SALTISE 2017

Making Learning Active:
Attributes of Effective Active Learning Scenarios

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All learning is active.

Cegep de Sept-Îles
opened their new Active learning classroom
in January 2017.

- Low-tech
- Designed for five students each at five tables
- Whiteboards associated with each table
- Chairs that roll and swivel for ease of movement and attention

- Created a working group for the ALC
- Collected examples of teaching and learning activities
- Reflected on these examples
- Here are some of the insights
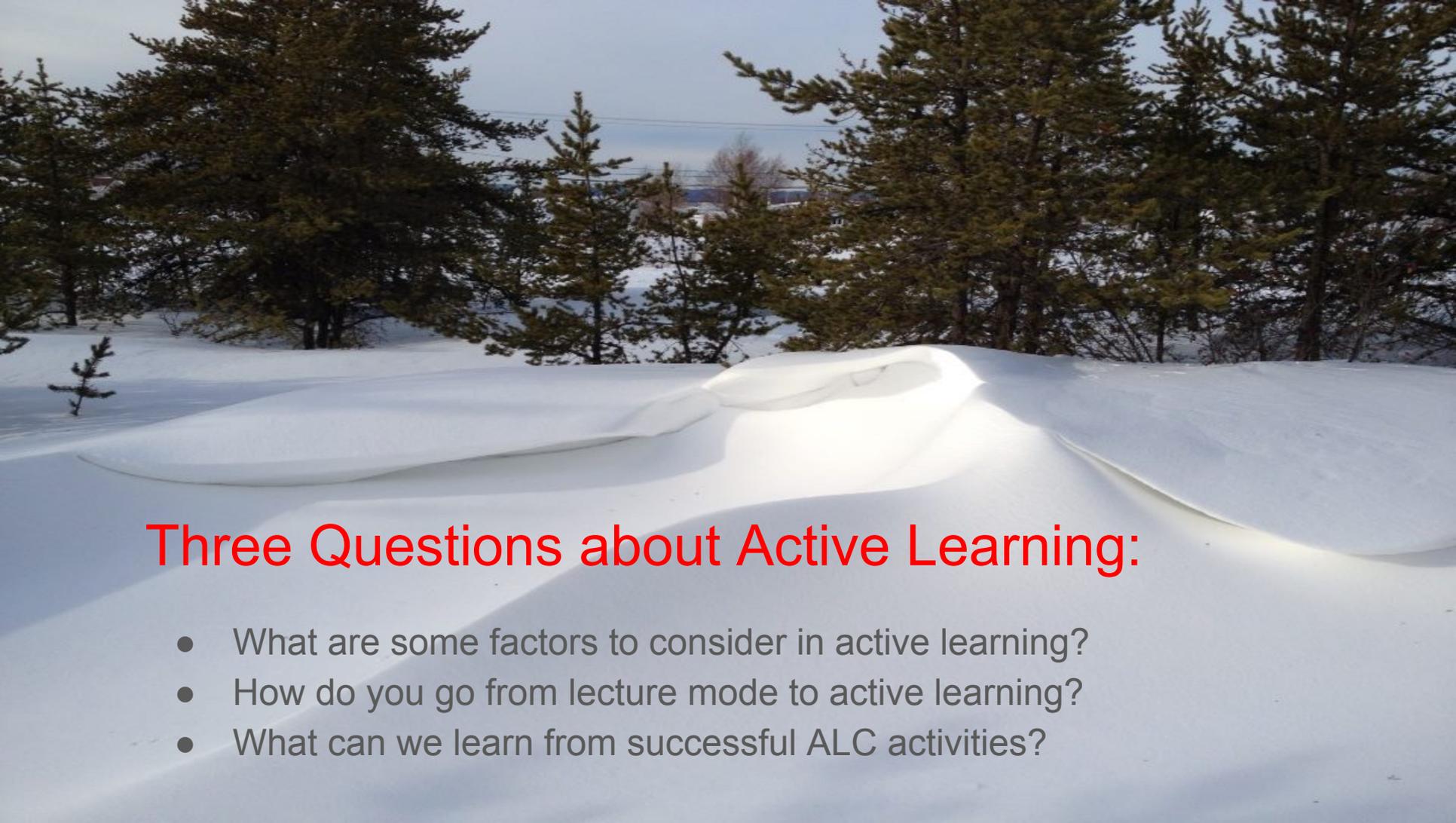
Three Questions about Active Learning:

- What are some factors to consider in active learning?
- How do you go from lecture mode to active learning?
- What can we learn from successful ALC activities?

What are some factors to consider in active learning?

