

Priming Students for Self-Directed Learning

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Overview of the problem:

- Few students have thought very deeply about why they are in college: most explain their presence in terms of getting a job, social expectations, inertia or some other externality. When pressed, they may talk vaguely about education and/or learning, but...
- Few students have thought carefully about what learning is or how to do it. Aside from a few simple strategies like memorizing facts and drilling to develop skills, very few students know very much about how to learn. In many cases, students' ideas and practices around learning are unhelpful or even counter-productive—e.g., “I study best with the TV on,” or “I work best when I’m multitasking.”
- Many students also have a mindset that intelligence is fixed—and that they are just not very good at certain disciplines and/or kinds of learning. Students may say, for example, that they are “not good at math,” or “not a good writer.” Such beliefs negatively affect motivation and performance.
- Most students are passive about their own learning: they’ve been trained to follow directions and to leave the big questions about what to learn and why to their teachers. They’ve learned that they will be rewarded if they just follow the path laid out for them by others (teachers, parents, counselors, etc.). Again, this passive stance negatively affects engagement, motivation and performance.

The activities described below use the first-day-of-class introductions to help students discover their real goals for attending college. Once they have committed to more substantive goals, follow-up activities help them explore how their existing beliefs and practices related to learning get in the way of their ability to achieve their goals. These activities have been tested in a wide variety of classes and have noticeably increased students' motivation, engagement and academic performance. Moreover, those gains have proved durable, largely because these activities help students become self-directed learners.

Foundation: Student Introductions with The Four Questions

The foundation of all these activities is a particular method for having students introduce themselves. This method includes five key elements:

1. Instructions to students - Here's a sample script from a business writing class:

“This is **important**. We're going to begin with introductions, but these will be professional introductions, and they will serve a couple of specific purposes beyond the usual social ones. First, your introductions will help us define the audience for this class. Perhaps the most important concept in this course is the idea that the effectiveness of all communication is determined by audience. We need to know each other to communicate effectively, so your introduction should help us understand the most important dimensions of your personality. Second, in a couple of weeks, you are going to be forming teams that will work together on projects for the rest of the term. You need to get to know each other so that you can choose your team and colleagues wisely. Third, this is an opportunity to practice one of the core ideas of this course: shaping your professional persona. Who do you want to be for this class for this quarter? You have considerable freedom to define how you will be known in this class; use it well. Think of this as your elevator speech: the purpose is to get people to remember who you are and what you're good at. It must be **memorable!** Your introduction will be built around the following 4 questions: Who are you? Why are you here? Where are you going? What do you want? Take five minutes and think about how you want to introduce yourself. Be creative but remember that this is a *professional* introduction. Your intro should be about a minute, no more than two minutes. You're going to answer the same questions in writing for homework, so you might want to hang onto your notes.”



- The instructions to students **must include** these five core elements.
1. Students must understand that this exercise is **important**. We usually reinforce this point by linking the self-introduction to some central objectives or elements of the course.
 2. Students must understand that the objective of the self-introduction is to be **memorable**.
 3. Students must have time (~5 min) to **think** about and **prepare** their introductions.
 4. The specific four questions are important because later analyses build on these specific points and because these questions are densely interrelated.
 5. Students must confirm that they understand the assignment and that they are confident they can complete it.

2. Give students time to prepare. For this exercise to work, students have to have been given the opportunity to respond thoughtfully to the prompts.
 - We usually say they have five minutes, then give them seven or eight minutes to prepare.
 - We usually provide a large index card for them to write on.
 - We remind them to retain the card so they can use their notes when they write up their introduction as homework.
3. Do the introductions.
 - We usually go first to ease some of the tension and to set an example. To make our introductions memorable, we offer a couple of anecdotes that illustrate our answers to the four questions.
 - We make a point of taking notes very visibly as the students introduce themselves.
 - We also instruct the TAs, or peer educators to take notes as well.
4. Give the students a break. This is not absolutely necessary, but giving students a chance to switch gears and think about something else for a few minutes makes the exercise work better because it allows them to forget most of what they just did.
5. Reflect on and analyze the students' answers. This reflection and analysis has two main components.

First Reflection and Analysis

The first reflection and analysis aims to get students to think more carefully and deeply about their reasons for coming to college—the question, “Why are you here?”

