

Curriculum Mapping: A Before-and-After Look at Faculty Perceptions of Their Courses and the Mapping Process

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Abstract: The increased interest in program- and university-level assessment over the past few decades has led to increased faculty involvement in developing program learning outcomes and performing program assessment activities. Depending on the level of support and encouragement faculty receive from administration and other entities, they may support or resist these activities. Faculty resistance may stem from fear of losing control of their course content, discouragement over previous failed assessment attempts, or confusion from inconsistent leadership. The School of Food Science, a joint program between the Washington State University and the University of Idaho, recently completed a curriculum mapping and assessment exercise that was conducted entirely by faculty. Faculty members teaching undergraduate courses were surveyed about their opinions of the mapping and assessment process both before and after the process was conducted. The goal of the surveys was to evaluate faculty opinion of these processes and how that opinion changed after completing the processes. Faculty members were generally supportive of the mapping and assessment processes, and willing to participate, and this opinion did not change after the processes were complete. The results of the mapping and assessment activities surprised most of the faculty, and they stated that they had ideas to address the issues found during the exercises. Overall, these results are encouraging in terms of faculty support of the mapping and assessment processes. Provided that administrative support of these processes continues and there is consistent leadership, faculty should continue to be supportive of program level assessment.

Keywords: assessment, curriculum, faculty, learning outcomes, perceptions

Introduction

Curriculum mapping is a process of developing a visual map of all courses in the curriculum and evaluating course content to determine if any gaps or excessive overlap exist and to ensure all courses meet curriculum learning outcomes (Harden 2001; Koppang 2004; Plaza and others 2007). Curriculum assessment involves both qualitative and quantitative assessment of student achievement of curriculum learning outcomes (Liu and others 2010; DeBoy and others 2013) through data obtained from surveys, interviews, selected course assessments, and student performance metrics (for example, GPA) (Swanson 2015). Furthermore, it is an evaluation of students' ability to integrate the information learned in individual courses into a cohesive whole (Palomba and Banta 1999). Curriculum mapping and curriculum assessment are becoming more common in higher education, since they can provide data to monitor college and departmental

performance, student learning gains, and degree program success (Liu and others 2010; Oliver and others 2010).

Unless there is a dedicated staff member organizing and leading assessment activities such as curriculum mapping, assessment activities are typically performed by a faculty member or a small faculty group. Faculty attitudes toward these assessment activities can vary widely, from enthusiastic participation to indifference to active resistance. Often, resistance occurs when faculty do not view the activities as being important or view assessment as a threat to their autonomy over course content (Britton and others 2008; Uchiyama and Radin 2009; Oliver and others 2010; Rahimi and others 2010; Swanson 2015). Faculty may also resist assessment activities if these activities are viewed as assessing faculty performance rather than the curriculum as a whole (Rahimi and others 2010). Both passive and active resistance can hinder assessment procedures, as participation (even if grudgingly given) is needed by all faculty members for effective curriculum assessment (Rahimi and others 2010; DeBoy and others 2013; Zelenitsky and others 2014).

Even without significant faculty resistance, it is often difficult to begin and sustain assessment activities without a dedicated

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individual leading the effort. If there is no staff member specifically assigned to lead the assessment procedures, this individual is often a member of the faculty which can promote collegiality and improve effectiveness since the individual leading the assessment is part of team delivering courses and promoting the curriculum. Provided that the faculty member in this leadership role is dedicated to maintaining and improving assessment procedures and is able to stay in an active leadership position, faculty can be continually engaged with the mapping process so that they have ownership of the process (Oliver and others 2010); assessment activities generally occur uninterrupted with this approach. However, if the role of leadership is not recognized, and is passed among faculty members without any continuity or proper transfer of leadership (that is, sufficient training and documentation of procedures) assessment becomes less effective. Furthermore, if there is uncertain leadership, or if there is a lack of dedication to the process among the faculty, then the progress of the assessment process slows or assessment is inconsistent (Hale 2008; Banta and Blaich 2010). Therefore, for a long-term assessment process to be set in place, faculty buy-in to the process is needed, as well as a long-term assessment leader or small leadership team (Banta and Blaich 2010).

