



Mind Mapping Can Improve Papers

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I mainly teach undergraduate writing and research methods classes and wanted to share my experiences with mind mapping, also referred to as concept mapping. I've found that using it can significantly improve student papers. It's an excellent innovation that requires student writers to visualize how they would like to approach a writing assignment before they start writing. It encourages them to identify their central idea and graphically illustrate how the main and supporting points advance the paper's thesis or central idea. This approach comes in handy in laying out a structure for the paper before students start writing. When they plan their "route" first, they end up with papers that coherently make their way to a conclusion.

Here's how I introduce mind mapping: On the first day of class, I explain why mind mapping is not only a useful skill in terms of writing papers, but it also is a skill applicable in other classes, in future studies, and in their professional careers. This introduction is important because for most students, mind mapping is a new strategy. If they are familiar with it, they've used it to organize concepts presented in lecture or the text but not to plan papers. It's a strategy that needs an introduction and the opportunity to practice.

After my introduction, I kick off the approach with an exercise that helps

students see the value of the strategy and helps them understand how to do it. I assign sample topic titles and ask the students to work in small groups of three or four to use those topics to construct a mind map. Then I ask the students to share their mind map designs with the class so that we can discuss them together. This process gives

[Mind Mapping is] an excellent innovation that requires student writers to visualize how they would like to approach a writing assignment before they start writing.

the groups feedback and encourages further consideration of how mind maps can be developed. I encourage students to share oral reflections offered in class and written ones recorded in journals students use to track their learning experiences in the course.

Following the group presentations and our discussions, the next step is for students to develop a mind map for the first paper they are assigned to write. I have students submit these and don't let them begin writing until I've approved

their mind map. I want them to start with a map that shows a clear structure for the paper. Of course, the mind map is only part of what's needed to prepare these papers. Students must also find and include references to scholarly work that support the arguments they are advancing in the paper.

To encourage students to take this mind-mapping component of their paper preparation seriously, I include it in the assessment criteria I use to grade their papers. The organizational structure of their papers as laid out in their mind maps will comprise at least 10 to 15 percent of the overall grade in a writing class. This motivates students to work on their mind maps. I am very pleased with how this innovation is helping my students become better writers. 🌱

In This Issue

Classroom Observation: A New Kind of Tool	2
A Teaching Metaphor You Probably Haven't Thought Of	3
More Research on RateMyProfessor.com	4
Getting Started with Blended Learning Videos	5
It Makes a Difference When Teachers Care	6
Academic Rigor, According to Students	8

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Classroom Observation: A New Kind of Tool

Classroom observation instruments are not used all that regularly in higher education, but when they are, the focus tends to be on high-level abstractions (“The teacher was organized.”) or aggregated behaviors (“The teacher treated students with respect.”). Items like these are appropriate, but they do not identify the specific, concrete behaviors observers saw that caused them to come to these more comprehensive conclusions.

It’s difficult to react to this kind of feedback with anything other than a generalized response (“Next semester I’ll work to be more organized.”). Moreover, the links between items like these and improved learning outcomes tend to be loose and indirect. A faculty research team of biologists at the University of Washington has developed an instrument, Practical Observation Rubric to Assess Active Learning, or PORTAAL, that addresses these issues. Their objective was to create “a tool that translates the research-based best practices into explicit and approachable practices.” (p. 13) The instrument “is intended to provide easy-to-implement, research-supported recommendations to STEM instructors [they’re relevant to other instructors as well] trying to move from instructor-centered to more active learning-based instruction.” (p. 2)

So the items to be observed and the ones they recommend that faculty use are those identified by research as having significant impact on student learning. They are specific and concrete. However, PORTAAL doesn’t claim to be a comprehensive list of research-supported best practices. Moreover, some best practices, like organization and showing respect for students, are not communicated by single actions but by collections of them. That caused the instrument’s developers to offer this caveat: “Following the suggestions outlined

in this tool does not guarantee greater student learning, but the tool is a solid, research-supported first step.” (p. 13)

The instrument includes 21 items that cluster around four dimensions, each briefly described and illustrated here.

