# Students’ unfair struggle to choose between learning, grades and their future

# Patric Wallin, Lisa Rundberg, and Erica Sandström

# Introduction

In response to a rise in neoliberal ideology and practices, educational landscapes all over the world have changed in profound ways during the last few decades, (Connell, 2013). The emphasis on markets and businesses has greatly changed the language used in education, and as Giroux (2002) pointed out “one consequence is that civic discourse has given way to the language of commercialism, privatization, and deregulation.” It is through the emphasis of the free market and market driven agendas that neoliberalism reshapes education with the aim to increase its efficiency, and promote individualism, competition, and consumption in society (Harvey, 2005).

Concrete examples of this change are the conceptualization of students as consumers of higher education institutions (Molesworth, Nixon, & Scullion, 2009), the increasing importance of rankings (Hazelkorn, 2011), and the emphasis of university branding (Chapleo, 2010). These changes, together with the high number of students applying for higher education, have strong effects on university admission processes. University admission has become a double-sided competition where students compete to be accepted into prestigious universities, and universities compete for the “best” students (Olssen & Peters, 2005).

In Sweden, neoliberalism had a tremendous impact on education in general and upper secondary schools in particular (Symeonidis, 2014). From a strong tradition of a welfare state with a centralized education build on democratic and egalitarian values, the Swedish education has since the late ‘90s become one of the most decentralized and market-orientated education systems in the world (Lundahl, Arreman, Holm, & Lundström, 2013). The stronger emphasis on free school choice and the individual that is responsible for their own success and failure, together with a focus on testing, has created a difficult situation for students to appreciate learning as having value on its own. Lund (2008) showed through critical discourse analysis how these changes have influenced students’ choices of schools and programs in upper secondary education, and the underlying discourses of these choice paths. In more general terms, upper secondary education has become mainly a stepping stone into higher education, and eventually the job marked for many students (Molesworth et al., 2009).

At the same time, there is a move towards student-centered education, where students are actively engaged in developing an answer to the problem, rather than finding the right answer (Sjöberg, 2011). An increasingly desired outcome in education is the ability of students to engage in lifelong learning (Ambrose et al., 2010). Based on the argument that “only lifelong learners will be able to keep up with the explosive growth of knowledge and skills in their career and to retool into a new career after their previous one runs its course” (Nilson, 2013).

In the light of these changes in the educational landscape, it is very interesting to take a closer look at how young adults cope with the transition between upper secondary school and higher education. The departure point for this study is the chemistry laboratory and the use of pictorial instructions, and it is within this context that we start to see glimpses of more general and fundamental aspects of the education system that influence students. From seeing the students in class and talking to them, it becomes clear that neoliberal discourses in education influence students, and here we start to explore in what ways this affects students’ views on education and approach to learning.

# Background

## University admission in Sweden

In order to be eligible for admission in higher education in Sweden, one needs to first fulfill the general requirements by completing upper secondary education with a certain amount of passing grades, and second needs to go through a selection process (Universitets- och högskolerådet, 2017). The selection process matches the fixed number of place for undergraduate students in Sweden to the applying students. There are two main selection criteria: grade point average (GPA) from upper secondary education and the results from the Swedish Scholastic Assessment Test (sweSAT) (Löfgren, 2005). The GPA is calculated from all grades in upper secondary school (three years) and ranges from 1-20, in addition up to 2.5 additional points can be earned by reading qualifying courses (Universitets- och högskolerådet, 2017). The sweSAT is a standardized multiple choice test given twice a year to allow people to improve their chances to be admitted to the university program of their choice. The number of places assigned through each selection criteria differs from university to university, but at least 1/3 should be distributed by GPA and 1/3 by sweSAT. The remaining places can be distributed through selection criteria designed by each institution, or by extending the places for GPA and sweSAT based selection (Universitets- och högskolerådet, 2017).

