

Health worker, identity and education: A comparative study among educational institutions in Norway

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Summary *The aim of the project was to do a survey of the biomedical laboratory scientists students in their qualification course, in order to identify their attitude towards interprofessionality. This can give an indication for in which degree the students have developed an identity as a health worker or an identity as an engineer. Data was collected from 192 students in their 3rd year, taking the qualification course at 6 different university colleges in Norway. Data were collected by means of a questionnaire. Questions concerning interprofessional education and collaboration were obtained from the American and British literature. They invited students to record on a six-point scale to the degree to which they agreed or disagreed with 16 assertions. Factor analyses reduced the items to two factors, attitude towards interprofessional education and interprofessional collaboration. All in all, students valued interprofessional work higher than interprofessional education. A regression analysis was carried out in order to find relations between the student groups. Students' attitude towards interprofessional collaboration differed between the places of study, however no statistical significant differences could be seen ($p=0,08$). Students from Oslo and Tromsø valued interprofessional work and learning more than students from the other education institutions. Students having experience in public health with relation to patient valued interprofessional collaboration.*

Keywords: socialisation; identity; profession; biomedical laboratory science.

Introduction

This study focuses on relations between socialisation, professional identity and educational culture within all the Norwegian institutions that offer programs in biomedical laboratory science, in Tromsø, Trondheim, Ålesund, Bergen, Østfold and Oslo. The profession biomedical laboratory scientist¹ has been developed from the “laboratory sister” as a result of the specialisation in public health after the Second World War. In Norway the biomedical laboratory science education institutions belong to the Department of Health. On the other hand the biomedical laboratory scientists are member of a union consisting of engineers. The question is if biomedical laboratory scientist should be a health worker or an engineer has often emerged. Or is their identity more in the intersection between engineer and health worker? The question is if biomedical laboratory science students comprehend themselves as a health worker or as an engineer. With other words, which implications does the educational system have for the students’ socialisation process and identity development.

The socialisation process

Students are supposed to be socialised to the values and attitudes of the profession during the education. Socialisation is a condition for self-awareness and personal identity (Hellesnes 1992). Socialisation however, is even a requirement for the implementation of the phenomenon and factors called culture or cultural expression; simultaneously as the existence of these constitute the content of the socialisation. The intention of socialisation thus can be seen as transfer of cultural education and is a pedagogical action that, according to Bourdieu (1977), is the imposition and inculcation of a cultural arbitrary. The twofold arbitrariness of pedagogical action is that both the impositions of culture, or meanings being worthy to be reproduced, and the way it is done, is arbitrary.

The socialisation process can be assumed to be either an active or a passive role for the socialisation (Hinshaw 1988). In the former perspective the students are seen as being inducted into a role with focus on professional education itself (Merton 1957). This pattern considers attitudes, values, and outlook as well as the skills and knowledge that constitute the professional role.

In an interactive pattern the student learns the role in the process of social interaction and in the interaction process the individual sees him/her self and the other as occupants of particular status and responds accordingly with appropriate role behaviours (Mead 1943). The awareness of differences between one’s own student group and the other student group will be a part of the socialisation.

The learning of roles – socialisation – is a two-pronged process. It involves 1) internalisation and shaping of specific values and attitudes and 2) the acquisition of skills for the enactment of appropriate behaviours. The concept of socialisation refers to individuals acquiring the necessary knowledge and skills, as well as internalising and shaping the values and attitudes of a particular social system, in preparation for fulfilling a specific role in the system (Hinshaw 1988). Values are rules for social acting and therefore an indication of values is more collective than individual (Drange 1995). Eagly and Chaiken define attitude as..” *a*

¹ Biomedical laboratory scientists are responsible for taking blood samples and analysing biological materials, testing and evaluation of new analyses and methods, and guidance of users and other medical personnel. This includes responsibility for procedures from the time a laboratory analysis is requisitioned until the results of the analysis have been obtained.

psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour (1993:1)". "Psychological tendency" refers to a state being internalised. "Evaluating" refers to all sorts of evaluation, open or hidden, cognitive, affective or behavioural.

The most current view is that the individual is active and both learns the role and shapes the role by responding to selective cues. Simpson (1979) proposed a view of socialisation in which both dimensions of the socialisation process are included. In this model both education and the more individual aspects as cognitive occupational orientations and relatedness to the professional role are central dimensions of socialisation. The educational program, content and design, faculty, practitioner, and mentor role models all play a vital role in professional socialisation (Waugaman 1994). Practical experience may facilitate socialisation into the chosen profession. All these factors influence the degree to which students are socialised to their future profession identity.

