The Evolution of Visual Language Learning

Introduction

During the last five years, there has been a significant amount of academic research on the effectiveness of traditional language learning methods, particularly amongst younger people and children. Around the world, several leading academics and educators have been reviewing the effectiveness of visual language learning, exploring their potential as complementary tools for traditional learning methods, and examining new ways to teach.

The ability to speak multiple languages clearly offers benefits in a rapidly globalizing world, but new research also suggests that it can help protect from cognitive decline and the onset of dementia in later ages (1, 2).

Dr Neil Cohn, one of the world's leading academics from Tilburg University's Department of Cognition and Communication, has produced a White Paper entitled 'The Evolution of Visual Language Learning' which discusses the effectiveness of one way to learning languages: through comics.

Dr Cohn presents his latest findings on the subject below.

Demands of language learning

Though speaking and writing may appear as holistic phenomenon in our everyday experience, language is a complex human behavior built of several substructures (3). Thus, learning language requires us to incorporate knowledge at these different levels of linguistic structure. At its basic level, a learner must map the meanings of words and phrases to the sounds of a language (phonology), within the context of sentences (grammar). This knowledge applies both for the skills of comprehending language by listening, and through the development of literacy of written language.

Yet, merely knowing words and rules of grammar are not an effective method of learning language: simply memorizing a dictionary is a poor method of linguistic development. Rather, effective language learning is embedded within language usage, where a learner can assess utterances together with their context, which can provide both explicit and implicit cues for learning and remembering vocabulary and grammar. The environment or conditions of language learning are often crucial to development.

Given the need for multilingualism in modern society, and that these needs extend both for children in classrooms and adults outside of school, effective non-traditional methods of language learning have become increasingly important (online courses.) One such method that has emerged as particularly effective is learning language through comics.

Comics as a tool for language learning

Despite being maligned for decades as lowbrow forms of artistic expression, comics have grown to become recognized as complex and sophisticated reading material (4). Along with an improving reputation and respect as a genre of publication, a growing number of educators and researchers have begun advocating the use of comics in educational contexts (5-7). Indeed, their use of comics as instructional materials has been gaining empirical support (8, 9). Within this academic advocacy, support has increasingly been focused on using comics for language learning, and thus has grown over the last decade (10).

People have long offered anecdotal evidence about how comics help them learn languages and gain literacy, and these sentiments have been echoed by educators recognizing comics as an effective teaching tool (11-13). **Recent studies across the world addressing the thematic of whether to include comics into classroom language learning have now concluded that comics provide engaging visual stories that motivate students (14-18).** The familiarity and novelty of comics make them more enjoyable than standard language learning materials (19, 20), and increases a learner's engagement (21) with the learning material. In addition, their authenticity as materials attests them as naturalistic, making them more appealing than artificial language learning exercises (22, 23).

Text and image in cognition

Comics offer several advantages to language learning, and are particularly optimized by their multimodal properties. *Comics combine a written language with a "visual language" of images (24) to make them an inherently multimodal form of communication (25-27). This means that a reader must comprehend both the text and the images, and then integrate them together. This also means that a reader can potentially use each modality to aid in understanding the other.*

Despite this bimodal orientation, the comprehension of images and text may not be as different as once assumed. Recent psycholinguistic research has shown that the brain comprehends the image sequences of comics using similar neural mechanisms as are used to process language (24), and some models posit that both systems of written and visual languages are actually integrated into a single cognitive system (25).

In addition, eye-tracking research suggests that sequential images are "read" using similar methods as reading text (28). Altogether, this work suggests tight cognitive connections between text and images, which could be particularly effective for education (29) and communication, and an optimal place for learning languages. Such work provides cognitive evidence against the idea that reading comics is not "real reading" that is substantive and cognitively enriching (30).

Text and image integration

While many traditional language learning materials incorporate both text and images, the integration of these modalities in comics provides several advantages. It provides a simulated context for language usage in that people have visualized conversations, and motivates implicit knowledge emerging from this interaction (15). Indeed, several studies indicate that comics allow for enhanced language learning beyond standard educational materials that also use text and images (17, 31-33).

