

## Designing Motivational Communication: The ARCS+D Extension Model for Malay Proverbs Learning

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### ABSTRACT

Motivation plays a critical role in shaping effective learning experiences, particularly within language education mediated through visual communication. While the ARCS Model (Attention, Relevance, Confidence, Satisfaction) has been widely recognised as a framework for enhancing learner motivation, limited attention has been given to the role of design as a strategic communicative component. This study addresses this gap by proposing the ARCS+D model, positioning design as an integral element in constructing motivational visual communication among Generation Alpha learners engaging with Malay proverbs. Adopting a qualitative approach, Focus Group Discussions (FGDs) were conducted with preschool learners to examine how visual elements and design principles influence engagement and interpretation. The findings reveal that design functions not merely as an aesthetic enhancement but as a core communicative mechanism that significantly strengthens attention, relevance, confidence, and satisfaction. In particular, visually driven formats, such as illustrated and interactive media, enhance the clarity and appeal of proverb-based content, transforming traditional text-based learning into a more engaging visual communication experience. The ARCS+D model reconceptualises motivation as a form of designed communication, where visual strategies mediate meaning-making and audience engagement (Lamour Sansone, 2015). This study contributes to media and communication scholarship by demonstrating how design-driven visual communication supports cultural knowledge transmission in contemporary learning environments, while advocating for visually enriched approaches that align with the communicative preferences of modern learners.

**Keywords:** *Visual communication, ARCS model, motivation, Malay proverbs, culture.*

### INTRODUCTION

Motivation is a crucial aspect of learning. Specific to student engagement in activities, it plays a pivotal role and influences how much students will gain from those pursuits (Filgona et al., 2020; Alasgarova et al., 2024). It serves as a fundamental component in language acquisition, exerting a substantial influence on pedagogical methodologies and instructional effectiveness (Nabilla, 2023). The ARCS Model, developed by John M. Keller, is a widely recognised model designed to enhance student motivation by addressing four key components: Attention, Relevance, Confidence, and Satisfaction (Keller, 1987). Despite its effectiveness, the application of the ARCS Model has predominantly been within traditional, text-based

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instructional settings. The integration of graphic design principles, particularly in the use of illustrations and digital learning materials, remains an underexplored area in this context. This is especially pertinent given the evolving preferences of Generation Alpha, children born from 2010 onwards, who have been immersed in a digitally rich environment from birth. Study indicates that these learners showcase a strong preference for visual and interactive content over static, text-based information (Prensky, 2001; Tapscott, 2009; Ziatdinov & Cilliers, 2021). However, the traditional methods of teaching Malay proverbs have largely remained static, relying heavily on text-based approaches that may not resonate with this new generation of learners. In fact, existing applications of the model have largely overlooked the impact of design in instructional materials. As digital learning environments evolve, particularly for Generation Alpha, the role of design, specifically prioritising design elements and principles, becomes increasingly significant (Lamour, 2015, Giraldi et al., 2020; Marcelle et al., 2024).

The rapid expansion of digital technology has significantly transformed the graphic design industry, aligning with emerging trends and cultural shifts within the contemporary society (Shi et al., 2017; Li, 2019; Sutarwiyasa et al., 2022). As the creative sector in Malaysia continues to evolve, several challenges and limitations have been identified that may hinder its sustained growth and global competitiveness. Among the most pressing concerns are the limited emphasis and focus on continuous research and development (R&D), which restricts innovation and adaptation to global industry standards. Additionally, while technological advancements offer new opportunities, their full potential remains underutilised due to low digital literacy levels among certain segments of the Malaysian population. This gap in technological proficiency limits the effective integration of advanced design tools and digital platforms into industry practices. On top of that, the economic and cultural significance of the creative industry proves to be lacking which results to an insufficient investment and policy support. Addressing these challenges requires a strategic, multi-sectoral approach that prioritises education, technological adoption, and policy-driven initiatives to enhance the sustainability and global positioning of Malaysia's creative industry (The National Creative Industries Policy (DIKN-2020)).