Practice—These items measure the amount and quality of practice students do during class, as well as how those practice opportunities are distributed across the class session. Items here relate to the number of minutes during a given class period when students have the opportunity to talk about course content, the percent of activities in which the instructor reminds students to use their prior knowledge, and the frequency with which instructors provide feedback on student explanations. The article includes a table for each of these dimensions that references the studies that justify inclusion of the items they’ve selected.

Logic development—These are items on the instrument that aim to measure higher-order thinking skills with very specific behaviors. “To provide students with opportunities to practice their logic development, it is necessary for instructors to formulate questions that require a higher level of thinking.” One simple way to encourage better answers to those questions is by reminding students to provide a rationale for their answers; hence, there is an item on how often teachers do this. Research documents the value of giving students time to think before they answer or discuss answers. The logic behind both right and wrong answers should be discussed, and there are items for this as well.

Accountability—Students must be motivated to participate in active learning classrooms. Teachers typically get students engaged in activities by

A Teaching Metaphor You Probably Haven't Thought Of

“Good Teaching Is Like Good Sex,” proclaims the article title. Don’t stop reading just yet. If you do, you’ll miss a totally serious, insightful, actually downright amazing account of a teaching experience with profound effect.

Teresa Delgado has written about her experience as a brand-new faculty member on a one-year visiting professorship at a Catholic institution, Iona College. The course she was teaching, a religious studies course on Christian Sexual Ethics, had previously focused on Catholic moral theology, and Delgado had decided to shift the focus to include Protestant perspectives as well. It is at this point her story begins.

“By the second week of the course, it was clear to me that students were having a difficult time with the reading. While I did my best to work through the sticking points, the students had lost interest and were becoming increasingly discouraged.” (p. 224) The issue came to a head when Delgado assigned a take-home midterm, with students required to write answers to five of seven very challenging questions. Almost immediately, the protests started coming in. It was too much work. Even conscientious students in the class were voicing concerns. So Delgado backed down, sending the class an email that scaled back the midterm and extended the due date.

And it is at this point the story gets very interesting. Delgado confronted herself with the question of why she’d made the exam so challenging. She identified three reasons. “First, I wanted to assert my authority as a legitimate and strong professor right from the very beginning.” (p. 225) She didn’t want students thinking she was a softy, some sort of nice mother figure. Second, she wanted to make students “fully aware” that she knew her stuff. “I wanted the students to be impressed by my knowledge of the subject matter and to know that this gendered and ‘colored’ body had her act together.” (p. 225) At the time she was

the only full-time Latino/a professor at the school. “I wanted students to be completely convinced that this professor didn’t cruise through some doctoral program on the ‘let’s feel sorry for the minorities’ track.” (p. 225) And finally, she didn’t want students thinking that religion/theology courses were easy A’s. “I sought to break down their assumptions that the subject of religion could be easily learned by listening to a class lecture without having to do the heavy lifting of reading and integrating the material.” (p. 225) She wanted students leaving the class firmly convinced that religion/theology courses were as “formidable” as courses in chemistry and political science.

Her honesty was on par with her level of insight. When she examined what she was teaching, she came to an important realization. “I was trying to convey ... that the history of Christian doctrine around the body and sexuality was a study in the dynamics of ‘power over’: controlling the body and its impulses while conforming sexuality to the power of the mind and reason.” (p. 226) Her insight: that was precisely what she was trying to do in the class. “As a professor, I was asserting my ‘power over’ the students in a course in which I was ostensibly trying to critique and dismantle that very model in relation to sexuality.” (p. 226)

