

Investigation of the relevance of the student-teacher language barrier in the course of “Bachelor in Pharmacy”

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Introduction

The question of a language barrier in the university education is an inevitable consequence of globalization - a mutually dependent economic (and scientific) development. As the world becomes more and more technologically advanced, new branches of industry appear and the complexity of the old branches increases. In modern society, the sufficient supply of food is not the only basis for the satisfactory life of the population - nowadays, everyone, poor and rich, demands to have easily accessible means of transportation (public or personal), advanced communication systems and prolonged entertainment (telephone, TV, computers, etc.). At the same time, production of food becomes cheaper and easier, so that the lesser percentage of the population is involved in agriculture.

Therefore, for the last few decades historically agricultural Denmark was searching for a new place in the global community. Due to its size, tradition, and lack of diverse natural resources, Denmark has a potential of falling behind in the globalization process, as it is missing many branches of traditional industries, such as steel-mills, electronic and car industries. Until now the absence of these essentials was compensated by chemical industry and production of luxury design goods, art, etc. However, the luxury-based niche of global economics is only sustainable during economic growth and is inevitably unstable due to considerations of taste and fashion.

On the other hand, Denmark cannot simply catch-up on the car production, for example, as it requires an enormous investment in building the

factories, acquiring the know-how and so on. The only way Denmark can retain its place within the list of rich countries is through the development of science-based industries, innovative technologies, pharmaceuticals and such. This necessitates a high educational level of the overall Danish population and continuous investment in research.

In practice, with a population of 5.5 million people, few universities, and a narrow specialization within the scientific branches Denmark's only chance to accelerate its research potential is by importing the specialists from abroad. These are expected to 1) immediately apply their knowledge in the current research and 2) successfully propagate it to the future generations through the university education system. With the main international scientific language not being Danish, the transfer of the knowledge always has to be done over the language barrier. That is, either the Danish students have to study in English or the international educators have to speak Danish.

The problem of the non-English-speaking students taught by the native English-speaking teachers has been long-known in USA. Traditionally, the university system in the Unites States has been and remains well-adapted to the influx of both foreign scientists and the students. In Denmark it still appears to run squeaky, as if overcoming a permanently looming resistance - this, in spite of the fact that the ability of the general population to communicate in English is impressive. The attitude of the Danish government towards teaching in English at the universities can be described as jerky - there is no consistent or fully accepted "party line" on the subject. Therefore, it is interesting to investigate how the issue is viewed from the bottom of the learning chain, i.e. from the student's point of view. Thus, the intention of this work is to consider whether there is a reason to specifically address the language barrier in the university classroom, and in particular in a course at the Department of Pharmaceutical Sciences (FARMA) at the University of Copenhagen. This course, called "Bachelor in Pharmacy", is taught in Danish, although the amount of foreign teachers is usually approximately 30 % and above.

Description of the bachelor course and the challenge

The "Bachelor in Pharmacy" course is well described by its learning objectives. Upon its completion the student should be able to:

- plan and conduct systematic investigations concerning the formulation of medical compounds;
- plan and conduct the technical part of the drug manufacturing on a small scale;
- develop practical documentation and fulfill the process control according to GMP rules that describe the production of drugs on a small scale;
- plan and conduct pharmaceutical evaluation of the drug;
- write a clear and critical report, summarizing the relevant literature and the performed experimental work;
- present the experimental results in a clear and understandable way at the oral examination

The experimental part of the project is done in the lab, which is divided into two subsections: pharmaceutical formulation and analytical investigation. The teacher's task in the lab is to help the students to conduct their work efficiently, which includes small problems like locating the items they need to use and helping in operating the equipment. However, the most important part of the teacher's supervision is providing advice on the experimental design or strategic planning, understanding the challenge of a particular drug formulation and helping in the further development of the final product.

At the end of the course the students have to write a report, summarizing their experimental work and the literature available on the subject. The final exam consists of a short presentation and a question session with the local supervisor and an external reviewer.

