meaning of words that we see for the first time (Tjaturrini et al., 2021). According to the results of the student respondents, 50% of the 2022 Mandarin language education students already understand that the hanzi radical 女字旁 (nǚ zì páng) has a meaning related to women. This radical has a simple form, making it easy to remember and understand its meaning. Therefore, based on the above results, the Chinese character 女字旁 (nǚ zì páng) has characteristics that are suitable or can be used as material for developing Chinese learning media, especially in radicals.

Instructional media refers to any tools or materials used to support and enhance the learning process, both inside and outside the classroom. It may include visual aids such as images, charts, and videos, or audio tools. The use of instructional media is intended to facilitate comprehension, improve the quality of the learning process, enhance learner motivation, and reduce boredom (Elisa, 2016). According to survey findings, most students from the 2022 cohort of the Chinese Language Education Program at UNNES reported using rotating-wheel visual aids to study Hanzi radicals.

The learning media that the researcher will develop is a radical hanzi 女字旁 (nǚ zì páng) learning book for students of the Mandarin Language Education Study Program at UNNES in the form of a pop up book. Due to the wide variety of pop up books available, the researcher selected the pull the tabs type for this study. The pull the tabs learning media is an interactive learning tool consisting of images or text covered by flaps or tabs that can be pulled to reveal hidden information beneath them. This media is often used in language learning or reading skills to help students expand their vocabulary or deepen their understanding of a topic.

Based on the above background, it is necessary to develop a pop up book in the form of a pull the tabs book that can be used to teach Chinese radicals to students of the Chinese Language Education Study Program at UNNES so that they can learn basic Chinese in a more enjoyable and practical way.

## METHOD

This study adopts a Research and Development (R&D) approach. According to Sugiyono, in his book *Research and Development Methodology*, R&D is a structured method used to design, develop, and produce instructional programs or products that meet specific internal standards.

Research and development is a series of stages aimed at creating new products or refining existing ones. This type of research serves as a bridge between basic research and applied or practical research (Okpatrioka, 2023) .

Research and Development (R&D) as a developmental research method aimed at producing specific designs, programs, or products through a series of phases, including planning, testing, and revision, to ensure that the resulting output meets the expected quality and standards (Kamal, 2019).

Based on the expert opinions mentioned above, it can be concluded that the Research and Development (R&D) method is a systematic approach used to design, develop, and refine a product or instructional program through specific stages such as planning, testing, and revision, with the goal of producing a product that meets quality standards and user needs. The product developed in this study is a *pull the tab pop-up* book as a learning medium aimed at enhancing comprehension and facilitating the memorization of the radical hanzi 女字旁 (*nǚ zì páng*). This is achieved through an interactive, engaging, and enjoyable medium that contributes to more effective and practical learning experiences.

## RESULTS AND DISCUSSION

Based on a needs analysis conducted through a questionnaire distributed to 39 students from the 2022 cohort of the Chinese language Education Program at Universitas Negeri Semarang, it was found that 74.4% of respondents indicated they found learning hanzi to be difficult. Furthermore, 69.2% of the respondents stated that printed textbooks are the most commonly used learning media in the Chuji Hanyu Xiezu Xia class, and 59% strongly agreed that the development of a new learning medium related to hanzi radicals in the form of a *pull the tab* would be beneficial. To complement the questionnaire data, interviews were also conducted with the lecturer responsible for the Chuji Hanyu Xiezu Xia class to identify existing instructional challenges and explore the need for supplementary media. The interview revealed that, aside from the rotating wheel media, no alternative learning tools have been implemented. Therefore, the development of this *pull the tab* learning media prototype is grounded in the needs analysis derived from both students questionnaires and lecturer interviews, with the goal of providing a more engaging, interactive, and relevant resource to support the teaching and learning of hanzi radicals.

This research was conducted through a series of stages resulting in the development of an instructional product in the form of a *pull the tab pop up book*, printed on ivory paper with full color visual design, and sized 21 x 16 cm. Prior to the product design process, data collection was carried out from various sources related to the media development needs. The data gathered served as the foundation for the development process, particularly in designing the layout and content of the pull-the-tab learning book. The *pull the tab* learning media was designed using white ivory paper. The researcher first created the book's layout design, which was then printed on ivory paper. The choice of ivory paper was based on

its smooth surface and appropriate thickness, making it suitable for durable and visually appealing educational materials. Each page of the book was arranged by the researcher to present one or more Hanzi characters containing the radical "女字旁" (*nǚ zì páng*), grouped according to the number of strokes (画 *huà*) in each character. Every page includes Pinyin, the Hanzi character, and its meaning.

#### Design Outcome of Pull the Tab Media Display



**Figure 1.** The Display of Front Cover and Back Cover

Figure 1 illustrates the design of the front and back covers of the educational book titled radical hanzi – 女字旁. The visual concept blends traditional Chinese cultural elements, such as a red torii gate and a female figure dressed in Hanfu, holding a red umbrella. The design elements convey a sense of visual balance, feminine essence, and cultural representation, resonating with the fundamental meaning of the radical 女 which denotes “woman” in the Chinese writing system. The author’s name is placed at the center bottom of the front cover. Meanwhile, the back cover continues the same visual theme without additional text, creating a cohesive and balanced appearance across the entire cover layout.

In addition to incorporating cultural elements through architectural features and clothing, color selection also plays a significant role in this cover design. Red is dominantly featured on the torii gate, umbrella, and clothing details, representing cultural beliefs in luck, energy, and protection within Chinese tradition. Meanwhile, the golden yellow color dominating the female character's attire symbolizes power, wealth, and honor associated with the female figure in Chinese cultural perspectives.



