Annotation for Developing Strategic Readers

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Reference Data:

Van Amelsvoort, M. (2024). Annotation for developing strategic readers. In B. Lacy, R. P. Lege, & P. Ferguson (Eds.), *Growth Mindset in Language Education*. JALT. https://doi.org/10.37546/JALTPCP2023-08

In university content and language integrated learning (CLIL) courses it is essential for students to be able to read and process (learn) the contents of passages that are often long and challenging. They must be able to autonomously engage with these passages, which may be above student proficiency level. This can be partially facilitated through appropriate use of strategies or combinations of strategies. As one way to help students both engage with content and make use of strategies, annotation is a promising activity. Annotation involves having students make marks and add notes to written texts before, during, and after these texts are used in class. In doing so, students engage in strategy use such as previewing, reading and rereading to understand, and summarizing to comprehend and remember the content of texts. This paper describes the rationale and implementation of annotation as a regular activity with reading passages. In a term-end survey, students expressed positive reactions to the use of this activity.

大学での学習内容・言語統合（CLIL）コースでは、学生が長くて難しい文章を読み、その内容を処理（学習）できることが不可欠です。また、学生の習熟度を超えるような文章に、自律的に取り組むことができなければなりません。これは、ストラテジーの適切な使用またはストラテジーの組み合わせによって部分的に促進することができます。学生が内容を理解し、ストラテジーを活用できるようにする一つの方法として、アノテーション（注釈）は有望な活動です。アノテーションとは、授業でテキストを使用する前、使用中、使用後に、学生がテキストに印をつけたり、メモを書き加えたりすることです。そうすることで、学生は、予習をしたり、理解するために読み直したり、要約したりといったストラテジーを活用し、テキストの内容を理解し、記憶することができるのです。この論文では、リーディングパッセージを使った定期的な活動としてのアノテーションの根拠と実施について説明します。学期末のアンケートでは、アノテーションの活用について学生から好意的な反応が得られました。

In university CLIL courses, reading is fundamental to content learning, and teachers may assume that incoming students have sufficient skills and strategy knowledge to engage with the content of texts after years of English education. The assumption of sufficient skills and strategies may not always be warranted, however, because individual strategy awareness and use differences are common (Iwai, 2008), and are often connected to proficiency level (Yoshikawa & Leung, 2020). For many English language students in Japan, the communicative language teaching experienced prior to entering university has often focused on interaction and opinion exchanges, with the content of written input mostly used as a basis for tasks, discussions, etc,. In CLIL courses at university, these learners may not be prepared for the volume of reading material, the difficulty of the reading material, and the onus on the individual student to engage with and process that material (Iwai, 2008). Koda & Yamashita (2019) identified three interrelated processes that are involved in CLIL and content-based instruction (CBI) that are essential for what they call reading to learn, a type of reading where students process large amounts of information from written texts with the goal of grasping and learning the content as accurately and efficiently as possible. This requires: "(a) constructing text meanings based on linguistic information [in texts]; (b) connecting text information to the reader's personal experience and prior knowledge…; and (c) reflecting on what the reader has learned from the two preceding operations" (pg. 3).

Gaining the ability of reading to learn requires instruction and practice in a host of skills, including main idea comprehension, distinguishing main ideas from details, inference skills, discourse structure awareness, along with cognitive and metacognitive strategies for comprehension, meaning interpretation, and remembering content and language from reading materials (Grabe & Stoller, 2019). According to Grabe & Stoller (2020), students need to engage in strategic reading, which involves the knowledge of and the ability to make appropriate use of reading strategies such as goal-setting, previewing, predicting, re-reading, monitoring comprehension, and summarizing. They claim that strategic reading instruction "should be central to comprehension instruction"

(p. 179). Doing so requires more than just teaching individual strategies; rather, it involves "(a) guiding students to use multiple strategies for better comprehension, and (b) making sure students are familiar with strategic responses to texts, which, with practice and teacher reinforcement, become more automatic over time" (p. 179).

