

Exploring Learners' Experiences of VARK-Based Activities in Story Comprehension: A Qualitative Study

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ABSTRACT

This qualitative study explored learners' experiences of Visual, Aural, Read/Write, and Kinesthetic (VARK)-based activities in story comprehension, with particular attention to perceived usefulness, responses to comprehension difficulties, and future strategy choice. Fourteen learners from secondary school were treated as the participant group for this manuscript and completed a bilingual open-ended reflection questionnaire after participating in VARK-oriented story activities. The five questionnaire prompts asked learners to identify the modality that helped them most, describe what they did when they did not understand, reflect on a non-preferred modality, identify the easiest part of the story and the modality that supported it, and state which approach they would use first in future reading. The data were analysed thematically following Braun and Clarke's approach. The interpretation was guided by an integrated conceptual framework drawing on Fleming and Mills' VARK model and Zimmerman's Self-Regulated Learning (SRL) framework. Four themes were developed: (1) modality-specific support for comprehension and engagement, (2) strategic regulation of comprehension difficulties, (3) usefulness beyond preferred modalities, and (4) movement towards multimodal learning flexibility. The responses indicated that no single VARK modality was perceived as universally superior. Instead, learners associated different modalities with different functions, including maintaining engagement, visualising story events, supporting listening, remembering information, and learning vocabulary. Learners also reported help-seeking, dictionary use, translation, rereading, repetition, videos, and subtitles when comprehension broke down. Exposure to non-preferred modalities further showed that preference and usefulness were not necessarily identical. The study concludes that VARK is most defensible when used as a reflective scaffold for exploring multiple learning approaches rather than as a basis for fixed learner labels or instructional matching.

Keywords: VARK, story comprehension, learning preferences, multimodal learning, self-regulated learning, metacognition, thematic analysis

INTRODUCTION

Story comprehension is an active process in which learners construct meaning by integrating vocabulary, textual information, prior knowledge, contextual cues, and representations of characters and events. For learners using English as an additional language, this process may become more demanding when unfamiliar words, complex sequences of events, or limited linguistic knowledge interrupt comprehension. Learners, therefore, often draw on a range of strategies and resources to maintain understanding. One framework frequently used to stimulate reflection on how learners engage with information is VARK. Fleming and Mills (1992) described modal preferences in terms of Visual, Aural, Read/Write, and Kinesthetic modes. Importantly, their work presented modal preferences as a catalyst for reflection and possible changes in study behaviour rather than simply as a mechanism for assigning permanent learner types. This distinction is important because subsequent reviews have questioned the stronger claim that instruction is more effective when matched to a diagnosed learning style (Pashler et al., 2008; Coffield et al., 2004; Husmann & O'Loughlin, 2019). For the present study, VARK is therefore used as a language for examining learners' experiences of different modes, not as evidence that a learner should receive instruction only in a preferred mode. This position also fits the multimodal nature of story learning. A learner may read written text, listen to narration or discussion, view pictures or videos, and participate

in movement or acting. These experiences can complement one another rather than compete for the status of a single best mode. The reflection questionnaire used in this study extends beyond preference. Learners were also asked what they did when they failed to understand, whether a non-preferred modality helped them, and what they intended to use in future reading. These questions introduce a second theoretical concern: self-regulation. Zimmerman (2000, 2002) describes self-regulated learners as active participants who monitor their learning, select and adjust strategies, seek assistance when necessary, and reflect on outcomes. Metacognitive awareness similarly involves knowledge and monitoring of one's own cognitive processes (Flavell, 1979; Schraw & Dennison, 1994). Combining these perspectives allows the study to move beyond the question of which VARK category students prefer. Instead, it examines how learners interpret different learning experiences, what they do when comprehension becomes difficult, and whether reflection on multiple modalities broadens their future strategy choices. Three research questions are addressed in this study

RQ1: How do learners perceive the contribution of different VARK modalities to their understanding and engagement with a story?

RQ2: What strategies do learners employ to overcome difficulties in story comprehension, and what do these strategies reveal about their self-regulation?

RQ3: How does exposure to preferred and non-preferred VARK modalities influence learners' awareness and intended use of learning strategies?

