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Student Accountability for Objective Evaluations of Faculty

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ABSTRACT Student Evaluation of Faculty (SEF) is an important component of the US educational system and an indispensable tool to keep track of the faculty's role to make the institution's academic practice more engaging, objective and effective. SEF also allows institutions to assess faculty performance, future career stability, advancement and promotion. Unfortunately, SEFs generally exempt students from any responsibility in their own academic outcome. The article presents an analysis of a study based on a modified version of the current SEF form utilised by the Bronx Community College. This modified form includes questions about a student's responsibilities, to measure their accountability making the evaluation more objective using a descriptive research design method. Results confirmed that students must play an active part in the process by assuming their own responsibilities of regularly and timely attending class, increasing study time, utilising the resources of tutoring, faculty office hours, and extended recitation to improve their own outcome and produce a valid evaluation of faculty.

INTRODUCTION

The Student Evaluation of Faculty (SEF) as a measure of teaching effectively has a long history in the United States (Berk 2018a), and it is being utilised by 92.2 percent of four-year liberal arts colleges in the country (Miller and Seldin 2014). The input of students' perception on their teaching experience has reached worldwide dimensions to the point that now it is recommended on an international scale (Surgenor 2011). Despite this wide reception, it has received severe criticism because of lack of reliability (Marsh 2007), objectivity (Aleamoni 1999), integrity (Germain and Scandura 2005) and many other reasons. Nevertheless, it is still highly regarded as a valuable criterion for faculty-self-improvement, promotion, and tenure purposes. Berk (2018b) has pointed out four major setbacks of using SEF as a defining benchmark for decision-making purposes, and they are the:

1. Students' limited qualifications as raters
2. Technical inadequacy and bias
3. Misuse of scales and misinterpretation of ratings
4. Inadequate sources of evidence for decision-making (Miller and Seldin 2014).

Aleamoni (1999) in his research has identified sixteen myths recognised over almost 80 years of SEF practice adding substantiated evidence to determine how, in spite of the intrinsic contradictions created by using this barometer, one can still benefit from this practice to improve and document instructional effectiveness.

There is a lot of research that has been done on this controversial topic. In fact, it is not a simple academic routine, but it can become life changing. For faculty, it can determine whether or not he or she is awarded a contract reappointment, annual salary increase, merit pay, professional development, promotion or tenure. These considerations are strictly from a professional standpoint, not to mention the psychological, emotional and mental health repercussions that may result from an unfair appraisal, which may damage any instructor's academic and personal future and stability. There are hundreds of papers written on the pros and cons of SEF as a valid standard to measure teaching effectiveness (Vanacore et al. 2019; Connors 2019; Clayson 2018), but paradoxically, there is very little written on the psychological, emotional, mental and behavioural side effects on faculty under this amorphous appraisal system. In fact, the concept of "teacher efficacy" introduced by Bandura (1977) and modified later by Milson (2003), presents the idea that the individual's belief in his or her ability will produce

desired outcomes (Milson 2003). This is one of the few examples found in the literature where a teacher's mindset is considered an important factor to assess effectiveness in education. However, can a stressful and unstable job climate stimulate the best mental attitude and performance in an educator?

Many studies have been conducted on psychological and behavioural effects of teaching practices on students (Hein 2012; Dunlosky et al. 2013; Effective Programs for Emotional and Behavioural Disorders 2013) whereas, very little had been done regarding the same effects on educators. No wonder SEFs can be perceived by some educators as a punishment and an evil (Miller and Seldin 2014) instrument, favouring a confrontational image rather than a valuable measure of teaching effectiveness. This polemic measurement method was tested in a study conducted by Naftulin et al. (1973), in which professional actors were hired to teach students, and later on, students were surveyed to find out the overall student satisfaction. It looks like the educator's ability to satisfy students does not necessarily mean that students learned anything. However, it seems that for the students, the extent to which they are satisfied with the teaching received and the degree to which they feel they have learned, reflects little more than their illusions of having learned (Naftulin et al. 1973). This observation is critical, and raises a question, that is, whether the educational institutions are making decisions about real life faculty's career, future and stability based on an illusion?

Another side of SEF is the likelihood that some instructors may compromise their pedagogy by decreasing the rigor of their courses in order to positively influence student ratings (Goldman 1985). Grade inflation is described as the positive change in grade point average of large numbers of students generally, over an extended period of time (Goldman 1985). SEF has measurable psychological effects. A positive evaluation may represent a reward, such as a salary increase or career advancement and stability' while a negative one on the contrary, may be interpreted as a punishment from the administration with very negative connotations, such as dismissal or a decision to not renew contract or tenure (Festinger 1957). Faculty threatened by this uncertain future will react with an emotional response to cope with the stress caused by the possibility of falling out of grace. Hence, they would give easier tests and lower demands and expectations from students in order to gain a more favourable SEF, and "very quickly they will realise how much easier and happier everyone becomes" (Germain and Scandura 2005). Students will be happier, which in turn will make the work environment more enjoyable, and administrators will also be pleased with better graduation rates and student retention increase. To top all of this off, faculty salary will go up and tenure will be secured.