This study introduces a design-centric approach to redefine the ARCS Model in the context of Malay proverb education. It investigates how elements and principles of design, such as line, shape, typography, and colour, influence motivation and engagement in learning Malay proverbs. Additionally, the study primarily focuses on defining design preferences (children's illustration styles) in learning Malay proverbs to optimise teaching materials for preschool learners. By integrating design as an additional theoretical component, this study proposes an extended model, ARCS+D (Attention, Relevance, Confidence, Satisfaction + Design) that enhances the learning experience and retention of Malay proverbs.

Malay proverbs, rich in cultural wisdom and moral teachings, are an essential part of Malay linguistic. However, younger generations, particularly Generation Alpha, show declining interest in learning proverbs due to traditional, text-heavy teaching methods that fail to capture their engagement (Saleh, 2006). The concern regarding the decline in the use and appreciation of Malay proverbs among younger generations, particularly Generation Alpha, is supported by several studies. Research indicates that the integration of Malay proverbs in educational materials is diminishing, which may contribute to a reduced exposure among students. For instance, a study analysing Malaysian secondary school textbooks found that while proverbs are included, their presentation may not effectively engage students, potentially leading to a decline in interest and understanding from the student body (Saleh, 2006; Nasir & Subet, 2023).

In line with the rise of digital learning platforms, the incorporation of effective design strategies in educational materials has proven necessary to align with the visual learning preferences of modern learners (Mahamod & Bahari, 2017; Peters, 2000; Warschauer, 2007; Othman et al., 2022). The incorporation of graphic elements inspired by folklore, traditional tales, Malay proverbs, local culture, and mythology was prominently featured in the early episodes of *Hikayat Sang Kancil* during the 1980s. This approach evidently demonstrated how visual storytelling could effectively preserve and convey cultural narratives, enriching the audience's understanding of Malaysia's rich heritage through animation and illustration (Tursunmurotovich, 2020; Shah et al., 2021).

The complex interpretation and rich literary values embedded in Malay proverbs present a significant challenge for the younger generation in terms of comprehension, appreciation, and meaningful application. As a cultural and linguistic treasure of Malay civilization, these proverbs require deliberate efforts for preservation, ensuring their relevance and transmission to future generations remain intact. This scenario underscores the fact that graphic design has played a role in preserving Malay proverbs long before the advent of the digital era. However, despite these early efforts, this cultural heritage is gradually fading, particularly among the millennial generation, highlighting the need for renewed engagement and preservation strategies (Jailani et al., 2020). The significance, adaptability, and distinctive nature of Malay proverbs within the digital era require in-depth scholarly exploration to effectively encapsulate the essence of Malay thought, culture and the richness of its civilization (Ishak & Mansor, 2011).

This study is particularly relevant as it addresses the gap between motivational theories, such as the ARCS Model, and design principles in education. While the ARCS Model has been widely applied to enhance motivation in learning (Keller, 1987), its integration with visual and graphic design elements remains underexplored. By incorporating design as a theoretical component, this study provides a fresh perspective on how visual aesthetics, typography, colour schemes, and interactive illustrations can reinforce motivation in Malay proverbs education for young learners. Additionally, this study defines design based on illustration styles that are most effective in enhancing learner engagement and comprehension of Malay proverbs. Given that Generation Alpha learners respond more actively to visually stimulating and interactive learning experiences, identifying the right illustration styles ensures that the teaching materials align with their cognitive and motivational needs. This investigation contributes to a deeper understanding of how visual representation impacts language learning, particularly in the context of cultural and linguistic preservation (Siti Hajar & Hema et al., 2015; Siti Nabilah et al., 2023; Kamarul, 2024).