LITERATURE REVIEW

VARK and Modal Preferences

VARK distinguishes four broad modal preferences: Visual, Aural, Read/Write, and Kinesthetic (Fleming & Mills, 1992). Visual approaches emphasise graphical, spatial, pictorial, or demonstrative representations. Aural approaches emphasise listening, speaking, explanation, and discussion. Read/Write approaches privilege written words, note-taking, lists, and textual processing. Kinesthetic approaches emphasise experience, action, practice, simulation, examples, and direct engagement. The conceptual usefulness of VARK in this study lies in the vocabulary it provides learners for reflecting on learning experiences. Fleming and Mills (1992) explicitly described their modal-preference questionnaire as a catalyst for reflection. Later work has also examined the psychometric properties and educational use of VARK, although findings do not justify treating the categories as fixed instructional prescriptions (Leite et al., 2010).

Learning Preferences Versus the Matching Hypothesis

A critical distinction must be made between having a preference and demonstrating that learning improves when instruction is matched to that preference. Pashler et al. (2008) argued that convincing evidence for the learning-styles matching hypothesis would require experimental crossover interactions showing that different learner groups benefit from different instructional methods. Their review found inadequate evidence for this claim. Coffield et al. (2004) similarly raised concerns about the proliferation, reliability, and pedagogical application of learning-style models. Empirical work specifically involving VARK also warrants caution. Husmann and O'Loughlin (2019), for example, reported disparities between students' stated VARK preferences, their study strategies, and academic performance. These critiques do not mean that learners lack preferences. Rather, they caution against converting preferences into fixed identities or assuming that matching teaching to a preferred mode automatically improves achievement. The present study therefore, examines perceived usefulness and reflection, not causal learning gains.

Multimodality and Story Comprehension

Stories can be encountered through multiple representational forms. Images, spoken explanations, videos, discussions, movement, and enactment can supplement written language. Mayer's (2009) cognitive theory of multimedia learning demonstrates the broader importance of coordinating verbal and pictorial representations while respecting cognitive processing limits. Although multimedia learning is theoretically distinct from VARK,

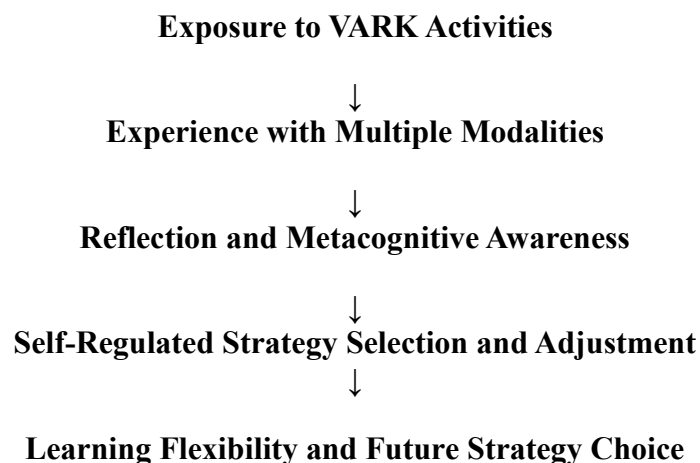
it reinforces the value of considering how multiple forms of representation can support meaning-making. In reading, strategic comprehension also requires learners to monitor whether meaning is being constructed and to take corrective action when it is not. Pressley and Afflerbach (1995) described skilled reading as involving purposeful, strategic activity rather than passive reception. In second-language reading, cognitive and metacognitive strategies have likewise been associated with comprehension processes (Phakiti, 2003).

