

Change of Context

What is the change of context tool?

Changing the context is a tool that enables the imagination to grasp the richer meaning of any topic. The classroom is often an emotionally sterile place; so routine that one topic after a while begins to look like another. By shifting the context in which knowledge is learned—by use of often simple devices—students’ imaginations can be brought vividly to life, engaging the material much more richly.

What has all this to do with teaching? Well, one problem with the classroom is its largely unvarying context, which students gradually come to take for granted. Remembering Marshall McLuhan’s slightly mischievous claim that “the medium is the message,” we can see how the unvarying nature of the classroom can make much of what students experience in classrooms take on a uniform and somewhat boring cloak (1964). At least, this is what most of the large-scale surveys of students’ experience of school tell us. One way we can plan a challenge to the imagination-suppressing taken-for-grantedness of the daily classroom is to change the context now and then. Traditional ways of changing contexts have involved such activities as field trips. While this is, of course a useful way to change the focus of students’ attention, we are interested in a somewhat different kind of context changing, a kind that is concerned more with the intellectual activity required of the student and that doesn’t take hugely elaborate preparation by the teacher. Can students take on different roles? Can events or ideas be reenacted? Can ideas be debated? Can experiments be conducted? Can the classroom be made to “feel” different through visual, auditory, olfactory or other means?

How can we change the context in teaching?

Topic: Factoring

Subject Area: Math

Cognitive Tool: Change of Context/Role Play

One of the most important concepts taught in high school mathematics is factoring. The skill of factoring is taught in every grade from nine to twelve. Less complicated factoring is introduced in the elementary school grades. To be successful in each of these courses, it is vital that students understand how to factor, why to factor, when to factor, and what to factor. We use the “Wilke Bug” to teach factoring. So, where and when does the Wilke Bug roll into town? The procedure for factoring is compared to the process of driving from town to town using a map to guide the steps. The road first leads to the town of “Common Factorville.” It is always the first stop! If a common factor exists between the terms of the polynomial, it must be removed at this stop. We explain to our students that the journey does not end at Factorville. “Keep driving” is a phrase commonly used in our classrooms! However, after Factorville, there is a fork in the road and students must choose which path to take: two terms leads to the town of Difference of Squaresville, while three terms leads to

Trinomialville. Understanding this concept is important because some factoring questions involve two types; for example, x^2-2 is first factored using common factoring $2(x^2-1)$, before one continues to Difference of Squaresville $2(x+1)(x-1)$.

After the whole factoring routine is explained, the class practices questions using the Wilke Bug. We set up two chairs in the front of the classroom and ask for a volunteer. Together, we drive the Wilke Bug around the classroom using our map to guide us to the different towns. The teacher starts off by calling shotgun. The use of this type of role-playing is an extremely effective teaching technique, and it can be employed in any subject and grade level. Role-playing engages students in a physical manner and helps students to learn and retain information. Students are captivated when material is presented in a different, outrageous manner. There are endless ways to shift the context so that the routine classroom becomes a place where students never quite know what to expect... the imagination can transform the classroom. In our classrooms we sometimes feel that we are more of an actor than a teacher. Acting out the Wilke Bug routine is part of the math show! (Taken from the work of Jarrett Wilkie.)

Topic: Food chains/webs

Subject Area: Science

Cognitive Tool: Change of context/Role Play

The study of food chains and webs in science can be done through games or role-play—these are both ways to “change the context” in the classroom so that students are learning about the topic in ways that engage their senses in different ways. For example, following a basic introduction to the story on food chains or ecological webs (for example, the interconnectedness of plant and animal species and the implications for everything in the chain or web if one piece is changed) the classroom can become some context in the world—the tropical rainforest in South America or the Arctic tundra for example. Students can become different creatures in this context. The teacher can introduce challenges—such as drought or warming temperatures, or the loss of a species—and students can then role-play how that change will impact their lives.

Topic: Identify health benefits of active living

Subject Area: Physical Education

Cognitive Tool: Change of Context/Role Play

Most kids know that it is a good idea to exercise. But do they actually understand what huffing and puffing during a game of soccer does to the heart and why getting one’s heart rate elevated is good for one’s health? In this activity we can have students role play a human heart. Teachers’ might first map out on the floor, with chalk perhaps, the basic outline of the heart with its major arteries, compartments, and valves. With arrows the direction of blood flow could be indicated as well—this will help guide those students identified as “blood” to travel through the heart. Of course, when the body is at rest and the heart rate is low, the

blood moves slowly through the arteries and veins into and eventually out of the heart (this is, of course, a great opportunity to teach students about the specific components of the heart—the aorta, left and right ventricles, pulmonary veins and artery, right and left auricle etc.). What students will understand in this activity engaging not only the role play cognitive tool as well as students’ sense of rhythm and pattern is what physical activity—elevating the heart rate—does to the heart. Those students acting as “blood” will need to pick up the pace, those students working as heart valves will need to work more quickly, students in charge of the “beat” of the heart will drum, stamp or clap faster and faster. They will see what it means to exercise the heart.