This course completes a bachelor education of the students and it is understandable that the stress of fulfilling this assignment can potentially contribute to the frustrations and misunderstandings between the teachers and the students. It is clear that under such conditions, the student might confuse the problems related to the project with the language barrier between him/her and the teacher; therefore the results of this study cannot be considered 100 % accurate. The investigation of the students' opinion was done by means of a personal meeting with a small group of students and by running a questionnaire for a larger group. The participation was entirely voluntary. All the students that have had a non-Danish teacher were contacted by email.

Feedback from the fellow teachers

I have approached several foreign teachers participating in the same course, asking them whether they experienced a language barrier in the classroom. One of them was offended, replying “*do you think I speak poor Danish?*”. After I explained that I am interested in understanding the communication flow between the non-Danish teachers and a Danish class, all teachers said that there were no problems. The nationalities of the teachers were Icelandic, German (fluently speaking Norwegian), Estonian, Finish and Dutch. My own origin is Russian and my students were included in the survey as well.

The initial interview

The initial discussion on the topic of the language barrier was conducted with a small group of students, 2 females and 1 male. The advantage of the personal communication over the impersonal questionnaire is that the meeting gives a chance for in-depth discussions of the issues that interest students. The purpose of the questionnaire was to get some statistical overview of the whole class.

The interview was conducted after the final examination was over. All students were native Danes. Only the male student (let's call him Sam) agreed that the language barrier existed. Since there were only 3 students, and the female ones had no problems, it was impossible to check whether there was a correlation between the gender and the ability to cope with the language barrier. Sam's problem was the incomprehensible accent. Strangely enough, others did not think so, which made me suspect that the problem had a psychological side. Sam said that the problem was not as severe during the semester, because his fellows translated/interpreted things for him after the teaching session was over. The problem became much more pronounced during the exam, when the lack of understanding started to be annoying and potentially harmful for the final outcome of the exam. The situation was probably exaggerated by the stress, imposed by the examination environment. Sam admitted to be nervous during the test.

After Sam described the situation, we discussed it all together. It appeared that in case of Scandinavian (non Danish) teachers speaking their native language during the teaching sessions, the understanding of the students can vary dramatically. Often, Swedes, Norwegians, etc. expect the

native Danes to understand their language without translation. However, many native Danes, as well as non-ethnic Danes do not understand other Scandinavian languages. Our conclusion on this subject was that it is better for the non-Danish Scandinavians to teach in English, rather than in their own language.

On the other hand, it is understandable that Swedes continue speaking Swedish to Danes. Since the languages are closely related, the Swedish tongue can be considered as Danish with an accent. Danes themselves are rather resistant to talk in other languages than their own. From my personal experience I can say that even though the Danes are very good in English, they soon revert to Danish, even in the presence of foreigners. I do not understand why they do so, since they appear to converse in both languages with the same ease.

Coming back to the teachers with heavy accents in Danish. In case of non-Scandinavian teachers with a strong accent, it would be better if they used English, rather than Danish, because the lack of understanding affects the quality of learning. This conclusion was also confirmed by the questionnaire (see question 10 in Appendix A).

Further, everybody has agreed that it would be easier to communicate without barriers, if the students were not afraid to ask questions and if the supervisors were friendly as well as being professionally good. For example they praised one of the teachers for exactly that - being a good teacher (let's call this teacher Mas). Mas was always keeping an eye on potential language misunderstandings and was always willing to repeat, rephrase or explain the things that weren't clear. They said that Mas' "good teacher" routine made a language barrier smoother. He was fun and engaged in his subject, which made it easier to learn from him. Conclusion - a good personal communication between the teacher and the students makes it easier to overcome all problems, also the language ones.

There was one more question I thought was very good: Is it easier to relate to a teacher who speaks the same language as the student? I found it too psychological and did not include it in the survey.