Faculty buy-in to mapping and assessment processes can have the additional benefit of promoting faculty collegiality and collaboration (Uchiyama and Radin 2009; Rahimi and others 2010). The traditional culture of university faculty as autonomous and independent is shifting toward a culture that encourages intra- and interdepartmental collaboration (Uchiyama and Radin 2009). Involving faculty in curriculum mapping and assessment allows for sharing of discoveries about the curriculum and pedagogical techniques and resources, as well as providing opportunities for increased faculty communication and research or scholarly collaboration (Uchiyama and Radin 2009; Liu and others 2010). These opportunities extend the benefits of curriculum mapping and assessment beyond an understanding of when and how information is taught and how much information is retained.

The School of Food Science, a joint program between Washington State Univ. and the Univ. of Idaho (in place since 2008), recently completed a curriculum mapping and assessment exercise to evaluate the undergraduate curriculum. This paper will not focus on the mapping process, as that information is given in a companion paper (Joyner (Melito) submitted). Rather, this paper focuses on faculty perceptions of their courses as well as the curriculum mapping process. The objective of this study was to evaluate faculty perceptions of curriculum mapping and how those perceptions changed after completing the mapping process. For this paper, the term “faculty” refers to all faculty members who were involved in teaching undergraduate food science courses in addition to 2 staff professionals who are principal instructors of undergraduate courses. All faculty and staff have their primary appointments are in the School of Food Science.

Faculty Involvement and Assessment

Faculty participation

Throughout the mapping and assessing processes, the purpose of each activity was explained to faculty members and faculty were encouraged, but not required, to participate in the activities. One faculty member (the author) was selected to lead the curriculum mapping and assessment exercise (mapping leader). Faculty members were asked to send copies of the syllabi for their undergraduate course(s) to the mapping leader. The mapping leader

reviewed the syllabi and created draft curriculum maps; maps created included a basic coverage map and a depth of coverage map for each of 2 undergraduate degree options (for details, refer to Joyner (Melito) forthcoming). The mapping leader met with the faculty in small groups to check the accuracy of the maps. Faculty members who were unable to attend the group meetings were interviewed individually to verify the placement of their undergraduate course(s) in the curriculum map. After the maps were created, selected faculty members were asked to send data from 1 to 3 assessments from previous courses to the mapping leader for curriculum assessment, as well as provide benchmarks for competency for those assessments (for example, all students scored above 80% on an exam). The mapping leader compiled the curriculum mapping and assessment data into a final report, which was shared with all faculty in the School of Food Science.

Faculty surveys

Faculty members teaching undergraduate courses in the School of Food Science (9 of 19 faculty and 2 of 17 technical staff) were surveyed pre- and postmapping to assess their attitudes on curriculum mapping and their perceptions of how their course(s) fit into the undergraduate curriculum. Since the curriculum mapping and assessment exercise focused on the undergraduate curriculum, only faculty members who were currently teaching undergraduate courses were surveyed. All surveys were conducted with the approval of the Univ. of Idaho Institutional Review Board (protocol code 14–518).

Pre- and postmapping surveys on both topics were created using Google Forms. Questions from the surveys are summarized in Table 1; the full version of each survey is provided as Supporting Information. Both surveys began with demographic questions, including years of teaching experience, number of undergraduate and graduate courses developed, and frequency of attendance at teaching seminars and workshops. After the demographic questions, statements about curriculum mapping were given and faculty members were asked to rate their agreement using a 5-point Likert scale (1: strongly disagree; 5: strongly agree) with the statements. The premapping survey then asked faculty to answer questions about their undergraduate course(s). Course-related topics included development of course learning outcomes, mastery of course concepts, student use of course concepts, and course assessments. These questions were not used in the postmapping survey, as insufficient time between the pre- and postmapping survey had elapsed for faculty members to make significant changes in their courses. The postmapping survey asked faculty members to rate their agreement using a 5-point Likert scale with statements concerning their reactions to the curriculum mapping process.