- Teacher must not "tell"
- Creating common ground
- Support social presence
- Orchestrate a puzzle
- Include touchable models
- Expect creative and divergent approaches
- Encourage explaining
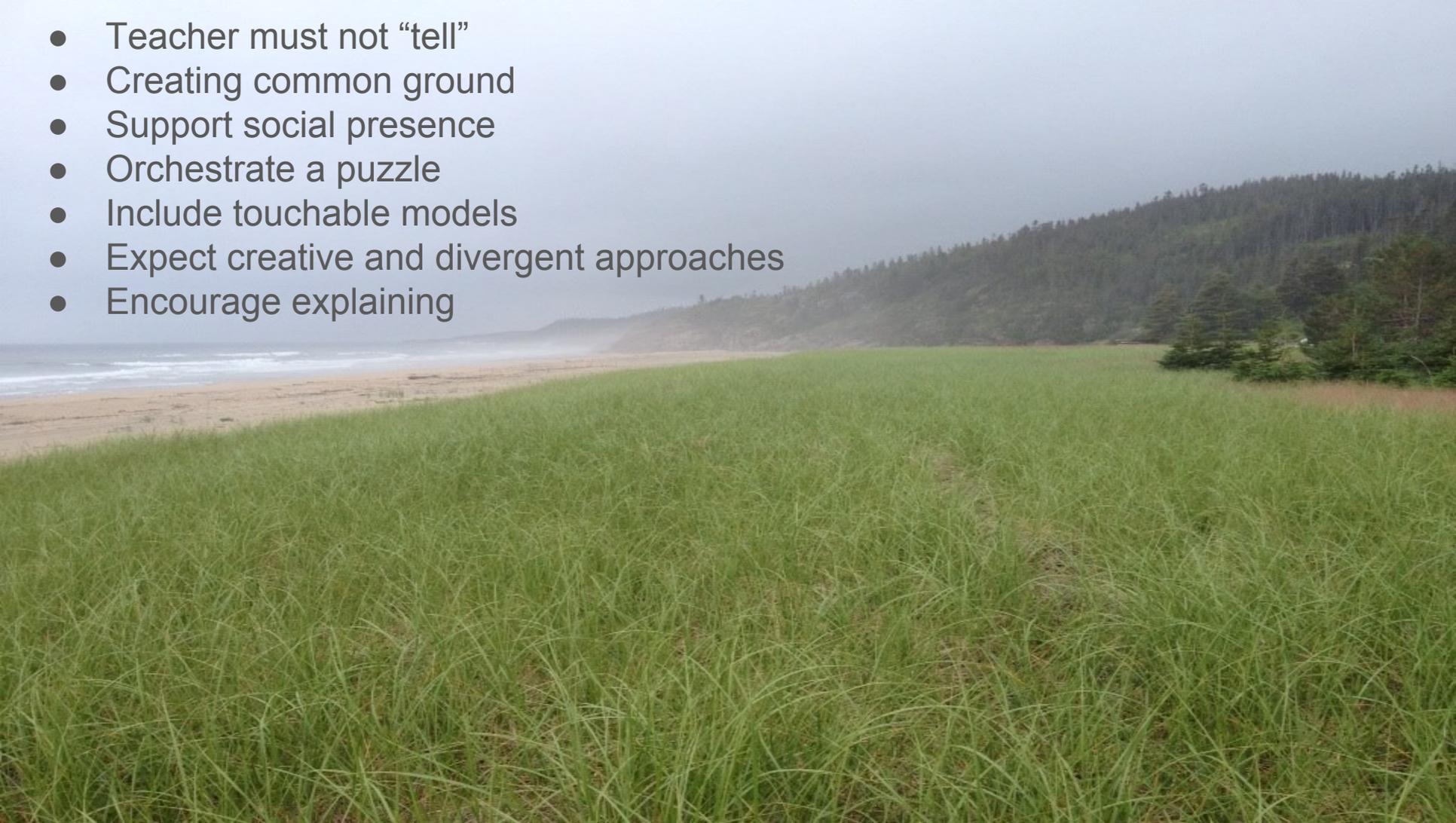
How do you go from lecture mode to active learning?

One In-Depth Example

Learning About

Plot

in an ESL Literature Class

Each group had a paper with the events listed as they occurred in a short story.

This short story has a crazy plot.

It starts at the end and goes backwards and forwards and repeats events..

All About Suicide (1967)
by Luisa Valenzuela
Translated by Helen Lane

Ismael grabbed the gun and slowly rubbed it across his face. Then he pulled the trigger and there was a shot. Bang. One more person dead in the city. It's getting to be a vice. First he grabbed the revolver that was in a desk drawer, rubbed it gently across his face, put it to his temple, and pulled the trigger. Without saying a word. Bang. Dead.

Let's recapitulate: the office is grand, fit for a minister. The desk is ministerial too, and covered with a glass that must have reflected the scene, the shock. Ismael knew where the gun was, he'd hidden it there himself. So he didn't lose any time, all he had to do was open the right-hand drawer and stick his hand in. Then he got a good hold on it and rubbed it over his face with a certain pleasure before putting it to his temple and pulling the trigger. It was something almost sensual and quite unexpected. He hadn't even had time to think about it. A trivial gesture, and the gun had fired.

There's something missing: Ismael in the bar with a glass in his hand thinking over his future act and its possible consequences.

We must go back farther if we want to get at the truth: Ismael in the cradle crying because his diapers are dirty and nobody is changing him.

Not that far.

Ismael in the first grade fighting with a classmate who'll one day become a minister, his friend, a traitor.

No, Ismael in the ministry without being able to tell what he knew, forced to be silent. Ismael in the bar with the glass (his third) in his hand, and the irrevocable decision: better death.

Ismael pushing the revolving door at the entrance to the building, pushing the swinging door leading to the office section, saying good morning to the guard, opening the door of his office. Once in his office, seven steps to his desk. Terror, the act of opening the drawer, taking out the revolver, and rubbing it across his face, almost a single gesture and very quick. The act of putting it to his temple and pulling the trigger — another act, immediately following the previous one. Bang. Dead. And Ismael coming out of his office (the other man's office, the minister's) almost relieved, even though he can predict what awaits him.

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Order of events in the short story

He grabs the gun.
he slowly rubs the gun across his face.
He pulls the trigger.
He shoots.
He takes the revolver from the drawer.
Ismael hid the gun.
Opens the drawer, sticks his hand in.
He gets a good hold of the gun.
He puts the gun to his temple.
Ismael is in the bar with a glass in his hand thinking about his future act and its consequences.
Ismael is in his cradle crying because his diaper is dirty and nobody is changing him.
Ismael is in first grade fighting with his friend who will become a government minister, his friend, a traitor.
Ismael is in the ministry without being able to tell what he knew.
Ismael is forced to be silent.
Ismael is drinking his third glass and deciding: better death.
Ismael is pushing the revolving door at the entrance to the building.
He is pushing the swinging door leading to the office section, saying good morning to the guard.
He opens the door to his office.
He takes seven steps to his desk.
Ismael comes out of the office.

Reorder in chronological order (below)

Kirszner, L. G., & Mandell, S. R. (2013). *Literature: reading, reacting, writing.* Boston, MA: Wadsworth Cengage Learning.

