

## **Practice makes perfect**

*Role-play – because our students deserve it!*

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**Abstract.** In this paper I present the result from a study of how attitudes towards a course and the feeling of learning can change as the teaching style changes. In a traditional course with regard to style of teaching, the students use words such as difficult, comprehensive, confusing and boring when characterizing the course. In other courses with a different pedagogical approach students use words such as instructive, fun and engaging about the same topics. The alternative course is based on a simulation model and role play. In many ways this is a lot like the way a good video game is developed. The participants learn about complex systems by living the role of the player. Like a game, we build our course to be comfortably frustrating. This is learning by doing instead of theory before practice - a way to deeper learning because the participants are brought into a state of mind which makes them so susceptible to learning.

### **Practice makes perfect**

During my time as a lecturer I have seen many students sink into apathy and dejection because they hadn't mastered the subject. My starting point is not the easiest. I teach economics, a course called the sad science, probably because we discuss topics such as recessions, unemployment, starvation and death. If anyone brings up something positive about a case we might possibly comment by saying: "There is no such thing as a free lunch". Charisma doesn't buy you much either as a lecturer in economics. We have few humorists. You will also find the serious factor when it comes to learning our area of study. Economics is not an easy subject. Before you can start you have to learn our system of concepts, which includes things like domestic product, inflation and voluntary and involuntary unemployment. You also need methods. That means good skills in mathematics and statistics. Maybe this is the reason why we get this kind of evaluation feedback: "I didn't understand a

thing” or “heavy and difficult subjects” and “ I felt like a fool, total lack of knowledge despite my long work experience,” etc.

In order to get a little more insight into why students seemed to feel this way about our subject I asked them the following question [1]: What words would you use to characterise the course? The most common word they chose to use was difficult (46 %). Almost every second student had the opinion that the course was complicated, complex and troublesome. Such a point of view many economists would agree with. Macroeconomics isn't easy. But the word “difficult” also says something about the lack of “mastering.” When students were asked, they had had 15 lectures and still almost half of them were left with the feeling that they couldn't cope with the material. In other words they lacked a feeling of control and felt inadequate when it came to what was expected of them. Such experiences do something to you as a human being and they impact your attitude towards the subject. There may be those who become motivated in such a situation, but are there many?

The next word most chose to use was interesting (28 %). Every fourth student thought the course made them think. It was captivating, but at the same time this says something about distance. They seem to think that the course had potential but they did not describe it more precisely. The following words compounded this feeling: comprehensive (18 %) and confusing/difficult to grasp (17 %). The course was apparently perceived of as being thorough and detailed, but at the same time so detailed that it became indistinct. Not until 12 % came the word instructive. This means that a little more than one out of ten said the course was informative. That is not much after 45 hours of lectures.

My point of departure has always been that there is nothing wrong with the subject, but with the way the material is passed on. In the course described above, the lectures are traditional with regard to their style of teaching, and conducted in an auditorium seating 300 – 400 students. What I wanted to investigate was how attitudes towards a course and the feeling of learning might change as the teaching style changes. Is it possible that a course in macroeconomics can be perceived of as not only instructive -- but also as exciting and even funny -- if the teaching methods are changed?

As a fundamental element of an alternative course, the program TOPSIM MacroEconomics II, was chosen [2]. This is a data based simulation program produced by a German Swiss company to help students learn about macroeconomic terms and contexts. The program is played by taking over the leading roles in the private and public sectors of a country. When the groups have taken their final decisions they get back a detailed report of the economic situation for the country. The report makes the basis for new decisions in coming periods. Altogether we normally play three periods in our course.

During the last ten years we have done many role play courses developed around this program. Most of them have been two to three day courses without ECTS credits. At the end of the course I asked them the same question: What words would you use to characterise the course? The most common word they chose to use was instructive (27 %). One out of four now says they were informative. Other words were fun (25 %) and amusing (7 %). This is in contrast to the other course where the words boring (6 %) and heavy (5 %), were used. The quality of the course was also

described by the word good (18 %). In addition, many mentioned the form of instruction by using the words engaging (15 %) and different (6 %). One interesting observation was that among the words the students decided to use, difficult was not included. On the other hand no one used the word easy. There was “a lot to learn” and “the topics was heavy”, but also “heavy topics were communicated intelligibly”. The course was “pedagogically well done” so “time went fast”.

