2014-05

How the Use of Connective Words is Related to Learning

Duggleby, Sandra

University of Calgary

HOW THE USE OF CONNECTIVE WORDS IS RELATED TO LEARNING

Sandra Duggleby

University of Calgary

When contributing as engaged citizens in society, learners need to articulate their ideas clearly, precisely, accurately, and succinctly with the use of connective words. Connective words are linking devices that can help state an opinion or discuss an argument so that ideas are communicated effectively. When learners use connective words (e.g. when, next, because, furthermore, and although), they are forced to state their ideas in an organized way, often using prior knowledge to further explain their thinking.

CONNECTIVE WORDS IN WRITING CRITICALLY

To enhance critical thinking skills in writing, connective words are used to link ideas to help form an argument, state a point of view, or develop an opinion. From this work, strategies will be identified to incorporate the use of connective words into writing so that all learners, ranging from early elementary school to adult learners, can clearly articulate the ideas they wish to communicate.

Connective words link ideas between two clauses so that logical connections between ideas can exist (Cain & Nash, 2011; Degand & Sanders, 2002; Halliday & Hasan, 1976; Millis, Graesser, & Haberlandt, 1993; Sanders & Noordman, 2000). Halliday and Hasan (1976) pointed out the four different types of connective words that are commonly used in text:

1. Temporal connective words: indicate a sequence of events such as *before* and *after* (e.g. The teacher gave the assignment to the students *after* they entered the class.)

2. Causal connective words: help learners to understand why things occur, such as *because* or *so* (e.g. The students were happy *because* they had completed their final exams.)

3. Adversative connective words: are used to provide contrasting information such as *but* and *although.* (e.g. The children were happy to be home, *although* they still missed the beach in Mexico.)

4. Additive connective words: are used to show addition such as *also* and *another* (e.g. *Also,* we can get to the beach by walking over the bridge.)

The following chart in Table 1 shows an example of some of the connective words derived from the studies of Crosson and Lesaux (2013); Halliday and Hasan (1976), and Halliday and Matthiessen (2004).

Temporal		Causal		Adversative		Additive	
after	as	because	consequently	Although	Anyhow	Actually	also
before	first	Even if	for	At least	but	and	As well as
next	now	If	In that case	however	instead	In fact	or
soon	then	since	so	only	Or else	furthermore	In addition
when	finally	That's why	Therefore	Even though	yet	For example	For instance

Table 1: Examples of Connective Words

Writing strategies need to be in place so learners can carefully plan and articulate their critical thinking skills. Nosich (2009) explained, "to learn to think critically, is to learn to think things through, and to think them through well: accurately, clearly, sufficiently, and reasonably" (p. 13). By creating an effective writing plan, learners can communicate ideas or thoughts by incorporating the use of connective words that combine logic and organization. Ideas can be communicated and assumptions challenged with the use of connective words. When connective words such as *when*, *although*, and

furthermore, are used correctly, Brookfield (1987) stated that learners can challenge assumptions, thoughts, and feelings, which is a result of critical thinking.

Brookfield (2005) also reasoned that critical thinking is a lived activity and it is necessary for interacting in a democratic society. One of the important traits of a critical thinker is to arrive at the best possible answer by using reasoning skills (Nosich, (2009). Connective words can be helpful when using prior knowledge to explain an idea, and develop a point of view. For example, when a variety of connective words are used to express an opinion, it can enhance the critical thinking skills that are required in academic writing.

Paul and Elder (2008) believed that the sooner learners develop sound reasoning skills; the more likely they will become more reasonable, open-minded thinkers. They found that learners need to articulate thoughts clearly and use purposeful thinking to state these thoughts. Connective words can be used to link ideas so that thoughts are clearly communicated to others. Facione (2004) argued that in society, people need to become responsible citizens by making good decisions. This can be accomplished by using clear and insightful reasoning skills with the use of connective words.

Browne and Keeley (2010) argued that excellent writing and speaking skills are necessary in helping learners to react critically to information presented in a web site, to judge the quality of information, form an argument, or write an opinion paper. Also, Browne et al. (2010) found that well supported arguments help make inferences, which is the process of reasoning in critical thinking. More important, when learners use specific connectives in a discussion, it helps them to develop a more reasonable argument. For example, by applying connective words to thinking critically, learners will be able to question all assumptions wisely, engage in logical discussions, thus improving reasoning skills. The reasoning skills will help students acquire wisdom and a sense of wellbeing through a supportive and encouraging learning environment (MacKeracher, 2004).