Professional identity

Professional identity is an important concept concerning professional education, occupation and profession authority. Generally a profession can be defined as an occupational group with certain characteristics and most of the definitions contain some of the following characteristics: (1) having character/ be in the nature of "calling" (2) based on a certain knowledge and specific techniques of obtaining knowledge (3) and free or autonomous occupational practice (Hellberg 1978:4). Abbott (1988:8) does not consider the characteristics important, but the collaboration between different professions and what the professions do in reality. His starting-point is that professions depend on each other and enter a system of professions. In his book *"The system of Professions"* (1988) the concept jurisdiction is central. Professions are fighting for (the) jurisdiction over different fields; in other words they control the occupational field.

The essential property of a profession is how the occupational group controls knowledge and skills, says Abbott (1988:8) and point out two rather different ways of accomplishing this control. One emphasises control over technique, and occupations using it are commonly called craftsmen. The other form of control involves abstract knowledge. Here, practical skill grows out of an abstract system of knowledge, and control of the occupation lies in control of the abstractions that create the practical. According to Abbott the evolution of professions is a result of their interrelations; development within a profession will involve development in other, similar professions. By profession Abbott means: ... *an exclusive group applying somewhat abstract knowledge to particular cases* (1988:8²). Profession in this paper supports Abbott's definition. The word occupation is used as a synonym for profession.

In a study of nursing Fagermoen describes professional identity.... *"as may be seen as the nurse's conception of what it means to be and act as a nurse, that is, it represents her/his philosophy of nursing"* (Fagermoen 1995:25). Kristoffersen (1996:294) says having a nursing identity means to have an experience and acknowledgement of what one is as an occupation

² Torgersen (1972) claims that it is not a special combination of occupational motivation and educational monopoly that constitute a profession, but a *relation*, between occupations and a special education. An occupation is connected to a curriculum, to a syllabus, to a range of educational routines (Torgersen, 1994:27). He says further on .. we have a profession where a specific, long-lasting, formal education acquired for people who mostly are oriented against attainment of some specific occupations that according to social norm cannot be filled of other people than the one with this specific education (Torgersen 1972:10).

concerning values and competence. The concept of professional identity is central for all health care and affects the occupational self-awareness and the professional potential collective self-awareness.

Human identity takes the form of social process, and when identity has been crystallised, it will be maintained, modified and reshaped by social relations (Berger & Luckman 1987:79). Thus, the identity is a meeting point between culture and the self (Gullestad 1989). Education and training will be a central carrier of culture and act as an important mechanism for reproduction and changing (Tarrou 1997). Bourdieu's concept cultural capital is a sort of symbolic capital dominating in an educational system. Developing a professional identity implies having cultural capital that characterises the profession.

Identity is, according to Bourdieu, more than integration of a common set of conceptions. Bourdieu means it is not roles but positions the human being is assigned to or achieved. Bourdieu is using "habitus" as a concept for a system of dispositions allowing human beings to act, think and become orientated in the social world. Assumption for producing a lasting habitus is a long structural duration of the pedagogical work. Habitus is lasting but not unchangeable and will be affected by the pedagogical work in the education and the possibilities of the educational program. This will be expressed in selection and exclusion in course plan (Bourdieu 1977). By focusing on practice-theory, Bourdieu emphasises the unconscious knowledge "sitting in the body" in the shape/form of habitus. Different teachers' view will also be central to the social atmosphere for the students during the study period.

Identity is defined with respect to the interaction of multiple convergent and divergent trajectories (Wenger 1999:154). According to the social psychologist Tajfel's social identity theory, group members compare their own group with other groups in order to establish a positive, valued distinctiveness between the groups (Tajfel 1981). Identity arises through self-assignment to particular categories, which is done on the basis of one's perception of similarities and contrasts with others (Dickerson 2000). Self-categorisation refers to the conception a person has of being a member of different social groups (Chatman 1988). The foundation of himself/herself is perception of difference and similarity with others. This may be situational, because individual understanding will depend upon who is present and which feedback is being given. Since one's position in society is defined in relation with others, a person's view of his or her status depends upon the particular group one compare oneself with (Lum 1988). The individual's capacity, as expectation and in relation to future occupation, will vary from student to student.

Analogous to Bourdieu's habitus, the first habitus arises in the family and constitutes the principle ground for all habitus, and therefore guidance for perception of the position for future occupations. According to Bourdieu, habitus can be described as the product of internalising the principle in a cultural arbitrariness, which also endures after the pedagogical activity has ended. Identity for the future occupation will arise in interaction with others, during education and community of practice (Østerud 1995, Goffman 1990, Wenger 1999).

Cultural and historical variations within the biomedical laboratory science educational system

The culture within an education and the transfer of cultural education will be of importance for the socialisation process and the identity development among students. Biomedical laboratory scientists are said to be in the crossing point between health worker and engineer.

According to Drange (1995) the ideology of the educational systems in Bergen, Trondheim and Tromsø are different. The educational system in Trondheim directs towards an engineer ideal, while Tromsø is more focused towards a health care ideal. Bergen is somewhere between the health and engineer ideal.