Of course there are big differences between a course running for two to three days without credits and a 6 credit course running for 16 weeks. During three days the participants can be “kept away” from complicated material in such a way that they do not understand how difficult and comprehensive the subject actually is. These participants do have a sort of test, but it is not as extensive as in a course with credits and the seriousness does not become such a burden. This is why I wanted to compare the first course with a credit course using untraditional teaching methods.

The course we are now looking at is a compulsory intermediate macroeconomic 12 ECTS credit course at bachelor level. In this course we also used the data based simulation model as part of the teaching method. At the end of the course the students were asked the same question as in the other courses: What words would you use to characterise the course? The most common word they chose to use was instructive (48 %). Almost every second student mentioned the feeling of learning. Other words were interesting (24 %), work demanding (24 %), engaging (15 %), exciting (15 %) and fun (15 %). These students answered almost like the participants at the two to three day course apart from the comment regarding demands. In this course we used digital portfolios as part of the working and evaluation method. This implied that every week the students had to publish (hand in) individual work. In contrast to many other courses that only consist of final exams; this course was probably a major change for many students because of the weekly hand in exercises. It is nonetheless interesting to see that many students still think the course was fun and exciting. It is my opinion that the reason is the way we teach. Let me therefore explain how we develop our role play courses.

The course starts by choosing a role. By living the role of the player you learn not only about the character but also about the system the character is part of. Consequently, the participants learn to think about their role as part of a system, not only as one in a series of casually occurring events. The problems are analysed from different angles. But at the same time you must take into consideration the overall point of view. As such, the participants learn about connections at the same time as they can experience new. This is an excellent way to learn about complex systems.

At the beginning of the course it is also important to have low entry thresholds. After choosing a role we consequently start with the following exercise: Make a logo, a motto and a physical movement that symbolises the motto. This exercise everybody manages. They all get started and it also creates a good atmosphere. At the same time the participants start the process of living themselves into the role and leaving their mark on the role.

A strong feeling of identity is important to learning [4]. In our courses we often experience participants who identify strongly with their role play figure. One time a group of chief constables were going to negotiate a new wage agreement in our macro play. The representative from the union came to meet the employers and was offered a bucket turned upside down as a chair. Later they regretted their gesture.

The negotiation never got started. It ended up in a strike followed by a lot of extra costs to the company. After ending the day the chief constable was still so mad we found it necessary to gather all the participants for a debriefing. This gave us an excellent example of how involved you actually can get in a role play.

When it comes to macroeconomics it is usually those with good knowledge and comprehension of numbers who comes out on top. In role plays you have a longer list of instruments at hand. One time during a strategy presentation the representative at the speaker's platform had a weak grasp of numbers. But the woman was not without a clue of what to do. Instead of winding herself into the current problem, she took off one shoe and slammed it on the platform while delivering her final comment: "This is how it is," she said, which at least gave her self-confidence that lasted for the rest of the course.

These are examples of why involved students are good for learning. As one student wrote in an assessment report: "We do not like the government now". The student was referring to a play in which the government had raised income taxes by 33 %. They did this by raising the tax from 15 % to 20 %. 5 % up is not that much, they thought. They consequently all obtained a deeper understanding of the difference between percentages and percentage points.

Low entry thresholds are an important quality in a good role play. Another characteristic is that you never feel you are in total control. That is why you need to lay on new aspects in the shape of new challenges in such a way that students meet new predicaments. In other words something difficult follows the easy parts.

My thoughts go to the developmental psychologist, Piaget [5], who was preoccupied with the balance between interpreting surroundings by using the knowledge we have (assimilation) and adjusting and changing our common sense and experience based understanding (accommodation). In other words, you are in the accommodation process when you understand that you have to revise your opinions. In our play we put in such processes by letting the participants take over the country when we are in a business cycle with increasing economic growth. Then it is easy to achieve good results. In the next period we are fronting a depression and the country is facing new challenges. Then you get the feeling that this is not so easy after all. A play should be pleasantly frustrating. The challenge consists of fitting in the right combinations of assimilation and accommodation. The thing that makes the change and therefore leads to learning is the accommodation. When a situation occurs when something is just not right, it creates an imbalance which is the main driver for intellectual development and therefore also in the learning process. The urge towards an inner balance drives you to reorganize and thereby to develop new interpretations and knowledge.