According to Facione (2004), it is important to use tools to think reflectively, gather information, consider options, explore possibilities, formulate thoughts about what to do, and why certain choices are the best ones. Facione (2004) also stated that it is reasoning based on what we have learned through careful analysis, evaluation, explanation, and self-correction to make good decisions in judgment. With the guidance of using connectives appropriately, learners will be able to weigh options and act on reasoning to successfully communicate thoughts.

Fostering a safe learning environment

Using connective words in writing and speaking requires risk taking. First, instructors must build a relationship of trust for a safe environment in which learners will be comfortable in taking risks. By respecting others and valuing their opinions, learners must be encouraged to try out a variety of connectives to enhance their ideas in writing. This risk taking, according to Brookfield (1987) should ensure that the fundamental integrity of individuals is respected.

Being a respectful listener when experimenting with connective words, is achieved by coming to understand viewpoints of others, with positive gestures and appropriate body language in place. According to Brookfield (1987), the worst thing that a listener can do is use a smirk or a sigh to indicate disapproval of the person who is speaking. Brookfield suggested that we assure others through our body gestures and words that they are respected and valued. If instructors provide a safe environment in which connective words can be tried out through experiential learning, then eventually the learners will be able to use them confidently to provide sound reasoning on a variety of issues. As a result, a community of thinkers will be built when strategies are shared on how connective words can enhance ideas in writing. This is established through trying out the use of connective words in a trustful and respectful setting.

Clear Understanding of Criteria

Learners need to know what is expected of them as well as the necessary steps to achieve success when using connective words. Hattie and Timperley (2007) believed that learners need to know the exact steps that need to be taken to make progress in achieving their goal. It is important to model the strategies for the use of connectives to achieve success in writing. For learners to achieve success, they must be taught the meaning and definition of connective words and how each one can be used to enhance their ideas in writing. Also, there must be time to experiment with a variety of connective words to see which ones work best for different purposes.

Although clear learning targets are important for the successful implementation of connective words, learners also need feedback along the way to determine if they are on the right track. Feedback provides the learners with information regarding their progress in using connective words properly. Marzano (2007) believed that clear learning targets and feedback used together are necessary for successful learning to occur. Locke and Latham (1990) also found that feedback allowed learners to make adjustments in their strategies when they learned from their mistakes. Learners can try out each connective word to ensure that it is used correctly with the use of helpful feedback from others. Hattie et al. (2007) stated that when learners are allowed to make mistakes and grow from them, they are more willing to undertake more challenging tasks. As a result, learners are more likely to take risks by using more challenging connective words rather than playing it safe with easier words.

Planning an argument with the use of connective words needs to incorporate a logical sequence of steps, in which a learner is guided in using the type of connective word that best suits each purpose. Learners need to self-reflect to determine if a particular connective word will enhance the ideas in the argument or whether a different connective is best suited for the explanation. Tomlinson and Allan (2000) argued that the instructor's job is to push the learner into his or her zone of proximal development and successfully coach the student to complete a complex task independently. Through

this process, students will be able to master new skills, create new ideas, and become independent thinkers in solving problems. Carbonell-Olivares (2009) argued that the adversative connective *although* can be used to state an opinion, make a claim, or state a position that contrasts an idea. When used correctly, connective words can be used to justify an opinion or express an idea without criticizing a person or making demands.

Paraphrasing

Connective words can effectively be used when paraphrasing ideas. Sprenger (2005) pointed out that paraphrasing is an aid to help memory.   By taking notice of important key words that reflect the main idea of a passage, readers can paraphrase the text using these words. Learners are able to recall the main ideas of a passage if they have paraphrased the text. If students are encouraged to paraphrase ideas, they will be able to retell the new concepts they have learned and evaluate whether a specific connective word enhanced the meaning. Also, it is important for the students to understand the meaning of each connective word and each key word in order to use them correctly and effectively. Knowing the definition of each word is important.

 Using the following chart shown in Table 2 can help students to paraphrase ideas with the use of a connective word.

