Refocusing our efforts: A shift from grading to an emphasis on learning

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As we wandered through the halls, we stopped to listen in on the different
classrooms. Over and over, we heard the same familiar refrains: Is this going to be on the test? Am I getting an A? What did you get? Can you give me an extra half mark? Why do we have to know this?

In one room, however, we heard students speaking differently and it made us wonder, What is this teacher doing to make his students so interested in their own learning? Then we heard a clue: Hmm ... Mr. D says I have to work on my intro to make the story more powerful. Can you help me with that? Sure, Charlie, and I need to redo my conclusion before he'll mark mine. Can you edit it for me?

The obsession to achieve high grades at the secondary level is becoming increasingly distressful to us in our teaching; we find it distracts from the process of learning. Many students appear more interested in their grade than in how much they have learned from their classroom experiences. Some students compete against each other, flaunting superior test scores over their friends. Others are embarrassed by their grades, trying to hide their scores or feigning indifference by parading their poor marks. We have also noticed students who base their effort on their current grade. If they are passing or meeting expectations, they invest little time and effort into learning activities. If they are failing or not yet meeting expectations, they exert just enough effort to collect the marks needed to pass.

Students are not the only ones fixated on marks. As teachers, we find ourselves continuously justifying curriculum by the pronouncement: "It's on the test." We emphasize content that will be tested and skim over concepts that are not examinable, yet may be essential for learning. At times, we suspend interesting class discussions in order to plow through the prescribed curriculum. Sometimes talking about grades in class seems more important than talking about learning. Instead of bowing to the pressures created by increased curriculum standards and mandatory tests, such as provincial exams, the focus of teachers should be on learning.

In our study, we are interested in shifting the focus away from grading and towards learning. This interest raised a number of questions in our minds. What motivates students to work well in school? Are they motivated to learn or only to achieve certain grades? What are the effects of grades on motivation? Are grades punishments or rewards? How can teachers promote student motivation? How do intrinsic and extrinsic motivators affect learning?

**Background**

Initially, we became interested in the issue of grading by reading the work of Alfie Kohn (1998). Kohn argues that the practice of grading needs to be questioned not merely improved. He also questions the sorting purpose served by grading and the negative effect of grading on the student's desire to learn. In our review of the literature, we found several articles related to motivation and the impact of rewards on motivation. We were also able to find research about assessment and evaluation and how they may or may not support learning. We did not find research that treated grades as rewards and punishments for students. Apart from Kohn's work, we did not find research specifically commenting on the effects of grades on motivation to learn. Our research examines the link between student motivation and grades.

In order to guide our inquiry, we primarily used the work of Richard Ryan and Edward
Deci to understand motivation. Ryan and Deci (2000) define intrinsic motivation as "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore and to learn" (70). Whereas intrinsic motivation refers to doing an activity for the enjoyment of the activity itself, extrinsic motivation refers to the completion of a task for some separate reward or outcome. Intrinsic motivation is natural, and when students are genuinely interested in a task, they will complete it without external incentives. Unfortunately, many learning activities, including tests, are completed not because they are enjoyable, but rather, because they result in marks and grades (Delisle & Hargis, 2005). In this way, we will consider marks and grades as forms of extrinsic motivators, whether they are used as rewards or punishments.

When students are graded, they are constantly reminded to think about the rewards or punishments they will receive for an assignment or test. Therefore, their motivation to learn decreases (Kohn, 1998). For example, students will choose to solve easier problems when they are told that they will be graded (Butler, 1987). The outcome may be a higher grade, but the result is a decrease in learning. Moreover, according to Butler, grades tend to focus students on their performance relative to others, rather than on the task itself. When marks are removed, students are able to value the task itself and gain satisfaction by demonstrating their competence in completing an activity.