Beyond theoretical contributions, this study offers practical insights for educators, instructional designers, and policymakers in the development of more effective and engaging teaching materials. By integrating design strategies into educational content, this study provides actionable recommendations for designing interactive, visually enriched, and culturally relevant learning tools. These findings serve as a guideline for the creation of future teaching materials, ensuring that Malay proverbs continue to be learned and appreciated by younger generations. This study aims to define the role of design in enhancing motivation among preschool learners in Malay proverbs education by integrating visual communication and design strategies into learning materials. Specifically, the study seeks to identify the most preferred illustration design styles that enhance engagement, comprehension, and retention, ensuring that the teaching of Malay proverbs aligns with the cognitive and motivational needs

of Generation Alpha learners. Furthermore, this study contributes to the theoretical expansion of the ARCS Model by incorporating design as a fundamental component in fostering learner motivation. By introducing the ARCS+D extended model, this study provides a structured approach for educators, instructional designers, and policymakers to develop visually engaging, culturally relevant, and interactive teaching materials that optimise the learning experience for young learners.

#### LITERATURE REVIEW

Malay proverbs, or *peribahasa*, have long served as an essential part of Malay culture and language, offering wisdom, moral guidance, and social values. Scholars have explored the linguistic, cultural, and educational significance of these proverbs, highlighting their role in language preservation, pedagogy, and cognitive development. The world of education today is shifting towards a more engaging and culturally relevant learning experience, particularly for Generation Alpha, who are growing up in an era defined by rapid technological advancements and multicultural exposure (Spasova, 2022). As educators seek effective methodologies to enhance learning, the integration of cultural elements such as proverbs has gained significant attention. Proverbs, as carriers of wisdom and values, can serve as powerful educational tools, helping young learners develop cognitive abilities and a deeper appreciation of their cultural heritage (Mammadova, 2016).

Studies have shown that incorporating proverbs into the learning curriculum can strengthen cultural identity, improve language skills, and foster critical thinking (Ngalim & Stanislaus, 2020; Munir & Nudin, 2021). For instance, using proverbs in language teaching encourages students to personally connect with the material, enhancing both retention and comprehension. However, despite these promising findings, there is still a gap in research regarding how to systematically design instructional materials that integrate Malay proverbs in ways that align with Generation Alpha's digital learning preferences (Peng & Patterson, 2022). Early discussions on proverbs as educational tools primarily emphasised their role in preserving indigenous wisdom and teaching moral values (Mammadova, 2016; Ngalim & Stanislaus, 2020; Munir & Nudin, 2021). However, as technology evolved, educators began incorporating design principles and visual storytelling to make these traditional expressions more engaging to young learners (Gan & Leung, 2020).

By the late 2010s, a shift occurred towards more structured learning models, such as the ARCS Model (Attention, Relevance, Confidence, Satisfaction), which focuses on learner motivation. Integrating the ARCS Model into proverb-based learning enhances engagement by making lessons more interactive and contextually meaningful, ensuring they resonate with Generation Alpha's digital fluency (Fomina et al., 2023). By blending proverbs with interactive visuals, digital storytelling, and culturally relevant design, educators can tap into students' cognitive, emotional, and motivational needs. Research has shown that design driven instructional methods significantly enhance student motivation, engagement, and comprehension especially for younger learners who thrive in interactive, visually enriched environments (Li & Keller, 2018; Hong et al., 2019; Isnah et al., 2021; Nasir & Subet, 2023). Unfortunately, traditional proverb teaching methods often fail to capture students' interest. Many learners perceive proverbs as outdated or irrelevant, largely because they are presented in static, text-heavy formats. Moreover, interpreting proverbs requires advanced cognitive skills, which can make them challenging for younger students without the right contextual support (Nasir & Subet, 2023). However, when educators use multimedia, interactive activities, and relatable real-world examples, proverbs can become engaging,

memorable, and impactful (Fomina et al., 2023). Students learn best when educational content reflects their cultural backgrounds and lived experiences (Nadeem et al., 2024). When Malay proverbs are embedded into instructional design using visual storytelling and digital media, they become more engaging and relatable, fostering deeper comprehension and retention. This aligns with the Relevance component of the ARCS Model, emphasising how culturally enriched learning materials create a sense of belonging and investment in learning.