Connective Word	Key Word	Key Word	Key Word

Table 2: Template for Key Words

Collaboration

When students work together collaboratively they can build on one another's ideas. Students learn from one another by observing, and modeling while working as a collaborative team (Lindzey & Runyan, 2007). DuFour, DuFour, Eaker, and Many 2010 confirmed that learning by example is a

powerful teaching strategy. When students use connectives to explain their ideas, they can learn from each other by pooling ideas, strategies, and skills to gain a full understanding of how to use each connective word effectively. Also practicing the use of connective words in sentences orally before writing them down, gives the students an opportunity to try out different ones before choosing the appropriate one to write down.

Nosich (2009) developed the SEE-I strategy (state, elaborate, exemplify, and illustrate) to help students sharpen their critical thinking skills and explain their ideas succinctly.

State it: State the main idea or point in a clear, precise, and relevant manner

Elaborate: Provide an explanation that is clear, precise, and relevant

Exemplify: Given an example that is relevant, precise, and accurate

Illustrate: Use a graphic organizer, a diagram, a metaphor, simile, or drawing

Halliday and Matthiessen (2004) believed that connective words can be used to enhance, extend, or elaborate one's thoughts. For example, if learners wanted to enhance an idea, they would use connective words such as: although, then, so, for, but, yet, and still. If a learner wanted to extend an idea, they would use connectives such as: and, not only, but, also, except, instead of, rather than, if not, then, and while. To elaborate, connectives would be used such as: actually, or, rather, anyway, indeed, that, for example, for instance, at least, and in other words.

Appropriate connective words are needed to allow students to communicate ideas effectively—in both writing and discussions. For students to participate in a discussion, they can use connective words such as on the other hand or even though to respectfully challenge ideas. Then, once all points of view are heard, students must synthesize complex ideas and information. Connective words are used by students to write a persuasive argument with a well thought out conclusion. Beers and Nagy (2009)

point out that complex ideas must be succinct when expressing an opinion in writing. Thus, it is important to use connectives in an opinion paper.

Of course, a learner-centered environment is required for students to challenge assumptions, explain alternate points of view, and deepen thinking (Jacobsen, Lock, & Friesen, 2013). In this participatory learning environment, learners can adopt ideas and arrive at a new conclusion by using appropriate connective words. Jacobsen et al., (2013) also suggested that learners can deepen their inquiry, develop critical thinking skills, and extend other essential competencies to support higher-order learning and encourage intellectual engagement. Thus, connectives are beneficial in building knowledge because they link new ideas to existing ones.

CONCLUSION

The use of connective words is essential in critical thinking because of the importance of communicating ideas clearly, precisely, and accurately. As responsible citizens in a democratic society, it is important for learners to clearly state their point of view and to build on others' ideas in a respectful manner. Connective words, when used properly, can improve the quality of communication by linking prior knowledge to new information. If learners use connective words when debating a point or stating a point of view, a more scholarly and respectful exchange of ideas can occur. Thus, as a consequence, learners can build on one another's ideas and come up with a solution better than they could on their own.

The following guidelines are necessary for the use of connective words to be used effectively:

- A safe a trusting environment where students can take risks

- A learner-centered environment (inquiry; project based learning)

- Questions that demand higher order thinking skills

- Paraphrasing techniques

Duggleby

- Verbal practice of the use of connective words before writing them

- Teaching the definition of each connective word in order to understand the meaning.

References

Beers, S.F., & Nagy, W.E. (2009). Syntactic complexity as a predictor of adolescent writing

quality: Which measures? Which genre? *Reading and Writing, 22*(2), 185-200. doi:10.1007/s11145-007-9107-5

Browne, M., & Keeley, S. (2010). Asking the right questions: A guide to critical thinking (9th ed.). Upper Saddle River, NJ: Prentice Hall.

Brookfield, S. (1987). *Developing critical thinkers: Challenging adults to explore alternative ways of thinking and acting.* San Francisco, CA: Jossey-Bass.

Brookfield, S. (2005). *Power of critical theory for adult learning and teaching*. Berkshire, England: McGraw-Hill.