Meta-analyses by Cameron and Pierce (1994) and Cameron, Banko, and Pierce (2001) found that, in general, there are no persistent negative effects of rewards on intrinsic motivation. However, by examining the effects of specific types of rewards, they found that expected task contingent rewards produce a negative effect on motivation. These types of rewards are given when an individual completes an activity regardless of performance quality. Performance contingent rewards, when given to an individual meeting a set of standards, were found to produce a positive effect on motivation. This was especially evident when the rewards were informational rather than controlling. Therefore, Cameron, Banko, and Pierce suggest some forms of external rewards actually support students' motivation to learn. Ryan and Deci (2000) argue that if those external rewards are used to control students and diminish autonomy, then they decrease intrinsic motivation.

Deci, Vallerand, Pelletier, and Ryan (1991) identify three factors that will promote motivation. First, in order for a student to internalize and accept the value of uninteresting tasks she needs to experience relatedness and connectedness. The tasks should be modeled or valued by others, such as peers, teachers, or parents, to whom the student has an attachment. Second, the student must experience perceived competence. The tasks must be within the student's current level of ability and skill. Third, the student must feel "freedom from excessive external pressure toward behaving or thinking a certain way" (Ryan & Deci, 2000, p. 74). In other words, the student must possess a feeling of autonomy or a sense of choice.

The purpose of our study is to determine if students' motivation to learn increases, decreases, or remains the same when grades are neither used as a significant motivator nor considered equivalent to learning. If teachers avoid using grading as an extrinsic motivator and focus on engaging the students in learning, will they promote intrinsic motivation in students and improve their feelings of success in the course?

**Setting**

The study took place at the start of the second semester in a suburban secondary school with a population of approximately 1000 students. We asked 75 students (aged 15-17)
enrolled in three sections of Physics 11 to contribute to the study. In total, 34 students (and their parents) agreed to participate.

In order to support learning, we organized the classroom for students to easily sit in groups of four. During the first three weeks of the course, class time was spent practicing protocols for working effectively in groups, in order to increase connectedness and relatedness. We refrained from referring to grades, report cards, or tests while speaking to the whole class. Individual students were able to have conversations with us on these issues, but they were not mentioned in class. Most importantly, we avoided any suggestion that classroom activities were necessary for the unit test or for earning high marks. Instead, we insisted that classroom activities were valuable as a means of learning new ideas.

The lessons initially focused on developing students' concepts of physics, such as air resistance and gravity. Next, the students were encouraged to invent explanations for everyday observations related to these topics. For example, one student attempted to explain why a car accelerates down a hill; another tried to describe the space between planets and stars. The students then compared their own explanations with theories supported by scientific research. Later in the semester, they conducted their own scientific investigations.

In preparing the first unit, we took into account factors that have been shown to increase motivation: providing choice of topic, allowing students to share their learning with peers, being involved in the assessment process, and relating activities to students' lives (Brewster & Fager, 2000). The main assignment during the first unit required students to invent a theory to explain an observation or concept related to physics. In order to involve students in the assessment process, the classes discussed criteria and created a rubric for the project. They were given time to practice their presentation and receive feedback from a peer. They submitted their theory as an essay and shared their learning with their peers via a short oral presentation.

At the end of this unit, the students who participated in the study completed a questionnaire during class. We tallied the students' responses into a table (refer to Table 1). The questionnaire responses were used to help guide interview questions the following week.

**Table 1: Summary of Questionnaire Responses**
Of the 34 participants, the names of 8 students plus 4 alternate names were drawn at random to participate in an interview. Seven of the students were available to attend a lunchtime group interview. These were all males. Four remaining participants whose names were drawn (all of whom were female) agreed to attend a morning group interview the following week. In total, we interviewed eleven students to ensure a better representation of the three classes (i.e. some males and some females). Audio recordings of the interviews were analyzed for common, recurring and significant themes related to our research question. In a follow-up session, we asked the participants to clarify some of the points raised during our initial analysis of the data.

