LET'S TALK LEARNING WITH OUR STUDENTS

Interview by Stéphanie CARLE, Editor-in-Chief, Pédagogie collégiale



When considering the theme of this issue, I decided to get together with a few students—three young women, one young man, all in their first year (although in different programs, and enrolled at three different institutions)—to discuss their college experiences and perceptions of learning. There was nothing scientific about the process, just five strong, motivated students who took their studies seriously, liked school, and participated willingly with only a box of doughnuts as a reward! While it is impossible to generalize and see them as representing the entire college student body, I felt their thoughts deserved to be heard. Regardless of the findings and research, what learning and teaching strategies did the students in this sample prefer? What academic problems were they experiencing? This interview is also intended to help other teachers determine to what extent their practices promote learning and meet their students' needs and expectations.

PÉDAGOGIE COLLÉGIALE: What learning strategies do you use on a regular basis? How do you study?1

Kaxanne²: In high school, one of my teachers told me we learn when a "door" in our brain is opened—that happens when we're interested. Sometimes it happens all by itself, when I like the subject, but other times the teacher has to open it by finding ways to interest me. I also think you have to do the exercises within 48 hours of the class, in order to make memorization and understanding easier. I try to do that, to practise and get a jump on things, but it isn't easy with all the work we've got! I re-write my notes, too.

Myriam:

A psychologist named Mathieu Gagnon³ came to my college to give a lecture on learning strategies. He said that, because the best memorization strategies are those that require the most effort—and necessarily slow down the pace of learning—you tend to quickly forget what you've memorized, as people prefer the easiest strategies, despite the fact that they're the least useful in the long term. To learn how to memorize, you have to train your mind to effectively remember or reproduce the information you'll need; you can't just "pile up" knowledge willy-nilly. He also mentioned that rewriting notes isn't effective; what you should do is use your memory to establish a concept map with key words, for example, or give yourself little tests or quizzes. This is based on the principle that, the more you train yourself to retrieve information from memory, the more easily you'll be able to do so in the future. To learn a concept, the best method is to vary the type of studying activity—for instance, by writing a summary of what you remember about a particular topic, and, a few days later, establishing

a concept map on the same subject. Before an exam, you can then prepare flash cards for studying. It seems you don't necessarily have to master all the material before going on to another exercise or more difficult concepts: sometimes "skipping ahead" can actually make what you've already explored easier to grasp. By doing the exercises, you end up understanding things that were unclear at the beginning. He recommended reading more slowly and reflecting on what you've read, asking questions like "Why?", "Do I agree with this?", and "What does this make me think of?". That's because you don't remember much of what you've read, but you do remember what you thought about while you were reading. He also said you should stagger your homework and exercises over time; instead of going at it for four hours steady, for example, it's better to do 30-minute sessions several times a week, and change subjects. In short, he said to vary the information to be memorized or practised, as well as learning methods, and space out the time you spend on assignments. But I don't think that works for everyone. I get what he was saying, but I don't

- ¹ The discussion obviously did not take place as described here; the interview template has been redesigned, and remarks have been grouped together into
- ² The first name of the students have been replaced by pseudonyms chosen by the students themselves.
- ³ Mathieu Gagnon teaches psychology at the Université de Moncton. Since 2013, he has been conducting research on study habits and students' beliefs about the mind and memory. Mr. Gagnon is a frequent guest speaker at various colleges and universities. For more information, readers can view his many video clips or contact him at mathieu.gagnon@umoncton.ca. (N.B. He is not to be confused with the Mathieu Gagnon who teaches education at the Université of Sherbrooke and wrote an article on epistemology in the fall 2015 issue of Pédagogie collégiale vol. 29 no.1!)







always follow his advice. If I have dates to learn, I don't see any other way to memorize them except by cramming. And when I'm focused on an assignment, I don't notice the time passing, and often put in way more than 30 minutes!

Andréa:

I have to be motivated in order to learn, or nothing sticks. In courses I like, learning just happens. To learn, I have to listen in class and take notes. To study, I write down key words or explain the subject to someone. I know the difference between long-term memory and short-term memory, and that you have to store knowledge in the former, but most of the time I study a lot just before an exam and only for the exam, and afterward I forget everything I'd memorized. I know it's wrong, but that's just how I am; the only time I have to study is often just before the exam, because... there are always other exams!

Virginie:

It helps me to explain the material to someone, too. I even talk about it to my mom, even if she doesn't understand a thing! I often re-read my notes, and I do all the exercises.