Metacognition and Self-Regulated Learning

Metacognition concerns knowledge and regulation of one's own cognitive processes (Flavell, 1979). Schraw and Dennison (1994) further distinguished knowledge of cognition from the regulation of cognition, including planning, monitoring, information management strategies, debugging, and evaluation. These processes are directly relevant when learners recognise that they do not understand part of a story and decide what to do next. Zimmerman's (2000, 2002) social-cognitive account of self-regulated learning conceptualises learning as a cyclical process involving forethought, performance, and self-reflection. During forethought, learners establish goals and select approaches. During performance, they use strategies and monitor progress. During self-reflection, they evaluate outcomes and make adaptive decisions about subsequent learning. Pintrich (2000, 2002) similarly emphasised planning, monitoring, control, and reflection in self-regulated learning. Help-seeking can also be understood as adaptive self-regulation when learners recognise a genuine need and seek assistance that enables them to continue learning. Consequently, questionnaire responses such as asking friends, consulting dictionaries, translating unfamiliar language, rereading, or switching to video are analytically meaningful because they reveal how learners attempt to repair comprehension.

Integrated Conceptual Framework

The present study is guided by an integrated conceptual framework drawing on two established perspectives: the VARK modal-preference model of Fleming and Mills (1992) and Zimmerman's (2000, 2002) Self-Regulated Learning framework. The integration is proposed for the present study and should not be interpreted as a combined model originally developed by these scholars. VARK provides the modality dimension of the framework. It allows the study to examine how learners describe their experiences of Visual, Aural, Read/Write, and Kinesthetic activities. Zimmerman's SRL framework provides the regulatory dimension. It explains how learners monitor comprehension, choose or change strategies, seek support, evaluate what helped, and plan what they will do in future learning.



The framework supports all three research questions. RQ1 is primarily interpreted through the modality dimension; RQ2 through metacognitive monitoring and self-regulation; and RQ3 through the interaction between reflection on modality experiences and future strategy selection.

METHODOLOGY

The study employed a small-scale qualitative descriptive design to explore learners' experiences of VARK-oriented story-learning activities. The study involved 14 Form 4 students from a secondary school with an

intermediate level of English proficiency who were selected through purposive sampling as part of a research project funded under Geran TEJA, Universiti Teknologi MARA (UiTM) Cawangan Melaka. Although the sample was small, it was considered appropriate for an exploratory qualitative study because the participants shared similar characteristics and had direct experience of the activities being investigated. This is consistent with the concept of information power, whereby a smaller sample may be sufficient when the research aim is focused, and the participants can provide relevant information. The participants experienced activities based on all four VARK modalities—Visual, Aural, Read/Write, and Kinesthetic—using the same story content. The activities included visual materials and videos, listening and discussion, reading and writing tasks, and movement or hands-on activities. The purpose was not to label students according to a fixed learning style, but to allow them to experience different learning approaches and reflect on which strategies supported their understanding. After the activities, participants completed a bilingual English-Malay open-ended questionnaire entitled *My Learning Reflection Using VARK (Visual, Aural, Read/Write, Kinesthetic)* consisting of five questions about their preferred learning approaches, strategies used when experiencing difficulty, experiences with non-preferred modalities, understanding of the story, and intended future strategy use. The bilingual format allowed participants to respond in English, Malay, or a combination of both languages. Participants were identified as P1, P2, and so forth to maintain anonymity, and only clearly legible handwritten responses were used in the analysis. The data were analysed using reflexive thematic analysis based on Braun and Clarke (2006, 2021). The researchers repeatedly read the responses, generated initial codes, grouped related codes into possible themes, reviewed and refined the themes against the original data, and finally defined and named the themes. The coding was mainly inductive, while VARK (Fleming & Mills, 1992) and Self-Regulated Learning (Zimmerman, 2000, 2002) were used to support the interpretation of the findings. Four main themes emerged: modality-specific support for comprehension and engagement, strategic regulation of comprehension difficulties, usefulness beyond preferred modalities, and movement towards multimodal learning flexibility. Contrasting responses were also considered to avoid presenting participants' experiences as uniform. Some responses were brief, which is acknowledged as a limitation of the study; however, the responses provided relevant information related to the research questions. The findings therefore, represent the participants' perceptions and experiences and are not intended to be generalised to all secondary school students or to demonstrate that any particular VARK modality is objectively more effective than another.

RESULTS AND DISCUSSION

The thematic analysis generated four interconnected themes: (1) modality-specific support for comprehension and engagement, (2) strategic regulation of comprehension difficulties, (3) usefulness beyond preferred modalities, and (4) movement towards multimodal learning flexibility. The themes are presented below as explicit answers to the three research questions.