**Key Findings**

A summary of the questionnaire responses is shown in Table 1. Analysis of the responses, as well as the interviews reveals the following key ideas:

1. **Tests and grades cause significant stress for students**  
   Students disliked having the stress that worrying about grades put on them throughout the learning process. During the interviews, all of the students identified tests and grades as a major source of stress. Lucy, one of the school's highest achievers, admitted "just the mention of what's on the test makes me nervous." Despite the teacher's deliberate effort to limit talking about marks and grades, a significant number of participants continued to be concerned and worried.
2. Grading and competition

It became evident through the interviews that these students were very motivated to succeed in school and life. Their success did not have to be defined by a letter grade. As summarized by Patty, "I like the idea of not being focused on marks. Personally, I don't care what my marks are as long as I am learning." If grades did not exist, these students would still be motivated by other factors, such as personal satisfaction, meeting family and peer expectations, qualifying for university admissions, and reaching career goals. Franklin declared, "Having a good life later motivates me to accomplish things in school."

However, it should be noted that when asked what motivates them to do well, many students, like Joe, reported that they thrive on competition with others and they use grades for comparison. "Grading allows me to compare my marks with others; if I'm not doing as well as others, I seem to try harder!" admitted Charlie. Moreover, students confessed that they or their friends use bribes as extrinsic motivators. "Some individuals would be motivated to do well if they received an mp3 player for Christmas as a reward," joked Charlie.

3. Students enjoy learning new ideas

"I was motivated to go out and actually learn about my topic," recalls Joe, "because, for one, it was something I was rather interested in and, secondly, it wasn't like there was any pressure to be the best or to overachieve. Once I started, I just wanted to do a good job, not for any external rewards or grading, but because I felt I owed it to myself."

Intrinsically motivated students are willing to work on activities they find personally interesting. They do not need extrinsic rewards (Leo & Galloway, 1996). Several studies describe self-reported interest and free time on a task as measurements of intrinsic motivation (Butler, 1987; Cameron & Pierce, 1994; Cameron et al., 2001). To help determine intrinsic motivation, we analyzed questions 7, 11, and 14 of the questionnaire. Students reported they were interested, focused and willing to put more time and effort into the unit.

4. Thoughtful planning can increase student interest and motivation

The majority of participants enjoyed the learning environment. They appreciated having
both, a choice in topics of study, and the opportunity to share their learning with others. Both factors have been shown to increase intrinsic motivation (Brewster & Fager, 2000).

Ryan and Deci (2000) noted that "choice, acknowledgment of feelings, and opportunities for self-direction were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy" (70). Teachers who are "autonomy supportive (in contrast to controlling) catalyze in their students greater intrinsic motivation, curiosity, and desire for challenge" (71). According to the students, they enjoyed choosing a topic that was of interest to them and found they spent extra time researching their topic. As Charlie stated, "It's better this way . . . It allows people to do what they're interested in . . . If they're already interested, then they will have the drive to push it all the way to the end." Charlie also liked the way the class was arranged for working with peers, "When we're in a group, it's three or four brains working at once and if you share your idea with someone else, they can give you input and they can give you ideas about what they thought of your project."

**Implications for Teachers**

Classrooms recognizing both intrinsic motivation and autonomous forms of extrinsic motivation have been linked to more enjoyment of academic work, staying in school, higher achievement, higher conceptual understanding and more well-adjusted students (Deci et al., 1991). If we also consider our four key findings, then we recognize there are definite implications for teachers. First, educators must de-emphasize tests and grades in order to alleviate some of the stress students experience as a barrier to effective learning. Second, teachers must realize that students are externally controlled by grades and this will hinder their growth as self-directed, autonomous learners (Deci et al., 1991; Ryan & Deci, 2000). Third, the competition among students resulting from grade comparison may be interpreted by some as a positive motivator, but others would argue grades are a poor substitute for self-motivated learning. Finally, teachers can more effectively utilize students' personal interests to support learning.

During our interviews, we were extremely surprised to discover just how much stress teachers impose upon students when tests and grades are used to judge their learning. Lucy said, "If I start thinking about it [grades] I'll just stress out so much that I won't accomplish much . . . I'll just waste my time worrying all night so I never actually think about it." Two students who are very successful at writing tests spoke about how stressed they are when teachers just start talking about what will be on a test. Marcie lamented, "I'm really bad at tests, I don't know why." Sally chimed in, "Because tests are timed I get really nervous . . . and I start panicking if I don't know one question because I don't know how to skip it."