They had two copies of this list, one they moved and one the kept in the original order of the story.
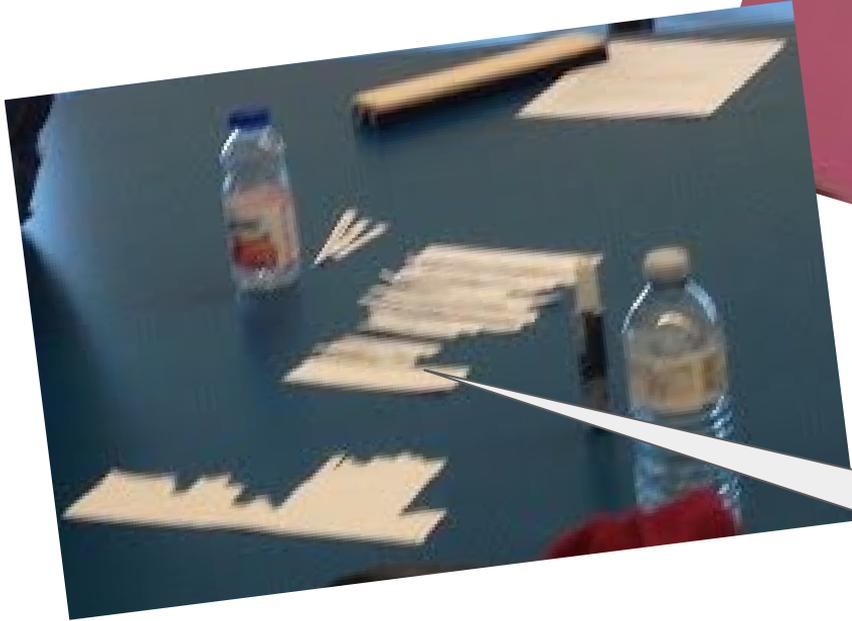
They separated the strips of paper and rearranged them in chronological order.
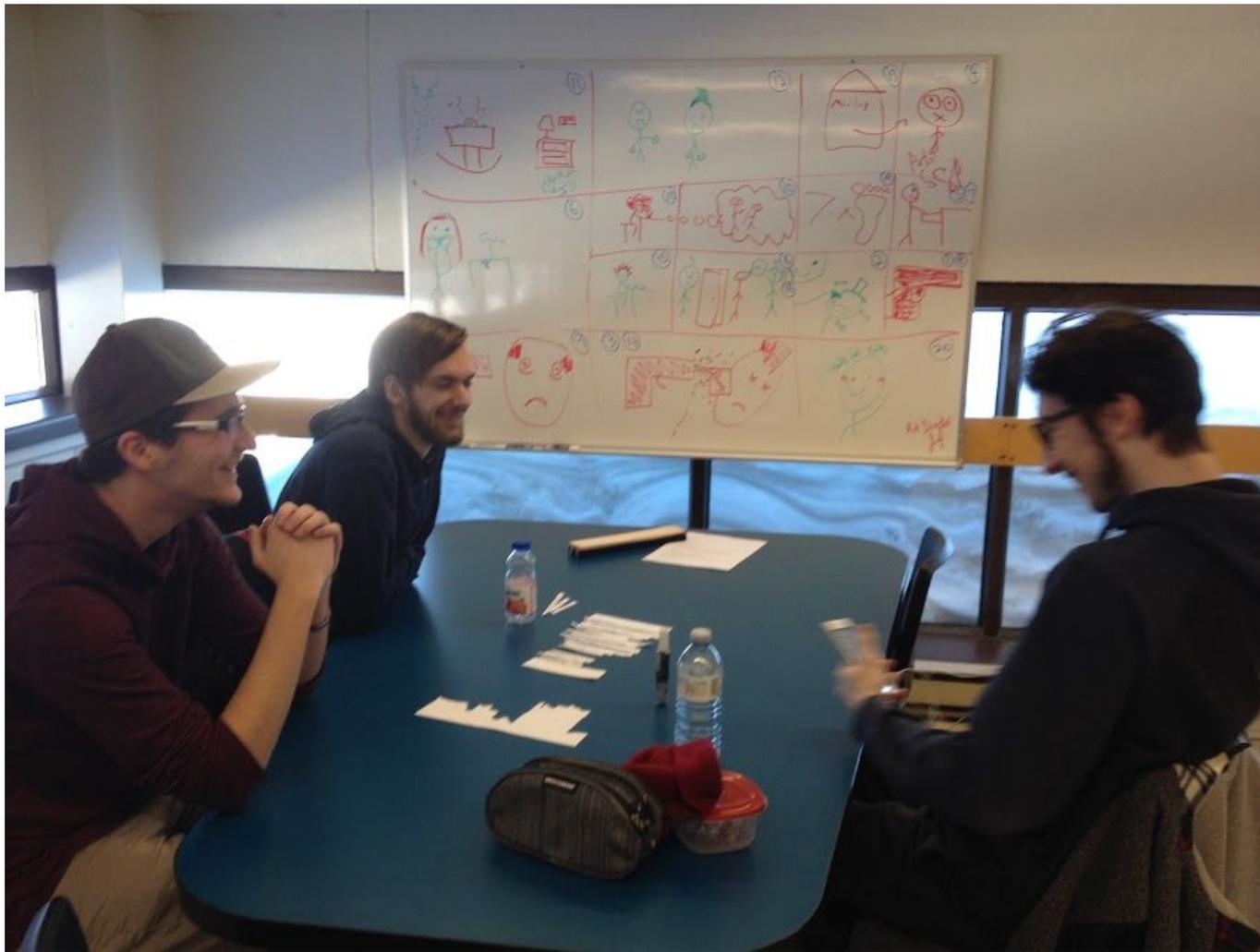
➢ I asked them to illustrate the plot of the story on the whiteboard.

➢ I purposefully did not give them any instructions on how they should do this.