Cain, K., & Nash, H. M. (2011). The influence of connectives on young readers' processing and comprehension of text. *Journal of Educational Psychology, 103*(2), 429-441. doi:10.1037/a0022824

Carbonell-Olivares, M. (2009). A corpus-based analysis of the meaning and function of although. *International Journal of English Studies*, 191-208. Retrieved from

http://digitum.um.es/smlui/bitstream/10201/23455/1/99591399731-1-PB.pdf

Crosson, A. C., & Lesaux, N. (2013). Pinpointing the challenging aspects of academic language: Does knowledge of connectives play a unique role in the reading comprehension of English learners and English-only students? *Journal of Research in Reading, 13*(3). doi: 0.1111/j.1467-9817.2011.01501

Degand, L., & Sanders, T. (2002). The impact of relational markers on expository text comprehension in L1 and L2. *Reading and Writing.* 15(7), 739-757. Retrieved from

http://www.academia.edu/851165/The_impact_of_relational_markers_on_expository_text_compreh
ension_in_L1_and_L2

Facione, P. (2004). *Critical thinking: What it is and why it counts.* Millbrae, CA: California

Academic Press. Retrieved from

http://www.student.uwa.edu.au/data/assets/pdf_file/00003/1922502/Critical-Thinking-What-it-is-
and-why-it-counts.pdf.

Halliday, M.A. & Hasan, R. (1976). *Cohesion in English.* London, England: Longman.

Halliday, M.A., & Matthiessen, C. (2004). *An introduction to functional grammar* (3rd ed.). New

 York, NY: Oxford University Press.

Hattie, J. & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1),

81-112. doi: 10.3102/003485430298487

Jacobsen, M., Lock, J., & Friesen, S. (2013). Strategies for Engagement: Knowledge building and

intellectual engagement in participatory learning environments. *Education Canada*.

 Retrieved from http://www.cea-ace.ca/education-canada/article/strategies-engagement

Lindzey, G., & Runyan, W.M. (2007). A history of psychology in autobiography. *American*

 Psychological Association, 9, 43-75. Doi: 10.1037/11571-002

Locke, E. & Latham, G.P. (2000). *A theory of goal setting and task performance.* Englewood Cliffs,

NJ: Prentice-Hall

MacKeracher, D. (2004). *Making sense of adult learning* (2nd ed.). Toronto, ON: University of

 Toronto Press.

Marzano, R. (2007). The art and science of teaching: A comprehensive framework for effective

instruction. Alexandria, VA: ASCD.

Millis, K. K., Graesser, A. C., & Haberlandt, K. (1993). The impact of connectives on the

memory for expository texts. *Applied Cognitive Psychology, 7*(4), 317-339. Retrieved   from

http://ezproxy.library.capella.edu/login?url=http://search.ebscohost.com.library.capella.edu/login.aspx?direct=true&db=a2h&AN=12005194&site=ehost-live&scope=site

Nosich, G. (2009) *Learning to think things through.* Upper Saddle River, NJ: Pearson

Education/Prentice Hall.

Paul, R. & Elder, L. (2008). *The miniature guide to critical thinking: Concepts and tools*. Dillon

Beach, CA: Foundation for Critical Thinking.

Sanders, T. J., & Noordman, L. G. (2000). The role of coherence relations and their linguistic markers

in text processing. *Discourse Processes, 29*, 37-60. doi:10.1207/S15326950dp2901_3

Sprenger, M. (2005). *How to teach so students remember*. Alexandria, VA: Association for

Supervision and Curriculum Development.

Tomlinson, C.A. & Allan, S. (2000). *Leadership for differentiating schools and classrooms.*

Alexandria, VA: Association for Supervision and Curriculum Development.

APPENDIX

Temporal Connectives		Before	
Words that show a sequence in time		1. During the period of time preceding (a particular event, date, or time) 2. In front of 3. Prior to; earlier or sooner than	1. Before he ate dinner he had to rest. 2. He looked at the map carefully before he proceeded through the busy streets of Paris.
		Definition	Sentence

As		Then	
1. To the same degree or amount. 2. Equally 3. For instance	1. As she walked down the hall she tripped. 2. Her smile was a bright as a shining star.	1. At that time 2. Immediately or soon afterward 3. Next in order of time	1. Then it started to rain. 2. At first the water appeared to be blue, then gray.
Definition	Sentence	Definition	Sentence