Procedure:

1. The set up:
 - We generally begin with a gentle prompt, such as “I’d like to push you a little on why you are here. Who will volunteer to say more about their answer?”
 - Ideally, you want to choose a student who initially answered the question by talking about some reason external to his or her personal goals—for example, someone who spoke about getting a good job after graduation, someone who wants to be [fill in the blank], someone whose parents expected them to go to college, etc. (You can use the notes you took on their introductions to make sure you pick someone who had the right kind of answer.)
2. Questioning:
 - You will ask the student a series of questions, to probe the reasons behind the reason that student initially offered. Although the phrasing will vary, these are essentially a series of why-questions. In business, this is called the Five Whys Technique. In our classes, we also call it the Irritating Two-Year-Old Technique. The point is to keep pushing the student to account for why each answer they give is important or valuable or meaningful until they get to a

statement that **will require them to change who they are or how they think in some meaningful, substantive way**. Often, but not always, they will use the language of learning. For example, they could say that they need to learn to think like a particular kind of person (doctor, lawyer, entrepreneur, psychologist, etc.). In other cases, they may say they want to become wiser or more educated, or even more enlightened. So long as they acknowledge that these things require them to change who they are and how they think these answers are all OK. However, you don't want to stop questioning at any answer about students wanting to *get* something, *have* something, or *be* something. You want to keep going until they arrive at an answer that acknowledges their own internal desire to grow and change.

- Once they get to this answer, confirm it with them and get them to commit to it publicly. Reinforce it as a commendable goal—one worth working for. Write it down and let them know that you will be helping them work toward this goal as long as they are in your class.
- Repeat the process with three or four other students until the class sees how it works. Once they can articulate that the only things which count as valid reasons to be here are reasons which require them to grow in ways that college can help them grow, you can assign the rest of the class to finish the assignment at home.
- The homework assignment is to revise their introductions, still using the four questions, but this time thinking more deeply about the answers. We also ask them to include a paragraph of reflection at the end, in which they consider how and why the revised introductions are different from their first efforts.

Second Reflection and Analysis

The second reflection helps students discover how their existing approaches to school and learning undermine their real goals or make it harder for them to reach those goals.

Procedure:

1. Ask the students who and what they remember from their original self-introductions.
 - Usually, they won't remember more than a couple of people (aside from the teacher, who doesn't count for the purposes of this exercise). Resist the urge to prompt them here—let them be uncomfortable for a minute or two. This sets a participation expectation for the class, but it also helps them realize how little they actually remembered.
 - When no one else raises their hand, confirm that this is all they remember.
2. Remind them that the original instructions were to make their self-introductions memorable. Remind them also that you explained at the beginning how important this was and how it was linked to the main goals of the course. Then ask them why they didn't remember very much. Don't give them any answers

here—force them to do the work. It is crucial that they come to these realizations on their own.

- You will get answers clustering around two key concepts.
 1. The first kind of answers focus on the content of the introductions:
 - The introductions were generic—therefore no one stood out.
 - Few people said anything truly unique. That made it hard to remember individuals.
 - The introductions tended to be abstract and to lack the kinds of concrete detail that help you remember someone.
 2. The second kind of answers focus on two internal processes of the students: composing the introduction, and listening to others:
 - Composing: They'll say that they introduced themselves the way they always do, in other classes.
 - Composing: A few will say that they thought about doing a more creative or interesting introduction but didn't because they didn't want to stand out or were worried about what other students might think.
 - Composing and Listening: Many people will say that they didn't think this was important—after all, they've been asked to do this kind of introduction in so many classes over so many years and nothing important is ever based on these introductions.
 - Listening: Some people will say that they weren't paying attention to what others said because they were worried about what they were going to say when their turn came.
 - Listening: Most people didn't take any notes. You may have to prompt them gently for this one by asking them what they usually do in class when they want to remember something important. If the class is receptive, you can ask why no one followed the lead of the teacher and the TAs or peer educators, who were obviously taking notes.

Final Reflection and Diagnosis:

Ask the students what they learned from this exercise.