From the psychological prospective, Festinger's theory of cognitive consistency (Hartford 2017) backs up these predictable behavioural changes. Since this theory focuses on the preservation of one's life baseline, disruptive life events will generate conflict perceived as an inconsistency between behaviours and beliefs. Consequently, the individual will change his or her behaviours in order to restore the lost equilibrium in his or her life (Festinger 1957). Everyone has expectations about people, relationships, job security, and family. Any situation that compromises one's comfort zone will prompt an emotional reaction to restore the familiar conditions. The unknown always generates uneasiness, discomfort, anxiety, and in this case, a negative SEF appraisal will trigger a similar response in the faculty member, creating doubts about his or her knowledge and adequacy to teach, and lowering his or her confidence and self-image. These negative responses will be interpreted as a poor job performance, which can crush the individual's cognition, and this in turn, will generate negative feelings of cognition or dissonance. The individual will be psychologically primed to change behaviours to neutralise the dissonance, and that is when the risk of pedagogic changes and lowering academic standards runs higher, because these changes can negatively affect students, institutions and the society in general.

Objectives

The general objective of the present study is to explore the impact of adding a student accountability component to the existing SEF at

the Bronx Community College. Specifically, the researchers want to see whether this additional component will strengthen the process of evaluation of faculty, help to objectively separate likability from teaching effectiveness, change and make the appraisal more fair for both faculty and students, will increase faculty confidence in holding onto high academic standards, make this new SEF foster a more engaged and responsible students that will fulfil their own part in the teaching-learning process. Also, this study strives to determine the correlation between the answers given by students to the "student evaluation of faculty survey" and the performance of the students studying under the surveyed instructor.

Student's Accountability: A New Component for a Comprehensive SEF

The root cause of SEF negative effects is the fact that students are not accountable for the final academic outcome with the required rigor (Kuh et al. 2008). In the current system, teaching is considered separate from learning, and so, it gives the impression that it is solely the faculty's responsibility to make sure that students learn. However, the policies in some institutions, such as no mandatory attendance, defeat the very same principle of academic excellence. If the college is the place of training for the future transition to a professional workforce (Barr and Tagg 1995), flexible attendance policy might communicate the wrong message to the students, as it will be very challenging to find a workplace where the employer will be willing to tolerate a "flexible" attendance work policy including full benefits and compensation for employees that only will work on their own timeline. Academic policies must be consistent with expected outcomes, otherwise someone will have to pay the price for the predictable antagonistic results, and usually it will be the faculty member. Some institutions with traditional educational practices, in which attendance is critical, are expecting an excellent student academic performance and a satisfactory SEF for their faculty body given by students who are missing significant portions of the academic semester because of the attendance flexibility rule. These inconsistencies might send the wrong message to the students, to whom the natural scapegoat will be the professor (Martin 1987). The lack of regularity in the students' attendance can negatively affect the perception of the teaching-learning process, prompting them to consider the teacher's explanations unclear, unfair, the content of tests perceived as never covered in class, confusion in deadlines for homework, evaluations and reports, and ultimately, favouring the loss of track of the important aspects of the course. Would a faculty member under the described circumstances have a real chance to get a fair appraisal from his or her students? Ideally, an effective, fair and objective teaching-learning process must be considered as a whole unit, with common shared rights and responsibilities in order to truly reach academic excellent.

The researchers have taken Bronx Community College's SEF form to analyse its strengths and weaknesses and to open a respectful discussion to truly assess the teaching and learning process in order to guarantee the best outcome for both students and faculty members. After all, this is the soul of any educational institution in the world.

Research Question and Related Hypotheses

The central question considered for this study is if a student's accountability makes any difference on the SEF outcome. Hypothetically, assuming that introducing additional questions about the students' accountability in the teaching and learning process, to the traditional SEF questionnaire including some control questions to ensure transparency in their answers, will allow the researchers to gather more reliable data to objectively appraise teaching effectiveness. Students will respond to questions specifically designed to measure their active involvement in the class such as, attendance to tutoring or to instructor's office hours, amount of time studying the subject, timely class attendance, and some more questions related to their general attitude toward the class. The answers will help the researchers to draw a more accurate conclusion about the correlation of their responses to the first 15 questions pertaining to the teacher's performance, and the last 10 questions related to student's responsibilities, to their real chances of success in the class and the effect of this awareness on SEF outcome. Physical sciences,

for the most part, will always require extra time to practice solving problems and truly mastering concepts (Simon 2015). Students may not have an exact idea about the amount of effort that certain subjects will require when they register for these courses, compared to some other classes where they might feel academically stronger. The role of the academic advising is also an essential component of the final outcome (Chiteng 2014), as the advisor should make students aware of the amount of effort and work that STEM subjects will require to get a good grade especially for students preparing to transfer to majors with high Grade Point Average (GPA) score requirements.

METHODOLOGY

The research design used to collect data in this study is descriptive research design. Descriptive research design can be defined as a type of quantitative research that can also qualify as a qualitative research in certain cases. A survey has been used to collect data for this study utilising the official BCC's SEF form and introducing a student accountability component. This new part, will allow the researchers to explore whether the teaching practice can be considered separate from the learning component as it is now, or if making the student accountable for his or her final academic outcome produces a more reliable tool that could lead to an increase in faculty, students and institutional academic satisfaction.