In 2016, 57% of all undergraduate programs in Sweden had more than one application per available place. However, there are large variations in popularity and number of applications amongst different disciplines, programs, and universities. This leads to large differences in what results applicants need in their GPA or sweSAT in order to be accepted. One example is the engineering program “industrial economy”, where applicants in 2016 needed a GPA of 14.02 at Mittuniversity, 15.89 at Mälardalens university, 20.78 at Linköpings university, and 21.88 at Lunds university (Universitets- och högskolerådets, 2016). In more general terms, there are certain universities that are much more prestigious than others and with much higher entry requirements, even though the degree is the same at the end.

## Chemistry laboratory exercises

Laboratory exercises in the natural science subjects have a long tradition in upper secondary schools, and are often described to help students to gain practical experience in the laboratory (Elliott, Stewart, & Lagowski, 2008). However, often laboratory exercises are reduced to expository lessons that require the students only to follow a specific set of instructions without much reflection and independent inquiry. During laboratory work, students’ and teachers’ time for “meaningful, conceptually driven inquiry” is often seriously limited because the technical and inflexible details of the task consume most of their time and energy (Hofstein & Lunetta, 2004).

One way to enable student driven inquiry and promote meaningful learning experiences in laboratory exercises is to focus on student centred approaches and use instructions that are designed to promote students’ own ideas and strategies (Wolf & Fraser, 2008). Pictorial instructions in particular can enhance student collaboration and provide them with multiple cognitive pathways to grasp the information (Zadina, 2014).

There is strong support in the literature that instructions that focus on students’ ability to ask their own questions and develop their own inquiry approaches can greatly support students in coupling theory and practice, as well as build deeper and more holistic conceptual models of the subject area (English & Kitsantas, 2013; Hmelo-Silver, 2004; Madhuri, Kantamreddi, & Prakash Goteti, 2012; Zacharia, 2003). Despite the positive research findings, adaptation rates are low and according to a review of laboratory instructions styles by Domin in 1999, the most common instruction style, at that time, remained the expository instruction that leaves little room for the students own ideas.

Recent reforms of upper secondary education in Sweden aim at overcoming this problem and highlight the importance of student driven inquiry (Skolverket, 2016). For chemistry education, this reform means both changes in the curriculum, as well as the way chemistry is taught and assessed in schools. The aim is to create a stronger alignment between the students’ laboratory and theoretical work, as well as promote student centred inquiries during the laboratory work. To achieve this aim, five important areas are highlighted that chemistry education shall provide student development opportunities in:

1. Knowledge of concepts, models, theories and practices in chemistry and understanding of how these evolve.
2. Ability to analyse and answer questions related to the subject as well as to identify, formulate and solve problems. Ability to reflect on and evaluate the chosen strategies, methods and results.
3. Ability to plan, implement, interpret and present experiments and observations as well as the ability to handle chemicals and equipment.
4. Knowledge of the importance of chemistry for the individual and society.
5. Ability to use knowledge in chemistry to communicate as well as to examine and use  the information.

It needs, however, to be seen how this reform will be perceived by students and teachers, and how it will impact classroom practices in an education landscape that focuses strongly on grades and assessment. One of the central problems is, as Symeonidis (2014) pointed out: “Students are learning how to pass exams and not how to work together or how to appreciate learning in itself.”

# Research context and approach

The research context for this study are two municipal upper secondary schools in the Gothenburg area (Sweden). Both schools have relatively high minimum entry qualification requirements and similar student populations, with a majority of students aiming to continue their education at universities afterwards.

Empirical data was collected through classroom observations (6 classes) and focus group interviews (12 groups) over five weeks during the spring 2016. For the observations, a qualitative unstructured approach was used that focused on the whole class, the overall impression of the students work in the laboratory and their social interactions. The aim was to better understand and interpret students’ cultural behaviour and their everyday routines during the laboratory exercises as they occur by focusing on emerging patterns situated in the students’ own actions (Mulhall, 2003). All the individual notes from the observations were written as a storyline soon after the event to fully profit from the immersive experience of observing the students in action.