Topic: Different kinds of writing (personal/informational/imaginative)

Subject Area: English

Cognitive Tool: Change of Context/Role Play

Students can learn about different styles of writing through role-play. They can be encouraged to imagine how different people might write about different events. So, for example, how would the pope write about his experiences on holiday? How might Eminem write about it? Student would need to consider what makes writing attractive to different audiences and what makes it appropriate for different purposes. There is a program on television where entrepreneurs try to sell their ideas to a panel of potential funders. How would one write about an idea for a new business, service or project if one were about to go before this panel? How does this writing differ from what one reads in the Editorial section of the local paper?

Topic: Verb Tenses

Subject Area: Second Language Learning

Cognitive Tool: Change of Context/Role Play

One way to engage students’ attention differently in learning about verb tenses would be to enlist them as detectives whose aim is to crack the secret verb tense codes. One could provide a series of examples of the mysterious tense and ask them to identify the patterns. Once tense words are de-coded, the students could be given an assignment in which they create an image of what the tense does. So, for example, Future Simple could be represented by someone gazing into a crystal ball and into the future. Alternatively, students could be asked to create a narrative on their chosen tense – “What’s the story on the present tense?” What does it allow us to express? Having students compose a song or a rhyme in which they describe what their tense does and how it is formed would also be useful. The irregularities of verb tenses – the exceptions which we usually struggle to help our students remember – could be more effectively learned if the F.V.T. (French Verb Tense) journalists incorporate the exceptions into their on-the-scene reports of what their tense is all about (for CBC News or whatever).

Topic: Agreement of the past participle

Subject Area: Second Language Learning

Cognitive Tool: Change of Context/Role Play

Teaching about agreement of the past participle and verbs conjugated with être, might involve having students imagine a giant balance or scale, floor to ceiling in size. On one side there sits the subject. The scale – the verb être – is in the middle and on the other side is the past participle. The scale must balance. Agreement is a balancing of sorts. Our past participle must indicate through various spellings what the subject of the equation is. For a single masculine we are balanced right off the bat. For a single feminine we need to add an “e”, for plural either an “s” or “es” depending. You know the rules. The imaginative teacher will not stop here. She will enlist someone in the class to physically be the scale, to be the verb être. Next she may divide the rest of the class into categories that include the subjects (il, les filles, la pomme etc.), the past participles (allé, devenu, né etc.), and the “e” “es” and “s”s. The students can then role-play the conjugation of être verbs in the past tense.

Why does changing the context engage our imaginations?

One of the enemies of effective teaching and learning is students’ (and teachers’) boredom, and one of the triggers of boredom is excessive familiarity and taking things for granted. John Bennett’s “law of mental declension” suggests that we always deal with any problem with the least outlay of intellectual energy possible (1967). Think of learning to drive a car. Initially you have to give it all your attention because the problems of keeping this moving mass of metal on the road are significant. After a while, as developing skill enables you to coordinate all the required movements of hands, eyes, and feet, you still give a lot of intellectual energy to the task of driving because it is a challenge you are beginning to master. After some years of driving, you hardly notice the acts you perform to get the car from A to B; it becomes quite automatic. Bennett suggests that this “mental declension” applies to all features of our lives. What is needed to stimulate the mind to move up the scale of intellectual energy it gives to any task is the introduction of a challenge.

In the imaginative classroom one common way to do this is for the teacher to take on the role of a character involved in what is being taught. Students, alternatively, can be invited to be participants in various historical events. They may debate the conflicting positions of the combatants. In math a few old sheets can transform the class into a bunch of ancient Greeks discovering some geometrical theorem. A group of teachers might get together and plan a semester around one topic—say, edible grains. The whole curriculum can then be planned for the semester—around the history of edible grains and their role in human settlements, the geography of the sources of the grains, where they were planted and why, the mathematics of grain production, sales, and distribution, the biology of grains and their growth, and so on. There are endless ways to shift the context so that the routine classroom becomes a place where students never quite know what to expect. It is no longer the usual place where the usual activities can be relied on and taken for granted. The imagination can transform the classroom, without anything much in the way of decorations or props—though that can sometimes help.