Subject

The SEF form customised for this study was distributed among the participating students in weeks 8 to 10. The forms contain 2-way, close-ended questions and the faculty member is asked to leave the room while students complete the forms anonymously. Data was collected over a two-year period and from 2 of the 18 sections of an introductory level chemistry course offered every semester by the Department of Chemistry at the Bronx Community College, CUNY. The students represented a range of majors and grade levels, with a median age of 21 years.

The average size of a class per section at the beginning of the semester is about 25 students, while after 9 or 10 weeks into the academic semester it gets reduce to about 15 students. Some of the surveyed sections were taught by two different professors, one for the Lab and another one for the Lecture/Recitation portion.

The survey form utilised for this study not only contains questions to assess the instructor on several topics such as students' class participation, explanation clarity, fairness, and evaluation methods, but also to reveal the students' attitude toward the class, their commitment with time, dedication and use of academic resources such as tutoring, office hours, and class attendance in order to draw a more comprehensive picture of the dual nature of the teaching-learning process and ultimately, render a more objective evaluation that will represent a win-win situation for students, faculty and institution at large. About 110 students completed the entire survey.

Instrument

The SEF form given to students for this study contained 24 close-ended questions with 'yes' or 'no' answer options. There is an additional blank space for every question given to explain their answers when necessary. The original BCC's SEF questionnaire has well differentiated sections:

1. To evaluate effectiveness of about 5 questions of out of 15 in total (course objectives, level of comfort in answering questions, quality and clarity of the answers in the original BCC's form).
2. To comment on assessments and methods, assignments, and homework reviews on 5 questions out of 15 in total in the original BCC's form.
3. To evaluate interpersonal skills on 5 questions out of 15 in total (respect, communication, and understanding in the original BCC's form).

The customised SEF for this study contains ten more questions for a total of 25, compared to the original SEF form to determine student's accountability for their success in this class. It also includes involvement traits such as amount of time students assign to after-class study of the subject, listening to the professor's recommendations, commitment to the class, and at-

tention focused during class time. Finally, class attendance, looking for help from tutors or instructors during office hours, and a couple more questions about personal difficulties beyond their control, were also included. The survey was anonymous, hoping to stimulate student participation and freedom to openly express their opinions.

RESULTS

The data collected over four consecutive semesters including two participating sections per semester for a total of 8 sections were analysed to determine whether the ratings given to the participating faculty member correlate with the student's expected involvement and commitment to get the desired results. Special attention was placed on the faculty's lowest scored questions. A set of control questions spread out through the entire form was also analysed to determine students' consistency and transparency with the answers. The effect of splitting the class between two professors was also considered, as some students revealed that this aspect was certainly disruptive for a better academic performance.

The results of the eight participating sections in the survey have been consolidated in Table 3, which contains the average percentages of positive and negative responses given by the students to the questions asked. Table 1 presents the complete form utilised for this study with a total of 24 questions and one additional question that asks for the overall satisfactory impression of the class with answer options ranging from 'Yes', 'Maybe' and 'No'. The official BCC faculty evaluation form (Table 2), employed for all BCC students in every discipline, is embedded in this form as the questions #2 to #14. The questions have been slightly rephrased, but the meaning from the official form was retained. The Appendix contains data that has been collected and organised per semester to compare the findings across semesters and watch for any consistent trend that can be used to objectively predict SEF outcome.

The purpose of the SEF form prepared for this study is to evaluate how students perceive their learning process by mid-semester, so that both the instructor and students will have ample time to make the appropriate adjustments to improve teaching and learning outcomes. This form uses the same questions that the instructor evaluation form has, but it integrates a very important component, that is, students' accountability, which is a fundamental part in order to guarantee a truly fruitful academic experience. Questions 1 and 15 to 24 were included to dig deeper into a student's participation in this dual process. The intention of this exercise is to understand the complexity of the instructor and student relationship and to find better ways to communicate to one another and to commit to make the academic experience rewarding for everyone.

Table 1: Questions asked to students registered in CHM02

1. Did you read the syllabus thoroughly?
2. Course objectives and requirements were clearly stated
3. I feel encouraged and comfortable during class to ask questions
4. My questions are always satisfactorily answered
5. I have been treated with respect
6. I feel encouraged to participate in class
7. We are treated fairly and equally
8. My intellectual curiosity is stimulated during class
9. Explanations during class are clear
10. The stated outline/syllabus is followed
11. Quizzes, homework, tests given are always about material already covered during class
12. The methods used to evaluate my work were clearly explained
13. Assignments, quizzes, test are reviewed with comments
14. My responsibilities to succeed in this class were made clear to me
15. Am I really doing my part?
16. Am I listening recommendations
17. Am I expending enough time studying?
18. Am I going for tutoring?
19. Am I taking advantage of the office hours?
20. Am I paying attention during class?
21. Am I attending class regularly and timely?
22. Am I taking my responsibility seriously?
23. Am I dealing with personal difficulties beyond my control?
24. Am I feeling overwhelmed?
25. Choose the option that better describe your overall impression with the instruction

The scale goes from 'Yes', 'Maybe' and 'No'

Table 3 summarises the responses from students enrolled in CHM 02 during four consecutive semesters (fall 2017, spring 2018, fall 2018