Using the observations as a starting point to define areas of interests, the focus group interviews were used to gain more in-depth information about students’ experiences and viewpoints regarding the emerging topics (Ritchie & Lewis, 2003). The aim with the interviews was to better understand why different types of phenomenon occur, to explore the students’ reasoning, and to see school life from their perspective (Legard, Keegan, & Ward, 2003). The reason to choose focus group interviews was to capitalize on communication between students in order to stimulate memories and reflections on experiences, as well as to explore cultural values and procedures that are shared by the members of the group (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). Interviews lasted between 45 and 70 minutes, and were all audio recorded and transcript soon after the event.

All material was analyzed together using an inductive data analysis approach to capture emergent categories (Ritchie & Lewis, 2003). In the first step, the data was read and listened to multiple times, before it was deconstructed into units of meaning by pulling out quotes and passages of interest. Afterwards, units of meaning were used to construct categories that captured emergent topics of importance in the data. At later stages of this iterative process of deconstruction and construction, literature was used to provide an additional perspective and departure point for analysis of the data. The aim was to let the data speak for itself and explore the situation from the students’ perspective. In this way, it was possible to discover underlying reasons and actual effects, not only anticipated ones.

# Results

The initial classroom observations allow us to see how students act and interact in class during their chemistry laboratory exercises. It is through these observations that we can better understand and interpret the students’ cultural behaviour and their everyday routines. From the observations, it becomes clear that the students’ actions, interactions, and foci are not bounded by the chemistry laboratory exercises. One aspect that plays a strong role for the students are upcoming tests and exams in any of their courses:

(25 min) Group 3 worries about a test that they will have later today and talk about it for a long time. They look into their books – not their chemistry books, but the book needed for the test later.

(45 min) After working a little bit more on their chemistry laboratory exercise, group 3 has returned to talk about the upcoming test.

(60 min) Group 3 is rehearsing and try to prepare as good as possible for the test.

*(Observations Class 1)*

Upcoming tests play an important role for the students and greatly influences the way that these young adults work on their chemistry exercise. It takes away focus from engaging and learning from the class that they are in right now, and instead the students think ahead to the next test that they need to perform.

The prominent role of test and exams is further illustrated by the way students not only talk about the content of a test and what they need to know, but by engaging in more general discussions about exams and testing practices:

(35 min) Group 4 starts to talk about a biology exam, which they will have later today. They start to involve some other groups and soon the discussion is about oral and written exams in more general terms.

*(Observations Class 5)*

These observations serve as a starting point for the focus groups interviews that allow us to better understand the students and see glimpses of which underlying reasons and discourses influence young adults and their daily school life.

We wanted to explore why grades play a central role in how these young adults approach different learning situations and education as a whole, and what consequences this might have. When asked directly why grades play such an important role for them, the single most important factor that students talk about is the importance of grades to be able to freely choose a university and study program after school:

Lisa: Why do you think you are focusing so much on the exams?

Anders: One wants to have good grades or so…

Maria: Yes that’s the way it is.

Lisa: Why do you want to have good grades?

Maria: Because… because we want to come in [at the university] where we want and… and there is a lot of pressure in our class as well…

It is not necessarily that the students exactly know what they want to do after school, but they want to have high grades in order to be able to choose without restrictions. They do not want to be the only ones not being able to choose.

While grades play a central role for the students, they are not really sure about how they are formed. The students know that tests have a big influence on their grade, but that also their performance in class plays an important role. It is this second aspect that students are most unsure about. This uncertainty on how their work in class is assessed creates an environment where the students become afraid to ask the teacher questions, because they do not want to show when they do not understand something. They believe that this could influence their grade negatively:

Peter: I do not really know how we are assessed on the laboratory work [...] You do not want to ask to much because then you might show that you do not understand [...] You do not want to do the wrong thing because the practical work is being assessed as well.

In this way, the students see the laboratory work not first and fore most as a place for them to gain understanding, but a place to show the teacher what they are already able to do:

Clara: I know that the teacher assesses this, the laboratory work is still a part of the grade. [...] [For] me it’s important that the execution is right because that’s what I know the teacher is assessing. I also think that it is important for me to do the right thing and to think right because I know the teacher might not tell you “Now I’m assessing you” but I know they still do it.