Society is undergoing rapid digital transformation. The rapid advancement of Information and Communications Technology (ICT) has fundamentally reshaped educational methodologies, creating new opportunities for design integration in digital learning environments (Montoneri, 2015; Jones, 2011; Miço & Cungu, 2022). Advancements in technology are driving increased expectations in teaching and learning (El Hajj, 2024). As digital education continues to evolve, the role of graphic design, user interface (UI), and user experience (UX) design has become increasingly critical in enhancing student engagement, motivation, and comprehension. Additionally, the rise of e-learning platforms, gamified education, and augmented reality (AR) applications exemplifies how technology and design converge to create immersive learning environments. In these contexts, graphic design plays a crucial role in ensuring that learning materials are not only aesthetically engaging but also intuitive and accessible. Studies indicate that visual storytelling, interactive design, and culturally responsive graphics contribute to higher retention rates and increased learner motivation. Furthermore, the integration of technology and design fosters inclusivity by accommodating diverse learning styles. For instance, according to relevant studies, the most significant advantages of AR are its cognitive benefits and its ability to enhance motivation and engagement in the teaching and learning process (Amanatidis, 2022). The emphasis on universal design principles ensures that digital education platforms cater to a wider range of learners, thereby enhancing knowledge dissemination and engagement in a synergistic manner within modern digital education.

However, some scholars caution against oversimplifying cultural narratives in educational materials. Critics argue that if not carefully designed, teaching proverbs in a simplified, decontextualised manner could lead to stereotypes or misinterpretations (Fomina et al., 2023). To mitigate this, instructional design should provide rich, context-based learning experiences, ensuring that students understand the depth and cultural significance of each proverb. Emerging traditional wisdom with innovative, student-centered learning strategies is key to engaging Generation Alpha in meaningful ways. Incorporating Malay proverbs into design-centric learning extended models, can transform language learning into an enriching experience. This not only preserves cultural heritage but also equips students with critical thinking and analytical skills that are essential in navigating an increasingly complex world. By developing structured design extended models that integrate Malay proverbs, the ARCS Model, and visual strategies, educators can create culturally relevant, creative, engaging, and effective learning experiences for future generations.

## METHODOLOGY

This study focuses on Generation Alpha, specifically six-year-old pre-schoolers, who are at the preoperational stage of cognitive development, characterised by symbolic thought and emerging representational abilities (Lowenthal, 1975). Given their unique cognitive processing and strong responsiveness to visual stimuli, this study examines how they interact with illustration styles in the context of Malay proverb learning. A total of 41 preschool

learners were selected from four kindergartens, with an equal distribution between urban and rural settings in Central and North Malaysia. This diverse sampling ensures a comprehensive representation of learners from different socio-environmental backgrounds, thereby enhancing the transferability of the findings across different learning contexts.

The study employs a Focus Group Discussion (FGD) approach, adapted specifically for young children. While children at this developmental stage may have limited verbal articulation, prior research indicates that they are capable of expressing preferences and meanings through guided interaction, visual prompts, and peer-supported communication (Einarsdóttir, 2007; Clark, 2010; Punch, 2002). Therefore, the FGD sessions were carefully structured using age-appropriate strategies, including visual stimuli, simplified questioning, and facilitated prompts to support expression, as such approaches have been shown to enhance young children's participation and communicative responses in qualitative research settings (Gibson, 2007; Morgan et al., 2002).

Participants were organised into eleven small groups to create a comfortable and interactive environment, allowing children to respond through both verbal and non-verbal cues such as pointing, selecting, and describing visual elements. Participants were presented with six distinct illustration styles, namely: (i) Cartoon, (ii) Whimsical, (iii) Sketchy, (iv) Realistic, (v) Black and White, and (vi) Line (Salisbury & Styles, 2020), as shown in Figure 1. Each illustration style was applied to a single Malay proverb, "*Sikit-sikit, lama-lama jadi bukit*" ("Take care of the pennies, and the pounds will take care of themselves"), selected for its accessible and universal theme of gradual progress. The use of visual stimuli was central to eliciting responses, as illustrations functioned as communicative cues that facilitated interpretation and engagement (Bloomer, 1960; Brookshire et al., 2002; Sutopo, 2023).



