UNIVERSITI TEKNOLOGI MARA

PIONEERING EDUCATIONAL PERSPECTIVES

Series 2025

THE World University Rankings 2023 TOP 1501+
TOP 128 UI GreenMetric
MDEC Premier Digital Tech Institution
THE IMPACT RANKINGS 2022 TOP 101-200
MyRA

PIONEERING EDUCATIONAL PERSPECTIVES

Series 2025

Chief Editors:
Nur Alyani binti Khairol Anuar
Muhammad Irfan bin Mokhtar

Editors:
Aqeela binti Ahmad Kamiri
Hawa Syamsina binti Md Supie
Nurul Nadiah binti Rasdi
Qistina Azra binti Mohani
Siti Aishah binti Taib
Nurul Hijah binti Jasman
Siti Mariam binti Mohammad Iliyas

Published by:
Academy of Language Studies, Universiti Teknologi MARA
Cawangan Johor, Kampus Pasir Gudang, Jalan Purnama,
Bandar Seri Alam, 81750 Masai, Johor Darul Ta'zim.
07-3818455
edgii.apbpg@gmail.com

Copyright © Pioneering Educational Perspectives: Series 2025

All rights reserved. No part of this publication may be reproduced in any form or by electronic or mechanical means, including information storage and retrieval systems, or transmitted in any form or by any means, without the prior permission in writing from the publisher.

e-ISBN : 978-967-0033-31-0

Published date: 2025

Chief Editors:
Nur Alyani binti Khairol Anuar
Muhammad Irfan bin Mokhtar

Editors:
Aqeela binti Ahmad Kamiri
Hawa Syamsina binti Md Supie
Nurul Nadiah binti Rasdi
Qistina Azra binti Mohani
Siti Aishah binti Taib
Nurul Hijah binti Jasman
Siti Mariam binti Mohammad Iliyas

Published by:
Academy of Language Studies, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Jalan Purnama, Bandar Seri Alam, 81750 Masai, Johor Darul Ta'zim.
07-3818455
edgii.apbpg@gmail.com

Preface

Pioneering Educational Perspectives: Series 2025 is a collection of thought-provoking insights and research contributions exploring contemporary educational trends and practices. This eBook presents a diverse range of perspectives on innovative teaching methodologies, digital learning strategies, and transformative approaches in education. Designed to serve as a resource for educators, researchers, and practitioners, it aims to inspire meaningful discussions and advancements in the field. Through carefully curated chapters, this publication offers fresh ideas and practical solutions to enhance learning experiences in an ever-evolving educational landscape.

e-ISBN: 978-967-0033-31-0

CHILD CONNECT - EMPHASIZING THE SEAMLESS CONNECTION BETWEEN THERAPISTS, EDUCATORS, AND CAREGIVERS 212

Dr Syamsul Anwar Sultan Ibrahim[1,*], Ain Najihah Mohd Bakri[2], Muhammad Danial Mohd Yasin[3], Iffah Amirah Mohd Nasir[4] & Dayang Nur Hadziah binti Abang Saufi[5] 212

ENHANCING BIOLOGY EDUCATION THROUGH CBM (CABANG MINDA BIOLOGI) AND DIGITAL MEDIA: A BILINGUAL APPROACH FOR IMPROVED STUDENT COMPREHENSION AND ENGAGEMENT 216

Tun Mohd Firdaus bin Azis[1,*] Tun Norasida binti Aziz[2] 216

VMATT - VIBRATION MAGNIFICATION AND ANGLE TEACHING TOOL 220

Mohd Nor Azmi Ab Patar[1,*], Schufee Amani Suhaime[2], Shaharudin Ahmad[3], Chi Hieu Le[4] & Jamaluddin Mahmud[5] 220

MUMBLE TO MARVEL: SPEAK LIKE A CHAMP 224

Muhammad Irfan bin Mokhtar[1,*], Nur Alyani binti Khairol Anuar[2], Nurul Hijah binti Jasman[3] & Nursuhaila binti Ibrahim[4] 224