Tercanlioglu (2004) found that many ESL students at UK universities were underprepared for the reading demands of their programs and struggled to cope, and Groen et al., (2021) found the same thing in the Netherlands. A similar problem occurs in CLIL programs in Japan because many students have only previously experienced learning reading through teacher-centered approaches, often involving variations of grammar translation (Iwai, 2008; Mito, 2023). This can be especially problematic when university lessons are delivered by instructors who are incapable of providing detailed explanations in a student's L1 and who use very different teaching approaches.

Clearly getting students used to reading to learn and making them strategic readers entails a systematic approach. This paper will describe how teachers in the first year of a tertiary liberal arts program making use of a CLIL approach sought to develop learners into strategic readers through a focus on annotation. Annotation, having students make marks and add notes to written texts before, during, and after these texts are used in class, was implemented as a way to encourage certain strategies, and to make the use of those strategies more visible. This was not meant to preclude or replace other reading activities, but rather supplement them and nurture more autonomous learners who engage more deeply in both the ideas and language of texts.

Literature Review

Strategies help learners better interact with and remember written texts, as well as manage the process of obtaining information from texts. Cognitive reading strategies involve the direct processing of a text to understand its meaning and include predicting, summarizing, questioning, visualizing, and making connections while reading. Cognitive strategies help readers actively engage with the text, extract information, and construct meaning from it. These are complemented by metacognitive strategies for monitoring comprehension, including identifying comprehension problems, rereading difficult passages, or consulting outside sources to achieve comprehension (Isakson & Isakson, 2017). Reading strategies have been found to be both teachable and effective for learners in both L1 (Clarke et al., 2014; Filderman et al., 2022) and L2 contexts, especially when combined with other reading instruction (Macaro & Erler, 2008; Plonsky, 2019; Taylor, Stevens & Asher, 2006).

Numerous L2 studies have shown the benefits for general reading strategy instruction. Plonsky (2019) in a meta-analysis on strategy instruction studies in EFL and ESL contexts, found good effects for vocabulary learning strategy instruction ($r = 0.63$) and reading comprehension strategy instruction ($r = 0.82$). Strategies seem to be learned best when there is modeling, practice applying them, and reflection on their effectiveness (Gu, 2019). Learners become strategic when they have a repertoire of strategies and can make use of them effectively, something that requires systematic instruction and practice (Grabe & Stoller, 2020). Many other studies have found that strategies can be taught if done so systematically, and that strategy use by students is connected to improved reading proficiency (Chinpakdee & Gu, 2024; Macaro & Erler, 2008; and Taylor, Stevens & Asher, 2006).

Some research, however, has found that while students are aware of strategies, they need more practice in using any of them or using a wider variety of them appropriately (Ali & Razali, 2019; Tercanlioglu, 2004). In addition, finding an effective approach to teaching strategies and sufficient time to do so is not an easy task in a college course as learners are being asked to begin engaging with the content (understanding, remembering, and applying concepts) (Ali & Razali, 2019). Students, weaned on extensive teacher explanations in the L2 (Iwai, 2008; Mito, 2023), may also find it hard to begin actively applying strategies. An illustration of this dependency can be found in an eye-tracking study by Prichard & Atkins (2020). They observed that Japanese learners moved to quickly check reference materials with L1 explanations instead of looking at the context of unfamiliar vocabulary and trying to puzzle out the meaning.

Some means of approaching texts make use of multiple strategies for dealing with the volume and difficulty of texts is essential. Porter-O'Donnell (2004) stressed the importance of annotation for optimizing strategy use and deepening comprehension since it forces students to actively interact with texts. It also becomes a "visual record of the thoughts that emerge while making sense of the reading" (p. 82). Iwai (2008) found that successful Japanese students at UK universities made good use of notetaking. This notetaking involved summarizing what they read, grasping main ideas and important details, and categorizing these. The students used these strategies to think critically about and remember the information in texts and then reflect on it.