Pre- and postmapping surveys were sent out via an e-mailed link. Faculty members were informed that participation was strictly voluntary and that their responses would be kept confidential. The premapping survey was sent out at the start of the curriculum mapping exercise, before any faculty had participated in the current mapping exercise. The postmapping survey was sent out after the mapping exercise, including gap and redundancy assessment and selected competency assessments, had been completed. Faculty members were given at least 3 wk to complete the survey, with a reminder email sent 2 wk after the original email with the survey link.

Data analysis

Survey data were collected automatically in a spreadsheet in Google Forms. Due to the small sample size ($n = 11$ for the

Table 1—Survey questions.

Mapping-related questions	
MQ1	How familiar are you with curriculum mapping?
MQ2	How interested are you in curriculum mapping?
MQ3	If a colleague asked you to describe curriculum mapping to them in a single sentence, what would you tell them?
General curriculum questions	
GQ1	The undergraduate food science curriculum addresses current industry needs
GQ2	Curriculum mapping is something that needs to be done only for university and accrediting requirements
GQ3	Mapping the curriculum gives faculty a better understanding of how their course fits into the curriculum as a whole
GQ4	Curriculum mapping helps identify content gaps
GQ5	Learning outcomes are not necessary for a curriculum as a whole
GQ6	Curriculum mapping has helped me, or could help me, improve my teaching or confirm good practices
GQ7	If a course doesn't fit into a curriculum map very well, the instructor should change the course content
GQ8	Curriculum mapping as a group exercise benefits faculty
GQ9	Curriculum mapping helps identify content overlap between courses
GQ10	It is important to have assessments for the learning outcomes in the curriculum
GQ11	Curriculum mapping helps align the material taught with industry needs
GQ12	The curriculum map should be updated on a regular basis
GQ13	I know how my course(s) fit(s) into the undergraduate Food Science curriculum
GQ14	I have a good understanding of what food science knowledge and skills are taught in courses other than my own
GQ15	I have a good understanding of the level of mastery expected in other food science courses
GQ16	The knowledge and skills I teach in my food science course(s) help prepare students for other courses
GQ17	The knowledge and skills I teach in my course(s) are directly applicable to challenges in the food industry
Course questions	
CQ1	What Food Science undergraduate course do you teach?
CQ2	Are there any prerequisites for this course? If so, what are they?
CQ3	Have student learning outcomes been developed for this course?
CQ4	In general, do the student learning outcomes for this course align with or support the undergraduate food science curriculum outcomes?
CQ5	How are the student learning outcomes used in this course?
Course questions (premapping only)	
CPMQ1	The prerequisites help prepare the students for the course
CPMQ2	At the end of the course, students generally demonstrate mastery of the material to my satisfaction
CPMQ3	Students are expected to do more than just memorize concepts in this course
CPMQ4	Students will be able to use what they learn in this course in their careers
CPMQ5	There is at least 1 key course concept that students usually struggle to master
CPMQ6	This course emphasizes the need for critical thinking
CPMQ7	Students are usually well-prepared to learn the course material
CPMQ8	Students are asked to apply course concepts to real-world problems
CPMQ9	Students will need to use what they learn in this course in other courses
CPMQ10	Students in this course have many opportunities to demonstrate mastery of concepts.
CPMQ11	What percentage of the final course grade is based on low-stakes assignments such as homework and short quizzes?
CPMQ12	How often are assessments given in the course?
CPMQ13	How often do students have an opportunity to earn bonus points or extra credit?
Postmapping questions	
PQ1	Now that I've seen the curriculum mapped, I have a better idea of how what I teach fits into the curriculum as a whole
PQ2	I was surprised by at least some of the findings of the curriculum mapping exercise
PQ3	If we address the issues in the current Food Science curriculum, the result will be a higher-quality education for our students
PQ4	I have ideas of how to address some of the issues found by the curriculum mapping exercise
PQ5	I would like to be more involved in the next round of curriculum mapping

premapping survey and $n = 9$ for the postmapping survey, or 100% and 81% of teaching faculty, respectively), Likert responses were condensed into 3 categories for data reporting: agree, neutral, and disagree. Microsoft Excel (2011 for Mac, version 14.5.2; Microsoft Corporation, Redmond, Wash., U.S.A.) was used to process the data and generate graphical representations of the data.