1. You're trying to get them to think carefully about what their goals for the course really are. (Why are you *really* here?)
2. You're trying to get them to see the gap between what they were told to do and what they actually did.
3. You want them to see how their expectations (based on previous experience) led them to behave in ways that they knew wouldn't accomplish the goals that they were given.
4. This should help them arrive at the main point you want them to get to: their existing beliefs and habits about learning won't help them reach their goals, so **they need to develop new ways of thinking and learning.**

5. Warning! This is dangerous pedagogy.

- Most pedagogical theories stress how important it is for students to experience early success in a class because early success helps motivate and engage them. This exercise provokes an “expectation failure”—a failure that is predictable because the exercise sets up a situation where a student’s normal expectations and reactions will cause them to fail. If you are not very careful about how you interact with the students, they can feel manipulated and/or betrayed.
- For this reason, it is very important that you never make the students wrong. You must let them discover for themselves how and why they failed. You can lead them into the trap, but you must do so kindly and gently, and you must absolutely never shove them into the trap.
- We often talk to the students directly about this issue—pointing out that it is dangerous pedagogy and why. We always explain why we do this exercise (because otherwise, it would take weeks to make the point that they learn better this way in one day). We also explain that this is a unique case and that we won’t do it again—or that we will warn them if we are going to lead them into a similar kind of trap in the future.

Part Two: What is Learning?

Once students have publicly committed to their goals and acknowledged that they will need to learn some new ways of learning, they are ready for the final step. The goal of the final exercise is to help students move from thinking about learning as acquisition of knowledge and skills (Bloom levels 1-3) to thinking about learning as developing new habits of thinking and acting.

Procedures:

1. Ask “What is learning? What does learning mean? How do you know when you’ve learned something” (These are all supposed to be more or less the same question.) Allow them about 3 minutes to compose an answer.
2. Collect the answers on the board in four columns (Understanding, Skills, Attitudes, and Integrations/Habits—USA-1 is the mnemonic), **but don’t label the columns.**
 - You will get answers like the one’s below: you’ll get the most answers in the first two columns, fewer answers in the 3rd column and very few in the 4th.
 - **Understanding:** knowing/understanding something, can explain it, external validations, being able to teach it to someone else, getting it, Eureka!, making a connection to something new, insight, discovery, memorizing, being able to recall, remembering something, understanding the principles, seeing the logic, being able to extrapolate, seeing how it works, epiphany, having enough knowledge to apply it to new situations.
 - **Skills:** being able to do something, knowing how, facility, doing it, mastering a procedure or process, increasing level of proficiency, following

correct procedures, being able to use what I know, being able to apply something in a new situation, acquiring the knack of something, gains in craftsmanship, getting better at something, being able to integrate information and concepts, can recall and apply what I learn.

- **Affective:** learning to like something, feeling engaged, being inspired, being motivated, finding joy, wanting to do more, wanting to practice, looking for chances to use what I know, learning to love something, learning to see the beauty or complexity or artistry in something, learning to appreciate something, gaining confidence, becoming more interested in something, changing attitudes, when I am comfortable with something, when I can play with the ideas, taking ownership, sense of freshness or unfamiliarity, sense of excitement (or fear), glowing—that Aha! moment, when I am confused (also less arrogant, less sure).
- **Habits:** being able to do something without paying a lot of attention, doing things automatically, integrating what I know into my life, using what I know as a matter of course, knowing when to use what I've learned, ability to improvise based on what I already know, applying what I learn to my life.
- When no one has anything further to add to the lists, ask the participants to infer the labels. They will usually get the first two column labels pretty quickly, but you may have to help them with the second two labels.
- Observe that the first two columns are lower-order thinking skills, whereas the second two columns are higher-order skills.
 - Note that almost all the items on the board are in the first two columns.
 - What does that imply about what we think about learning?
 - Probably your habits are built around those first two columns.
 - This shapes how you study.
 - Redefining these things changes the way you study.
- Ask them leading questions about the kinds of learning that happen in the first two columns and how they relate to the students' goals:
 - If you learn a lot of facts for a test and then forget them all in the next six weeks, does that count as learning?
 - If you know how to do something, like factor a polynomial, but you hate it and you never do it, does that count as learning?
 - How long do you think you will remember how to do a task if you never do it?
- The point is to help students realize that learning is really about engaging with the material (an attitude shift) and integrating what you have learned into your life in ways that support your goals (developing new habits).

3. This helps students realize that the kinds of learning in the first two columns won't help them achieve their goals. Once they start to think about learning as changing attitudes and forming habits, they tend to become more thoughtful and self-reflective about their learning.
4. We have found over several years of experimenting with these exercises that they make a profound and remarkably durable impact on student's learning. Students perform better not only in our classes, but throughout the rest of their college careers. The students themselves tell us that their performance gains are due to being more self-motivated and more self-directed in their approaches to learning.

Useful References:

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