A TINKERCAD-BASED APPROACH TO AMR DEVELOPMENT IN ELECTRICAL ENGINEERING .. 227

Rozi Rifin[1], Kamaru Adzha Kadiran[2,*], Mohamad Zhafran Hussin[3], Nor Diyana Md Sin[4] & Ezril Hisham Mat Saat[5] 227

OPTIMISING QUIZIZZ FOR BLENDED LEARNING: INNOVATING ESL HOMEWORK SUBMISSION AND MONITORING 231

Fathiyah Ahmad @ Ahmad Jali[1], Berlian Nur Morat[2,*], Syakirah Mohammed[3], Noor 'Izzati Ahmad Shafiai[4] & Mohd Hilal bin Muhammad[5] 231

INSTITUSI KHALIFAH (I-KHALIF) E-LEARNING COURSEWARE FOR STPM STUDENTS 235

Nurul Wafa Wardina Rosli[1], Zazaleena Zakariah[2],*, Raudzatul Fathiyah Mohd Said[3] & Wan Safra Diyana Wan Abdul Ghani[4] 235

DEVELOPMENT OF INTRODUCTORY MANDARIN (EASYMANDARIN) COURSEWARE USING PERSUASIVE SYSTEM DESIGN 239

Nur Syazwani Mohd Shukri[1], Zazaleena Zakariah[2], Raudzatul Fathiyah Mohd Said[3],* & Wan Safra Diyana Wan Abdul Ghani[4] 239

KAEDAH TAMBAN 243

Nooraini binti Ab Latif[1], Masni Binti Jamin[2], Habilah Begam binti Abu Bakar[3*], Tuan Khalisah Binti Tuan Arif Sahibu Fadhilah[4] 243

PENGEMBARAAN DARORI 247

Nur Amirah Hatasya binti Harwi, Raihan Najeehan binti Abdul Muie, Siti Khadijah binti Mohd Anuar[1], Masni binti Jamin[2] & Nooraini binti Ab Latif [3] 247

CUBE ARCHITECTURE : MAKER PLACE HAVEN 250

Syahmirul Haziq Bin Mohd Hamzani, Ar. Erdayu Os'hara Binti Omar, Ts. Kamal Bin Mohd Idris 250

EDUGO 254

Lim Siew Li[1],*, Lee Wei[2], Goh Ming Chei[3], Tan Ker Li[4], Teh Ee Shen[5] & Ng Kai Chun[6] 254

e-ISBN: 978-967-0033-31-0

DEVELOPMENT OF INTRODUCTORY MANDARIN (EASYMANDARIN) COURSEWARE USING PERSUASIVE SYSTEM DESIGN

Nur Syazwani Mohd Shukri[1], Zazaleena Zakariah[2], Raudzatul Fathiyah Mohd Said[3]* & Wan Safra Diyana Wan Abdul Ghani[4]

[1,4] College of Computing, Informatics and Mathematics, Universiti Teknologi MARA, Cawangan Terengganu, Kampus Kuala Terengganu, 21080, Malaysia
[2,3] Centre of Foundation Studies,Universiti Teknologi MARA, Cawangan Selangor, Kampus Dengkil, 43800 Dengkil, Selangor, Malaysia

**Corresponding author: raudzahfathiyah@uitm.edu.my*

ABSTRACT

EasyMandarin is an introductory Mandarin courseware developed for Mandarin Level 1 students focused on topic "Nǐ xǐhuan zuò shénme?" which means “What do you like to do?”. Surveys proved that students struggle with Mandarin due to its vast vocabulary, unique character system, and tonal pronunciation. Unlike alphabet-based languages, Mandarin requires precise pronunciation to avoid altering meanings. The lack of related English words makes building a strong vocabulary challenging, impacting students' ability to construct sentences and engage in meaningful interactions. Hence this project aims to identify the requirements for an introductory Mandarin Level 1, design and develop the courseware using persuasive system design principles and evaluate its functionality and usability. The courseware development encompasses the analysis, design, development, implementation, and evaluation phases. All multimedia elements like pictures, videos, quizzes, and games were included for this courseware to make learning more interactive and enjoyable. These elements were integrated consistently throughout the courseware. For this project, persuasive system design principles like self-monitoring, praise, liking, and expertise were integrated to motivate and engage students. Self-monitoring helps track progress, praise reinforces achievements, liking enhances user connection, and expertise ensures credibility, collectively creating a more engaging and effective learning experience.