For some students, this becomes an internal conflict, where they are unsure when and what to ask, and what questions to avoid. On the one hand, they could learn something new from asking, on the other hand they believe it could affect the teacher’s perception of them negatively. The students are unsure of what they are supposed to learn and what they should know already. They do not want to risk the teacher finding out that they do not know something that they already should be familiar with by asking a wrong question:

Anna: I get a little bit like this “should I ask the teacher, will he think that it is good that I ask or will he just, oh she really does not understand”.

Not knowing how they are assessed and on what grounds creates an environment where the students become afraid to ask and to do something wrong, which greatly limits their opportunities to learn. This is something that the students are completely aware about and it is something that troubles them. They know that some of their approaches are focusing only on grades and tests, and that they actively choose these strategies over the once that they belief would help them to learn better:

Tim: It is a bit sad that all our focus is on what we need to learn for the test, but that is what always happens. We have to [learn it], not because it is part of the course or the topic that we are exploring at the moment but because “we have to know this exercise because it will be on the test”.

One of the students even explained that gaining a greater understanding was one of the things she looked forward to when she moved up to upper secondary school, but now when she is here she feels as though it still is not what she is spending her time developing:

Isabella: Before I started upper secondary school, I thought “once I am in high school I will work in the chemistry laboratory and run experiments, but I will not only see and do stuff, but I will understand why”. However now that I am here, it feels like I still do not understand why, I still just do it without really understanding what really happens when I do it, but that would be the interesting part.

Situations that could have been exiting challenges instead become a source of stress because of the thought of how it will affect the grades:

Daniel: On one hand you think that it is a little bit fun. At least I think that problems are fun to solve. So in that regard it can be fun but on the other hand you get really stressed by the situation. Maybe not by the laboratory work by itself but by everything thing around it, like if a teacher walks past and thinks “what ARE you doing?”.

The group pressure that students talk about should not be misinterpreted as being overly competitive amongst each other and the desire to be better than the others. The students help each other through out the laboratory classes, ask each other questions, and explain things to each other:

Julia: [When work at the same table as other groups,] one can always discuss fairly easy with each other without having to run around the room  in order to find someone who knows what you want to know.

In some way, the students stick together and help each other out, in order to avoid asking the teacher too much in fear to lower their grade. The pressure has to do with gaining the privilege to freely choose a higher education through good grades, and not being left out.

# Discussion

The interviews with the students, as well as the observations, allow us to better understand how students approach school and what shapes their learning experiences. By seeing them and listening to them, it becomes possible to unveil the side effects of the current system of university entry requirements and admission processes, as well as the struggles neoliberal ideology has created in education.

These young adults explain how they focus on grades and assessment, and how they sometimes feel that they prioritized grades over learning. This in itself is not so surprising, and many studies have looked at students’ approaches to learning in different contexts and situations after Marton’s and Säljö’s (1976a, 1976b) seminal work in the area. What is interesting though is to explore what influences and shapes these approaches. It is interesting to learn from the students that the main reason for the focus on grades is to be accepted at the “right” university, and the possibility to choose. These young adults want to be prepared for the transition from school to university. It is not only previous classroom experiences on local and personal level that will shape students approaches and strategies for learning, but the way society and institutions describe, communicate, and incentivize learning on a more systematic and general level (Giroux, 2002).

In the current education system, there is a paradox, where learning is assessed through high stakes testing, and grades are used to select students, but at the same time reforms aim to emphasis student-centered learning and focus on developing self-regulated learners that value learning and education (Shepard, 2000). Young adults are left alone to figure out how to best navigate through this system, and what priorities to choose (Symeonidis, 2014).

The departure point for this study was the chemistry laboratory and the use of pictorial instructions that were prepared for eight different chemistry laboratory exercises (Rundberg & Sandström, 2016). However, it quickly became clear that the change in instructional design had very little immediate effect on students, and is overshadowed by the omnipresent of grades and assessment. In the interviews, the students explained how they are aware of that focusing on tests and grades is not necessarily helping their learning, but at the same time grades are important for their future. Being in the center of this paradox made the students sad and feeling helpless, as they do not know how to balance both aspects. While the pictorial instruction might not have had a strong direct effect on the students, they serve as a trigger to stimulate students to evaluate, access, and think about their deeper beliefs and values (Ling & Marton, 2012).