Figure 1: Illustration styles

To capture participant preferences, a sticker voting method was utilised. Each child selected their preferred illustration style, enabling an intuitive and participatory form of response suitable for their developmental stage. Following this, participants were grouped

according to their selected styles for further discussion. The discussions were guided by the four motivational components of the ARCS Model, ensuring that both cognitive and affective responses were explored systematically. The discussion protocol focused on three key aspects: (i) reasons for visual preference, (ii) level of understanding of the proverb through visual representation, and (iii) degree of engagement with the illustrations. To support children's expression, facilitators used probing techniques such as prompting, rephrasing, and visual referencing. This approach ensured that responses were not limited to verbal ability but also captured interpretive and affective reactions.

The analysis was structured according to the ARCS components. Attention examined which visual elements (e.g., colour, line, composition) captured interest; Relevance assessed how visuals connected with learners' experiences; Confidence explored clarity and interpretability of the illustrations; and Satisfaction analysed emotional responses and enjoyment. A thematic analysis was conducted following a systematic multi-step process to ensure transparency and rigour. First, all FGD sessions were transcribed and organised according to groups and illustration styles. Second, initial coding was performed by identifying recurring keywords, phrases, and behavioural indicators (e.g., excitement, hesitation, preference selection) related to visual engagement. Third, these codes were categorised into broader themes aligned with the ARCS components (Attention, Relevance, Confidence, Satisfaction). Fourth, patterns across groups were compared to identify dominant illustration preferences and consistent motivational responses. Finally, themes were interpreted in relation to design elements and principles to understand how visual communication influenced learning engagement. This structured thematic process ensures that both verbal and non-verbal responses were systematically analysed, strengthening the credibility and interpretive depth of the findings. By integrating age-appropriate FGD techniques with a clearly defined analytical framework, this study provides a robust approach to examining how visual communication design shapes motivation among modern learners.

## FINDINGS AND DISCUSSION

### *Preferred Illustration Design Style*

The findings reveal a distinct preference among Generation Alpha learners for **cartoon-style illustrations**, which accounted for 56.1% of the total responses, indicating a strong inclination towards visually dynamic and expressive content. From a visual communication perspective, this preference reflects how stylised imagery, vibrant colours, and character-driven narratives function as effective communicative cues that capture attention and facilitate meaning-making among young audiences. Cartoon visuals operate not merely as decorative elements but as communicative forms that simplify complex ideas into accessible visual narratives.

This aligns with prior research suggesting that cartoon-based visuals enhance engagement by stimulating imagination and emotional connection, enabling learners to interpret content more intuitively (Bedekar & Joshi, 2021). In this context, the integration of storytelling and visual representation supports audience reception, where learners actively construct meaning through interaction with visual messages. Additionally, cartoons perform a dual communicative function entertaining while simultaneously conveying moral and educational values making them particularly effective in early childhood learning environments (Siddiqui & Islam, 2022).

In contrast, whimsical and sketchy styles received significantly lower preference rates (31.7% and 3%, respectively), while monochromatic and realistic styles generated minimal engagement. This suggests that young learners are less responsive to visually restrained or abstract representations, reinforcing the importance of expressive, high-impact visual communication. These findings further support the notion that culturally relevant and visually engaging content strengthens emotional connection and audience engagement (Altugan, 2015; Vickov, 2007).

### *Thematic Analysis*

The focus group discussions provided valuable qualitative insights, shedding light on the complexities of language dynamics and cultural depletion. The thematic analysis, structured around the ARCS Model, provides valuable insights into how design elements motivates learner engagement and comprehension among Generation Alpha pre-schoolers. The findings highlight that color, shape, harmony, repetition, movement, and emphasis play a crucial role in motivating young learners and making Malay proverbs more accessible and meaningful for years to come.