Groen et al., (2021) found that students in the Netherlands were often not being prepared to read to learn at a university level, with previous (pre-matriculation) lessons focusing too much on searching for information in texts (skimming and scanning), an essential skill for entrance exams (a situation endemic in Japan as well). In university courses, however, students have difficulty shifting to a reading to learn engagement with

passages. In their intervention, students were given instruction in strategies to process academic texts over ten lessons in three stages for each passage: pre-reading (previewing, predicting, and activating background knowledge); while-reading (monitoring, clarifying and repairing, visualizing, drawing inferences, and questioning); and post-reading (graphic organizers, and summarizing). To make student thinking visible and support the learning process, students were asked to make annotations on reading passages. Students were taught various strategies inductively and how to interact with passages to achieve sufficient comprehension by underlining, highlighting, and making marks and writing reaction comments in the margins of passages, which they then gained proficiency with through supportive practice. This helped them to eventually learn to apply the strategies independently and in effective combinations. Annotating passages was seen as essential for this training as it made visible the application of strategies combined with a reading to learn approach to content. In their system, students were eventually expected to read and annotate full passages before classes, though these would be amended after the material was covered in class.

The Groen et al. (2021) system seemed an interesting vehicle for getting first-year students to more proactively interact with texts, and to begin doing so before close reading lessons in class. The annotation system used by Groen et al. (2021), would, however, need to be adjusted to reflect the level of learners and the need to focus on certain reading strategies for comprehension (dealing with problem areas, re-reading, noticing discourse structures, identifying main and supporting ideas, and summarizing,). The introduction of this specific annotation approach is the focus of this paper.

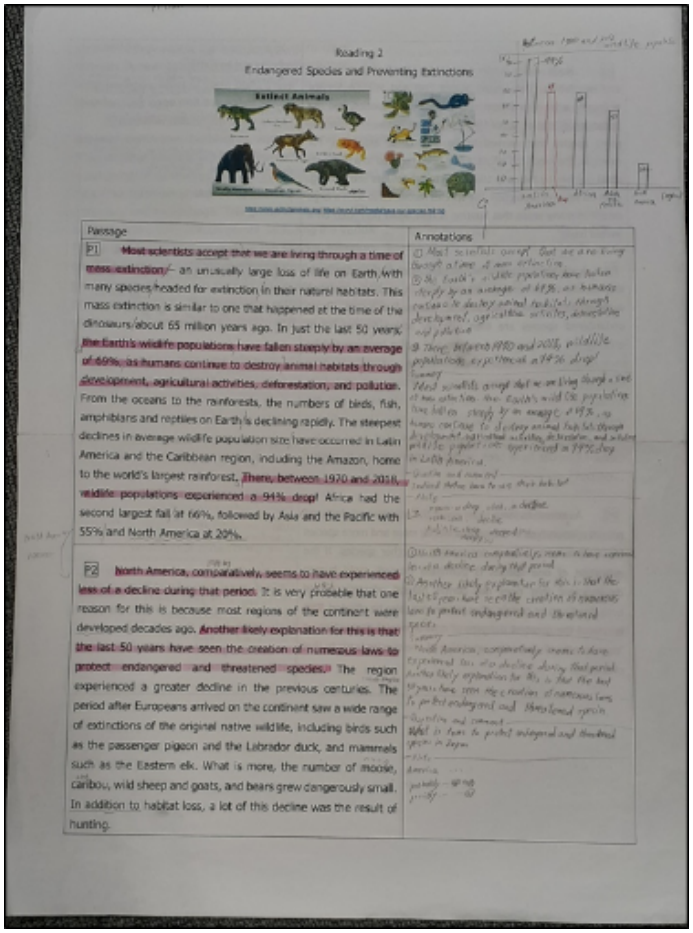
Methodology

In order to make the 228 incoming cohort students more strategic and help them transition to reading for learning, a systematic approach to strategy teaching making use of annotation was planned. Learners were required to read two to three lengthy passages of between 400 and 900 words for each of the six modules used during the year. The passages were written at a CEFR B2 level, above the B1 average level of proficiency of the learners, who were given instruction and practice with annotation in order to promote the use of reading strategies and promote the use of strategic reading. Students were of a range of proficiencies, although primarily from A2 to B2, organized into small classes of roughly 14 students each. The modules were organized into core and supplementary materials. All students did annotations for the core readings (14 reading passages per year).