The young adults in this study are struggling, but they lack the necessary tools to critique the system and boundary conditions itself that creates the situation that they are in. The way neoliberal ideology has influenced education has reduced the ability of students to critique the system itself by emphasizing individualism, competition, and consumption (Harvey, 2005). Neoliberal discourse maintains, as Fischman (2009) pointed out, that “schools should be apolitical institutions, implementing scientifically verified ‘best practices’ which will be assessed through standardized testing”. Instead of educating critical and democratic citizen, the focus has shifted towards educating consumers that function in the work place (Giroux, 2002).

Listening to these young adults and understanding their struggles in the education system in more detail is an important step to be able to better help students in the transition from schools to universities and provide them with the tools to look beyond the current way education works. The current education system leads students to perceive learning as a stepping-stone to be able to get a good job, and schools become a place of preparation for a world, where grades are used as a selection filter (Schommer & Walker, 1997). The emphasis on grades, test scores, and merit in society and in the university admission process is a strong influence for young adults (Alon & Tienda, 2007), especially in the population of high performing students that were part of this study. It means that everyone is responsible for their own success, but also that the ones that do not succeed are failures and responsible themselves (Symeonidis, 2014). This creates a lot of stress for all students, the ones that are later accepted to their chosen university and program, as well as the ones that are not.

In this study, we capture glimpses of young adults at the transition between upper secondary school and higher education. More studies are clearly needed to better understand how this life phase is influenced by predominant neoliberal discourses, and to make sure that the voices from these young adults are heard and listened to. It is in the students’ struggles, learning opportunities are lost and the joy for learning is damaged, at a time when lifelong learning, critical citizenship, and democratic values are needed more than ever.

# Acknowledgments

We would like to thank all the students that participated in this study, and their teachers for opening their classrooms. We would also like to thank Tom Adawi and Jens Kabo for interesting discussions during the study.

# References

Alon, S., & Tienda, M. (2007). Meritocracy in Higher Education. *American Sociological Review*, *72*, 487–511.

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., Norman, M. K., & Mayer, R. E. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.

Chapleo, C. (2010). Branding a university: adding real value or “smoke and mirrors”? In M. Molesworth, R. Scullion, & E. Nixon (Eds.), *The Marketisation of Higher Education* (pp. 101–114). London, UK: Routledge Taylor & Francis Group.

Connell, R. (2013). The neoliberal cascade and education: an essay on the market agenda and its consequences. *Critical Studies in Education*, *54*(2), 99–112.

Elliott, M. J., Stewart, K. K., & Lagowski, J. J. (2008). The Role of the Laboratory in Chemistry Instruction. *Journal of Chemical Education*, *85*(1), 145–149.

English, M. C., & Kitsantas, A. (2013). Supporting student self-regulated learning in problem- and project-based learning. *Interdisciplinary Journal of E-Learning and Learning Objects*, *7*(2), 128–150.

Fischman, G. (2009). Introduction. In D. Hill (Ed.), *Contesting Neoliberal Education – Public Resistance and Collective Advance.* (pp. 1–8). New York, NY: Routledge Taylor & Francis Group.

Giroux, H. (2002). Neoliberalism , Corporate Culture , and the Promise of Higher Education : The University as a Democratic Public Sphere. *Harvard Educational Review*, *72*(4), 425–464.

Harvey, D. (2005). *A Brief History of Neoliberalism*. New York, NY: Oxford University Press, Inc.

Hazelkorn, E. (2011). *Rankings and the Reshaping of Higher Education: the Battle for World Wide Excellence*. New York, NY: Palgrave MacMillan.

Hmelo-Silver, C. E. (2004). Problem-Based Learning: What and How Do Students Learn? *Educational Psychology Review*, *16*(3), 235–266.

Hofstein, A., & Lunetta, V. N. (2004). The laboratory in science education: Foundations for the twenty-first century. *Science Education*, *88*(1), 28–54.