Table 2: Official BCC's student evaluation of faculty survey form- The scale goes from Yes, Maybe and No

1. Course requirements were clearly stated in the course outline/syllabus
2. The instructor encouraged students to ask questions
3. The instructor carefully answered questions raised by students
4. The instructor used appropriate examples to help get points across in class
5. The instructor treated students with respect
6. The instructor encouraged class participation
7. The instructor dealt with students in a fair and equal manner
8. The instructor stimulated intellectual curiosity
9. The instructor's explanations were clear
10. The instructor followed his/her stated courser outline/syllabus
11. The instructor gave tests and quizzes that covered material assigned/presented in the course
12. The instructor methods of evaluating my work were explained clearly
13. The instructor reviewed exams and assignments with comments so that learning was reinforced
14. The instructor made my responsibilities for success in this class clear to me
15. My overall impression of the instruction offered in this section is satisfactory

and spring 2019 semesters) with two participating sections per semester for a total of eight sections involved in the whole study with 129 students in total. The data for each individual semester is in Tables 4, 5, 6 and 7 in the supplementary information section.

Analysis of Data

Question #1: The answers for this question show that eighty-six percent of the students took the time to read the syllabus while fourteen percent did not. The fourteen percent of the students that dismissed or did not recognise the importance of the syllabus might indicate a lack of attention and perhaps preparedness to take charge of their individual responsibilities with the coursework. It might also have a negative effect in their time management outcome, as the scheduled events will not be brought to their attention on time therefore, increasing the students' likelihood to fail.

Question #2: "Course objectives and requirements were clearly stated", should rate one

Table 3: Consolidated answers collected over the course of four consecutive semesters and eight different CHM02 sections involving 129 students

Question number	*Answers*		*Percentage*
	Yes	*No*	*Yes*
1. Did you read the syllabus thoroughly?	103	14	88
2. Course objectives and requirements were clearly stated.	113	5	96
3. I feel encouraged and comfortable during class to ask questions	95	26	79
4. My questions are always satisfactorily answered	94	25	79
5. I have been treated with respect	116	1	99
6. I feel encouraged to participate in class	102	18	85
7. We are treated fairly and equally	115	2	98
8. My intellectual curiosity is stimulated during class	102	12	89
9. Explanations during class are clear	74	50	60
10. The stated outline/syllabus is followed	108	8	93
11. Quizzes, homework, tests given are always about material already covered during class	100	20	83
12. The methods used to evaluate my work were clearly explained	111	7	94
13. Assignments, quizzes, test are reviewed with comments	106	11	91
14. My responsibilities to succeed in this class were made clear to me	113	2	98
15. Am I really doing my part?	93	30	76
16. Am I listening recommendations	103	11	90
17. Am I expending enough time studying?	85	38	69
18. Am I going for tutoring?	60	64	48
19. Am I taking advantage of the office hours?	38	80	32
20. Am I paying attention during class?	104	2	98
21. Am I attending class regularly and timely?	100	8	93
22. Am I taking my responsibility seriously?	103	14	88
23. Am I dealing with personal difficulties beyond my control?	55	60	48
24. Am I feeling overwhelmed?	58	37	61
25. Choose the option that better describe your overall impression with the instruction	30	12	71

Supplement Information

Table 4: Responses in percentage for 41 participating students in fall 2017

Question number	*Answers*		*Percentage*
	Yes	*No*	*Yes*
1. Did you read the syllabus thoroughly?	28	3	90
2. Course objectives and requirements were clearly stated.	28	1	97
3. I feel encouraged and comfortable during class to ask questions	19	12	61
4. My questions are always satisfactorily answered	23	7	77
5. I have been treated with respect	29	1	97
6. I feel encouraged to participate in class	22	8	73
7. We are treated fairly and equally	29	2	94
8. My intellectual curiosity is stimulated during class	22	7	76
9. Explanations during class are clear	16	15	52
10. The stated outline/syllabus is followed	27	3	90
11. Quizzes, homework, tests given are always about material already covered during class	19	11	63
12. The methods used to evaluate my work were clearly explained	27	3	90
13. Assignments, quizzes, test are reviewed with comments	25	5	83
14. My responsibilities to succeed in this class were made clear to me	29	1	97
15. Am I really doing my part?	22	8	73
16. Am I listening recommendations	26	3	90
17. Am I expending enough time studying?	23	7	77
18. Am I going for tutoring?	13	17	43
19. Am I taking advantage of the office hours?	7	34	17
20. Am I paying attention during class?	30	1	97
21. Am I attending class regularly and timely?	27	4	87
22. Am I taking my responsibility seriously?	29	2	94
23. Am I dealing with personal difficulties beyond my control?	12	19	39
24. Am I feeling overwhelmed?	15	14	52
25. Choose the option that better describe your overall impression with the instruction	-	-	-

hundred percent affirmative. The assumption is that students were attentive when the instructor discussed the syllabus in class, or that they read the syllabus hand-out or that they read the instructions and list of activities posted on Blackboard, otherwise, problems will arise, because students are not even sure about the course contents, objectives and activities. When important components of the class such as quizzes, homework, exams are due, conflicts will be created, especially when additional courses taken in the same semester are added to their schedule. Some results that were considered perplexing occurred in the fall 2018 section of B10-12, wherein it was observed from the responses to Q #1 that thirty-seven percent of these students did not read the syllabus. Nevertheless, one hundred percent of students answered affirmatively to Q #2. Note that Q #2 relates directly to the instructor's responsibility to state in class or otherwise broadcast the course contents. A possible conclusion from this data set is that there may be a problem of integrity, which is a red flag to give to the evaluation, as such a major weight that could decide the future of a faculty member.