Steven:

I'm lucky: once I hear an explanation, I learn and remember it. I just have to listen in class and study a bit the night before the exam. I can't study earlier than that, because, with everything there is to do, I just don't have the time, even if I manage to get a jump on things during breaks between classes. In my field, you have to practise a lot, so I actually practise more than I study; it's a different kind of learning.

What helps you learn? How could your instructors make learning easier?

Roxanne:

I need clear instructions, because I often don't understand what the teacher wants, and that makes it hard to answer questions and do homework. Also, sometimes the exams are harder than the exercises, which takes me by surprise during assessments. With assigned reading, I can't figure out what's important or understand everything; I need the topic to be explained beforehand if I'm to properly comprehend what I'm reading. Something else that's crucial is the teacher-student bond: I like it when my teacher have confidence in me, enhance my self-esteem, and don't show any favouritism. Ties with my classmates are also important, but it's not easy making friends in our courses. Teachers could help students establish relationships with other students by organizing

activities during the class. My favourite teachers are super-dynamic, funny, and passionate, and give interesting examples.

Myriam:

I like interactive lectures, but the teacher has to be animated and use his hands, move around the room, ask questions, and speak loudly enough—in other words, he has to be able to keep me awake! That means using different strategies. I like it when teachers take our preferences into account. I'm a visual learner: I have to be able to see things clearly spelled out, and read. If I'm just expected to listen, I doze off, especially at eight in the morning! And if all the teacher does is repeat the chapter we read beforehand, I really don't feel like attending; there has to be more to the class than that. It also helps me learn when the teacher gives examples and tips. I like knowing that he's there for us, that he makes an effort so the material doesn't go over our heads, because, after all, we're not the experts! Another important aspect is course weighting. The teachers will tell us it's normal to be overloaded with work at times, that everything evens out in the end, but it seems we're always overloaded! And I like it when there's time in class to do the exercises, so students can help one another out, and the teacher is there to answer our questions.

Andréa:

I like lectures, too! Better than working in teams. But the teacher has to be dynamic and speak loudly enough that you can hear him at the back of the room; he also has to give a lot of breaks. I need time to think, whether by doing exercises, talking with my classmates, or just taking a walk. When the teacher puts several hours' worth of lectures on line, it's heavy going. It helps me learn when he gives examples of everything that will be on the exam. I like having an example of each of the situations that might occur. At some point, a light bulb goes on in my head, and I realize how to solve the same problem in a different situation. But, before the exam, the teacher has to help us make connections and ensure we've learned what we're supposed to have learned. Asking us if we've understood is a way of showing concern but, if no one answers, it may be because they don't understand; the teacher should review the material and try to explain it another way and help us get it. And, if there are readings assigned, I need to know before I start what I should be focusing on, so I can look for the information.

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Virginie:

When I feel my teacher likes his students, it helps me learn. He'll take time to explain things properly or repeat it another way if we don't understand; he won't just read from the book in class, when we've already done the reading the night before at home. He'll propose us to do activities instead of talking all the time and putting us to sleep. He'll look like he wants to teach us; he'll be full of life. There is a lot to memorize in my program, and it isn't easy to learn, but I know it will be useful in my field: our instructors tell us how it will come in handy. So that motivates us to learn.

Steven:

I also find the best teachers are the ones who like what they do; it's obvious, you can see it. We also feel they understand us, that they're able to establish a relationship with their students. It's important for me to have a good rapport with my teachers, to feel like I count. It makes learning easier when they're interactive, give specific examples, speak loudly and clearly, and show a certain joie de vivre. I like it when they give us little breaks or make jokes.

Do you like working in groups or in collaboration with your classmates?

Koxanne:

If I get to work with friends, for sure! If not, working with other people scares me a bit.

Myriam:

It depends: if it's a big assignment, I want to be able to choose the people on my team. I had a bad experience once with someone who'd failed the course and was repeating it; he didn't attend classes, and only showed up for exams. Obviously, group work wasn't really possible! But if students are working together on something during the class, if it's more of a social activity, then it's fun to meet people.

Andréa:

When it comes down to major assignments, I have a hard time working on a team because I don't trust others and often find I end up doing everything. I go over the sections other people have done and correct their mistakes.

Virginie:

In my program, there is a lot of group work. We all explain what we've done and compare answers. I find it really helpful.

Steven:

It depends on the course. In my concentration courses, it's great! I love working with motivated people, the ones I know. But as far as mandatory

courses go, it's less stimulating; it's not easy working on a team when you don't know the other people involved.

As college students, what do you consider obstacles to learning?