We got good feedback about whether our courses were pleasantly frustrating when a student wrote: "At times very frustrating, but it inspired me to continue the work". Such a series in which students start with limited problem solving and continue by solving more comprehensive challenges gives the course a good balance. At the same time this is an important driver for the course.

In our courses we experience participants who, over a long period of time, are willing to deal with macroeconomic problems without significant breaks. In other words it looks like there is something about our courses that makes the students willing to solve complex problems hour after hour [6]. I think a lot of the power

comes from the way we teach. It functions as fire in a haystack. Once it's lit, it burns by itself, but it can often take off in unexpected directions. That is why it is important to put down flame barriers, in this case by marking out a course that is in proportion to the curriculum. As with a quarter horse, blinkers are necessary, but they must not be too uncomfortable. Room must be left for improvisation and the unexpected because the participants must feel their freedom and that they have options that are real. My role as an instructor is to guide them back to current problems by asking questions. The idea is to lead the students to find the answer themselves without telling them everything [7]. Whether they experience success or not depends on several factors. First they need knowledge about their own role. This means they need to know the instruments they have control of and how they can be used to reach their goals. At the same time they are a part of a greater whole. That is why their success depends on what the others choose to do. Many scientists argue that this way of working, both being a specialist in a field and cooperating and sharing with others, is decisive in achieving success in the future labour market [8].

These are the same methods we use in our course. Your own success depends on what others do. If you don't cooperate you will discover that by the results of your own decisions coming back in the shape of an extensive report. Because the roles in the private sector are of major dimension, a strong financial result for the country also means a strong financial result for the companies. You don't get rid of the results but you reap new possibilities through subsequent periods. Such a learning process, through learning by doing, was once described by the pedagogue Dewey [9]. He focused on the learning process as a determined and experimental activity, aroused out of a felt need. In our courses we ask questions like: What do you think about the economic growth, .. the unemployment, ... the inflation? What do you want to achieve? The problems are examined and marked off and make the basis of hypotheses about how the problems can be solved. "We could probably get the unemployment or the inflation down if we do ....." Beneficial processes occur when the participants try, fail, get feedback and try again. In our data model there is a simulation part where the participants can try out the effect of their own tools in the light of assumptions about what the others are doing. We also put in strategy presentations where the groups present their rough draft for solutions with discussions in plenary, before they make their final decisions. The results involve new problems and that's the start of a new period.

That a play allows the players to practice is brought up by several researchers: "Humans think and understand best when they can imagine (simulate) an experience in such a way that the simulation prepares them for actions they need and want to take in order to accomplish their goals" [10]. A role play consequently gives you the possibility to practice before you are competent. The alternative used in traditional education is the opposite. The theory comes first, which means you are not allowed to practice before you know how to do it.

In a traditional teaching situation, students learn to replace words by definitions, but it shows that they can not use the words to solve problems because they have not experienced the words in real situations. We have known about this lack of accordance between knowledge of definitions and the ability to use words to solve problems, for a long time [11]. Both Dewey and the developmental psychologist, Vygotsky [12], differentiate between traditional teaching and good teaching.

Vygotsky characterised traditional teaching as summaries without spirit and words learned from memories; words you have not learned intellectually to use; words you not have learned to think in. “This teaching method is the basic mistake of the school’s language-based method of teaching, which has generally been abandoned. It replaces the mastering of living knowledge by the learning of dead, empty language forms.”

What is there to learn from a role play in this context? One thing is this: One significant skill obtained is that participants achieve relations to the words because they are related to events that occur. That is why they not only get the words connected to numbers but they also get to see how the meaning of words depends on the situation in which they are spoken. Let me give a typical example from one of our courses: The central bank group choose stability and predictability as a motto. The words are written in blue, the logo (blue and green) shows a banknote with the mark M for Macropoly (the country). The group also comes forward and turn thumps up to symbolise unity. A bit later during the annual speech by the central bank chair, she is explaining that their goals are no longer exchange rate stability but an inflation target of 2.5 %. The number is first something she refers to as a reason why she changed the interest rate. Subsequently, the banks and the companies discuss what consequences this might have for their own sector and for the country as a whole. The results, inflation above 3 %, create a great commotion and result in new discussions and new suggestions on how to solve the problems.

Such discussions imply open solution possibilities. In a traditional macroeconomic course we would inform the students that in Norway the central bank has an inflation target of 2.5 %. In a play situation the participants have the liberty to choose their own solutions. If the central bank decides on a 2 % inflation target, it gives us the opportunity to compare with Norway and to argue the issue’s pros and cons. This gives the participants a feeling of freedom, another important motivating factor.