The biomedical laboratory science educational system in Tromsø emphasises that the students' attitude should be more connected to a health worker (Drange 1995). The education has a close relation to the hospital, and they are localised next to each other. The education in Bergen has also direction of attitude towards health care, but they are not as explicit as in Tromsø, Drange (1995) underlines. The biomedical laboratory science educational system in Bergen is not located so close to the hospital as in Tromsø. The discipline is not organised as a part of the health care department, but constitute a part of the engineering department.

The biomedical laboratory science educational institution in Trondheim, according to Drange (1995), is relative independent of the hospital and has earlier not been co-localised with other health care educations. Historically and culturally Tromsø has an educational program that is parallel with the program in Oslo. In Oslo the education is organised as part of the health care educations and has close relation to the hospital. The education in Ålesund is in less connected to the hospital and is a part of the department for health and biology. In Østfold the biomedical laboratory science educational system has been associated with the engineer education but is today organised as a part of the department for health care.

The education in biomedical laboratory science take place partly in student's laboratory at hospitals, partly by participating the routine at the hospital and at the university college. Students in placement will experience that the patient is much more in the centre, compared with what happen while they are in the students' laboratory at the university college.

The duration and organisation of the placement vary among the biomedical laboratory science education institutions in Norway. In Tromsø, Bergen and Oslo the students have relatively long periods of placement in hospital. Students in Trondheim and Ålesund have fewer placements. At Østfold the students have their placement in two different hospitals, Tønsberg and Fredrikstad. Culturally and historically the biomedical laboratory science differs from institution to institution. The question is if this will influence how the biomedical laboratory science students comprehend themselves - as a health worker or as an engineer.

Methods

This research concerns attitude towards interprofessional education (IPE) and interprofessional collaboration (IPC). Identity as a health worker was activated as attitude towards interprofessional education³ and collaboration⁴. A comparative study has been done in all 6 localisation of biomedical laboratory science educations in Norway. Data were collected by means of questionnaire.

One part of the questionnaire concerns biographical variables, like gender, age, having experience in public health, has been worked out. In designing the attitudinal part of the questionnaire, a scale with 16 items concerning interprofessionalism has been used. From the American and British literature I found positive and negative aspects of interprofessionalism:

- *Interprofessional education gives knowledge about other professions*
- *Interprofessional education promotes communication between professions*
- *Care given by a group is greater than the sum of the individual care*
- *The patient gets more efficient treatment if different people are working in a group*

A six point scale, from agree to not agree, was used. To distinguish between positive and negative reactions, each reply category was given a certain value. To analyse the collected data SPSS was used. To reduce the amount of data concerning the point of view towards interprofessionalism, factor-analyses were done. To find any significant differences between the student groups, a regression analysis was carried out.

³Interprofessional education is occasions when two or more professions learn from and about each other to improve collaboration and the quality of care (CAIPE 1997:19 revised), while “multiprofessional education” defines as occasions when two or more professions learn side by side for whatever reason (CAIPE 1997:19 revised).

⁴ Interprofessional work presuppose a willingness to share and indeed give up exclusive claims to specialised knowledge and authority, if the needs of clients can be met more efficiently by other professional (Carrier & Kendall 1995:10)

Results

A crosstabs showed a significant difference between these two factors ($p=0,00$). A regression analysis was carried out in order to find relations between the student groups. The result was analysed for 191 students in their 3rd year from Bergen, Oslo, Tromsø, Østfold, Trondheim and Ålesund. Of the total, 19 were men and 175 women. Age ranged from 19 to 50 years, with an average age of 26. Figure 1 shows the result of the factor analyse, two factors concerning attitude towards interprofessional education (10 items, Cronbachs alfa = 0,83), and attitude towards interprofessional work (6 items, Cronbachs alfa=0,89).

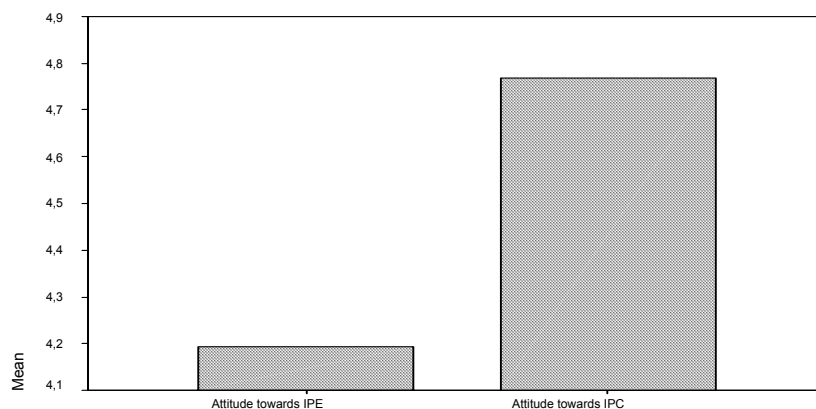


Figure 1. Attitude towards interprofessionality. High means indicate positive attitude, while low means indicate less positive attitude.