Roxanne:

When I don't understand what the teacher is saying because the vocabulary is too technical or theoretical, I can't learn anything because I can't follow! And, if the teacher doesn't know how to use new pedagogical strategies, that's not productive either. One of my courses is set up like a flipped classroom, but even if I watch all the videos at home, the way things are organized doesn't help me understand, as there isn't enough time to ask questions and do all the exercises in class.

Myriam:

In some of my courses, we have to learn a lot of formulas by heart, as we can't use the formula sheet on the exam. But I wonder what's more important: that I know all the formulas by heart, or that I can understand and apply them? I also sometimes have the impression of lacking strategies for learning; I'd like my teachers to give me more help, steer me in the right direction, and explain what they expect in terms of performance. When I don't have the marking grid in advance, I can't really meet those expectations, because I don't know what they are. I don't know what to focus on, and afterward I can't see what I should do to improve! I also have trouble staying motivated if a course involves nothing but wall-to-wall lectures, especially if the teacher just talks and repeats what's in the textbook. I really have to fight to stay awake! Or maybe the teacher will say that this week is going to be tough, because we're behind and have to catch up. Really? Didn't the same thing happen the week before? And so he charges ahead without worrying about whether or not we've understood. We end up with a ton of things to do at home in order to make up time, and exercises to do on aspects that haven't yet been discussed. At the beginning of the year, they told us to maintain a good work-life balance, but school takes up all my energy; I don't have any time to relax!

Andréa:

I have a few examples: a teacher who takes too long correcting an assignment; a badly programmed test on Moodle that makes me start over eight times before I can submit it; fill-in-the-blank exercises;





telling me something's easy when I can't understand the material; and not having enough time to do all my assignments and redo the exercises I hadn't understood.

Virginie:

There's a lot of homework, and what we're asked to do at home often seems a lot harder than what we took in class. Some teachers say: "Come on, it's easy, how can you not understand?". Well, I just don't, so maybe you could help me instead of treating me like an idiot.

Steven:

There are instructors who think we know so much that they talk to us like we're already experts. But I've never come across this concept in my life, so explain it, please! Sometimes I have the impression I need to memorize an entire dictionary. We're assigned reading that I don't understand, especially in French. Given that I don't know all the words in the first place, if there are rhymes or Old French, it's even more complicated! For students in their first term at CÉGEP, it's hard when teachers don't realize what level we're actually at. •

FOOD FOR THOUGHT FOR EDUCATORS

As a pedagogical advisor, I felt I had to do more than simply record what my interviewees said. The following pages therefore contain food for thought for educators hoping to consider new ways of helping students learn. Despite careful course planning, could certain factors that promote learning have escaped us, or might we not have emphasized them enough? The students I talked to led me to believe that sometimes we, as educators, fail to take their needs, abilities, progress, and preferences into account. Furthermore, there seems to be a disparity between what students understand and what is recognized by the research as facilitating learning. As concerns learning strategies, one of the students mentioned she prefers to use easier study techniques, even though she realized they are less effective; it is as if, for certain students, potential gains in performance are sometimes outweighed by the effort required. The same would appear to hold true for pedagogical strategies: students may not find them helpful, but sometimes we must look beyond their preferences in order to truly help them learn. If they grasp why their teachers use a given method, they will be more included to actively participate in class and "play the game". It is a question of finding a balance between stimulating students' interest, motivation, and feelings of competence on one hand, and implementing triedand-true practices on the other.

AVENUES FOR HELPING STUDENTS LEARN

USE PEAK LISTENING PERIODS TO PROMOTE RETENTION

To promote the retention of knowledge, teachers would do well to use the "beginning-and-end effect" (Sousa and Sirois 2002). Generally speaking, for any given learning period, students tend to remember what was discussed at the beginning and the end of a sequence, with what happened in the middle not recalled as precisely. Ideally, therefore, there should be several sequences with beginnings and endings, so as to multiply these key moments during which students' attention is at its peak and reduce the number of those where it is at its nadir. Some authors recommend 20-minute sequences interspersed with exercises, question periods, collaborative activities, or breaks (Aylwin 1994; Sousa et Sirois 2002). In other words, instead of a long 60-minute period, the class could be broken down into three 20-minute sequences.

Accordingly, teachers should present their new material at the beginning of the sequence, and provide reminders or a review at the end. A good way to wind things up is to have students write a summary, find a personal example, or even draw up a concept map (or mind mapping) relating to the class content, which will help them discuss the latter in their own words and process the concepts in an in-depth manner (Svinicki and McKeachie 2011).