From a student's perspective, tests are both stressful and somewhat unfair as they are not necessarily a good indicator of what they know. A study by Grolnick and Ryan (1987)
demonstrated that students showed lower interest and poorer conceptual understanding when asked to learn material for a test compared to learning material with no mention of a test. As teachers, we feel strongly that learning for a test is an ineffective and unfair reason for students to invest time and effort into a course. Lucy told us, "It's just testing your memorization skills for some subjects. You just start memorizing everything and then on the test you just blurt out all the stuff you memorized . . . and that's not knowledge, that's just memorizing stuff."

Teachers can help reduce student anxiety by deemphasizing tests and incorporating alternate assessment strategies that demonstrate learning. In addition, it would be beneficial to transform the use of tests and grades from judgmental and unfair to informational and helpful to the learning process.

Charlie noted how the school system makes learning difficult. "You have to figure out the difference between memorizing and learning, because I think with the grading system kids will memorize, not learn, and after a period of time they'll forget it." As well, Roy noted, "Your grade doesn't really tell you how smart you are."

Ironically, students identified grades as one of their main motivators for studying and completing assignments. All of the students interviewed are interested in achieving high marks in order to attain entrance to university or college and ensure opportunities for the future. When asked what motivates them to do well and be successful in school, most admitted that one of their main driving forces is competition with their peers.

Clinkenbeard (1983), however, argues against a competitive environment where students' success is based on beating others. Instead she recommends a move towards an environment in which learning is seen as an end in itself and feelings of competence are found through personal improvement. A possible solution for teachers would be the use of informative comments. Comments, instead of numerical grades, emphasize learning, rather than competition between students. Sally explained, "If you give a comment, you can be really specific . . . Sometimes you feel like you don't deserve a grade . . . I guess because you don't know what you did wrong . . . With a comment you know what you did wrong and you know how you can improve and I think a grade is really vague in that sense."

During the physics unit, we felt that talking about learning in class was better for students than discussing marks and tests. The students also responded favourably. Linus commented, "I like this style of teaching because I find I am less stressed out . . . I do not have burdens on me when I come into the class each day . . . I just have to be ready to learn." Joe remarked, "I think it's good the way this is done [the physics unit] because now I don't really have to worry about my grade . . . so I can concentrate more on actually taking in information." On the first day of the course, a majority of students admitted they were in Physics 11 because it was a requirement for some post-secondary programs. Initially, only a few students indicated that they were interested in the course itself regardless of requirements. However, more students expressed increased interest during the first unit.

When students are genuinely interested in a learning activity, extrinsic motivators are unnecessary. They will complete the task for its inherent value. We promoted individual interests by giving choice about learning topics and allowing students to share their learning with peers through group discussions and presentations to the class. Students reported that they were interested in the assignments and some indicated investing free time for continuing class discussions. Despite some students' initial apprehension to speak in front of the class, all students successfully completed the unit on time. No external rewards or
threats were offered with regards to completion and deadlines.

When teachers support learners to become more self-directed and autonomous, the learning is more successful and worthwhile. If teachers focus on learning for its own sake instead of trying to push and control students with rewards or threats of grades, then they will foster students' intrinsic motivation to learn.

Conclusions

According to the findings of our research and our review of the literature, if teachers avoid using grading as an extrinsic motivator and focus on engaging the students in learning, they will promote intrinsic motivation in students and improve their feelings of success in the course. We found evidence that students' motivation to learn increases when grades are neither used as a significant motivator nor considered equivalent to learning. Unfortunately, our study focused on only one unit of a course and marks and grades were still used in the remainder.

The education system is supposed to value learning, yet we hold students and teachers accountable based on percentages and test scores as if they reliably and accurately measure learning. As teachers, we can certainly improve grades by teaching to the test. However, students do not necessarily learn anything worthwhile when this approach is used. Ideally, if we truly value learning, students would be able to choose an individualized pathway based on their abilities and interests. Moreover, they would help decide what would be learned, how it would be learned, and how it would be assessed.