The questionnaire

The questionnaire consisted of several parts. The background information included the overview of gender distribution of both the students and the teachers and the languages used in the class. The second part was concerned

with the general “average” Danish attitude towards foreigners, followed by the main body of questions, intended for understanding the experience of the student in this particular course. The final part stated several questions about the students’ future, when related to using other languages than Danish.

The summary of the replies, received from 11 out of 39 students, can be found in Appendix A. The background section (questions no. 1-7) included the gender information for the purpose of pinpointing possible psychological details in teacher-student communication. The male/female distribution both among the teachers and the students was roughly even with a small predominance of women, typical for the Department of Pharmaceutical Sciences at the University of Copenhagen. Contrary to the opinion of the bachelor course teachers, the students seemed to acknowledge the existence of the language barrier: 45 % thought that the problem was general, whereas 55 % experienced it during the course. According to the survey the teaching was done predominantly in Danish. Neither during the classes nor at the exam did students use other languages than Danish.

General attitude of Danes to foreigners (no. 8-9) seemed to be rather positive among the students. Even though in the previous section approximately 50 % acknowledged that the language barrier exists, there was no consensus on what might cause it. The choices given by the questionnaire were nationalism, culture and laziness. Students added shyness and the difficulty of learning Danish. I tried to compose a “On teaching and learning in different languages” section so that I could understand whether the language barrier was the real problem and/or how it could be avoided. 100 % of students answered that when the teacher’s Danish is poor, he/she should use English instead (no. 10). This result was not surprising for me, because a passive use of English (as in listening) is not a problem for most Danes, even at the age, when they do not dare to use it actively (i.e. in speaking). Also, all students thought that there wouldn’t be a problem to concentrate on teaching, when it’s in English (no. 12). 50 % of those replied that it would be difficult only at the beginning or when stressed.

When both the Danish and the English language skills of the teacher are bad (no. 11), he/she should use Danish (2/3rds of students said so). This reply is also clear and demonstrates that the students choose a path of the least resistance: concentrating on the accent AND the translation from the foreign language is worse than just interpreting the accent.

The next set of questions (no. 13) was touching upon the factors that could ease the language barrier. According to the overwhelming majority

of the students the gender of the teacher was not important. The pedagogical trick, when a teacher pulls a student to the blackboard was the least popular, followed by the one, when the teacher asks questions. Students thought that what helps to cope with the language problems was being with other students or having a conversation with the teacher one on one. My interpretation was that in case of misunderstandings, the students want to have a chance to consult other students or to talk to a teacher alone, without witnesses, since showing a lack of understanding in front of others would be embarrassing.

According to the students the best qualities of the teacher that help in the learning process (no. 14) are good communication skills and professionalism. These are pretty much the same qualities that define an ideal “good teacher” with no regard for the teaching language. This conclusion was partially confirmed by the distribution of the answers about whether the good Danish was important for learning: only 1/3rd answered “yes”.

My next question (no. 15) was inspired by a conversation with a teacher from the Faculty of Life Sciences at the University of Copenhagen - she said that at their department all courses must be given in English. Thus, my question concerned student’s opinion on the possibility of Danish teachers giving lectures to Danish students in English. Surprisingly, not all of them thought it was a stupid idea - about 20 % thought it was cool.

As a continuation of a previous question, I investigated students’ attitudes towards teaching the bachelor course in English (no. 16). Their answers seemed to be rather relaxed - no one would avoid the class only for this reason, not many felt that they needed more preparation or any extra English lessons. Less than 20 % thought that they wouldn’t learn as much, but about a half admitted that it would be more stressful.