➢ I wasn't looking for one "right way."
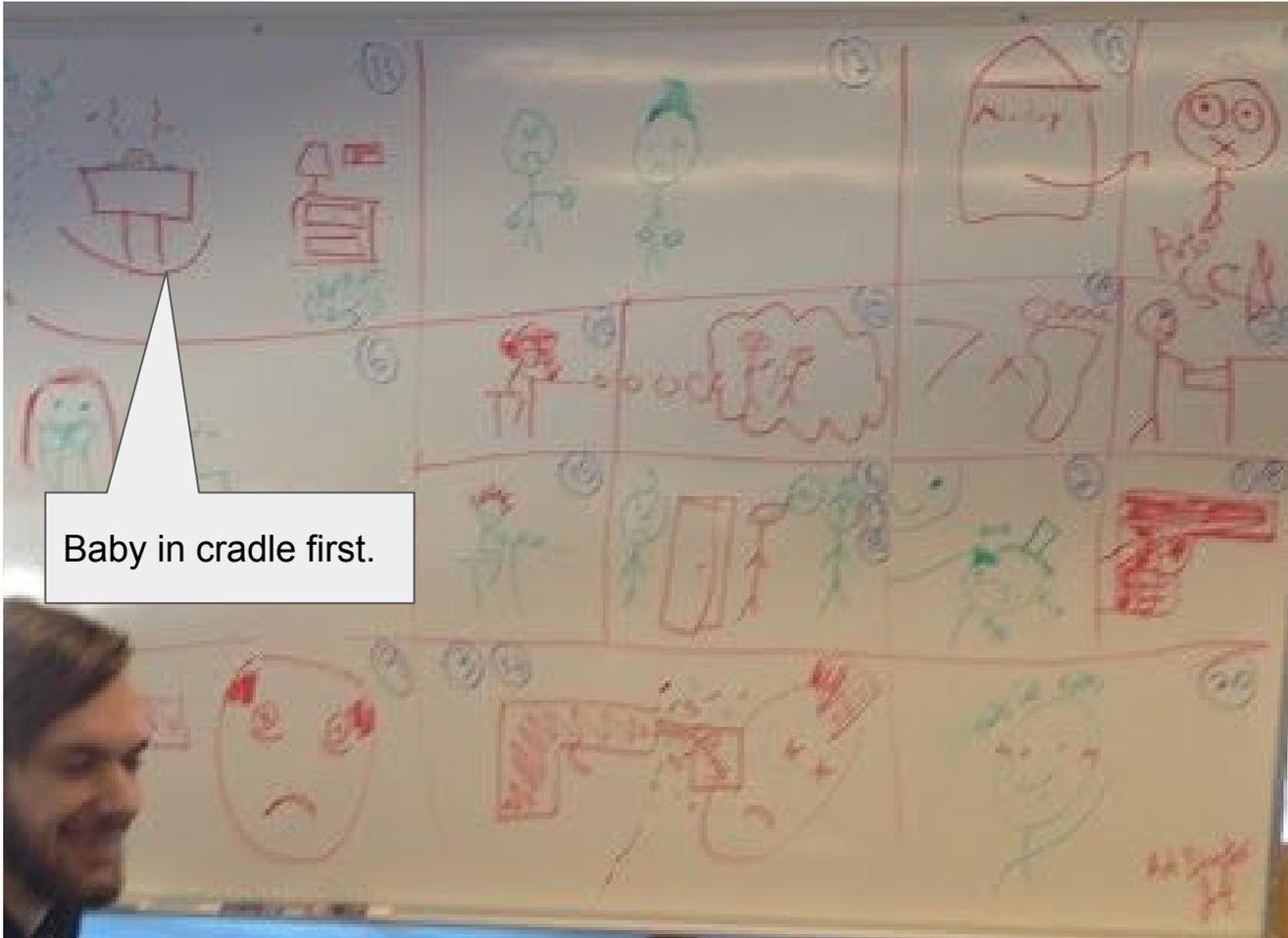
Baby in cradle first.

➢ This group drew squares.

➢ It was a bit like a comic strip.

➢ They drew the events in chronological order.

➢ They numbered them to show the order in the story (plot).

➢ This group made a line diagram of the events in the order they appeared in the story.

➢ The actual plot.

You can see number 1, the baby crying in its cradle, in the middle of the line, the first event for the chronological order, but not in the plot.

They numbered events to indicate chronological order.

Each group explained their plot illustration method to the other groups.

They added red letters to show events that were repeated.

What I liked about this activity:

Students communicated with each other,
- they figured out the order of events,
- they decided how they would represent the way events were arranged in the story,
- they translated information from one medium, print, to another, visual representation.

Students grasped of the idea of "plot" in a short story

They understood the author was making conscious choices about the order of events.

And they understood the concept of chronological versus a rearranged order in a story that an author uses to create impact and make a point.

- ESL Literature Class: Fiction
- Virtual Team Teaching: Collaboration Between Colleges
- Biology: Protein Synthesis
- Biology Case Studies: Different Coloured Pens
- Early Childhood Education: What I Know and Questions
- French Literature: Students Analyse a Poem
- Marketing: Project Based Learning
- Nursing: Flipped Classroom

What can we learn from successful ALC activities?

Fiction Kits
Unpack a story.
Make theory concrete.
5 Bags, one for each group.

Plot

Point of View

Setting

Symbols

Theme

Characters:
- Round or Flat
- Static or Dynamic

Tip!
Try making things concrete.
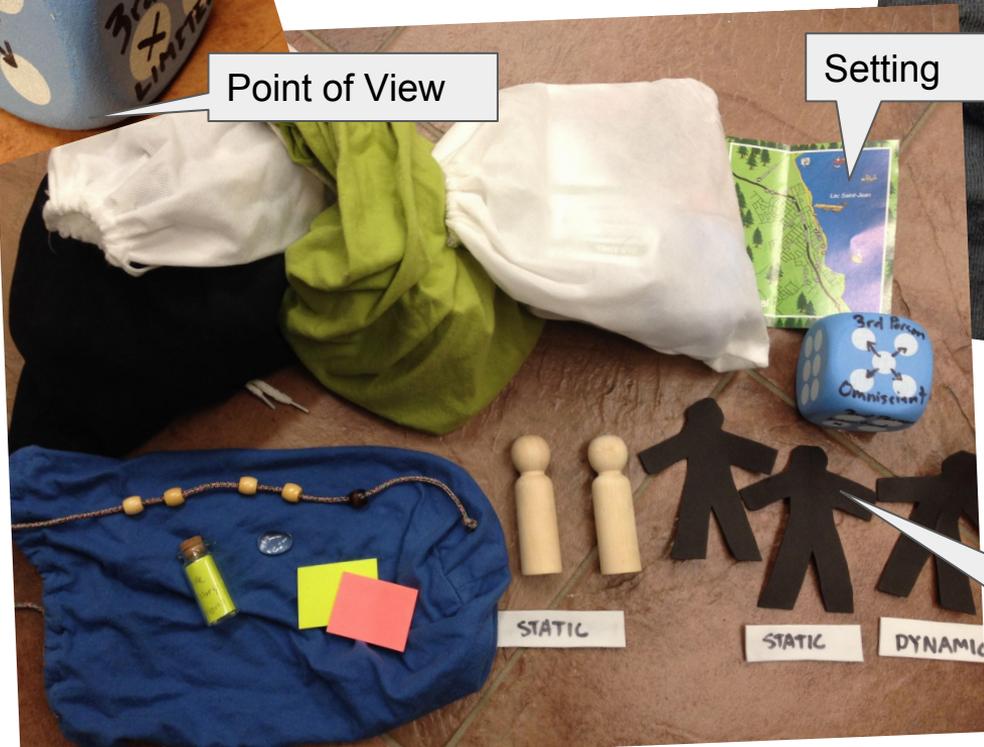
VTT

➢ Online Google Quiz to build common ground before the encounter.

➢ Students use shared documents in Google Drive to work through a series of tasks.