Our research has made us more sensitive to students' motivations and the stress students experience when marks and grades are used to motivate them into completing tasks of little interest or relevance to them. Threats of failure and low grades, deadlines, pressured evaluations and tests, and imposed goals decrease intrinsic motivation because they support the perception of an external locus of control (Ryan & Deci, 2000).

Learning occurs without the use of grades. However, since the educational system uses grades for accountability, it is essential for teachers to consider carefully how and why they use them. Grading practices should not be used to coerce, punish, or reward students.

Conventional schooling has been organized in ways that allow young people little say in what and how they learn . . .Young people's relative powerlessness is nowhere more evident than in conventional grading practices, which train students to look to their teacher (or some externally imposed standard) as the final arbiter of the quality of their own thinking, work, and potential. (Kelly & Brandes, 2005, p. 17)

Unfortunately, students and parents have an expectation to acquire marks and grades at school. This tradition is difficult to replace or question. However, it is possible for teachers to create classrooms and lessons that allow students to become more involved in the learning process. Students benefit from exercising more control in determining their grades and understanding how and why certain learning activities should be graded.

Although grades are required by the present educational system, this should not prevent questioning the use of grades and rethinking how feedback is given to learners (Kohn, 1998). Our action research has made us much more aware of our grading practices and
their effects on our students. The emancipatory form of action research does not accept the social world as it currently exists but criticizes and attempts to improve it (Tripp, 1990). "It is not simply a matter of challenging the system, but of seeking to understand what makes the system be the way it is, and challenging that, while remaining conscious that one's own sense of justice and equality is itself open to question" (161).

If we are to be socially just, the quest to improve assessment must continue. What types of assessments cause students less stress and can replace tests? Is there a less stressful grading system that can focus students on learning and still satisfy accountability aims? Can the curriculum become more flexible so that students are able to explore their own interests rather than be forced to study prescribed topics? These are some of the questions we now consider as we further explore our philosophies of teaching and learning, as well as our roles in the classroom.

**Reflections one year later**

One year after we first started thinking about our action research study, we look back at what we accomplished and how we changed as teachers. As researchers, we asked ourselves a lot of questions about what we do in the classroom and why we do it. We had the opportunity to listen to our students during interviews. Instead of hearing them talk about course content, we listened to their feelings about school and grades specifically. The dialogue with students and the opportunity to regularly reflect on our practice was invaluable. We continue to think about the significance of our research on our teaching. Our philosophy about grading has changed but we find it difficult to implement practical changes in the classroom.

On the one hand, we are more thoughtful about our use of marks and grades. We try to ensure that our assignments are worth doing and worth assessing rather than marking an assignment in order to raise its importance. We also attempt to minimize tedious busy work.

On the other hand, it definitely takes constant effort and awareness to minimize classroom talk about marks and grades, because we are so trained at assigning marks and grades to students. From our students' perspective, grades add credibility and importance to assignments. For example, students tend to work really hard on a test for marks but are not interested in completing practice questions prior to the test. We also find ourselves repeatedly justifying learning outcomes and activities by referring to the fact that they will be on the test. In our Physics 12 and Biology 12 classes, we feel compelled to tell students to learn it because the provincial exam will have a question about it. We are disappointed every time we say it but too often this appears to be the only way to get the students' attention.

In many instances, the students want to be pushed by marks. Some of them are fixated on competing against others in the class. As well, parents often ask about grades and test scores. And still, teachers talk about marks and grades as if they were the ultimate goal in a successful education. We have a lot of work ahead of us as we try to change the culture of grading for students and their parents and teachers.

**References**


**About the Authors**

John Sarte has taught secondary science and senior Physics. Sherri Hughes has taught secondary science and senior Biology. At present, they are interested in teacher and student perceptions of assessment practices and classroom curriculum. They continue to work on developing a culture of learning that is not dependent on traditional forms of grading.