She began the next class with an apology, not just for the very difficult midterm but also for the way her own fears about power and perception had inappropriately influenced the approach she was taking to the class. During that class session, she shared with students a “top 10” list outline of why good teaching is like good sex. “It provoked much laughter and even more discussion because it allowed students to see in a new way that I was thinking about the relationship of sexuality and our student-professor relationship.” (p. 226)

The rest of the article includes that top 10 list and a discussion of each item focused on aspects of teaching. She starts

with number 10: *Even If It’s a Little Awkward at First, It Usually Gets Better With Time*. When a class begins, the teacher and the students are unknown to each other. Delgado writes about her detailed syllabus and how it set out exactly how the course would proceed. “While it was indeed an important starting point, the syllabus did not tell students any more about me and the course than a personal characteristic description on an online dating website.” (p. 227) Number four on the list: *You Can’t Doze Off to Sleep When It’s That Good*. As teachers, we all know when students may be physically in their seats but still not in class. The changes she implemented in her course after that midterm experience changed the dynamic in the course. Both students and teacher were more invested in the course, and there was the sense that when they weren’t in class, they might be missing out on something great. And number one on list of why good teaching is like good sex: *When It’s That Good, Who Wouldn’t Want to Have It for One Hour, Three Times a Week?* And with that she concludes.

This is one of those articles that so clearly demonstrates the power of narrative scholarship. It’s a joy to read because she writes so well and her story is such an interesting one. But its most potent impact comes from how it models reflective practice, a blindingly honest critique of what was happening in the course and how what she discovered motivated her to act. I read this article at the end of a long day. Before I left my desk for bed, I’d sent it to eight different people. Yes, it’s that good, and it really isn’t about sex.

Reference: Delgado, T., (2015). Metaphor for teaching: Good teaching is like good sex. *Teaching Theology & Religion*, 18 (3), 224-232. 🌱

More Research on RateMyProfessor.com

The RateMyProfessor (RMP) site has been around now for more than a decade. As of 2013, it contained 14 million entries for more than 1.3 million professors from 7,000 schools. “Its express purpose is to serve as a resource for other users in their decision-making, in this case students weighing their course options.” (p. 182) Despite its popularity among students, faculty continue to view the site with skepticism. Among several common criticisms is the continuing concern that the students who use the site, particularly those who make comments, are students with extreme views—they loved or hated the instructor, the course, or both. Faculty criticism of the validity of the site is also widespread, which may be a reflection of the larger discontent faculty feel about student evaluation in general. Fortunately, various research projects involving the site continue to appear in the literature. They add to our knowledge, allowing us to confront assumptions and anecdotes with data.

This particular study is framed within a specific discipline (chemistry). However, the authors note, “there is nothing exclusive that would prevent the use of this methodological approach to inform the decision regarding the use or not of RMP information by other departments or institutions.” (p. 184) The study started out wanting to know whether students who contribute to RMP are different from the general chemistry cohort used in this study. The second two questions involved what information available on the site students found valuable and what motivated students to review ratings and contribute to them.

Of the almost 400 students in the chemistry student cohort, only 3 percent had never heard of RMP and only 21 percent had never used it. Sixty-three percent reported they used the site but did not contribute ratings, and 13 percent contributed ratings and/or comments.

Of the six rating criteria students use on the RMP site, this cohort considered the [instructor] helpfulness, overall rating, and clarity the most important sources of information. Easiness of the course was second from the bottom but still garnered a positive (6.2 out of 10.0 rating) score. However, these results do justify the researchers’ conclusion that their data challenge the faculty assumption that students are visiting the site primarily to find easy courses.

Also of note were the rankings given

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24 possible reasons (mostly drawn from previous research) for contributing to the RMP site. The reasons were a combination of positive and negative statements, with a few considered neutral. The six top-ranked reasons, with scores between 7.6 and 8.0 out of 10.0, were all positive statements that “described overall satisfaction, especially with the instructor, but also with instruction and the course.” (p. 191) The first negative statement—“I thought the instructor was not at all helpful”—appeared in the second group, with the highest proportion of negative statements in the third (out of four) groups.