**Figure 2.** The Display of Book's Contents

Figure 2 displays several pages of the *pull the tab* book, which focuses on hanzi characters containing the radical hanzi 女字旁 (*nǚ zì páng*). Each page presents a list of vocabulary words organized by the number of strokes. The layout includes the radical hanzi 女字旁 (*nǚ zì páng*), placed next to an empty box representing the hidden part of the character, along with the pinyin and the Indonesian meaning. This interactive format allows students to *pull the tab* to reveal the complete hanzi character hidden behind the flap.

## Validation Result

The validation process was carried out by two experts: a media expert and a content expert. Media validation was conducted by Dian Yuni Pamuji, B.Ed., MTCSOL, a lecturer and instructional media developer in the Chinese Language Education Study Program at Universitas Negeri Semarang. The media expert's assessment covered three main aspects: the physical aspect, the visual or design aspect, and the language aspect. The results of the validation are presented in Table 1.

**Table 1.** Media Expert Validation Recapitulation

Aspect	Assessment Item	Score
Media Physicality	Media durability	85
	Media safety	87
	Quality of materials used	86
	Ease of storage and portability	88
Media Display	Visual appeal of images	88
	Color composition	88
	Product packaging appearance	86
	User friendliness and simplicity of use	88
Language	Appropriateness of font type	86
Overall Average Score		86,8

Table 1 presents the recapitulation of the “Pull The Tab” learning media validation results conducted by a media expert. The evaluation covered three aspects: media physicality, media display, and language. The media received high scores in durability, safety, material quality, and ease of use. Visually, it was considered attractive and well designed, including effective use of color and packaging. The language used was appropriate and easy to read. With an average score 86,8 the media is considered highly feasible for use in learning activities.

Content validation was conducted by Ria Riski Marsuki, S.S., MTCSOL, a lecturer in the Chinese Language Education Study Program at Universitas Negeri Semarang. The assessment by the content expert covered three main aspects: content feasibility, presentation feasibility, and language feasibility. The validation results are presented in Table 2.



**Table 2.** Content Expert Validation Recapitulation

Aspect	Assessment Item	Score
Content Feasibility	Alignment of content with learning objectives	87
	Strength of material	88
	Content completeness	87
	Ease of understanding the content	87
	Stimulates curiosity	88
	Encourages learning motivation	87
Presentation Feasibility	Accuracy of developed content	88
	Attractive content presentation	87
Language Feasibility	Accuracy of language usage	87
	Language clarity	88
Overall Average Score		87,4

Table 2 presents the recapitulation of the “Pull The Tab” learning media validation results conducted by a content expert. The evaluation focused on three main aspect: content feasibility, presentation feasibility, and language feasibility. In terms of content feasibility, the media was rated highly for its alignment with learning objectives, material accuracy, completeness, clarity, and ability to stimulate curiosity and learning interest. The presentation aspect received positive feedback for the organization and attractiveness of the material delivery. In the language aspect, the expert found the media to be linguistically accurate and clear. While an overall average score of 87,4 the product is considered highly appropriate in terms of educational content, structure, and clarity, supporting its effectiveness as a learning tool.

The initial design of the instructional media developed by the researcher underwent validation by both the content expert and the media expert, and was subsequently refined based on the feedback and recommendations provided. These suggestions included various improvements related to both the content and the visual design of the media.

### Result of Media Revision

The media expert suggested that in the review section, the original Hanzi characters should be used instead of writing 女字旁 (*nǚ zì páng*) combined with its accompanying component separately. The following is the revised version of the media, updated based on the media expert’s recommendations.



Figure 3. Pre-revised Book Display

In figure 3, the review section shows a design where the radical hanzi 女字旁 (*nǚ zì páng*) and its accompanying component (偏旁 *piānpáng*) are not directly combined into a complete hanzi character. Based on suggestions from the media expert, it is recommended to display the original hanzi character instead of presenting the radical hanzi 女字旁 (*nǚ zì páng*) and its component separately.



Figure 4. Revised Book Display

Figure 4 presents the revised design of the review section, adjusted according to the suggestions from the media expert. In this version, the original hanzi characters are displayed, ensuring that the 女字旁 (*nǚ zì páng*) radical hanzi and its component (偏旁 *piānpáng*) appear as a single, unified character.

## CONCLUSION

This study employed a Research and Development (R&D) approach, utilizing data collection techniques such as observation, interviews, and questionnaires. The research focused on the

development of interactive instructional media in the form of a pull the tab pop up book, containing material on the radical hanzi 女字旁 (*nǚ zì páng*). This media was developed to address students needs in understanding the structure and meaning of Hanzi characters containing the 女字旁 (*nǚ zì páng*) radical hanzi, which are often perceived as complex and difficult to memorize.

Through the stages of design, validation by media and content experts, and product revision, a prototype was successfully created featuring an engaging, informative, and functional design. The final product is expected to enhance students understanding and facilitate the learning and memorization of Hanzi characters particularly those incorporating the 女字旁 (*nǚ zì páng*) radical hanzi. Validation results further support its effectiveness: the media expert assigned an overall score of 86,8 indicating strong feasibility in terms of physical durability, visual appeal, and usability. Meanwhile, the content expert awarded an average score of 87,4 reflecting the product's high quality in content accuracy, relevance, presentation, and language clarity. These scores confirm that the developed media not only meets pedagogical. Standards but also serves as an enjoyable and practical alternative learning tool aligned with the needs among learners enrolled in the Chinese language Education program at Universitas Negeri Semarang (UNNES).

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