Faculty Responses and Perceptions

Demographics

Demographic data showed that faculty members had been teaching for at least 3 y, with the majority teaching for more than 10 y. Faculty members taught at least 2 undergraduate courses per year; several faculty members taught more than 5 undergraduate courses per year. All faculty members had developed at least 1 undergraduate course, and most faculty members had developed at least 3 undergraduate courses. However, the majority of faculty attended teaching seminars or workshops less than once a year or did not attend them at all.

General curriculum questions

Figure 1 summarizes the responses to the general curriculum questions in both the pre- and postmapping surveys. Faculty members were in general agreement that the mapping process was both important and beneficial to curriculum development and assessment. Faculty opinion on most statements did not change significantly from pre- to postmapping, and most faculty members had similar opinions for each statement. The only statement with a significant division of opinion was “If a course doesn't fit into the curriculum map very well, the instructor should change the content.” While about half of the faculty agreed with the statement, the other half split between neutral and disagreement. This response is likely due to faculty desire to have autonomy over their course content (Britton and others 2008; Oliver and others 2010; Rahimi and others 2010) or to allow faculty with the flexibility to explore new topics in courses that may be of importance but outside the scope of the current curriculum. Faculty are generally amenable about adapting their course content to meet curricular

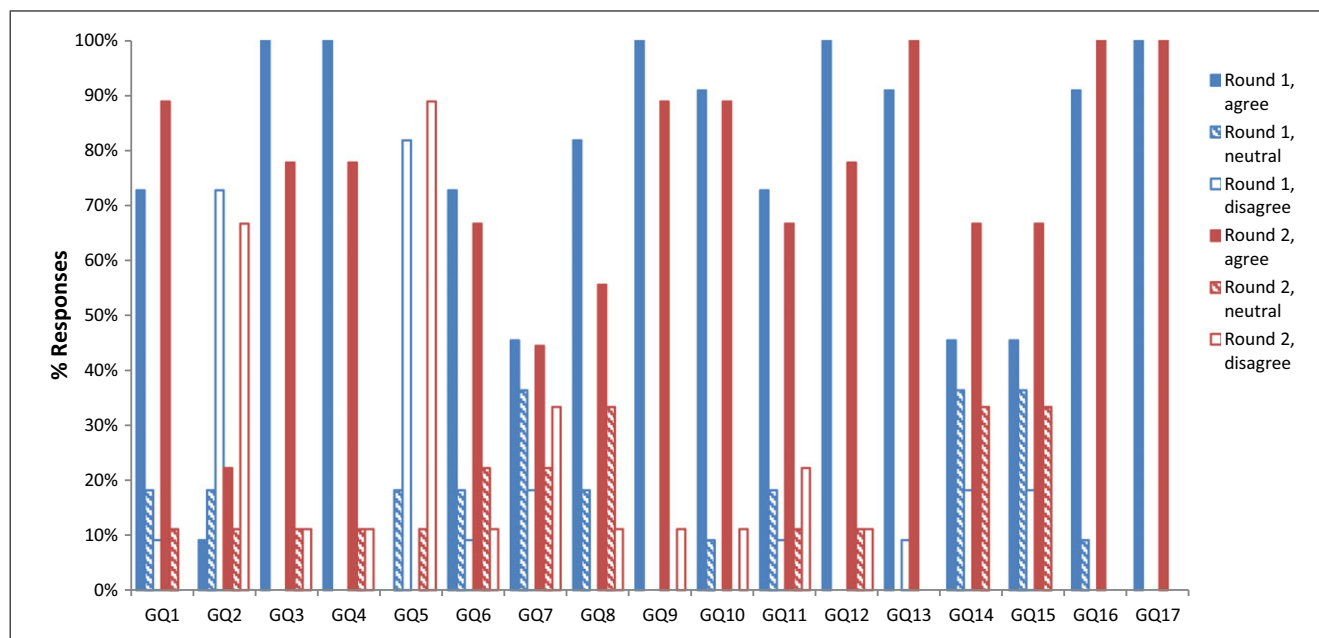


Figure 1—Responses to general curriculum questions.

objectives but do not like being told precisely what they should teach in their courses.