Using a unique empirical approach, these researchers identified two categories of respondents—a group that preferred learning over grades and a second group that was ambivalent. Even

though the data did not allow researchers to “identify a group that was exclusively inclined toward grades over learning, the learning/grade ambivalent group was not completely neutral in its preference.” (p. 194) As they explain, the key question is whether grade-oriented students who contribute to RMP are different from those who are learning oriented. “The association test showed that there was no statistically significant difference in the membership of the RMP groups as a function of learning/grade orientation.” (p. 194)

The researchers conclude, “In the present study, we have presented evidence contradicting common assumptions about students who use and contribute to RMP: (a) contributors are substantially different from the rest, (b) that RMP visitors are especially drawn to the site to gather information about course/instructor easiness, and (c) that ranting and raving are particularly important motives for students to contribute to RMP.” (p. 196) “Our evidence adds to a growing body of research that points at RMP as a source of information that should be considered seriously.” (p. 196)

In addition to these interesting findings, this study describes and references virtually all the research that’s been done on the RMP site. For that reason, it’s an important resource to have on hand whenever ideas and opinions about the site are being exchanged.

Reference: Villalta-Cerdas, A., McKenry, P., Gatlin, T., and Sandi-Urena, S., (2015). Evaluation of instruction: Students’ patterns of use and contribution to RateMyProfessor.com. *Assessment & Evaluation in Higher Education*, 40 (2), 181-198. 🌳

Getting Started with Blended Learning Videos

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“There’s just not enough time in class with students!” It’s a common faculty complaint, and when students are provided quality course materials they can use outside class, this blended learning approach gives faculty more time in class. A variety of materials can be developed for use outside class. In this article, we’d like to focus on creating video content that students use for a blended learning course.

Blended learning videos benefit students and teachers in several ways: (1) they give students more time to process information and can have them coming to class prepared to discuss and put their learning into practice; (2) teachers can better maximize class time for higher-order, student-centered, collaborative learning activities; (3) the videos help teachers standardize content for core and required classes; (4) students can view and review videos at their own pace and during times convenient to them; (5) blended learning approaches provide teachers an appropriate way to incorporate audio and visuals into the learning process; and (6) these approaches speak the language of a digital generation.

But these benefits don’t accrue automatically. They depend on the development of quality course materials. To help us refine the materials we’d developed, we asked the 300 students enrolled in a general education course we teach what makes a good blended learning video from their perspective. They responded after viewing videos we’d developed. Here is a summary of what we learned:

- **VIDEO LENGTH:** *Students preferred videos that were shorter than six minutes.* If there is more content, we recommend creating several short

videos rather than a single, longer one.

- **ACCOUNTABILITY:** *Students reported that they needed a graded incentive (such as a short pre-class online quiz) to encourage them to watch the blended learning videos.* Accountability quizzes do not need to be worth a lot of points. Our students indicated that simply holding them accountable with any course points was enough to motivate them to view the videos.

Blended learning videos give students more time to process information...[and] the videos help teachers standardize content for core and required classes.

- **VIEWING DEVICE:** *Students preferred to view blended learning videos using a laptop computer.* Nearly all our students said that they viewed the blended learning videos on larger-screen computers or laptops, not their small tablets or mobile devices. We recommend producing videos in higher resolution for larger screens rather than at lower quality for small screens.
- **VIEWING PATTERNS:** *Students appreciated that blended learning videos provided the opportunity to watch videos multiple times.* This is an example of how blended learning frees up class time for teachers. Students are able to answer more questions on their own by rewatching all or part of the videos.