### *Attention (A): The Role of Colour, Shape, and Emphasis in Capturing Interest*

The findings confirm that **colour** is a critical factor in capturing children's attention, with bright, vibrant hues being more effective than dark, muted tones. Findings suggest that young learners are naturally drawn to high contrast, saturated **colours**, as these stimulate cognitive and emotional engagement, making learning materials more visually appealing and memorable (Farhodovna & Toxirovna, 2024). The use of harmonious yet attention grabbing illustrations ensures that children remain focused and engaged, reducing cognitive overload while reinforcing key learning concepts. Additionally, shape plays a significant role in sustaining attention, as young learners gravitate toward playful, exaggerated forms. The preference for "fat and chubby birds" with "big eyes" reflects the broader trend of character driven learning, where approachable and friendly visuals foster emotional connections with the content shown (Liao & Wang, 2008). These stylised forms function as communicative symbols that evoke familiarity, friendliness, and emotional attachment. The concept of emphasis, where the bird is strategically placed as the focal point of the illustration, further reinforces the idea that effective design directs learners' visual attention toward key elements, aiding in knowledge retention and engagement.

### *Relevance (R): Familiarity and Experience in Learning Materials*

The integration of familiar objects, such as food, enhances the communicative relevance of visual materials by linking abstract proverb meanings to learners' everyday experiences. This reflects principles of audience reception, where meaning is constructed through the interaction between visual messages and personal context. By embedding culturally recognisable elements within the illustrations, the visuals become more relatable and meaningful, strengthening learners' connection to the content. This supports previous research indicating that culturally responsive visual communication enhances engagement, comprehension, and retention (Gan & Leung, 2020).

### *Confidence (C): The Role of Repetition and Pattern in Reinforcing Learning*

The findings indicate that repetition and pattern contribute significantly to learner confidence by reinforcing meaning and clarifying visual narratives. The repeated depiction of food items

within the illustration ensures that learners can easily recognise the context, reducing ambiguity and increasing conceptual clarity. Studies on visual learning strategies suggest that repetition strengthens cognitive processing as repeated exposure to similar patterns and symbols enhances memory retention and recognition (Spasova, 2022). This structured approach to graphic representation ensures that students feel confident in their understanding, encouraging active participation and self-directed learning.

#### *Satisfaction (S): Movement and Expressive Illustration in Fostering Engagement*

The study highlights that movement and animated expressions significantly contribute to learner satisfaction, making proverb based learning more engaging and enjoyable. The use of inanimate objects with human-like facial expressions, arms, and legs creates a sense of liveliness and interaction, mimicking animated storytelling techniques that are widely recognised for their ability to sustain attention and induce emotional responses (Fomina et al., 2023). Additionally, the strategic use of line to suggest movement gives static illustrations a sense of action, further enhancing the immersive learning experience. Research has consistently shown that cartoon based educational materials evoke positive emotional responses, which in turn improve motivation and comprehension (Nasir & Subet, 2023). By integrating expressive characters and dynamic motion cues, this study reinforces the idea that effective graphic design is not merely about aesthetics but also about creating interactive, learner focused experiences that facilitate deeper cognitive engagement with educational content.

The findings of this study substantiate the need for an expanded instructional model of ARCS+D, where Design (D) is formally integrated into the ARCS model as a key motivational factor. While the traditional ARCS Model accounts for cognitive and affective engagement, it does not fully address the impact of design elements such as colour, composition, movement, and character development in enhancing learner motivation and comprehension. The ARCS+D extended model proposed in this study provides a structured approach to embedding visual literacy and aesthetic awareness into motivational learning theories.

#### *The Role of Design (D): Enhancing Learning Motivation*

In the ARCS+D extended model, Design (D) serves as a fundamental component that enhances motivation and engagement by integrating relevant visual principles into instructional materials. One of its key contributions is in strengthening Attention, where elements such as colour, contrast, and composition are strategically used to capture and sustain learners' focus. Research suggests that bright, high contrast visuals naturally attract young learners' attention, while balanced compositions guide their gaze effectively, preventing cognitive overload and enhancing information retention for these young minds (Lilly & Venukapalli, 2021). Beyond merely capturing attention, Design reinforces Relevance by incorporating familiar and culturally meaningful visual elements. When illustrations reflect learners' backgrounds, experiences, and cultural references, they create a stronger sense of connection and relatability, making the content more engaging and meaningful. Studies in culturally responsive pedagogy indicate that learners are more likely to engage with materials that reflect their identity and lived experiences, as it enhances both personal significance and comprehension (Isnah et al., 2021; Peng & Patterson, 2022).