Question #3: To the question, "I feel encouraged and comfortable during class to ask questions", seventy-five percent of students answered 'Yes', and twenty-five percent said 'No'. It's a well-known fact that social anxiety is the most pernicious and common anxiety disorder, increasing from fifty percent occurrence by age 11 and raising up to eighty percent by age 20 (Stein and Stein 2008). It will require a more detailed study to determine whether the percentage of students answering negatively to this question has more to do with the social anxiety disorder, than with the lack of encouragement from the instructor.

Question #4: For "My questions are always satisfactorily answered", eighty percent answered affirmatively and twenty percent responded negatively. The original question in the

Table 5: Responses in percentage for 34 participating students in spring 2018

Question number	*Answers*		*Percentage*
	Yes	*No*	*Yes*
1. Did you read the syllabus thoroughly?	31	3	91
2. Course objectives and requirements were clearly stated.	33	3	92
3. I feel encouraged and comfortable during class to ask questions	29	9	76
4. My questions are always satisfactorily answered	27	11	71
5 I have been treated with respect	34	0	100
6. I feel encouraged to participate in class	30	6	83
7. We are treated fairly and equally	34	0	100
8. My intellectual curiosity is stimulated during class	33	2	94
9. Explanations during class are clear	24	17	59
10. The stated outline/syllabus is followed	33	2	94
11. Quizzes, homework, tests given are always about material already covered during class	30	7	81
12. The methods used to evaluate my work were clearly explained	34	2	94
13. Assignments, quizzes, test are reviewed with comments	31	4	89
14. My responsibilities to succeed in this class were made clear to me	34	0	100
15. Am I really doing my part?	29	12	71
16. Am I listening recommendations	30	4	88
17. Am I expending enough time studying?	28	13	68
18. Am I going for tutoring?	23	19	55
19. Am I taking advantage of the office hours?	17	24	41
20. Am I paying attention during class?	30	0	100
21. Am I attending class regularly and timely?	29	3	91
22. Am I taking my responsibility seriously?	30	3	91
23. Am I dealing with personal difficulties beyond my control?	23	16	59
24. Am I feeling overwhelmed?	23	13	64
25. Choose the option that better describe your overall impression with the instruction	–	–	–

official BCC form is, “The instructor carefully answered questions raised by students”. This is a question with several implications. For example, do the students attend class on time and regularly, do they spend sufficient time studying and practicing to grasp the concepts, do they have the basic academic requirements to take the class, and are they motivated to do the work. All these aspects are important, as they will influence how much understanding the students have about the topic under discussion. If all these requirements are fulfilled, then most of the time explanations will be clear, because students will have built enough conceptual background in such a way that the instructor’s explanation will be satisfactory.

Question #5: For “I have been treated with respect”, ninety-nine percent answered ‘Yes’, and one percent said ‘No’.

Question #6: For “I feel encouraged to participate in class”, eighty-five percent answered ‘Yes’, and fifteen percent said ‘No’. The percentage of the responses may be affected by the same reasons discussed in Q # 3. It may be related to social anxiety, or perhaps other external factors.

Question #7: For “We are treated fairly and equally”, ninety-eight percent said ‘Yes’, and two percent said ‘No’. The results are encouraging and reflect a very good attitude from both students and instructors.

Question #8: For “My intellectual curiosity is stimulated during class”, eighty-seven percent answers are ‘Yes’, and thirteen percent are ‘No’. There is always room for improvement, thanks to the percentage of students not satisfied with their expectations. It should be understood that attaining one hundred percent satisfaction might not be likely.

Question #9: For “Explanations during class are clear”, fifty-four percent said ‘Yes’ and forty-six percent said ‘No’. To really weigh the value of these answers, this question needs to be analysed carefully in conjunction with issues related to attendance (Q #21), effective use of help offered by the department, such as tutor-

Table 6: Responses in percentage for 20 participating students in fall 2018

Question number	*Answers*		*Percentage*
	Yes	*No*	*Yes*
1. Did you read the syllabus thoroughly?	15	5	75
2. Course objectives and requirements were clearly stated.	20	0	100
3. I feel encouraged and comfortable during class to ask questions	19	1	95
4. My questions are always satisfactorily answered	17	3	85
5. I have been treated with respect	20	0	100
6. I feel encouraged to participate in class	20	1	95
7. We are treated fairly and equally	20	0	100
8. My intellectual curiosity is stimulated during class	18	2	90
9. Explanations during class are clear	12	8	60
10. The stated outline/syllabus is followed	18	2	90
11. Quizzes, homework, tests given are always about material already covered during class	19	1	95
12. The methods used to evaluate my work were clearly explained	20	0	100
13. Assignments, quizzes, test are reviewed with comments	19	1	95
14. My responsibilities to succeed in this class were made clear to me	20	0	100
15. Am I really doing my part?	16	4	80
16. Am I listening recommendations	20	0	100
17. Am I expending enough time studying?	13	7	65
18. Am I going for tutoring?	9	11	45
19. Am I taking advantage of the office hours?	4	14	22
20. Am I paying attention during class?	19	0	100
21. Am I attending class regularly and timely?	19	0	100
22. Am I taking my responsibility seriously?	18	1	95
23. Am I dealing with personal difficulties beyond my control?	4	15	21
24. Am I feeling overwhelmed?	4	8	33
25. Choose the option that better describe your overall impression with the instruction	14	6	70