- **BACKGROUND MUSIC:** *Students preferred that the videos not include background music.* They considered it a distraction, in part because they report watching the videos at accelerated speeds, from 1.25x to 2x, which distorts background music. The videos are easier to create without music as well.
- **VISUAL ELEMENTS:** *Students preferred the use of varied visual elements.* Whether providing emphasis by highlighting text, using zooms and callouts, drawing on the screen, etc., we introduce a new visual element every 10 to 15 seconds. Something needs to continually catch the eye of the viewers.
- **CORNER TALKING HEAD:** *Students wanted to hear the professor’s voice but not see his or her head in a corner picture on the screen.* This makes it easier to create blended learning videos, as it limits the self-conscious and distracting aspects of webcam recording. If there’s a need for the professor’s image to be part of the video, occasional full-screen cuts to the prof can be incorporated.
- **EFFECTIVENESS:** *Most students felt that a blended learning approach was an effective way to learn.* Not surprisingly, our students preferred learning videos over assigned reading. They indicated that pre-class videos contributed significantly to their understanding of course content. This too confirms their effectiveness at opening up class time for higher-order approaches to learning.

As for getting started, we recommend this process: (1) identify what information students will *learn* out of class and what will they *do* in class; (2) clearly define what students should learn from the video before starting to create it; (3) create a video script that coordinates the verbal

It Makes a Difference When Teachers Care

That's not a new finding, and it's something most instructors already know, but it's the size of the difference that's often underestimated. Two recent studies, both asking different research questions and using different methodologies, offer still more evidence that the relationship between teachers and students is an integral part of the learning experience.

"While we know a great deal about the kinds of faculty-student interactions students experience, the benefits of faculty-student interaction, and predictors of student-faculty interactions, we know little about what students themselves value in their interactions with faculty." (p. 126) And that's what prompted a faculty research team at North Carolina State University to undertake a qualitative analysis of a collection of feedback students had prepared for faculty. They used an interesting data pool. The institution sponsors a "Thank a Teacher" program, which encourages students to express appreciation and gratitude to professors. The research team used 157 comments written to professors by students who chose to use the program to offer their thanks.

The team used the data pool to answer two questions: (1) What do students value in their interactions with instructors? and (2) Do students express gratitude for interactions that align with National Survey of Student Engagement (NSSE) survey codes? They did find alignment with the NSSE codes, which is important since the NSSE measures of student-faculty interaction have guided much of the research in this area. They also found that this student cohort valued aspects of interactions with faculty that were beyond the scope of the NSSE measures.

Consistent with NSSE, these students valued being able to talk with faculty about what they needed to do to improve their performance in a class. They valued discussion about careers,

including their academic career at college and career options after college. They valued being able to exchange ideas with professors and the constructive feedback some teachers provided. Beyond that, and even to a greater degree, these "students commended faculty for being understanding—especially in terms of devoting time to helping students out of class, caring, enthusiastic, and respectful of students." (p. 130)

This research team points out this about their data set: "Student responses suggest that, contrary to the perception that students value teachers who are merely 'easy' or 'fun,' students value high-quality interactions with faculty members." (p. 131) They value exactly

*"Students value discussion
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feedback...and commend
faculty for being
understanding."*

the types of interactions that research has shown benefit them the most.

The second study explored the relationship between an instructor's self-rated commitment to students and student-rated satisfaction and commitment to the course. These researchers hypothesized that instructor commitment would be positively related to perceived instructor support. In other words, instructors committed to students would be seen by students as supportive teachers. This led to a second set of hypotheses. If students perceived instructor support, they would rate their satisfaction with the course higher, and this perceived support would mediate the relationship between instructor commitment and student satisfaction,

as well as mediating the relationship between instructor and student commitment to the course.

They also used a unique research design. The student cohort consisted of 286 seniors, all graduating with degrees in management and all taking the same capstone course, but in one of five sections, each with a different instructor. So they gave the instructors a survey that measured their commitment to students, and they gave students a survey that measured how supportive they found the instructor, how satisfied they were with the course, and how committed they were to it as well. A rigorous empirical analysis produced data supportive of all three hypotheses.