➢ Groups include students from Vanier College in Montreal and their peers in the Sept-Iles classroom.

1. Copy photos Lea.
2. Paste in table on Google Doc.
3. Send link to class in Mio.
4. Students click on link for their group, and it takes them to their doc.

I printed out the groups and cut them into labels for the tables.

Tip!

How do you chose the groups?
- Assigned (teacher decides)
- Random (students decide)
- Random (cards, birth months, etc.)
- Topic Choice (which poem do you want to work on?)

Biology

Protein Synthesis

Jeu de rôles sur la synthèse d'une protéine

Équipe 1 : Vous êtes des organites présents dans une cellule du pancréas. Votre fonction principale est de synthétiser une enzyme pancréatique qui sera ensuite acheminée au duodénum (1ère partie de l'intestin grêle) pour assurer la digestion des nutriments.
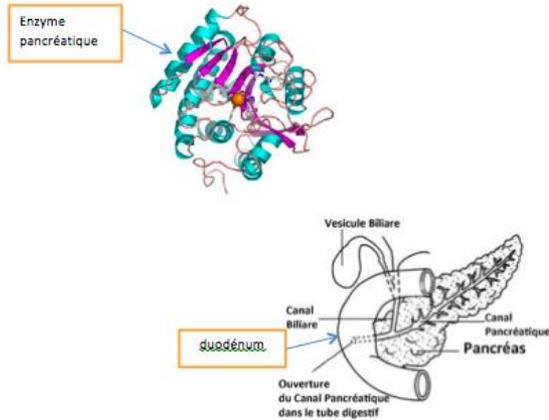
Équipe 2 : Vous êtes des organites présents dans un globule blanc, en fait un macrophagocyte qui va phagocyter une bactérie. L'intrus sera capturé et enfermé dans une vésicule d'endocytose (phagosome). Après l'intégration de la vésicule, son contenu fera l'objet d'une dégradation chimique par une enzyme digestive (hydrolase) qui sera présente dans un lysosome.

La vésicule qui quittera l'appareil de Golgi est donc un lysosome.
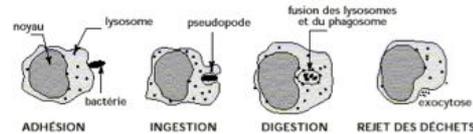
Role playing:

Each team was given a protein to synthesize, starting with a gene in the nucleus.

Step 1: Research in their book or internet on the protein synthesis and pathway to its final destination.

Step 2: Discussion and illustration of concepts on the whiteboard.

Step 3: The students develop a skit to illustrate the protein synthesis and present it to the other teams.

What I liked about this activity:

- ➢ Students are actively involved on the first day of class.

- ➢ The students were so focussed on the activity that they forgot to go on break!

- ➢ Excellent way to review content seen two sessions ago.

- ➢ Creativity and humor used to illustrate a scientific concept.

Student comments:

➢ *Even if it had been two sessions since our last biology course, the information was not to hard to find;*

➢ *Allows us to have fun and learn;*

➢ *The little skit enabled the teacher to review and correct the most complex concepts.*

Biology

Respiratory System: Mini Case Studies

Équipe 5

Le père de Philippe est admis à l'hôpital. Il est atteint d'une maladie pulmonaire chronique obstructive. Sa P_{O_2} artérielle est de 55 et sa P_{CO_2} artérielle, de 65. Un nouveau médecin résident prescrit de l'oxygène à 54 % par tube Venturi. Une heure plus tard, après installation du tube à oxygène, l'infirmière trouve le patient sans respiration ni pouls. Elle signale immédiatement un code bleu et commence une réanimation cardiorespiratoire. Expliquez pourquoi le patient a cessé de respirer.

Indice : Chez les personnes qu'une pneumopathie empêche d'éliminer le gaz carbonique, la P_{CO_2} artérielle est toujours élevée.

2. Expliquez pourquoi une respiration lente et profonde ventile les alvéoles plus efficacement qu'une respiration rapide et superficielle.

Indice : Ventilation alvéolaire = volume courant – espace mort (150ml) X fréquence respiratoire

Équipe 4

1. Dans un restaurant, un homme attablé se lève soudainement et essaie de tousser. Évelyne, étudiante en médecine, se porte au secours de l'homme. Elle lui demande s'il peut parler. L'homme fait signe que non avec la tête et pointe son cou. Que signifie son incapacité de parler et quelles structures physiques sont affectées ? Que va-t-elle faire pour sauver l'homme ?

2. Ariane va s'entraîner le midi pour le Grand défi Pierre Lavoie. Ses tissus vont alors produire deux molécules en grandes quantité. Lesquelles? Quel est l'effet de ce phénomène sur sa libération de l'O_2 de l'hémoglobine? Comment appelle-t-on cet effet?

Aim:

Consolidate knowledge;