Additionally, Confidence is strengthened through Design by utilising clear, repeated patterns that support cognitive processing and visual memory. Structured repetition in illustrations, such as consistent use of motifs, patterns, and symbolic representations, enables learners to recognise and recall concepts more effectively. This approach lowers cognitive barriers, allowing young learners to engage with materials at their own pace while reinforcing visual literacy skills.

Ultimately, Design contributes to Satisfaction by making learning experiences interactive, immersive, and emotionally engaging. When visual materials are designed with expressive characters, movement cues, and playful compositions, they create a positive emotional response, increasing learners' intrinsic motivation. Studies on visual storytelling in education have shown that when learners enjoy and relate to the aesthetic qualities of an illustration, their willingness to engage, explore, and learn significantly improves. By incorporating Design (D) as an essential part of learning motivation, the ARCS+D framework provides a structured approach to integrating visual elements into pedagogy, ensuring that education remains both effective and engaging for diverse learners.

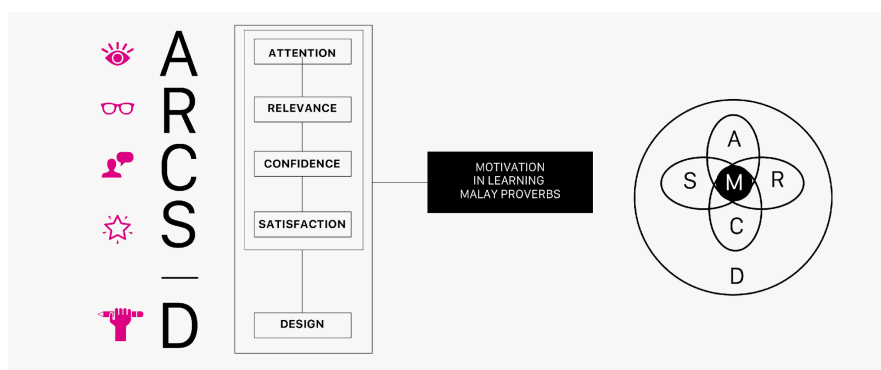


Figure 2: ARCS+D extended model

This study proposes an extension of the ARCS Model through the integration of Design (D) as a core theoretical component, forming the ARCS+D extended model. While the ARCS Model effectively addresses motivational aspects of learning, it does not explicitly account for the critical influence of visual design in shaping cognitive engagement and information retention. Research in educational psychology and instructional design has established that visual elements such as colour, composition, typography, illustration styles and creative narratives play a significant role in enhancing learner attention, comprehension, and motivation (Bedekar & Joshi, 2021; Liao & Wang, 2008; Li & Keller, 2018; Kamarul, 2024). The proposed ARCS+D extended model seeks to bridge this gap by incorporating design as a structured pedagogical element, ensuring that visual communication is not merely supplementary but integral to learning efficacy.

In this new proposed model, Design (D) reinforces Attention by employing visually stimulating and contextually relevant imagery, enhances Relevance through culturally familiar and aesthetically engaging content, strengthens Confidence by providing clear, structured, and intuitive visual representations, and improves Satisfaction by fostering positive affective responses to learning materials. The findings of this study demonstrate that design is not merely an accessory feature of instructional materials but a fundamental driver of engagement, comprehension, and cultural resonance. By formalising ARCS+D, this model provides a structured, interdisciplinary approach that synthesises motivation theory with design principles, offering a new paradigm for the development of educational resources that

are pedagogically sound, visually engaging, and culturally responsive. Furthermore, extending this framework to encompass other cultural expressions or proverbs across diverse sociocultural contexts could yield meaningful comparative perspectives and enrich cross-cultural understanding (Fomina et al., 2023). The findings suggest that the application of strong and intentional design principles in educational tools plays a crucial role in shaping children's engagement and motivation in learning Malay proverbs (Neesa Ameerah et al., 2024).