As described, the course is based on a data model which consists of six roles. At the end of each session each group delivers their final decisions to the game management by use of a computer. The decisions are then simulated in a data model and the results in the form of reports for the entire economy as well as for each sector, are produced immediately. The groups then discuss the results and are supported and guided by the teacher. There will be focus on achievements and errors made during the first period and the teachers will point to several factors that were the reason for the results.

By using the results of the previous period and a scenario of the economic situation for next period, the participants will make decisions for the following period. This gives the participants the possibility to repeat previously gained knowledge.

It is a combination of data model, role-play and the teacher as a supervisor that contribute to the successful result. Alone none of the components would make it. Without the data model the role play would have no substance. It would be “only talk”. The participants would never actually know the outcome of their talking. On the other hand, the data model alone would only be a lot of numbers. Consequently, they wouldn’t see how the meaning of words depends on the situation in which they are spoken. And last but not least, the teacher’s role would be different. It would be

harder to take the student's experience as a starting point. In such a situation we could lose the foundation of all further learning and it would be a lot harder to provide a plan for development with regard to the expansion and arrangement of the teaching material. And it would be a lot harder to deal with the teaching problem - to get the student's experience to move in the direction of what the teacher already knows.

A role play course like this has provided us with many memorable moments and the opportunity to witness many excellent performances. Moreover, the competences embrace a lot more than merely answering test questions. It is about the ability to perform, judge, feel, decide and solve problems, like a professional. In addition to knowledge about macroeconomic terms and context, the course also enhances the participant's ability to think strategically and to solve complex problems. That is why a course like the one described in this paper is not only popular, but also a way to deeper learning. It becomes deeper because the participants are brought into a state of mind which makes them so susceptible to learning. After ending the course the participants therefore gave the following summary: The course can be characterised by the words instructive, fun, good, engaging, interesting, amusing and different.

## References

1. At the last but one lecture in a compulsory macroeconomic 6 ECTS credit course at bachelor level, spring 2007. Altogether 260 students answered of whom many replied using more than one word.
2. For more information: [http://www.topsim.com/de/planspiele/macro\\_economics\\_ii/](http://www.topsim.com/de/planspiele/macro_economics_ii/)
3. Not used
4. The claim is supported by Gee 2004, diSessa 2000 and Shaffer 2004:  
Gee, James Paul (2004): *Situated language and learning: A critique of traditional schooling*. London: Routledge. diSessa, A. A. (2000): *Changing minds: Computers, learning, and literacy*. Cambridge, Mass: MIT Press. Shaffer, D. W. (2004): *Pedagogical praxis: The professions as models for postindustrial education*. *Teachers College Record* 10: 1401-1421
5. Piaget, Jean (1973): *Psykologi og pædagogik*, København and Piaget, Jean (1973): *Barnets psykiske utvikling*. Gyldendal Forlag, Oslo.
6. Same experience Gee 2006. Gee, James Paul (2006): *Are video games good for learning?* *Nordic Journal of Digital Literacy, Digital kompetanse* 3/2006
7. Heuristic method. Used already by Socrates about 470-399 before Christ.
8. Bech, U. (1999): *World risk society*. Oxford: Blackwell. Gee, James Paul (2004): *Situated language and learning: A critique of traditional schooling*. London: Routledge. Gee, J. P., Hull, G. & Lankshear, C. (1996): *The new work order: Behind the language of the new capitalism*. Boulder, CO.: Westview.
9. Dewey, John (1966): *Democracy and Education*. New York: Free Press.
10. Barsalou, L. W. (1999): *Perceptual symbols system*. *Behavioural and Brain Sciences* 22: 577-660. Clark, A. (1997): *Being there: Putting brain, body, and world*

- together again. Cambridge, Mass.: MIT Press. Glenborg, A. M. & Robertson D. A. (1999): Indexical understanding of instructions. *Discourse Processes* 28:1-26
11. Gardner H. (1991). *The unschooled mind: How children think and how schools should teach*. New York: Basic Books.
  12. Vygotsky, Lev S (1987): *The collected works of L. S. Vygotsky vol 1* in: Robert W. Rieber and Aaron S. Carton (ed.) *Problems of general psychology*. New York: Plenum Press.