Statements that did show shifts in faculty responses involved the role of curriculum mapping in gap identification and an understanding of the courses in the undergraduate curriculum. Overall, faculty members were more aware of how their course fit into the curriculum and the content and expected level of mastery in other courses. This outcome was likely a result of viewing and discussing the curriculum maps, indicating the benefits of curriculum mapping not only for obtaining a better understanding of the effectiveness of the curriculum, but improving faculty awareness of the curriculum as a whole.

One interesting result of faculty responses to the general mapping statements was that faculty members were in complete agreement that the curriculum map should be updated on a regular basis prior to the mapping exercise. However, they were not in complete agreement on this statement after completion of the mapping exercise. Although most faculty still agreed that the map should be regularly updated, several were neutral or disagreed with this statement. It is unclear why some faculty did not feel that the curriculum map should be updated on a regular basis, but these opinions may have arisen due to the time required to complete and assess the map. Additionally, they also may be based upon an assumption that the curriculum would not need to be mapped again unless there were significant changes made to it. Curriculum mapping and assessment can be quite time-consuming, and faculty may see the time requirement as 1 more task to squeeze into an already tight schedule. Nevertheless, the fact that faculty saw the mapping process as being an important piece of curriculum assessment both before and after the mapping exercises were conducted is encouraging. Since the mapping and assessment process has already been completed 1 time, the framework is in place for future efforts. This framework will help streamline the mapping and assessment process, reducing the time commitment from faculty as a whole when further assessments are conducted. In addition, the School of Food Science has full support from the administration to conduct mapping/assessment exercises, and the department plans

to conduct these exercises on a regular basis. The combination of reduced time commitment for further mapping updates, administrative support, and continual feedback should show that mapping and assessment efforts are important to curriculum improvement and encourage faculty to embrace the process.

Premapping curriculum questions

Responses to course-related questions asked in the premapping survey are presented in Figure 2 and Table 2. All faculty members developed course learning outcomes, and most faculty gave the learning outcomes to their students. Learning outcomes were used by the majority of faculty members to organize and shape their course structure, content, and assessments. Additionally, all faculty members used their learning outcomes to promote student understanding of expectations for students in the course. Based upon these results, faculty were using learning outcomes appropriately, as current pedagogy supports the use of learning outcomes to structure course content and assessments (Nilson 2010).

Faculty members generally agreed that the learning outcomes for their course(s) were in alignment with the curriculum learning outcomes (Table 2). Since faculty also agreed to the statements that the information in their courses was needed both in other courses and in a food science career (Figure 2), these results indicate that faculty members viewed the content of courses that they teach as part of a larger body of knowledge and were aware of how their course content fit into this body of knowledge. Faculty, as experts in their fields, typically have this sort of awareness (Ambrose and others 2010). However, students, as novice learners, often have difficulty viewing courses as interconnected, and struggle to combine knowledge between 2 or more courses into a cohesive whole (Ambrose and others 2010). This lack of ability to connect information among courses was indirectly reflected in faculty perceptions of student preparedness for their courses. While faculty members felt that prerequisites for their course(s) helped prepare students for their course(s), they were not in agreement that students were prepared for their course(s). Prerequisite courses may give students the background knowledge they need for a particular