Ultimately, this study highlights the importance of aligning pedagogical strategies with students' cultural backgrounds and design fluency, reinforcing the need for adaptive and culturally responsive education models. By integrating cultural heritage with technological advancements, educators can create engaging, personalised, and meaningful learning experiences that empower the next generation to appreciate and engage with their heritage in a rapidly evolving world.

### CONCLUSION

This study highlights the transformative role of design in enhancing motivation, engagement, and comprehension in early childhood education. By integrating design focused principles into the ARCS Model, this study positions design as a critical and previously overlooked component in instructional methodologies. The findings confirm that elements and principles of design play an equally significant role as cognitive and pedagogical strategies in shaping learning experiences. Findings indicate that the design serves as a robust framework for integrating design-based learning tools with motivational elements such as structured reward systems and progressive challenges, thereby fostering an effective active learning pedagogy. The heightened level of learner engagement observed in the study substantiates the significant improvement in students' motivation to acquire and understand Malay proverbs (Siti Nabilah Yusuf et al., 2023; Mohd Nor Shahizan et al., 2025). The strong preference for cartoon style illustrations highlights the ability of dynamic, visually stimulating content to capture attention, reinforcing the Attention aspect of the ARCS Model.

Prior studies indicate that vibrant design elements such as colours and visuals enhance learning by stimulating curiosity, imagination, and emotional engagement, which are crucial for early childhood cognitive development (Bedekar & Joshi, 2021). Additionally, Relevance is strengthened when visual materials reflect cultural and personal familiarity, allowing learners to relate to the content more intuitively. Research in culturally responsive pedagogy supports this claim, suggesting that visuals tailored to learners' backgrounds improve content retention and foster a sense of belonging (Norleyza et al., 2020; Ishak & Mansor, 2011; Vasilaki, 2024).

Incorporating design as a theoretical contribution expands the ARCS model into ARCS+D advocating for a structured, visually driven approach to education. Confidence is fostered through well designed illustrations that clarify meaning, ensuring that students interpret and engage with learning materials independently. Empirical studies highlight that visual literacy skills developed through illustration-based learning contribute to improved analytical and problem solving abilities (Liao & Wang, 2008). Satisfaction is heightened when aesthetically pleasing and interactive visuals make learning an enjoyable and immersive experience, reinforcing motivation and increasing long term retention.

By integrating design into instructional strategies, this study provides a compelling case for a new, design focused learning model. This ARCS+D model presents an opportunity for educators, curriculum designers, and policymakers to rethink traditional teaching

methods, ensuring that design is no longer a supplementary element but a foundational pillar of educational motivation. Future studies should further refine the ARCS+D extended model, examining its applications across different learning environments, disciplines, and cultural contexts. Additionally, the integration of digital and interactive design elements, such as augmented reality (AR) and gamified learning, could further enhance learner engagement and motivation. By recognising and formalising the role of design within educational models, this study challenges conventional instructional paradigms and redefines the role of visual communication in learning. Design is not just an aesthetic choice, but it is an essential, theoretical component that drives engagement, comprehension, and retention in modern education. By embedding design as a fundamental pillar within motivational learning models, we are not just enhancing education, we are revolutionising how knowledge is visually communicated, culturally preserved, and meaningfully experienced for generations to come. This perspective is further supported by Hofvenschiöld and Khodadadi (2020) and also Mohd Nor Shahizan et al. (2024), who emphasise that studies in communication, particularly visual and design-led approach should be prioritised and recognised as a critical foundation for the advancement of design-driven educational and creative practices.

The proposed ARCS+D model establishes a design-centred approach to motivational learning, positioning visual communication as a core mechanism rather than a supplementary feature within educational practice. By embedding design into motivational frameworks, this study redefines learning as a form of designed communication, where visual strategies actively shape meaning-making, audience engagement, and knowledge construction. In doing so, it advances media and communication scholarship by demonstrating how culturally grounded visual communication can sustain the relevance of traditional knowledge within contemporary digital environments. Ultimately, the ARCS+D model offers a forward-looking framework for developing innovative, culturally responsive, and visually driven learning experiences that align with the communicative realities of future generations.

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