The last part of this section questioned the benefit of having reasonable knowledge of pharmaceutical English for the future job opportunities. None of the students thought it would be useful in Denmark, but many agreed that it could help finding a job abroad. Teaching the bachelor course in English would help continue the university studies and travel (46 % said “yes” to both questions). Only 20 % thought that “Bachelor” English would be good for nothing. In light of the reasons stated in the introduction, it should be clear to everyone that the professional English skills are very important for the university work. Moreover, with the progress of the researcher’s career (also in Denmark), his/her communication with the world outside of the Danish borders becomes ever more important. Apparently, students are fully aware of this fact (no. 19), but they do not think it should affect

the teaching language of the bachelor course - only one student (out of 11) replied that the current course should be taught in English. I suspect this student was a foreigner too. It shows that the students feel confident that their current English skills are everything that they will need in the future.

Conclusions

The first revelation of this survey was that the teachers were not aware of the fact that almost 50 % of students experience a language barrier. A possible cause of this mismatch is the lack of a feedback from the students. Due to a typical student-teacher role distribution, the students are reluctant to ask questions, if they fail to follow the teacher's explanations. The teacher interprets this as a problem-free communication and thus an absence of the language barrier.

Foreign teachers should consider using English more. Both Scandinavian nationals and others having a strong accent, which impairs understanding of the students, should consider switching to English. The two way communication is always better than one-way and this is teacher's responsibility to ensure that he/she is understood language-wise.

The ability to speak perfect Danish seems to be a minor part of the teacher's qualifications. Professionalism, engagement in the subject and good communication skills are valued much more by the students than a presence or an absence of an accent.

Personally, I value language skills very highly and always appreciate people, who can express themselves in a simple, comprehensible and imaginative way. That is why I always feel handicapped when forced to speak Danish. The current investigation showed that students do not necessarily feel the same way and that a teacher can use other pedagogical means/skills to compensate for the lack of a fine language tuning.

A Appendix

<p>Questionnaire</p> <p>BACKGROUND</p> <p>1. Your gender male 4 female 7 other 11</p> <p>2. Teacher's gender male 5 female 6 other 11</p> <p>3. In general, do you think there is a language barrier between the teachers and the students yes 5 no 6 don't know 11</p> <p>4. Did you experience a language barrier between you and your supervisor during the Bachelor course yes 4 no 6 don't know 11</p> <p>5. What language did your teacher use during the supervision sessions Danish 2 English 1 Other 1 don't know 11</p> <p>6. What language did you use during the supervision sessions Danish 11 English 0 Other 0 don't know 0</p> <p>7. What language did you use at the exam? Danish 11 English 0 Other 0 don't know 0</p> <p>GENERAL ATTITUDE OF DANES TO FOREIGNERS</p> <p>8. An average Dane on the street thinks that a person who cannot master Danish language is stupid. Do you agree? yes 1 no 9 don't know 1 other 11</p> <p>9. Do you think that the potential problems with the language barrier are due to: nationalism 2.33 culture 2.33 laziness 1.33 other 3 comment S1. I simply do not understand Swedish/Norwegian. 9 S2. Most people are shy and afraid of using English (but also lazy) S3. Danish is hard to learn-- I'm foreign too...</p> <p>ON TEACHING AND LEARNING IN DIFFERENT LANGUAGES</p> <p>10. When your teachers' Danish is not that good, what language do you prefer (s/he uses) Danish 11 English 0 Other 0 don't know 0</p> <p>11. When your teacher's English is as bad as his/her Danish what language do you prefer (s/he uses)</p>	<p>Danish 6 English 1 don't know 3 other 1 Σ 11</p> <p>12. Do you think it's difficult to concentrate when the teaching is in English? yes only at the beginning 5 no when I'm stressed 5 don't know 1 other 1 Σ 11</p> <p>13. Do you think it's easier to cope with the language barrier, when... yes when teacher is a woman 10 no don't know 0 when teacher is a man 9 no don't know 1 you can read the same thing at home 2 no don't know 8 teacher pulls you to the blackboard 7 no don't know 3 teacher asks you questions 6 no don't know 1 you have a chance to talk to the teacher one on one 2 no don't know 1 you're together with other students 2 no don't know 7 Σ 11</p> <p>14. For you to learn more, which quality the teacher must have? good Danish 3 no doesn't matter 4 don't know 1 good communication skills (not necessarily in Danish) 11 no doesn't matter 3 be a nice person 4 no doesn't matter 7 be professional 10 no doesn't matter 1 be demanding 5 no doesn't matter 5 be funny 5 no doesn't matter 1 Σ 11</p>
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yes	weird	no	doesn't matter	don't know	1			Σ	11
yes	be difficult to understand, so that you have to study more by yourself	no	doesn't matter	don't know				Σ	11
11									
15. If the native Danes teach the native Danes in English. Do you think it's stupid	cool	2	2	don't know	4			Σ	11
3	other, comment								
16. Imagine that the Bachelor course was taught in English. Your actions:	I would try to avoid as much of it as possible	no	don't know					Σ	11
yes	I would try to be more prepared for the classes	no	don't know					Σ	11
3	take an extra English course	no	don't know					Σ	11
yes	I would not learn as much	no	don't know					Σ	11
2	would be more stressed	no	don't know					Σ	11
yes	wouldn't make a difference	no	don't know					Σ	11
3		no	don't know					Σ	11
17. If the Bachelor course was taught in English, do you think it would be easier to...	...find a job in a drugstore (apotek) in Denmark	no	don't know					Σ	11
yes	...find a job abroad	no	don't know					Σ	11
7	...continue education at University	no	don't know					Σ	11
yes	...brag about my English skills with my friends	no	don't know					Σ	11
4	...travel	no	don't know					Σ	10
2	no good for anything	no	don't know					Σ	11
yes	no good for anything	no	don't know					Σ	11
2		no	don't know					Σ	11