Such results extend across learners' proficiency levels (34, 35), and include age ranges from first graders to college students. Together, this suggests that **comics are a widely accessible and effective tool across ages and skill levels.**

Some formal qualities of comics' text-image relationships may support this learning directly. Comics divide text into manageable chunks that can be more easily digestible for a learner to navigate. This comes in two ways: the division of text and images into panels, and the division of text into "carriers" like speech balloons, thought bubbles, and captions (27, 36).

First, the division of information into panels - the framed image-units of a comic – breaks-up overall content into recognizable discourse units. By segmenting a story into panels, a reader can access coherent pieces of a broader story (24). The text in these panels directly connects to the images: the speakers and events that occur within panels. This means that the utterances that appear in text are "anchored" by the content, providing context that reinforces the meaning of vocabulary in implicit ways (26). So, the text-image relationships involved in comics are mutually supportive of each other in a way that should be beneficial to language learning, presented as coherent narrative units.

Second, the text within those panels is broken up by "carriers" of text like speech balloons and thought bubbles. These devices segment text into meaningful chunks that are salient and digestible for a learner (23, 37). By parceling text into these smaller units, it provides a more intuitive presentation of speech than blocks of text, and subtly adds prosodic breaks and other discourse segmentation. Such text appears more manageable than the dense text that may intimidate learners from traditional books (38), which thereby helps students to overcome barriers to learning (39). Thus **the segmentation of text in comics, both at a larger and smaller level, is formatted ideally for learning.**

Vocabulary

This segmentation of text appears to be especially useful in teaching vocabulary which lies at the heart of learning a language. Indeed, many experimental studies support that comics are an effective tool for vocabulary learning, ranging across grade levels and different language types (12, 18, 33, 37, 39-43).

Comics' efficacy for teaching vocabulary arises also because they contain both colloquial and everyday vernacular along with unusual and sophisticated jargon (19, 20). This terminology cuts across the standard basic vocabulary typically taught in language learning contexts, as it also includes specialized terms related to science, culture, and other unique situations in comics' narratives (15, 19, 20, 41). This provides a learner with more diverse and interesting exposure to language than typical materials.

Comics can also aid in teaching more complicated vocabulary which often are not included in basic foreign language courses, which may require cultural experience to understand (44). For example, onomatopoeia, which are words that characterize sounds like "bang" or "meow", are used throughout comics in sound effects (45, 46). Onomatopoeia are a prevalent and subtle part of linguistic fluency (47), though often fall outside of standard language learning instruction. Comics integrate such knowledge implicitly to add layers of language instruction (19). In addition, the use of idiomatic expressions is often an indicator of fluency, and using comics has shown to be an effective way to learn this complex vocabulary (40).

Not to forget graphic novels which offer very complex stories which in turn use sophisticated vocabulary that is equally ingestible.

Context

As mentioned, the combination of text and image are particularly strong in comics because they connect language to a pictorial context. Embedding language into a context provides important implicit cues for its actual usage, and reinforces learning. This is especially important because the logical structure and conversational context provided by comics has been posited to better facilitate language learning (22). Within comics, the presentation of a narrative context makes text more natural to understand than the artificial or isolated sentences designed specifically for lessons of language instruction (15, 19, 39).

In addition, using stories to motivate learners provides them with a purpose for engaging with a language beyond just "practising language" (22). They become invested in the story, and thus the desire to understand the plot gives motivation for enhanced language abilities (48). By presenting learners with comics, it shifts the task from "reading to learn" to "reading to comprehend the story," thereby engaging students in language learning without the explicit context of it being a lesson (38). That is, students can focus on learning the language for the sake of the content itself, rather than as part of a "language learning interface" (23).

Conclusion

There is an increasing body of evidence (within recent academic studies and literature) that implies that comics provide an efficient method for learning the complexity of languages across several levels. In summary, these advantages include an increase in motivation and desire to learn through authentic materials which present language in manageably segmented speech, which uses naturalistic and varied vocabulary characteristic of fluent speakers, and all embedded through a storytelling context which provides structure and interest. These features appear to benefit learners across age groups and skill levels. Thus, comics appear to provide an effective method for assisting in language learning and literacy.

Dr Cohn is currently at Tilburg University's Department of Cognition and Communication, and working with LingoZING!, a new revolutionary App in the e-learning market, to further explore the benefits of using comics to aid language learning. LingoZING! is the first education tool of its kind to use comic books as part of its learning experience.

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