Table 1 Summary of Findings According to the Research Questions

Research Question	Main Answer	Related Themes
RQ1	Learners perceived all four VARK modalities as potentially useful, but for different functions and with different levels of engagement.	Modality-specific support; engagement
RQ2	Learners used social, linguistic, cognitive, and multimodal strategies to repair comprehension, indicating emerging self-regulation.	Help-seeking; dictionary/translation; rereading/repetition; modality shifting
RQ3	Non-preferred modalities could still be useful, and some learners planned to combine modalities in future reading.	Learning beyond preference; multimodal flexibility

RQ1: Contribution of VARK Modalities to Understanding and Engagement

RQ1 asked how learners perceived the contribution of different VARK modalities to their understanding and engagement with a story. The central answer is that participants perceived all four modalities as potentially

helpful, but they associated them with different functions. No single modality emerged from the reflections as universally superior.

Theme 1: Modality-Specific Support

Kinesthetic learning was associated particularly with movement, action, and sustained engagement. One participant explained, "I like to move around more so that I don't get bored." This response links movement not only to preference but to regulation of attention. Other handwritten responses similarly connected kinesthetic learning with doing, moving, or acting.

Visual learning was described as useful because learners could see what was happening in the story. References to pictures, videos, seeing events, and combining seeing with reading suggest that visual information helped make story content more concrete. For some learners, the ability to observe events reduced the abstraction of written language.

Aural learning was associated with listening, explanation, and following spoken information. Some participants preferred watching and listening together, illustrating that the categories were not always experienced separately. Read/Write learning, meanwhile, was particularly associated with vocabulary, remembering, and textual processing. One participant who did not initially identify reading as a favourite nevertheless reported that it helped to "learn a new vocab."

Theme 2: Engagement Shaped Perceived Usefulness

Participants' explanations suggest that perceived usefulness was closely related to engagement. Kinesthetic activities were valued for reducing boredom; visual and audiovisual activities were often described as easier or more interesting to follow; and some learners described reading as less enjoyable even when they acknowledged its usefulness. This distinction is important because enjoyment, preference, and learning utility are related but not identical constructs.

The answer to RQ1 is therefore that learners perceived VARK activities as offering different routes into story comprehension. Kinesthetic activities supported active engagement, visual activities supported contextualisation and event recognition, aural activities supported listening and explanation, and Read/Write activities supported vocabulary and memory. These findings are compatible with using VARK as a reflective vocabulary (Fleming & Mills, 1992), but they do not demonstrate that instruction should be matched to a fixed learner type. This caution is consistent with Pashler et al. (2008) and Husmann and O'Loughlin (2019).

RQ2: Strategies Used to Overcome Comprehension Difficulties

RQ2 asked what strategies learners employed when they did not understand part of the story and what these strategies revealed about self-regulation. The data showed that participants did not simply remain confused. They described a range of actions intended to restore understanding.

Theme 3: Strategic Regulation of Comprehension Difficulties

Peer help-seeking was one recurring strategy. One participant wrote, "I will ask my friend to explain to me," while another reported discussing the story with friends who knew it. These responses indicate that learners recognised a comprehension problem and deliberately accessed a social resource to resolve it.

Other participants described independent linguistic strategies, including dictionary use and translation. These responses suggest that unfamiliar vocabulary was a significant source of difficulty. By consulting a dictionary or translation tool, learners attempted to repair a specific linguistic gap rather than abandoning the task.

Rereading and repetition also appeared in the responses. One participant stated, "I will read it repeatedly and read it out loud." This strategy is notable because it combines Read/Write and Aural processing. Other responses referred to videos or subtitles, indicating that some learners shifted modality when the original representation was insufficient.

The answer to RQ2 is therefore that learners employed social, linguistic, cognitive, and multimodal repair strategies. From an SRL perspective, the sequence is clear: learners recognised difficulty, selected a strategy, obtained additional information or processing opportunities, and attempted to restore comprehension. This pattern reflects monitoring and strategic control described in self-regulated learning and metacognitive theory (Flavell, 1979; Zimmerman, 2002; Pintrich, 2002).