Intervention consisted of an initial introduction and onboarding session during the orientation period for incoming students at the beginning of first term, followed up in regular classes with repeated instruction and support from teachers during the two terms. In addition, regular assessment of student annotations was conducted. During the orientation, the importance of annotation and trying to read the passages once before they are used in class was explained. Students were then shown a 12-minute video of a walkthrough of the annotation process before they were asked to try out the techniques themselves and discuss this in small groups. The annotation process itself was simple and stressed several important strategies. Prior to reading passages, students were given lists of content and essential academic vocabulary on the Quizlet (quizlet.com) electronic vocabulary learning system. Students were instructed to complete the four assignments on Quizlet for each list and to achieve basic recognition of the Japanese equivalent of the essential vocabulary. They were instructed to learn that vocabulary first, before attempting to read the passages, so they could achieve a minimal level of comprehension of the passages. The pages in the module booklets with readings had space on the page for copious annotation notes. First, students were encouraged to look at the title and images and predict the content to activate their schema for the topic. The next step was to read each paragraph of the passage and underline any problematic parts (words or sentences usually). Students were told to reread the passage several times and try to determine the meaning of the problematic parts. If they were unable to do so, they were told to check dictionaries (or peers or the teacher) to get the meaning. The next step was to highlight the key information and list that up in the margin in points (in English if possible; in Japanese if not). They were told to number and re-phrase that information in the margin to create a summary of the main points. Students were also asked to write questions or comments or reactions to the content that they could share in class with peers or the teacher. Options for reactions or opinions were modeled for students, with many examples reacting critically to the passages. Finally, they were told to write a summary if they felt that they had understood the paragraph sufficiently (or to wait until after covering the passage in class to do so if they had not). Early in the course, students were asked to annotate individual paragraphs; later annotation of multiple paragraphs was assigned. An example of a completed student annotation can be seen in Figure 1.

Figure 1

A Student Annotation Example



Students were told that annotation would be a regular part of lessons throughout the year and it was emphasized that they would amend their initial annotations and add to them during lessons as they engaged in guided reading activities, shared ideas with classmates, and reread passages multiple times for fluency training to deepen comprehension and familiarity with the language and content. Students were repeatedly reminded that learning the vocabulary and getting the meaning of passages and remembering the content would be their responsibility. Throughout the duration of the course, the seven reading teachers asked students to annotate each passage that was introduced and studied. Depending on the amount of time available, annotation discussions were conducted roughly once per week per class. Students were regularly asked to share their annotations with partners or in groups, and instructors monitored student annotations during class sessions and collected and scored them for completeness (main points highlighted and written in points; summaries and reactions completed).

At the end of the term, a questionnaire was administered to classes taught by three of the instructors (eight out of 17 classes) at low, middle, and high levels of proficiency. The questionnaire asked about attitudes to major reading elements of the course: extensive reading, Quizlet vocabulary, annotation, and online TOEFL training. A total of 73 valid responses were obtained.

Teacher and Student Responses to Annotation

As annotating passages was a course-wide intervention, an experimental study with a control group and pre-test and post-test structure was not employed. Instead, student behaviors were observed, and teacher and student attitudes were surveyed. Teachers were very conscientious in teaching and monitoring student annotations and confirmed that students had a very high rate of annotation completion; in addition, they rated annotation highly as an activity.