Students interact with each other to find the best possible answers.
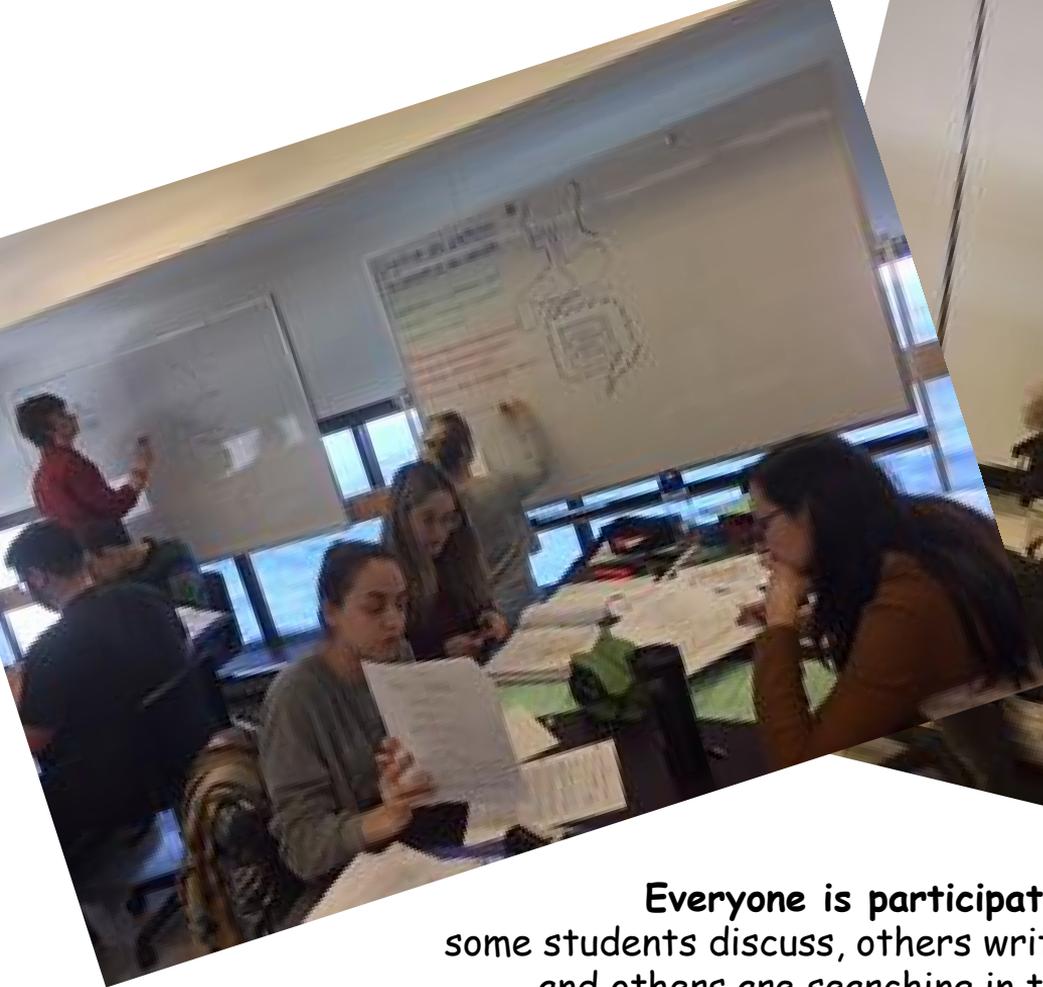
Everyone is participating:
some students discuss, others write on the board
and others are searching in their book!
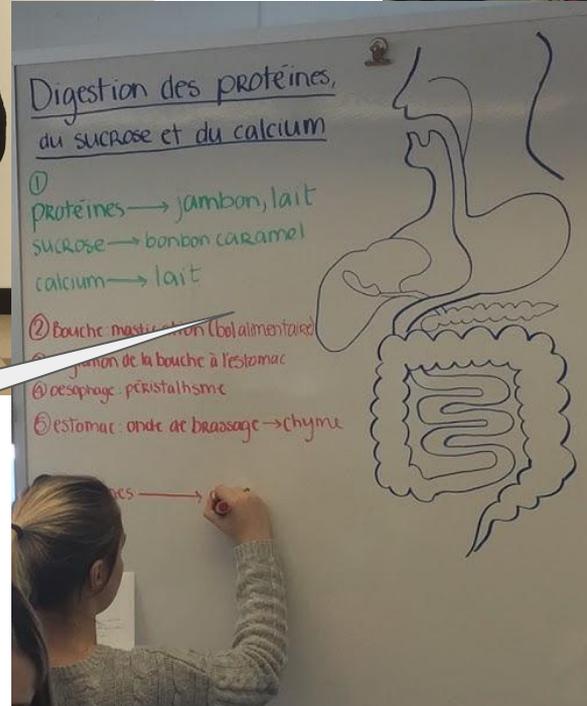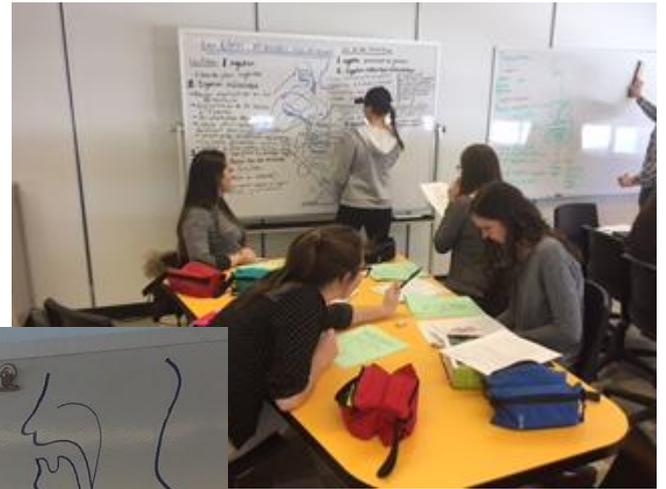
Different teams used different coloured pens to make it clear which group added what.
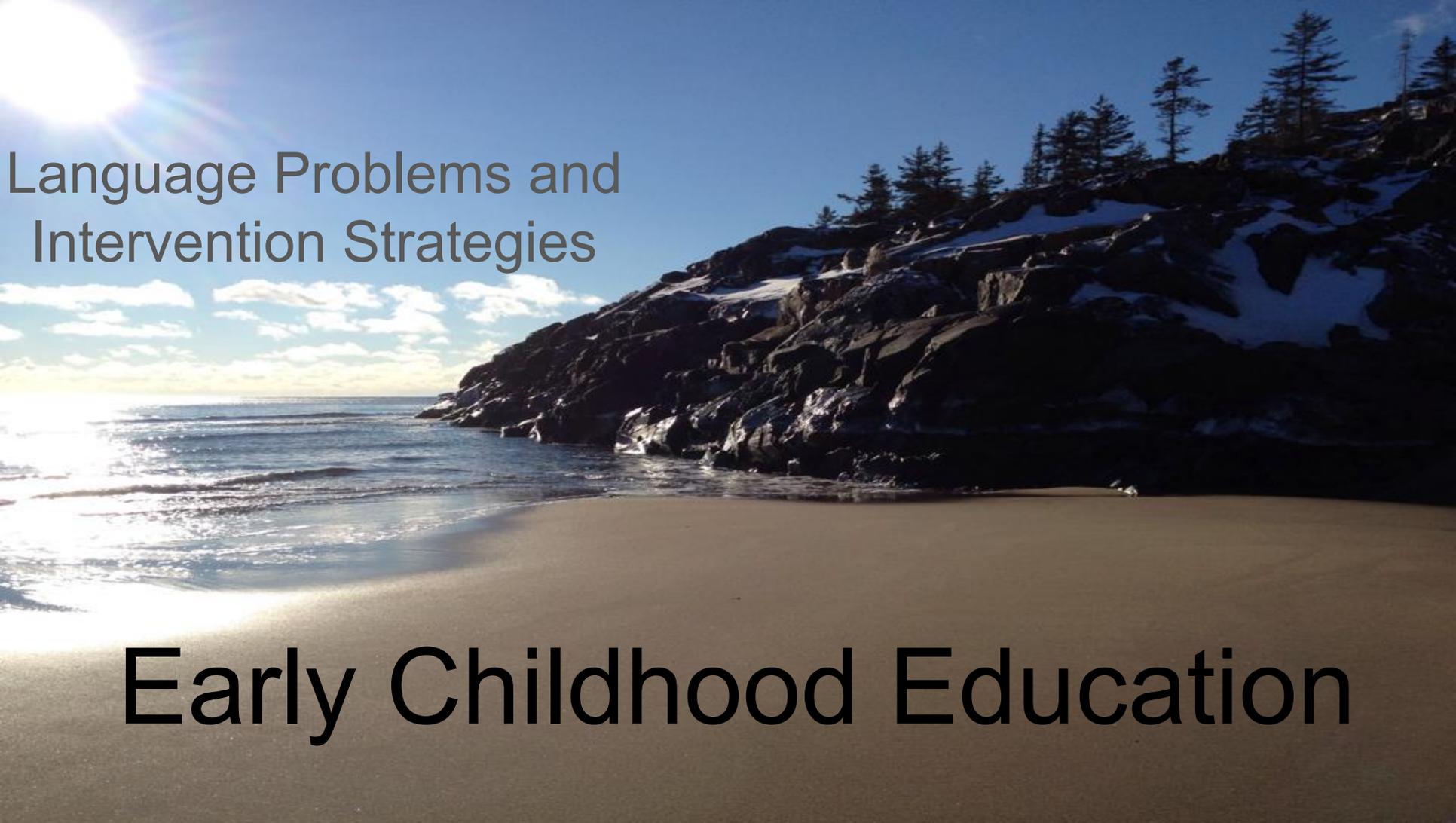
Language Problems and Intervention Strategies