Legard, R., Keegan, J., & Ward, K. (2003). In-depth interviews. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice: A guide for social science students and researchers* (pp. 138–169). Thousand Oaks, CA: SAGE Publications.

Ling, L. M., & Marton, F. (2012). Towards a science of the art of teaching: Using variation theory as a guiding principle of pedagogical design. *International Journal for Lesson and Learning Studies*, *1*(1), 7–22.

Löfgren, K. (2005). *Validation of the Swedish University Entrance System: Selected results from the VALUTA-project*. Umeå, Sweden.

Lund, S. (2008). Choice paths in the Swedish upper secondary education – a critical discourse analysis of recent reforms. *Journal of Education Policy*, *23*(6), 633–648.

Lundahl, L., Arreman, I. E., Holm, A.-S., & Lundström, U. (2013). Educational marketization the Swedish way. *Education Inquiry*, *4*(3), 497–517.

Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). *Qualitative research methods: a data collectors field guide*. North Caolina: Family Health International.

Madhuri, G. V., Kantamreddi, V. S. S. ., & Prakash Goteti, L. N. S. (2012). Promoting higher order thinking skills using inquiry-based learning. *European Journal of Engineering Education*, *37*(2), 117–123.

Marton, F., & Säljö, R. (1976a). On Qualitative Differences in Learning: I - Outcome and process. *British Journal of Educational Psychology*, *46*(1), 4–11.

Marton, F., & Säljö, R. (1976b). On Qualitative Differences in Learning - II Outcome as a Function of the Learner’s Conception of the Task. *British Journal of Educational Psychology*, *46*(2), 115–127.

Molesworth, M., Nixon, E., & Scullion, R. (2009). Having, being and higher education: the marketisation of the university and the transformation of the student into consumer. *Teaching in Higher Education*, *14*(3), 277–287.

Mulhall, A. (2003). In the field: Notes on observation in qualitative research. *Journal of Advanced Nursing*, *41*(3), 306–313.

Nilson, L. B. (2013). *Creating Self-Regulated Learners: Strategies to Strengthen Students’ Self-Awareness and Learning Skills*. Sterling, VA: Stylus Publishing, LLC.

Olssen, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: from the free market to knowledge capitalism. *Journal of Education Policy*, *20*(3), 313–345.

Ritchie, J., & Lewis, J. (2003). *Qualitative research practice - A guide for social science students and researchers*. London, UK: SAGE Publications.

Rundberg, L., & Sandström, E. (2016). *A Students’ Perspective on Pictorial Instructions*. Chalmers University of Technology.

Schommer, M., & Walker, K. (1997). Epistemological Beliefs and Valuing School: Considerations for College Admissions and Retention. *Research in Higher Education*, *38*(2), 173–186.

Shepard, L. A. (2000). The Role of Assessment in a Learning Culture. *Educational Researcher*, *29*(7), 4–14.

Sjöberg, L. (2011). Vygotskij goes neoliberal, *20*(2), 49–72.

Skolverket. (2016). *Kemi kurs och ämnesplan (Gymnasieskola)*.

Symeonidis, V. (2014). Learning in the Free Market A Critical Study of Neoliberal Influences on Sweden’s Education System. *International Journal of Educational Policies*, *8*, 25–39.

Universitets- och högskolerådet. (2017). Platsfördelning och urval.

Universitets- och högskolerådets. (2016). Universitets- och högskolerådets antagningsstatistik.

Wolf, S. J., & Fraser, B. J. (2008). Learning environment, attitudes and achievement among middle-school science students using Inquiry-based laboratory activities. *Research in Science Education*, *38*(3), 321–341.

Zacharia, Z. (2003). Beliefs, attitudes, and intentions of science teachers regarding the educational use of computer simulations and inquiry-based experiments in physics. *Journal of Research in Science Teaching*, *40*(8), 792–823.

Zadina, J. (2014). The Sensory Motor Pathway. In *Multiple Pathways to the Student Brain : Energizing and Enhancing Instruction (1)* (pp. 35–61). Jossey-Bass.