At the end of term, students were asked to participate in a survey about attitudes regarding four of the main activities used in the course: vocabulary learning with the Quizlet application, annotation, extensive reading, and an online TOEFL ITP training program. Students were asked similar questions about these activities: whether they found them effective, whether they made much effort, and whether they were glad to have done them. A 4-point Likert scale was employed to collect feedback without providing a neutral option. In addition, students were able to freely give comments on the activities and were encouraged to give both positive and negative feedback on them. As the annotation was conducted in the second year of use of the modules and the first with module tests, its purpose was mostly to gauge student attitudes toward annotation. In the future, a more carefully controlled study will be needed to ascertain the effectiveness of the intervention on reading comprehension and vocabulary learning.

The results of the questions can be seen in the tables below. All numbers in the tables are percentages. First, in Table 1, are the results for perceptions of effectiveness. Students rated annotation as more effective than other activities they engaged in. A total of 89.04% of students surveyed thought it was effective.

Table 1

This activity was effective (% of respondents)

	Strongly agree	Agree	Disagree	Strongly disagree
Extensive reading	18.92	58.11	16.22	6.76
Quizlet vocabulary	32.88	52.05	10.96	4.11
Annotation	36.99	52.05	6.85	4.11
Online TOEFL training	23.61	44.44	25	6.94

Note. N = 73

Student responses also indicated that they had put more effort into annotation than other activities. The answers to this survey question can be seen in Table 2. Responses to the open-ended questions (see below) underlined these results.

Table 2

I made a lot of effort on this activity (% of respondents)

	Strongly agree	Agree	Disagree	Strongly disagree
Extensive reading	32.43	39.19	21.62	6.76
Quizlet vocabulary	27.78	50	15.28	6.94
Annotation	39.73	42.47	13.7	4.11
Online TOEFL training	15.28	43.06	33.33	8.33

Note. N = 73

When asked if they were glad to have engaged in the activity, students surveyed rated annotation second to Quizlet vocabulary learning in the number of positive replies, though by only a very small margin: 83.56% for the former, and 82.19% for the latter. The results can be seen in Table 3.

Table 3

Overall, I'm glad I did this activity (% of respondents)

	Strongly agree	Agree	Disagree	Strongly disagree
Extensive reading	18.92	55.41	17.57	8.11
Quizlet vocabulary	32.88	50.68	15.07	1.37
Annotation	30.14	52.05	13.7	4.11
Online TOEFL training	19.44	47.22	25	8.33

Note. N = 73

Finally, an open-ended question on the survey allowed students to make free comments on each of the activities. Of the 73 students who took part in the survey, 69 wrote comments. The comments were coded into positive, negative, and neutral (other). In total, 46 comments (66.7%) were positive (Sample comments (translation by author): "Preparation was effective in deepening my understanding in class, "It helps me to read the text by myself in advance, so I can understand it better in class"), 17 comments (24.6%) were negative (Sample comment (translations by author):"Time consuming and difficult," "I don't see the point of going to the trouble of writing it down"), and 6 comments (8.7%) were neutral (Sample comment (translation by author):"It is difficult to summarize at first what I haven't learned yet"). In addition, positive comments were examined for whether students mentioned comprehension and summarization. Eighteen students (26.1%) specifically mentioned achieving better comprehension, while 11 students (15.9%) mentioned improving their summarizing skills. Negative comments were also examined. The largest group, 6 students (8.7%), mentioned the difficulty of the task, while 5 students (7.25%) mentioned the large amount of time it took. Other comments (6 students; 8.7%) mentioned a lack of effect or the meaninglessness of the task.

Overall, the survey results and comments, along with the teacher responses, indicate that annotation was achieving its objective of strategy training and better, more autonomous student engagement with the reading passages. Without a control group and without checking student comprehension gains, these results are not conclusive, however.

Conclusion

Introductory CLIL courses at the tertiary level need to shift students to a reading to learn posture, and get readers to learn and remember content. Annotation seems a useful tool for achieving this aim, especially in places like Japan where many students tend to wait for explanations rather than aggressively trying to work out the meaning of texts, and where many students have limited skills and strategies for dealing with longer passages. Annotation seems to be a promising way to encourage students to focus on content, and process language features as they go about engaging with that content.

Bio Data

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