"Our research found that perceived instructor support, driven by an instructor's commitment to teaching, influences both student satisfaction and student commitment. Students who believed that their instructor cared about their well-being and valued their contributions were more satisfied with their course and had higher commitment to the course." (p. 560)

Findings like these do advance our understanding of student-teacher interactions and relationships even though the findings are not surprising. These relationships have strong impacts on student learning experiences. But the faculty researchers in the first study that used the Thank a Teacher comments do make a point about something that they found surprising. "These types of relationships with faculty are noteworthy enough to promote students to write a thank-you to their instructors, suggesting that these types of interactions are not nearly as commonplace as might be assumed." (p.131) In many of the comments included in the article, students are thanking faculty members for what ought to be considered part of the job—being there during office hours,

CLASSROOM OBSERVATION FROM PAGE 2

giving points—for participation and/or for correct answers. More students have the opportunity to participate if teachers use group work. And correct answers should not always be provided by the same students. These research findings are represented by items on the instrument.

Reducing student apprehension—

Here teachers increase participation not by giving points but by dealing with the fear that prevents students from participation and active involvement. The specific behaviors included on the instrument include praising efforts of the whole class and letting students know that contributions are appreciated. Student fear can also be reduced by framing errors as a positive part of the learning process and showing what can be learned from them.

The PORTAAL tool can be used for classroom observation, although the research team cautions that it's difficult to use in real time and works more reliably if the teacher is videotaped. Then

the instrument can be used to analyze the tape. They also see it as a promising self-reflection tool.

The research team used PORTAAL to analyze the teaching of 25 biology teachers, all teaching in a three-quarter introductory biology series. In addition, they identified two instructors whose implementations of active learning had been shown in earlier research to increase student exam scores. These “reference” faculty were also taped, providing the team with a comparative set of benchmark data.

The researchers found “large variation” in the extent to which individual instructors used the items on the instrument. However, the two reference faculty had values in the top quartile for 52 percent of the items. There was also variation in the extent to which the items were used. For example, in the practice dimension, “more than half the instructors allowed students less than 6 minutes per 50-minute class session to engage in practice.” (p. 10) Notably, the reference faculty allowed 17 and 31 minutes, respectively. Instructors cued students to use prior knowledge in only

4.2 percent of the activities, and only 15 percent of activities involved higher-order cognitive skills. On the other hand, in 60 percent of the activities, the instructors heard student explanations, and over 65 percent of these faculty used some sort of accountability (points, random calling on students, or small-group work). Based on these results, the researchers recommend improvements in the following areas: more opportunities for in-class practice, reminding students to explain answers and giving them time to think before answering, increased participation by calling on students, and better communication about the role of errors in learning.

Reference: Eddy, S. L., Converse, M., and Wenderoth, M. P., (2015). PORTAAL: A classroom observation tool assessing evidence-based teaching practices for active learning in large science, technology, engineering, and mathematics classes. *Cell Biology Education–Life Sciences Education*, 14 (Summer), 1-16. 🌱

BLENDED LEARNING VIDEOS FROM PAGE 5

content with the visual elements; (4) create a slide presentation to accompany the narration; and (5) use screen capture software to record the audio and video.

We recommend initially creating a few sample videos. Make them available

to students (using either a learning management system or YouTube), and then survey students to discover their preferences and feedback about what did and didn't work for them. Student preferences play an important role in developing these materials, but if their preferences aren't in line with what's known about learning, then they

shouldn't be accommodated.

Although creating blended learning videos requires significant work, our experience and student survey responses indicate that the time and effort are worthwhile. We have more class time we can devote to activities that engage students and promote higher-order learning. 🌱

WHEN TEACHERS CARE FROM PAGE 6

helping when students didn't understand, and being respectful of students, for example.

Both studies recommend that faculty development activities focus less on

teaching techniques—the how-to nuts and bolts—and more on the importance of these relationships and how faculty go about forming them and then conveying that commitment to students.