MAKE COURSES MORE DYNAMIC

The students interviewed specified liking lectures provided they were interactive and lively. At a minimum, therefore, teachers should stand and move about the classroom, use their hands, and employ visual aids like PowerPoint presentations (not just reading out what's on each slide, though; that's just boring!). Asking students questions, ensuring they've properly understood the material, explaining again where necessary, giving specific examples, making jokes, and encouraging discussion are various ways to capture the class's attention (Bain 2004; Prégent, Bernard, and Kozanitis 2009; Svinicki and McKeachie 2011).

The students also appreciated a sense of humour, but not everyone is a comedian! Still, teachers do not have to be funny; they just have to use humorous material (Sousa and Sirois 2002). A copyright-free cartoon, quotation, riddle, or joke from the Internet can make students sit up and listen and create an atmosphere conducive to learning.

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PROMOTE SIGNIFICANT RELATIONSHIPS WITH AND AMONG STUDENTS

The social dimension also appeared greatly important to my interviewees, as concerns both their teachers and their classmates. They seemed to learn better when they felt confident and sensed that the person at the head of the class genuinely cared about their welfare.⁴ To eliminate feelings of isolation and help them get to know one another, especially in courses involving students from different programs, teachers might want to involve them in a 30-minute ice-breaking activity at the very outset. For example, students could be asked to form teams of two and interview each other in keeping with a predefined list of questions (name, program, strong points, expectations of the course, favourite characteristic in a teacher, etc.) (Aylwin 1994).

The brain easily detects structure, attempting to organize and give meaning to all knowledge acquired.

HAVE STUDENTS WORK TOGETHER, TAKING THEIR PREFERENCES INTO ACCOUNT

As regards collaborative work, the students interviewed were not all in favour of this type of strategy; some preferred lectures (again, as long as they were dynamic). The fact that I talked with "strong" students probably played a role here—unless they were also introverts! Of course, introverts can be quite socially skilled, but simply prefer moments of solitude and need time alone after extended periods of social interaction. Extroverts tend to think out loud, easily participate in discussions, and prefer to interact with their classmates. It is important to ensure that pedagogical strategies be developed and used for both types of individuals, by varying the kinds of activities or, where appropriate, letting the students themselves choose the activities they prefer (Monahan 2016).

Teamwork requires students to be independent, organized, and able to manage sometimes delicate interpersonal situations (Proulx 2009)—skills not everyone has. As a result, it is vital to adequately prepare them for this type of activity, to give them the basics and provide guidance so the experience results in the learning desired. As far as team make-up is concerned, small homogeneous groups (whose members have a special affinity) are more effective than heterogeneous ones, and the ideal number of participants is three (with a maximum of five) (Proulx 2009). The students I interviewed mentioned they preferred to work with friends or classmates at

the same level as themselves; allowing them to form their own teams would likely promote the effectiveness of the learning gained during the process.

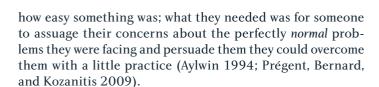
PROVIDE GUIDANCE

My interviewees also said they needed guidance—i.e., they wanted to know what they had to learn, why, and how. What are the common mistakes to be avoided? What aspects of the material that have already been mastered can be implemented? What dimensions have not yet been understood or mastered, and what should students do in order to rectify that situation? Teachers must ask themselves these and other questions throughout the session if students are to master the learning involved. Of paramount importance in this regard is the syllabus, which sets forth the course's main objectives and links with the curriculum. Although teachers often consult only those parts of this document that deal with assessment (which, admittedly, is students' main concern), it also contains other information on course's position in the overall curriculum and the goals students must achieve by the end of the term, which helps them provide guidance and reassure students as to what is expected (Aylwin 1994; Prégent, Bernard, and Kozanitis 2009).

The brain easily detects structure, attempting to organize and give meaning to all knowledge acquired. To shape learning accordingly, teachers might want to use the analogy of a tapestry, presenting a comprehensive overview of what is to be learned and subsequently weaving in new information. Students could then be helped to develop a weft of threads composed of vital items of knowledge or points of interest that anchor more complex structures. Over time, a coherent, organized fabric of knowledge will be woven (Hourst 2005).

Meta-explanations on the subject also help teachers direct students' attention to what is important or focus on the links to be established with the material to come. They can also be used to point out potential pitfalls and the means to avoid them—for instance, by situating content in the overall curriculum context or describing the level of difficulty involved (so students do not feel incompetent if at first they do not understand) and showing them they must not give up, that there will be a light at the end of the tunnel. The students I interviewed mentioned repeatedly that they disliked being told

⁴ Several articles on the issue on the teacher-student relationship (*Pédagogie collégiale* vol.28 no.4, 2015) offer a number of suggestions on how to establish a meaningful relationship with students [aqpc.qc.ca/revue-volumes/ete-2015].