RQ3: Influence of Preferred and Non-Preferred Modalities on Strategy Awareness

RQ3 examined whether exposure to preferred and non-preferred VARK modalities influenced learners' awareness and intended future strategy use. The responses suggest that preference did not always determine perceived usefulness.

Theme 4: Usefulness Beyond Preference and Movement Towards Flexibility

One participant explicitly stated, "I did try learning style that was not my favourite. It is reading style," and subsequently recognised that reading helped with vocabulary. Other responses similarly indicated that learners could find value in an approach that was not initially preferred. Some participants remained less positive about particular modalities, especially reading, but even these responses are analytically important because they show that learners were evaluating modalities rather than merely repeating a label.

Future intentions also revealed emerging multimodal flexibility. One participant wrote, "I would try to combine an Aural and Reading." Other responses referred to combinations such as visual and auditory or reading and kinesthetic approaches. These statements suggest a shift from asking "What type of learner am I?" towards asking "What strategy or combination can help me with this task?"

The answer to RQ3 is therefore that exposure to multiple modalities encouraged at least some learners to separate preference from usefulness and to broaden their intended strategy repertoire. This interpretation aligns with the reflective purpose originally emphasised by Fleming and Mills (1992) and with Zimmerman's view of self-regulation as cyclical: learners reflect on previous performance and use that reflection to inform future forethought and strategy selection.

Integrated Interpretation of the Three Research Questions

Taken together, the findings suggest a progression from experience to reflection and strategic adaptation. Learners first encountered the story through different modalities. They then evaluated which experiences felt useful or engaging, recognised moments of comprehension difficulty, selected strategies to repair those difficulties, and considered what they would use in future reading.

Experience with Modalities → Recognition of Preference/Usefulness → Monitoring of Comprehension → Strategy Adjustment → Reflection → Future Strategy Choice

This progression supports the integrated VARK-SRL framework proposed for the study. VARK helps describe the modality experiences, while SRL explains the learners' monitoring, help-seeking, strategy adjustment, and future planning. The most important finding is therefore not that one VARK style is best, but that learners can become more aware of multiple ways of supporting comprehension.

CONCLUSION

This study explored learners' reflections on VARK-based activities in story comprehension. The first research question showed that learners perceived Visual, Aural, Read/Write, and Kinesthetic activities as useful in different ways. Kinesthetic activities were associated with movement and engagement; visual activities with seeing and contextualising events; aural activities with listening and explanation; and Read/Write activities with vocabulary, memory, and textual processing. The second research question demonstrated that learners employed active strategies when comprehension broke down. These included asking friends, discussing the story, using dictionaries, translating unfamiliar language, rereading, reading aloud, repeating information, watching videos,

and using subtitles. Such behaviours indicate emerging metacognitive monitoring and self-regulation. The third research question showed that non-preferred modalities could still be perceived as useful and that some learners intended to combine modalities in future reading. This finding is pedagogically important because it suggests that learning preferences need not become restrictive learner identities. The study therefore, supports a cautious and reflective use of VARK. VARK should not be used to claim that a learner can learn effectively only through one preferred mode, nor do the present qualitative data demonstrate a causal advantage for matching instruction to preference. Instead, VARK can provide a structured opportunity for learners to experience different modes and reflect on what each mode contributes. When combined conceptually with Self-Regulated Learning, the focus shifts from categorising learners to developing learners who can monitor understanding, select strategies, seek assistance, and adapt their approach. The study is limited by its small sample, brief handwritten self-reports, and absence of objective pre- and post-comprehension measures. The findings should therefore be interpreted as perceptions and reported strategies rather than evidence of differential learning effectiveness. Future research could incorporate interviews, classroom observation, reading-comprehension measures, and a larger participant group. It could also compare learners' stated preferences with observed strategy use over time. Overall, the educational value of the activities appears to lie not in discovering a single best learning style, but in encouraging learners to see that story comprehension can be supported through seeing, listening, reading, doing, asking, checking, repeating, reflecting, and flexibly combining strategies.

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