ing (Q #18), office hours (Q #19), and study time (Q #17). The responses to Q #3 and Q #4 must also be considered to arrive at a sound conclusion from the student responses about clarity of the instructor's explanations.

Questions #15, 17, 18 and ***19*** are analysed here, as these questions confirm the degree of students' involvement. Surprisingly, the answers range from thirty percent to eighty percent negatively, clearly indicating that students' expectations are not aligned with their effort and the effective utilisation of the available resources that could overcome any academic challenges. If a student shows up late or misses a class, and does not seek help, there is a probability that the student will not understand the explanations for questions that may require a good amount of time and practice to master a concept.

Question #10: For "The stated outline/syllabus is followed", ninety-one percent said 'Yes' and nine percent said 'No'. This negative result is consistent with the answers received for Q #1, where a low percentage (14%) of students did not read the syllabus.

Question #11: For "Quizzes, homework and tests given are always about material already covered during class", eighty percent answered 'Yes' and twenty percent said 'No'. For reasons already discussed for Q #9, compounded with inconsistent attendance shown in Q #21, it is possible for poorly attending students to think that topics covered in quizzes, homework and exams were never covered during lecture time.

Question #12, 13 and ***14:*** For "The methods used to evaluate my work were clearly explained", "Assignments, quizzes, test are reviewed with comments", and "My responsibilities to success in this class were made clear to me", the affirmative answers to these three questions average ninety-five percent and the negative, five percent. These questions were grouped together, because they all relate to the joint teacher and

Table 7: Responses in percentage for 34 participating students in spring 2019

Question number	*Answers*		*Percentage*
	Yes	*No*	*Yes*
1. Did you read the syllabus thoroughly?	29	3	91
2. Course objectives and requirements were clearly stated.	32	1	97
3. I feel encouraged and comfortable during class to ask questions	28	4	88
4. My questions are always satisfactorily answered	27	4	87
5. I have been treated with respect	33	0	100
6. I feel encouraged to participate in class	30	3	91
7. We are treated fairly and equally	32	0	100
8. My intellectual curiosity is stimulated during class	29	1	97
9. Explanations during class are clear	22	10	69
10. The stated outline/syllabus is followed	30	1	97
11. Quizzes, homework, tests given are always about material already covered during class	32	1	97
12. The methods used to evaluate my work were clearly explained	30	2	94
13. Assignments, quizzes, test are reviewed with comments	31	1	97
14. My responsibilities to succeed in this class were made clear to me	30	1	97
15. Am I really doing my part?	26	6	81
16. Am I listening recommendations	27	4	87
17. Am I expending enough time studying?	21	11	66
18. Am I going for tutoring?	15	17	47
19. Am I taking advantage of the office hours?	10	8	56
20. Am I paying attention during class?	25	1	96
21. Am I attending class regularly and timely?	25	1	96
22. Am I taking my responsibility seriously?	26	8	76
23. Am I dealing with personal difficulties beyond my control?	16	10	62
24. Am I feeling overwhelmed?	16	2	89
25. Choose the option that better describe your overall impression with the instruction	16	6	73

student evaluation and responsibilities for the success in this class. The results indicate that students understood the methodology proposed for their evaluation, and their responsibilities were also sufficiently clear to them. The lower positive responses to Q #13 are not statistically significant. This result might reflect the need for some students to have more instructor comments written in their papers about mistakes made.

Questions from #15 to #25 all have to do with the students' accountability for their own academic outcomes. Instead of analysing each of them individually, they will be taken as a group because they relate to one another. From Q #1 to Q #14, answers were predominantly affirmative, except Q #9, which focused on the instructor's ability and skill to explain topics clearly. The answers to Q #15 to Q #25 are predominantly negative except Q #20, #21 and #22, which are control questions for Q #1, #9, #17, #18, and #19. Affirmative answers to questions Q #15 (Am I really doing my part?) with seventy-two percent, and Q #16 (Am I listening to recommendations?) with ninety-three percent would reflect an ideal situation, because that would also mean that the answers to the question of study time (Q #17), tutoring (Q #18), and office hours (Q #19) should also be high. However, thirty percent of students do not spend enough time studying, almost sixty percent of them do not look for tutoring help, and more than eighty percent never look for help from the class instructor. Interestingly enough, ninety-nine percent of students answered 'Yes' to Q # 14 ("My responsibilities to succeed in this class were made clear to me"), and ninety-one percent answered 'Yes' to Q #22 ("Am I taking my responsibility seriously"). Are not studying, looking for help, attending class regularly and being on time (Q #21) parts of the students' responsibilities? Q #21 (timely attendance) and Q #22 do not match with the attendance sheet the researchers use for these courses, in which the arrival time must