KEYWORDS: e-learning courseware, Education courseware, Education in Malaysia, Language, Mandarin

PROBLEM AND OBJECTIVE

Students encountered difficulties studying the “Nǐ xǐhuan zuò shénme?" topic, partly due to the lack of tools specifically designed for the subject. A survey of students learning Mandarin Level 1 revealed key challenges, particularly with vocabulary and pronunciation. Unlike alphabet-based languages, students struggle with Mandarin vocabulary due to the vast number of characters to memorize. This challenge is compounded by the need to learn new words from scratch, as few English-related words make it difficult to build a strong vocabulary foundation (Huang, 2023). This issue impacts their comprehension and ability to construct sentences and communicate effectively in Mandarin (Ju & Mei, 2020). Additionally, students find Mandarin pronunciation challenging due to its unique tonal system, which differs significantly from languages like Malay or English. The four different tones in Mandarin are crucial for conveying meaning, and even slight mispronunciations can lead to misunderstandings. This difficulty in

e-ISBN: 978-967-0033-31-0

mastering tones affects students' communication skills, causing hesitation and anxiety when speaking Mandarin, ultimately limiting their ability to engage confidently in conversations (Lam & Kuan, 2019). To tackle these challenges, the project introduces EasyMandarin, an introductory Mandarin courseware developed using persuasive system design principles, such as praise, liking, reminders, expertise, and self-monitoring. The project aims to identify the requirements for EasyMandarin courseware, design and develop it using persuasive system design principles, and evaluate its functionality and usability. EasyMandarin utilizes these design principles to create an interactive and motivating learning experience, tackling the challenges students encounter with traditional materials while enhancing retention and comprehension of the content (Sittig et al, 2020).

DESIGN DESCRIPTION

EasyMandarin courseware focuses on enhancing Mandarin instruction for beginners by incorporating multimedia and persuasive system design. Traditional methods, reliant on textbooks and in-class quizzes, often led to vocabulary memorization and pronunciation challenges. The courseware addresses these issues by offering interactive lessons that are accessible anytime, featuring engaging videos for better visualization and accurate pronunciation, and interactive activities that make vocabulary learning more enjoyable (Indah et al, 2020). The courseware provides immediate quiz feedback and supports self-paced learning, ultimately improving the learning experience and outcomes for Mandarin Level 1 students.

VISUALS

Each EasyMandarin courseware interface is considerately designed to enhance user experience. Each page is provided with buttons that are necessary for user. Figure 1.0, 2.0, 3.0, 4.0, 5.0 and 6.0 show samples of EasyMandarin interfaces.