References: Grantham, A., Robinson, E. E., and Chapman, D., (2015). ‘That truly

meant a lot to me’: A qualitative examination of meaningful faculty-student interactions. *College Teaching*, 63 (3), 125-132. 🌱

Academic Rigor, According to Students

Academic rigor is the gold standard for college courses. Faculty want their courses to be intellectually rich and challenging experiences for students. The content they teach is important, and learning it in deep, lasting, and meaningful ways is not accomplished without effort. In research done at an institution attempting to enhance its academic rigor, faculty “perceived learning to be most rigorous when students were actively learning meaningful content with higher-order thinking at the appropriate level of expectation within a given context.” (p. 216) This conception of academic rigor emerged out of data collected from faculty focus groups, a campuswide faculty survey, and faculty workshops. It was an understanding shared by those who teach at the institution.

However, when the research team started speaking about academic rigor with students, their understanding of it appeared to differ significantly from that of faculty. The researchers decided that merited further exploration, so they designed a study with the goal of understanding “how students at our institution understood the term and what, if any, value they attached to it.” (p. 216)

They collected data from student focus groups, a student survey, and student interviews. Students in the focus groups were asked what they thought academic rigor meant, whether they thought it was important, how the institution might become more rigorous, and whether certain kinds of assignments, teaching styles, or environments were more rigorous than others. The 18-item online survey drew 13 items from the National Survey of Student Engagement (NSSE), which assesses academic challenge as one of the indicators of student engagement. It asks, for example, whether the number of books assigned in a course is an indicator of rigor. A self-selected cohort of 440 students (out of 10,000 at the

institution) completed the survey. In the interviews, students were given a list of features of academic rigor that other students had identified in focus groups. Students given the list were asked to graphically illustrate the importance and relationship of these various features.

The focus group interviewees identified the following as indicators of academic rigor: grades, workload, level of difficulty, interest in the material, and to a lesser degree, their interactions with teachers and classmates and being pushed outside their comfort zone. “Analysis of the transcripts revealed that the students did not point to a single defining feature of academic rigor. Rather, they talked about a cluster of related issues.” (p. 219)

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From survey results, the researchers learned, not surprisingly, that 75 percent of the students considered the number of 20-page papers assigned in the course an indication of a very rigorous course. If they had to work hard to meet instructor standards, 57 percent agreed it was a very rigorous course, and 47 percent said the amount of assigned reading could also be an indicator of course rigor. On the other hand, if the instructor expected students to analyze basic elements of an idea, experience, or theory, only 11 percent thought that was a feature of very rigorous courses. Further analysis showed that “there was relative consistency across class levels with regard to the value of academic

rigor in major compared to non-major classes.” (p. 221) As might be expected, rigor was valued more in major courses. The student interviews yielded findings consistent with those uncovered in the focus groups and the survey data.

In working to build a student model of academic rigor, the researchers note that some students “did not have a clear conception of academic rigor.” (p. 223) “At some level, this might simply be a matter of terminology. Even though the interview protocol used a variety of words and techniques to define ‘rigor,’ these are not terms that typically roll off of student tongues.” (p. 226) Other students did have a clearer sense of academic rigor, and they thought that some features of it were more important than others. Both quantitative analysis of survey results and qualitative analysis of the focus groups and interviews confirmed that when asked to define academic rigor, “higher-order thinking elements were conspicuously absent.” (p. 222)

In sum, the results confirm what the researchers suspected. Faculty’s and students’ understanding of academic rigor were not the same. Faculty understanding was more or less shared; students identified a different set of elements, and they didn’t all agree on those elements. The researchers recommend conversations between teachers and students regarding what academic rigor is, why it matters, and the challenges associated with it.

Reference: Draeger, J., Hill, P. P., and Mahler, R., (2015). Developing a student conception of academic rigor. *Innovative Higher Education*, 40 (3), 215-228. 🌳