be noted in writing to corroborate the student's responses. The attendance sheet shows a very different reality, because around thirty-five percent of students regularly arrive at least 10 minutes late. It is also hard to understand how, if everyone is paying attention in class, Q #20 (paying attention in class) should it not then correlate with Q #9's answers to the question about the instructor's ability and skill to present topics clearly. How is it possible that almost fifty percent of students do not understand the explanations to the questions raised in class if everybody is paying close attention? As previously stated, many extra-academic issues could eventually negate a successful academic performance. However, Q #23 ("Am I dealing with personal difficulties beyond my control?") and Q #24 ("Am I feeling overwhelmed?") do not show more than thirty-five percent average positive response for these issues. It must be noted that these issues are related more to stress, poor time management and unrealistic prioritisation, rather than medical problems or any incapacitating physical or psychological condition.

DISCUSSION

The teaching and learning process must be bidirectional, with responsibilities equally shared by both parties. At the beginning of the semester, students signed a contract, in which they agreed to the conditions clearly stated in the document to succeed in CHM 02 class, as presented in the methodology section

The nine key points summarise the students' part of the contract if they want to succeed in the class. Success to a student may mean "mastery" of the subject, which actually translates into a high grade in the course. Success to an instructor is more complicated, as it involves a number of variables such as number and quality of publications, prestige among peers in the instructor's field of study, the degree of campus and community involvement, and evaluations by the administration, mentors and other faculty members. Depending on an institution's customs and policies, the weight placed on student evaluations is a variable, which can have a deciding factor on an instructor's security or survival.

The current BCC evaluation forms, and others like it, primarily focus on evaluating the instructor's role and performance in the classroom, without attempting to reveal or hold students accountable for their role and performance in the process. Class participation by both students and instructors is a 2-part contract, and these contracts and others like it, require that both parties work in earnest to cooperate and fulfil the tasks and objectives stated in the contract. The instructor's role in student evaluation is clear and has been well established throughout history. Instructors evaluate students with assessment tools such as quizzes, exams, class participation, writing assignments, presentation, lab reports, etc. However, if either party will not or cannot perform as expected, then frustration and resentment will surface and dissatisfaction will result.

The SEF forms used nowadays intend to focus mainly on the instructor's performance and the student's level of satisfaction with it. Thus, by design, the results will be one-sided. Nonetheless, if student satisfaction is a by-product of student grades, it might mean that a student with poor academic results will give a poor evaluation to the instructors. So, can this be an impartial evaluation? Or, is it just reflections of the frustration students are experiencing because of weak academic preparedness, lack of motivation, and inadequate study habits that are causing their poor performance, namely, poor grades? The question is, "Are we really evaluating the instructor's performance or are we evaluating the student's satisfaction with his or her own high academic achievement, or dissatisfaction stemming from his or her frustration?"

The reason why the survey used for this study was developed was to derive, hopefully, a more reasonable and objective evaluation of the instructor. The newly developed survey aims to extract an evaluation that is tempered by a degree of student input in terms of their role in the educational process. The new form, shown earlier, includes 10 additional questions (Questions #15 to #24) that focus on the student's role and their responsibility in their success in the course. The answers collected for Questions #17, #18 and #19 clearly measure the level of student responsibility.

Q #17 shows that thirty-four percent of students do not spend enough time to explore and learn the material, Q #18 shows that fifty-seven

percent never utilised the college tutoring services, and Q #19 shows that eighty-one percent never take advantage of the instructor's office hours. As a result, forty-six percent of students complain about the lack of clarity in the explanations during the class time. Without spending the time needed to read the textbook, study class notes, and seek help to solve problems (whether chemical or personal), it is unlikely that students will be able to find clarity in the instructor's lectures and explanations, and it will be impossible to have good results in chemistry or in any other course.

The survey used for this study, in combination with the student's commitment to strive for high academic achievement and regular, timely class attendance, will hold both parties accountable, and may lead to a more objective evaluation of instructor performance. In the end, both students and faculty will have equal chances of finding common ground to ensure a high quality educational experience, while protecting each other from bias and retaliatory evaluations.

Many of the questions are related to one another and are intended to validate responses from other questions within the survey. For example, Q #1 asks if students read the syllabus thoroughly and the results show that fourteen percent of them did not. Therefore, it seems unlikely that ninety-six percent would answer 'yes' to Q #2, when asked if the course objectives were clearly stated. Clarity can only reach this high level if students read the syllabus or were otherwise informed of its contents.

Questions #3, #4, #6 and #9 are somehow related. They are formulated to find out how clearly information is transmitted to students, and how communication in the classroom really is. Is the instructor using sufficient resources to present information in such a way that students are engaged in the process? This seems to be a very reasonable approach. Nevertheless, it does not take in to account if the students are paying attention, and are regularly attending class and are on time. That is why Q #20 and #21, respectively, were introduced. Not surprisingly, the survey shows that ninety-seven percent of students pay attention in class. The students' responses also show that ten percent of them do not attend class regularly and/or do not arrive on time. This is in sharp contrast to the class attendance sheet, which more realistically reports close to thirty-five percent. What is the likelihood that a student who shows up late to class, or simply does not attend, will be able to catch up and fully understand a topic by just asking one question or two? With such high actual lateness and absentee rates, it is only logical that students would respond to Q #9 (that is, explanations during class are clear) with high value of forty-six percent as "No".