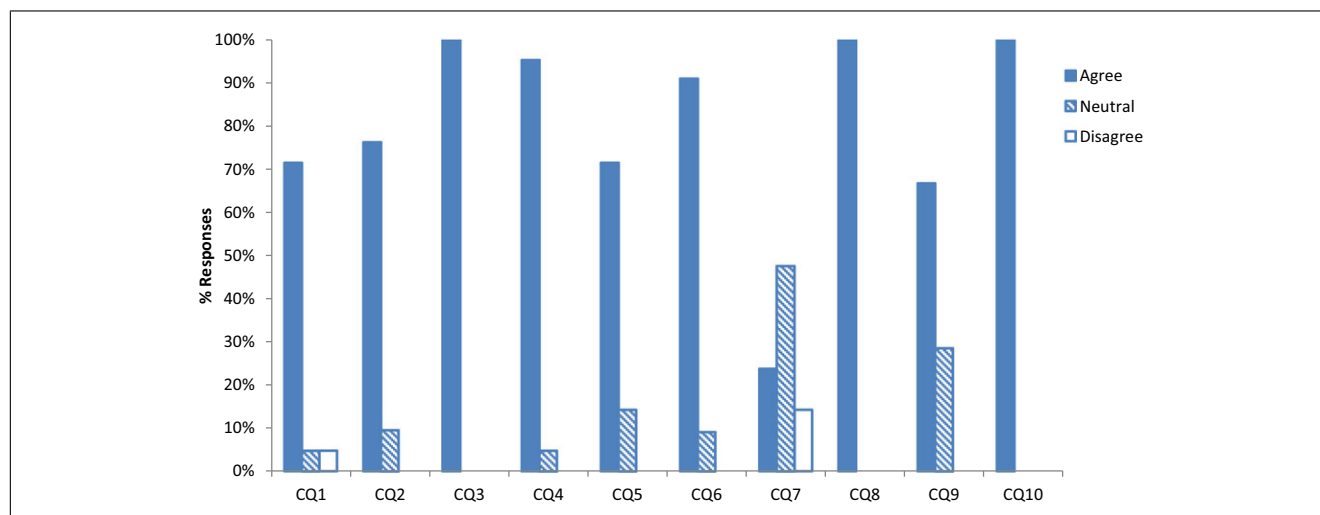


Figure 2—Responses to course questions (premapping).

Table 2—Responses to course-related questions (premapping only).

	% Instructors	% Courses
Course learning outcomes are developed and given to students	91%	90%
Course learning outcomes are developed but not given to students	9%	10%
Course versus curriculum alignment perception		
Course learning outcomes are in alignment with curriculum learning outcomes	73%	81%
Unsure about course and curriculum learning outcome alignment	18%	14%
No answer	9%	5%
Student learning outcomes in course used to		
Organize content	91%	90%
Select textbook/readings	64%	57%
Structure lectures	73%	67%
Develop class activities	73%	86%
Develop assessments	73%	71%
Student understanding of expectations	100%	100%
Comply with university requirements	100%	100%
Percent of course grade on low-stakes assignments		
Less than 10%	27%	14%
10–20%	55%	33%
20–30%	45%	29%
30–40%	18%	10%
40–50%	9%	5%
More than 50%	18%	10%
Assessment frequency		
More than once a week	18%	14%
Once a week	45%	29%
A few times a month	36%	33%
Once a month	36%	19%
Less than once a month	9%	5%
Frequency of bonus point opportunities		
Once a week	9%	5%
A few times a month	18%	10%
Once a month	9%	10%
Less than once a month	27%	14%
Once during the course	27%	14%
No extra credit or bonus points are offered	55%	48%

course, but not teach application of concepts in a way that allows students to connect or apply the knowledge from background courses to concepts or applications taught in food science courses. Additionally, this result echoes previous assessment results showing

that students were lacking in critical thinking skills and the ability to apply course concepts (Joyner (Melito) forthcoming). Although faculty agreed that students showed satisfactory mastery of concepts at the end of the course, faculty also agreed that students struggled with key course concepts (Figure 2). Since the survey did not include questions on what concepts students had difficulty mastering (for example, knowledge of information versus ability to apply that information), it is difficult to determine what the root causes of student difficulties were. However, since faculty were in general agreement that students were expected to apply concepts and engage in critical thinking in their courses rather than simply memorize concepts, deficiencies in critical thinking and ability to apply information to new scenarios likely contributed to difficulty in mastering key course concepts.

Faculty members were in agreement that students were given many opportunities to demonstrate mastery of concepts across the curriculum. Interestingly, students were assessed once a week or more in 43% of courses and once a month or less in 24% of courses (Table 2). These results bring up several considerations. First, faculty may not be in agreement what time interval is referred to by a “frequent” assessment. Also, faculty may not be in agreement over what constitutes an “assessment.” If faculty consider “assessments” to be some form of graded assignment or exam, they may not have considered classroom assessment techniques, such as muddiest point, 1 sentence summaries, in-class problem solving, minute papers, concept maps, opinion polls, or application cards (Angelo and Cross 1993; Nilson 2010). Faculty may have considered these activities opportunities to demonstrate mastery (but not methods of assessment) when agreeing that students were given many opportunities to demonstrate mastery of course concepts in their particular courses.