e-ISBN: 978-967-0033-31-0



Figure 1.0: Home page



Figure 2.0: Selection sub topic page

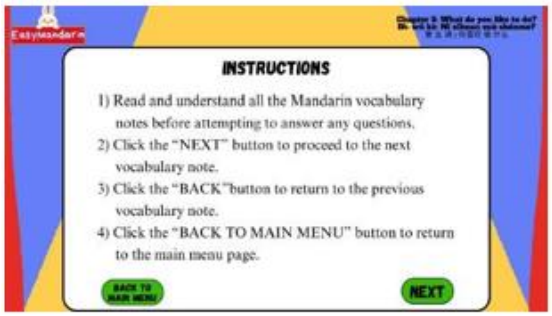


Figure 3.0: Learning material page



Figure 4.0: Learning material page

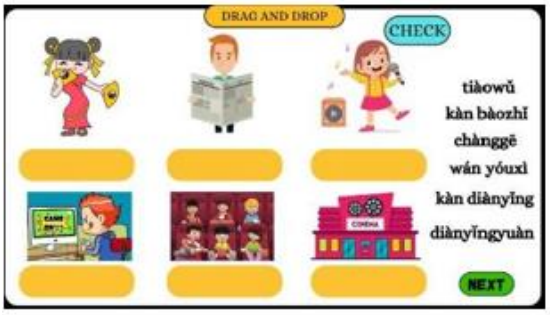


Figure 5.0: Learning material page



Figure 6.0: Result page

NOVELTY AND UNIQUENESS

EasyMandarin courseware enhances students' experience by integrating multimedia and persuasive system design. Traditional methods, which relied on textbooks and in-class quizzes, often resulted in vocabulary memorization and pronunciation difficulties. The courseware simplifies complex concepts through structured learning materials, making them easier to understand. Interactive quizzes and multimedia content may further boost comprehension and retention, enabling students to engage with the material more deeply. This approach enhances understanding of the subject and ensures that students can effectively retain and recall key information, leading to improved academic performance overall.

BENEFITS TO MANKIND

EasyMandarin courseware allows students to practice and deepen their understanding of the language at any time. It supports proficiency in speaking, listening, and reading through immediate feedback on quizzes, which helps students pinpoint and address specific areas for improvement. For lecturers, the application serves as an effective teaching tool for correct pronunciation. It motivates students by facilitating meaningful conversations and natural self-expression. Additionally, the application is accessible to anyone interested in learning

e-ISBN: 978-967-0033-31-0

Mandarin, offering lessons on pronunciation improvement and self-paced learning. This inclusive platform makes Mandarin education available to a broad audience.

COMMERCIAL POTENTIAL

The commercial potential of EasyMandarin courseware is significant due to the growing demand for language learning tools. This courseware appeals to a broad audience, including students, professionals, and language enthusiasts, offering interactive and engaging methods to learn Mandarin. Its features, such as multimedia content and immediate feedback, enhance the learning experience, making it a valuable resource for schools, language centers, and individual learners. Additionally, the courseware's ability to provide flexible, self-paced learning caters to diverse needs, further increasing its marketability. Its adaptability and effectiveness position it as a highly sought-after tool in the language education sector.

CONCLUSION

The EasyMandarin courseware was developed to meet three objectives. First, it identified the needs for an Introductory Mandarin Level 1 course, addressing students' lack of interest by incorporating notes, videos, quizzes, and interactive exercises. Second, it was designed using persuasive system design principles, with a navigation map created. Finally, the application's functionality and usability were rigorously evaluated through specific test cases, user feedback, and surveys, ensuring its effectiveness and suitability for Mandarin Level 1 students. Feedback proved that the courseware supports lecturers by offering additional tools for student learning and self-paced access to materials from anywhere. It also enhances student engagement with Mandarin through interactive and enjoyable learning experiences.

REFERENCES

Huang, J. (2023). Students' Major Difficulties in Learning Mandarin Chinese as an Additional Language and Their Coping Strategies. https://files.eric.ed.gov/fulltext/ED440537.pdf

Indah Septiani, A. nisa N. S., Septiani, I., Rejekiningsih, T., Triyanto, & Rusnaini. (2020). Development of interactive multimedia learning e-learning portal to strengthen students' character. European Journal of Educational Research, 9(3). https://doi.org/10.12973/eu-jer.9.3.1267

Ju, S. Y., & Mei, S. Y. (2020). Students' Attitudes and Perceptions of Learning Mandarin Chinese via Animated Video. International Journal of Academic Research in Business and Social Sciences. 10(10), 567-579.https://oarep.usim.edu.my/jspui/bitstream/123456789/10967/1/Students%e2%80%99%20Attitudes%20and%20Perceptions%20of%20Learning%20Mandarin%20Chinese%20via%20Animated%20Video.pdf

Lam Kai-Chee & Kuan Wee-Ling (2019). Vocabulary Learning Strategies: The Case of Mandarin Learners in Sarawak. Journal Human Behavior, Development and Society, 20 (3), 16- 32.

Sittig, S., McGowan, A., & Iyengar, S. (2020). Extensive Review of Persuasive System Design Categories and Principles: Behavioral Obesity Interventions. Journal of Medical Systems, 44(7),128. https://doi.org/10.1007/s10916-020-01591-w