Early Childhood Education
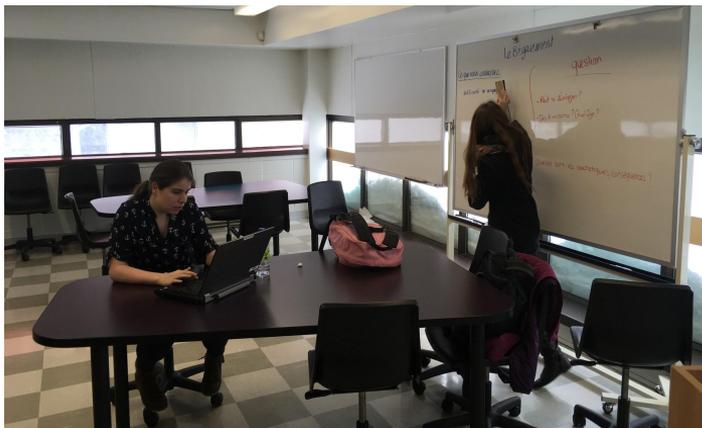
Step 1: Teams of two research different language problems

Step 2: Whiteboard -other teams write what they know and questions;

**Step 3:** Teams complete the information and answer the questions..
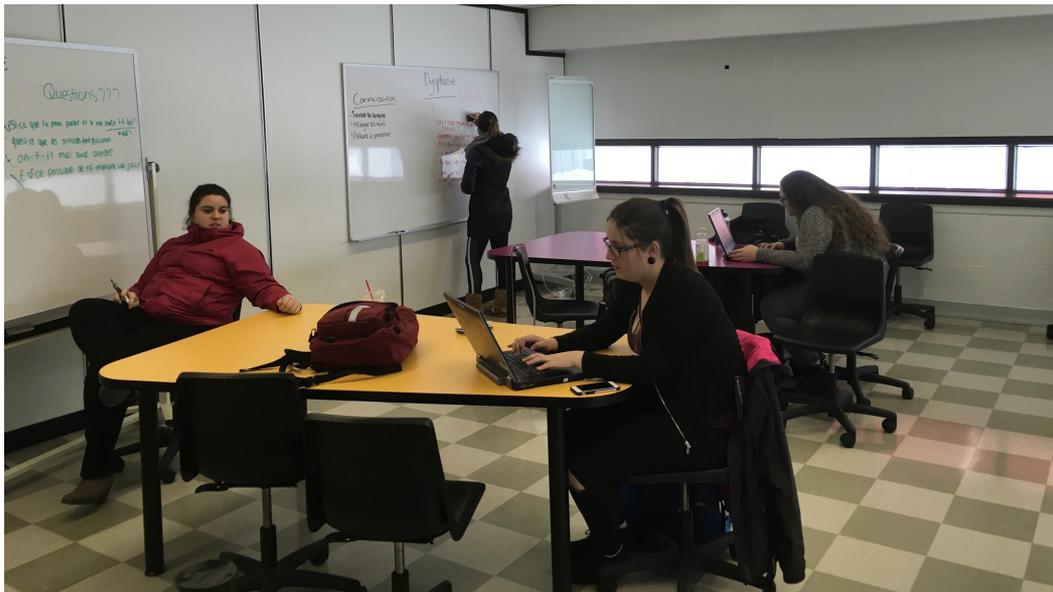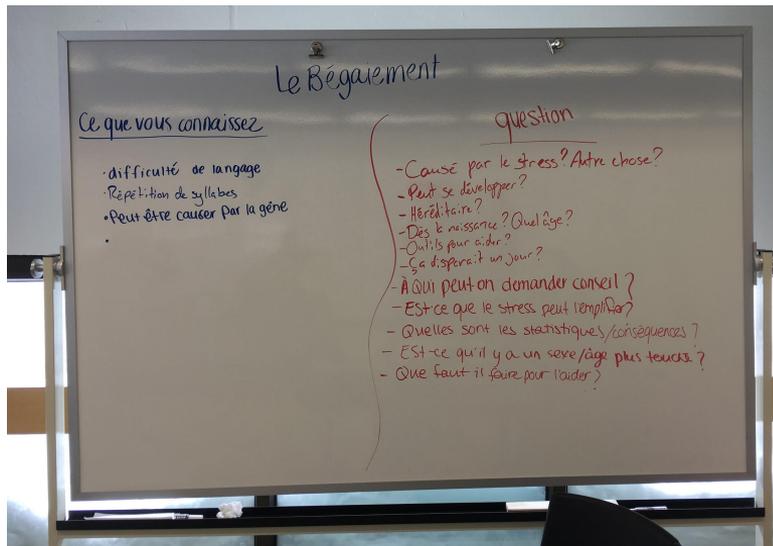
Literature
(French First Language)