Bonus points were not frequently given in most courses; opportunities for bonus points were offered less than once a month in 76% of the courses. No data were collected on faculty perceptions of the value of awarding bonus points on student learning or other factors. Bonus points can be beneficial to students, as they offer additional in-depth learning experiences, opportunities to prove mastery of course concepts, and opportunities to earn back points lost for errors (Norcross and others 1989, 1993; Hill IV and others 1993; Padilla-Walker 2015). However, concerns over grade inflation, extra effort required to grade bonus work, possible unfairness

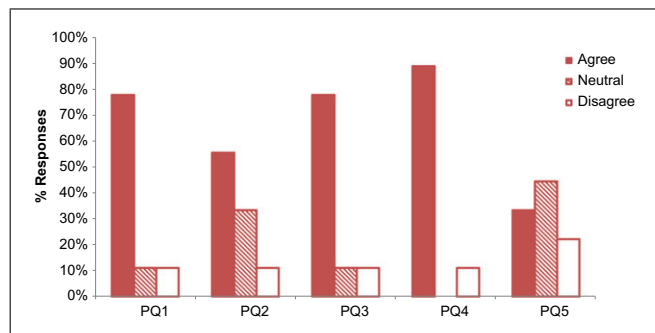


Figure 3—Responses to postmapping questions.

in bonus point opportunities (for example, only offered to certain students), and possible decrease in student motivation (because they know they can make up lost points using bonus points) have been reported (Norcross and others 1989, 1993). Furthermore, there is an additional grading burden when bonus point opportunities are offered. Since there are many factors that enter into the decision of whether to offer bonus points and individual faculty members have different weighting criteria when evaluating factors associated with awarding bonus points, there is often a wide variation in the number of bonus points and bonus point opportunities offered in different courses (Norcross and others 1989, 1993; Hill IV and others 1993).

Postmapping curriculum questions

Faculty responses to statements on the mapping process in the postmapping survey are shown in Figure 3. In general, faculty members agreed that they had a better perception of how their course(s) fit into the undergraduate food science curriculum after the mapping process was completed. Most faculty members were surprised by at least some of the findings of the mapping exercise. Furthermore, most faculty had ideas on how to address the issues uncovered by the mapping/assessment process and how to use these to improve their courses or the curriculum as a whole. Faculty members were also in agreement that addressing the current weaknesses in the curriculum would result in a higher-quality education for undergraduates. Curriculum mapping often brings to light previously hidden gaps, redundancies, and misalignments with curriculum learning outcomes (Porter 2002; Uchiyama and Radin 2009; Liu and others 2010), so it was not surprising that faculty would find something in the curriculum mapping/assessment exercise of which they were previously unaware.

Faculty interest in curriculum mapping

Faculty varied in their willingness to participate in the current (premapping survey) and in future mapping exercises (postmapping survey). Curriculum mapping is not a 1-time activity; rather, the curriculum map should be evaluated and updated on a regular basis (Hale 2008; Uchiyama and Radin 2009). In addition, curricula need to be assessed on a regular basis to ensure that content aligns with learning outcomes and that students are achieving the learning outcomes as they progress through the curriculum (Hale 2008). However, as previously discussed, curriculum mapping and assessment is time-consuming and not all faculty are willing to invest time into these activities (Willett 2008).

There was not a large shift in faculty willingness to participate in the mapping process before and after it was conducted (Figure 4). The primary change was a reduction in neutral re-

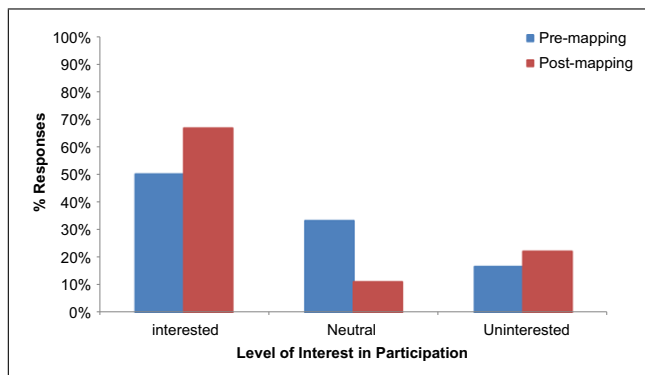


Figure 4—Faculty interest in participation in curriculum mapping.