When		After	
1. At what time. 2. At or during which time. 3. At the time or in the event that.	1. When we were at the waterslides, we had so much fun. 2. The baby began to walk when no one was watching.	1. Following in time or place. 2. Later in time. 3. If something follows something, it is after it.	1. After a while, the students became bored with the movie. 2. The girl walked across the stage after her brother.
Definition	Sentence	Definition	Sentence

Causal Connectives		If…then …	
Words that show why things happen		1. In the event that 2. Whether 3. Used for introducing a situation that may happen or may be real, especially when talking about its results.	1. If we get our work finished, then we can play computer games. 2. If only she listened to the directions, then she would know what to do.
Definition	Sentence	Definition	Sentence

Because		So	
1. For the reason that 2. As a result of 3. On account of	1. Because of his continued persistence, he finally solved the problem. 2. Because he gets 10 hours of sleep every night, he is alert and ready to learn.	1. In a manner or way indicated or suggested. 2. Therefore, thus, hence 3. Then; subsequently	1. So the little boy went home instead of playing in the park. 2. So, why do you think that Terry Fox is a great Canadian hero? 3. So then he ran upstairs and went straight to sleep.
Definition	Sentence	Definition	Sentence

Even if		Therefore	
1. Whether or not	1. Even if I had two hours to spare for shopping, I wouldn't go out and buy a suit.	1. For that reason; so 2. Consequently; thus 3. As a result	1. Therefore, we must always listen carefully to directions so we get a clear picture of what to do. 2. Therefore, based on the facts, I believe that Terry Fox is a great Canadian hero.
Definition	Sentence	Definition	Sentence

Adversative Connectives	
Words that contrast	
Definition	**Sentence**

Although	
1. In spite of the fact that 2. Even though 3. Though	1. Although I had two hours to spare for shopping, I couldn't find the suit I wanted. 2. I worked hard, although I barely got it finished on time.
Definition	**Sentence**

Rather (than)	
1. With better reason or more propriety; more properly; to the contrary (instead of) 2. More correctly speaking. 3. More readily or willingly; preferably	1. Rather than playing computer games, I would prefer to create our own game. 2. Rather, I think he was a villain based on the facts you have stated.
Definition	**Sentence**

Instead	
1. In the place of something previously mentioned. 2. As a substitute or equivalent 3. As an alternative	1. Instead of treating people unfairly, he could have helped them. 2. She could have gone to bed early instead of waking up late.
Definition	**Sentence**

Yet	
1. Nevertheless, still, in spite of that. 2. To a greater degree or extent 3. Despite anything to the contrary (even so, however, nevertheless, until now, nonetheless, notwithstanding)	1. Yet, we still need the oil to keep our houses warm in the winter. 2. Yet many people still do not car pool or take the train to conserve energy.
Definition	**Sentence**

But	
1. On the contrary; yet 2. Except; except that 3. Unless; if not	1. It never rains, but it pours. 2. But then the worst storm came from the west. 3. But that is not the worst thing that happened; he also forgot to bring his tent.
Definition	**Sentence**

Additive Connectives			**Also**	
Words to add additional information			1. In addition 2. Furthermore 3. And; as well 4. Plus; moreover	1. Also, we will be studying the effects of acid rain on our crops. 2. Also, based on facts, I believe that we need to conserve our water.
Definition	Sentence		Definition	Sentence

For example			**Additionally**	
1. For instance 2. Such as 3. Like	1. For example, many people helped to clean up the wildlife covered with oil from the spill. 2. For example, much wildlife had to find new unpolluted waters to swim.		1. An enhancement 2. In addition to; in or by way of addition 3. Furthermore; moreover	1. Additionally, the dolphins also help ships navigate through narrow passages. 2. Additionally, the dolphins play in the water at the aquarium.
Definition	Sentence		Definition	Sentence

For instance			**Besides**	
1. As an example 2. In this situation 3. In this case	1. For instance, he could sing, dance, and act, which made him perfect for the part in the play. 2. For instance, both resources stated that many birds died due to the oil spill.		1. Moreover 2. Furthermore 3. Also	1. Besides, many animals will benefit from our program to help out the environment. 2. Besides, the internet source states that many animals can survive oil spills.
Definition	Sentence		Definition	Sentence

Definitions extracted from *Merriam-Webster.com*. Retrieved May 8, 2014, from http://www.merriam-

webster.com/dictionary