Analysis of a Poem in a Large Class

Teams discuss the poem they read at home. They agree on a common understanding of the poem and write the main ideas on the whiteboard.
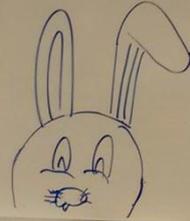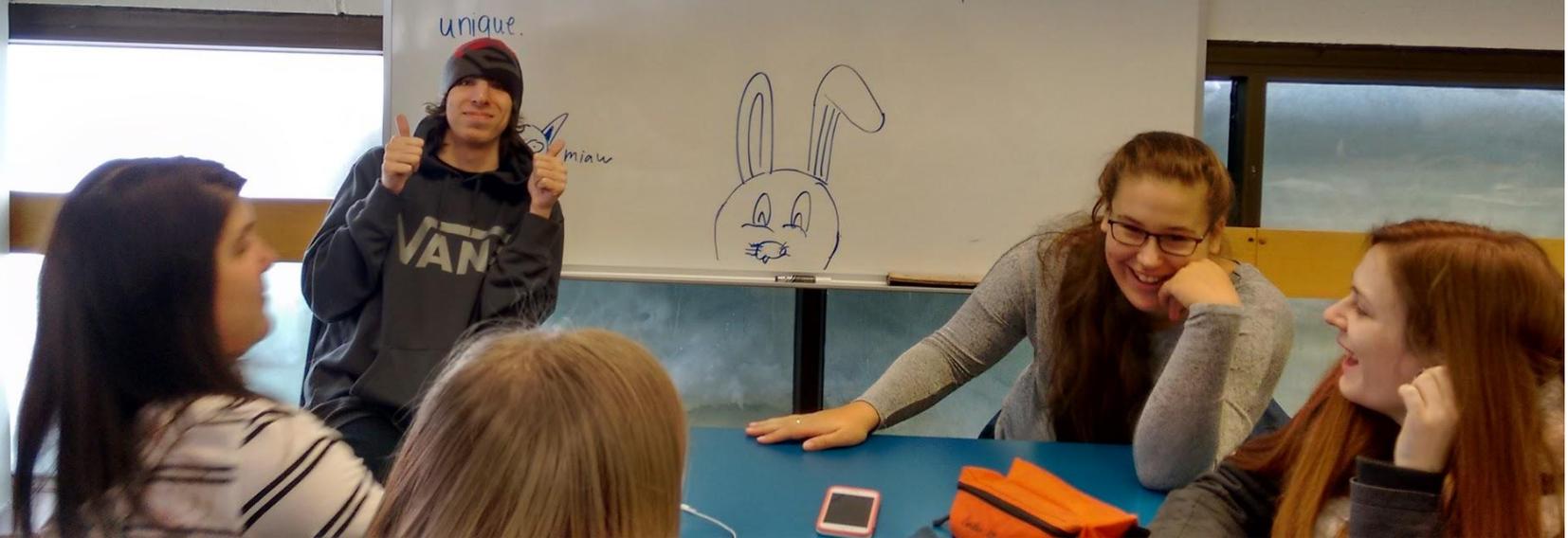
Teams propose thesis statements and supporting ideas they could use for creating an essay plan in a future assignment.

You can do active learning with a large group!

There are 10 guys at this table!

The tables are overflowing with books and computers!

You can see the concentration on the students' faces.

Reflecting on examples of learning activities that work well in the ALC helps us plan for the next ones!

Supporting Collaboration During Active Learning

- Establish and maintain common ground
- Support students in making contributions
- Act as guides in the background

Learning:
Active and Fun!

Cegep de Sept-Îles
Active Learning Classroom

Discussion
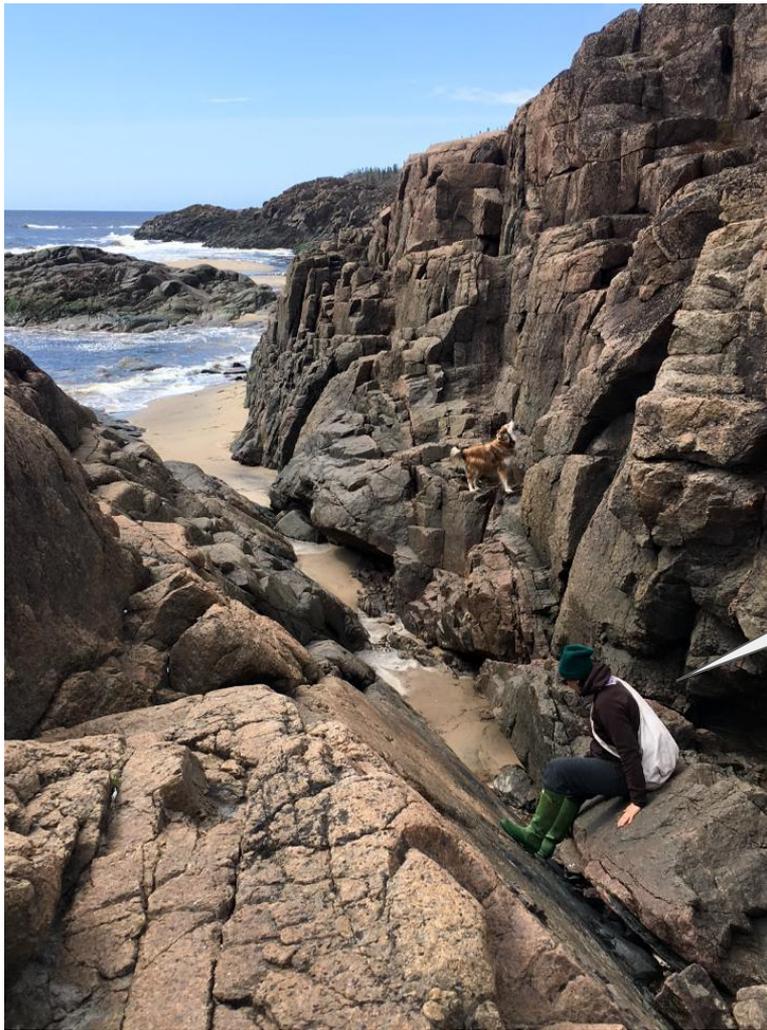
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