They also seemed to put a premium on easy-to-understand information. As teachers, we sometimes forget that, although the jargon is familiar to us, it may be a foreign language to our students. "Axiom", "speculation", "heritage", and "mediation" are a few examples of terms that are simple for specialists in the field, but do not necessarily evoke a clear image in the minds of students. The latter could be given a glossary at the beginning of the semester or provided with definitions in footnotes, or simply asked to raise their hand if they do not understand. The idea is to promote a feeling of self-efficacy, as this encourages students to participate more, work harder, demonstrate positive emotions, and learn more effectively (Bain, 2004; Svinicki and McKeachie, 2011).

Every verbal and written instructions on how exercises and assessments are to be carried out should be as clear as possible, so as to ensure the answers and assignments we expect are, in fact, the ones we receive. By and large, an instruction or question should comprise three components: the general context involved, the ultimate goal of the assignment, and the characteristics of the answer or result expected, with criteria established to determine the correct responses and quality of work (Dufour and Tessier 2012).

...the mistakes students make constitute a powerful tool, enabling teachers to determine how the learning process is progressing; ...they provide indicators of the mental hurdles students are facing.

The diverse mistakes students make constitute a powerful tool, enabling teachers to determine how the learning process is progressing; they act as flags when students misunderstand or fail to understand—the material, and provide indicators of the mental hurdles students are facing (Astolfi 2015). Accordingly, feedback is the best means of showing students if they are on the right track, as well as what they have to correct and how. Providing them with a scoring rubric is extremely useful in this regard; in addition to constituting a fair and equitable means of evaluation, rubrics, when presented to students before a particular assessment (assignment or exam), clearly reflect the teacher's expectations, the criteria in question, and the standards to be met to obtain a passing grade. As we know, learning assessment is not only used to determine failure or

success, but also serves a significant formative function (Côté 2015). Simply underlining something or writing "no" in the margin will not give students enough information about what they have not understood or what needs to be improved. When commenting on students' work, teachers must choose their words wisely: a remark such as "Idea unclear; to be reworked" doesn't really help, because the verb "rework" is rather vague. A comment like "Rewrite your conclusion by systematically summarizing the main ideas developed in your text", on the other hand, is much more helpful, as it identifies where the fault lies and suggests a specific means of improvement (Roberge 2009). It is also important to underline what students have done well, so they can transfer that knowledge in the future.

AVOID COGNITIVE OVERLOAD

My interviewees all mentioned being overloaded with work. If strong, dedicated students are finding it hard to do all their assignments and reading, what must it be like for the rest? As specialists in a given field, teachers occasionally find it hard to determine exactly how much time their charges need to do an assignment. The students I talked to mentioned having to consult online dictionaries to clarify the meaning of words, read a Wikipedia article on an author in order to better grasp the fundamentals or context of an assigned text, and having several "misses" before finally being able to use a new software program. Teachers must realize that this kind of extra work adds to the time needed to do an assignment. To ensure that homework does not exceed the number of hours prescribed in the course weighting and limit stress and cognitive overload, we must strive to be aware of students' overall workload by regularly checking in with them and determining how they take advantage of learning moments outside of class.

If we occasionally have the impression of lacking class time to go over all the material, a strategic choice of content may prove necessary; didactic questioning offers some solutions in this regard (see Authier 2014). Identifying the essential knowledge that will enable students to master course competencies requires considerable effort: teachers must sometimes make a difficult choice between what is vital to teach and what they enjoy teaching, between what students absolutely must learn and what they can continue to master at university or in the workplace (Authier 2014). To take Hourst's analogy, we should ask ourselves whether students must really weave the entire "tapestry" of knowledge in their college years; it may be preferable to concentrate on certain aspects only, letting other program courses or work experience fill in the rest of the picture. Such "paring down" will ensure that students retain

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what is most important, and give teachers more time to help students master the concepts in question, thereby promoting the assimilation of essential knowledge.

CONCLUSION: MAKE STUDENTS YOUR FOCUS

The main thing I realized while discussing with the students is that they learn better when they are the focus of the teacher's attention. There are a number of factors that influence learning; the question, for teachers, is how to decide which are most important, and act on that knowledge. Denise Barbeau, in a 2009 interview published in *Pédagogie collégiale*, suggested classifying these factors in accordance with two main questions that should be asked by all teachers preparing for a course: "Where do I want to lead my students?" and "How will I be able to guide them in developing both this knowledge and these competencies?" (Doucet 2009). In attempting to answer these questions, teachers will already have begun to promote learning.

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