For example, let one assume that some students have personal issues that prevent them from going to class regularly and or arrive on time. Q #23 (Am I dealing with personal issues?) and Q #24 (Am I feeling overwhelmed?) focus on these students to determine if these issues are present and how they may hamper academic outcome. Thirty to forty percent of the class responded "Yes" that such issues do exist. To see if the resources offered by the college could help their academic outcome, Q #18 (Am I going for tutoring?) and Q #19 (Am I taking advantage of office hours?) were included in the survey. The survey showed that fifty-seven percent of students did not go for tutoring, and eighty-one percent of people did not take advantage of office hours. In this hypothetical case, these are the very same students who should be looking for help to make up for lost time, or should be doing what is necessary to make up for the topics they have missed out.

Interestingly, ninety-nine percent of students answered, "Yes" to Q #14 ("My responsibilities were made clear to me"). Yet the responses to several related questions are not consistent to this very high positive response. Besides Q #18 and #19 mentioned above, other inconsistent answers were to Q#15, #17 and #22, as follows:

- Q #15 relates to motivation and commitment (Am I really doing my part?), and twenty-eight percent of students admitted that they were not.
- Q #17 (Am I spending enough time studying?), and thirty-four percent of students did not spend sufficient time to study
- Q #22 (Am I taking my responsibility seriously?), and ninety-one percent of students think they are. This remarkably high positive response is puzzling. It is difficult to understand how having a timely class attendance record, looking for help with

tutoring and office hours, spending sufficient time studying and overall, being motivated and committed are not part of a student's responsibilities

CONCLUSION

The results of the eight surveys conducted in this study reveal several important factors involved in the success of the teaching-learning partnership. CHM 02, the introductory chemistry course at BCC, was developed to prepare incoming students for higher-level chemistry courses, required for those planning careers in science, technology, engineering, math and health care. Those who enrol in the course may have never been exposed to chemistry, math or science, or may have taken parts of these many years ago. CHM02 is a skill builder course that will provide students with basic chemical knowledge, lab techniques and math proficiency to help them acquire and sharpen the skills needed to succeed in more advanced chemistry courses.

The original BCC's SEF conveys very important components of the teaching-learning process such as:

1. Clarity and understanding of the objectives and topics to be covered in CHM02.
2. Instructor's communication and preparedness to interact, respond and channel students' interest in the subject.
3. Grading methods, respect and fairness.

The modified SEF has added the additional component of student accountability in order to dig deeper into the consistency of students' answers and to try to identify possible bias in these answers triggered by the students' self-defence mechanism that will invariably try to find an external subject to blame for the lack of better outcomes. The study identified that:

1. Fourteen percent of the students did not read the syllabus, which is to aid them in adequately preparing for their schedules.
2. Twenty-one percent do not feel comfortable asking questions while twenty-one percent are unhappy with the answers to their questions.
3. Forty percent feel like the explanations during class are not clear enough.
4. Seventeen percent feel like quizzes and evaluations are not fair.
5. Eleven percent did not feel intellectually inspired.

These answers do not allow the researchers to draw any conclusions about the level of involvement of the students to get better academic outcomes and the instructor to identify better ways to improve his or her effectiveness.

The modified SEF revealed that:

1. Twenty-four percent of the students are not doing their part.
2. Ten percent are not listening the suggestions to improve.
3. Thirty-one percent are not spending enough time studying.
4. Fifty-two percent have not sought help from the tutoring centre.
5. Sixty-eight percent have not gone to the instructor to ask for help.
6. Twelve percent are not taking their responsibility seriously.
7. Fifty-two and thirty-nine percent attributed their situation to extra academic issues.

These results combined will help the institution to assess, in a more objective manner, the real extension of the impact that the instructor realistically can have in a CHM 02 average class with the current level of students' academic involvement.

Beyond the exposure to basic science and math skills, there are several other skills that are needed for success in any course in any college. From data collected in a separate unpublished study among CHM 02 students (study in progress), it seems that a high percentage of students enrolled in CHM 02 lack several important skills and habits, which are not directly related to the course. These include, stress and time management, study habits, assertiveness, seeking assistance when needed, respecting rules and policies, integrity and perseverance. If these characteristics are not present, the dream of academic success can quickly become a nightmare of stress, anxiety and debt.

RECOMMENDATIONS

The motivational component has been identified in other studies as a pivotal one that should be addressed by itself in a future project.

Social anxiety disorder is a complex issue in itself and it will help enormously to study this issue separately, just to identify how much of the problem is the responsibility of the instructor and what portion comes from different sources.

It is also advisable to expand this study to a larger scale, as higher student participation will allow researchers to draw a clearer picture of the effectiveness of the proposed instrument and the possible changes needed to make it more representative of the whole BCC's student body and perhaps to CUNY at large.

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ABBREVIATIONS

CHMO: Chemistry Level 02
BCC: Bronx Community College
SEF: Student Evaluation of Faculty

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