All contributions to this volume can be found at:

http://www.ind.ku.dk/publikationer/up_projekter/2009-2-1/

The bibliography can be found at:

http://www.ind.ku.dk/publikationer/up_projekter/kapitler/2009_vol2_nr1_bibliography.pdf

ABOUT YOUR FUTURE

18. Are you going to continue your University studies?

yes	no	don't know	don't care	Σ	11
11					

19. Do you think learning English is important for your future in the University?

yes	no	don't know	don't care	Σ	11
10	1				

20. Do you think the Bachelor project should be taught in English?

yes	no	don't know	don't care	Σ	11
1	6	4			

Student1's comments

I think the questionnaire is a little biased towards the language barrier being the supervisor's fault. This is not necessarily the case. Copenhagen University benefits greatly from all the people who comes from abroad to study, teach and research here. As long as their English is good they hold no responsibility for any language barrier there might be. Also please consider that the Bachelor Project for many was not a very pleasant experience. Many were very stressed and with little experience in planning and carrying out so big a project many had lots of failures and frustrations. This might results in a more negative impression of the language barrier than is actually the case. I did hear a few complains but only once and it concerned only minor problems.

Student2's comments

Generelt har den sproglige barriere ikke været et problem i de forskellige bachelorkurser. Dog skal der påpeges at vejledningen ikke var tilfredsstillende under selve bachelorprojektet. Vejlederen udviste ikke den nødvendige kompetence for at give en tilfredsstillende vejledning og det ønskede modspil til bachelorgruppen. Selve sproget var dog ikke noget problem, og var kommunikationen i stedet foregået på engelsk, havde det ikke hjulpet på den utilfredsstillende vejledning. Vejlederen udviste dog stor interesse for den stillede opgave, men udviste ikke den fornødne faglige kompetence. F.eks. havde vedkommende ikke gennemlæst den udleverede vejledning omkring selve forløbet af bachelorprojektet. Derudover forløb projektet yderst tilfredsstillende, idet selve kursets opbygning virkede ordnet og struktureret.

Student3's comments

If the bachelor project in the future will be taught in English, the book used should be in English...