sponses. About half of the neutral responses changed to being willing to participate and the other half changed to not being willing to participate. It is likely that the faculty who gave a neutral response in the premapping survey were unsure of what the process entailed. After becoming familiar with the mapping process, they gained the information needed to make a decision on whether they would like to participate. While the majority of faculty members were willing to participate in the current and future mapping process, there were a few faculty members who did not wish to participate. No active resistance was experienced; however, passive resistance can slow assessment efforts causing valuable insights to be lost due to lack of participation. Faculty were not asked why they did or did not want to participate, and it was not possible to determine from the data collected exactly why these faculty did not wish to participate in curriculum mapping and/or assessment. As previously discussed, faculty can be resistant to mapping and assessment processes for a variety of reasons, including concerns about time requirement, loss of autonomy over courses, and discouragement over inconsistency in assessment requirements (Britton and others 2008; Uchiyama and Radin 2009; Oliver and others 2010; Rahimi and others 2010; Swanson 2015). Encouragement, consistent leadership, and reassurance that they will retain control over their courses may help increase faculty willingness to participate in the mapping process, as well as maintain the interest of faculty who would like to participate in future mapping and assessment exercises.

Looking Forward

The curriculum mapping and assessment exercise conducted by the School of Food Science provided faculty an excellent opportunity to examine the undergraduate curriculum, as well as their own perceptions of curriculum mapping, their courses, and how their course fit into the curriculum. Faculty responses to these exercises were mainly positive, with the majority of faculty agreeing that curriculum mapping was important and that they would be willing to participate in future mapping and assessment exercises. This is encouraging for future efforts, as faculty participation is necessary for successful assessment of an entire curriculum.

The results of this study point to several considerations when involving faculty in curriculum mapping and assessment:

- (1) *Willingness to participate*: Faculty willingness to participate in curriculum mapping may vary. They should be reassured that their input is valuable, they will retain autonomy over their courses, and any findings are not a reflection on them or their teaching practices. Strong, consistent leadership

with support from administration can also help reassure faculty that they are participating in an important process and that their efforts will not be wasted (Jacobs 2004; Hubball and Burt 2007; Hale 2008).

- (2) *Perception of course(s) and curriculum:* Faculty teaching in parallel, or without much collaboration on course content and teaching practices (Hale 2008), may not have a full understanding of the overall curriculum and how their course is a part of it. Exercises such as curriculum mapping can help fill in the “big picture” for faculty, enabling a better understanding. This improved understanding may spark ideas leading to more effective teaching practices, course structure, and course alignment.
- (3) *Importance of involvement:* Involvement of all faculty members is critical to the success of curriculum mapping and assessment. Without input from all faculty members, vital information such as actual course content, effective teaching practices, and instructor expectations of student knowledge can be lost. Full involvement of all faculty members is needed to generate this data. Furthermore, correcting curriculum gaps and redundancies, as well as the failure of students to meet a curriculum learning outcome, requires multiple faculty members acting together. For example, correcting the issue of student difficulty in applying course concepts may involve all faculty teaching undergraduate courses including more content application in their courses and increasing focus on those applications.

The overall positive response of the School of Food Science faculty to the mapping and assessment exercises was very encouraging. Curriculum assessment efforts are ongoing, and maintaining this level of support from the faculty will certainly assist in making these efforts successful. It is hoped that faculty will share information on course content and successful teaching practices outside of this process as well. Open communication among faculty not only helps transfer information and insights but also promotes a collegial atmosphere. Faculty members in the School of Food Science regularly collaborate on research; perhaps these assessment activities will encourage them to collaborate on teaching as well.

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Supporting Information

Additional supporting information may be found in the online version of this article at publisher's website:

Supporting Material 1. Curriculum mapping post-activity survey.

Supporting Material 2. Curriculum mapping pre-activity survey.