All in all, students valued interprofessional work higher than interprofessional education. Students' attitude towards interprofessional work differed between the university college (see figure 2), however no statistical differences could be found ($p=0,08$). Students from Oslo and Tromsø seemed to value interprofessional collaboration and learning more than students from the other education.

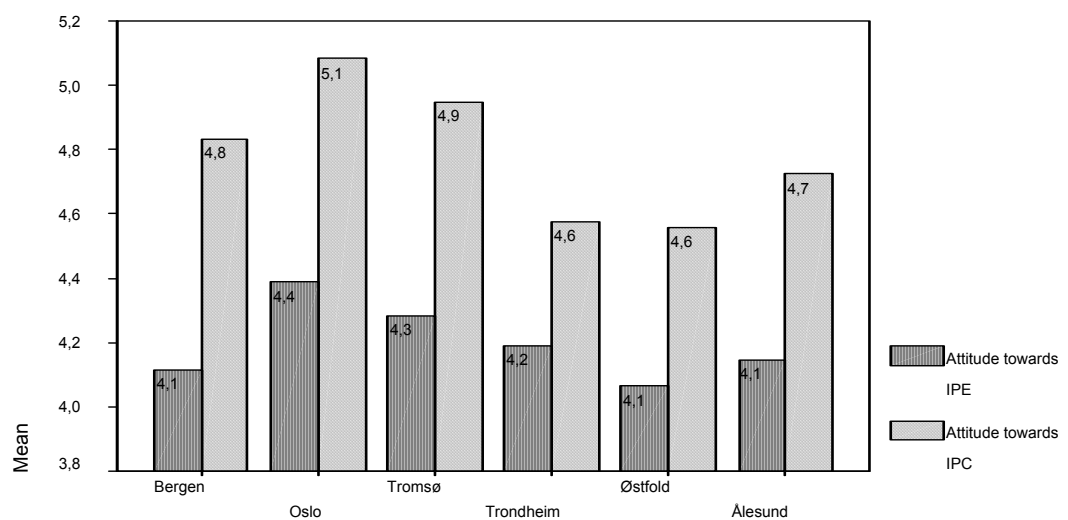


Figure 2. Attitude towards interprofessionality and place to study. High means indicate positive attitude, while low means indicate less positive attitude.

Figure 3 shows that students having work experience before starting their studies with patient in public health, were more positive towards interprofessional collaboration, compared to students lacking this kind of experience ($p=0,05$). However it was no statistical difference between the student groups concerning attitude towards interprofessional education.

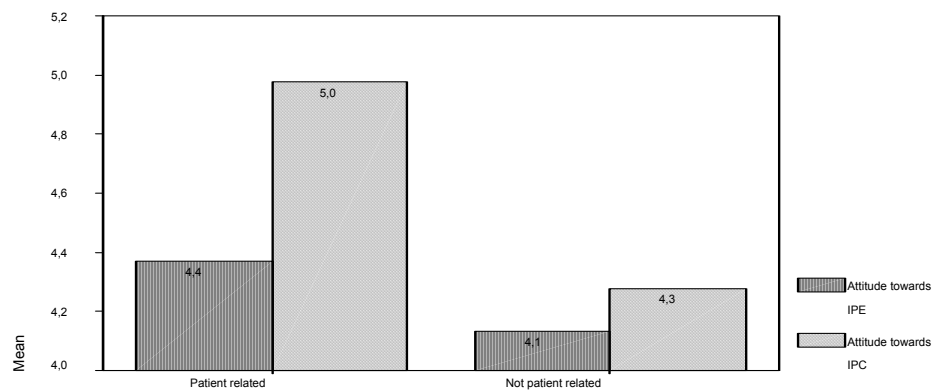


Figure 3. Attitude towards interprofessionality and work experience. High means indicate positive attitude, while low means indicate less positive attitude.

Discussion

The research shows that the students see the need of interprofessional collaboration within public health but are less willing to have interprofessional education. Some of this may be explained by that the students are afraid of losing some of their professional courses.

A lot of factors can be the reason for the variation between students' attitude towards interprofessionalism. Individual aspects, like occupational experience in public health with relation to patient will be of importance for students' attitude and identity development. Also students' cognitive relation to the future professions could be a dimension for the socialisation process and identity development.

Each educational system has their history and ideology. This, in addition to teachers and mentor as role models, study plans and organising in university/college may be central in connection to student's attitude towards interprofessionality and in which degree they identify themselves as a health worker or more like an engineer. Access to placement in hospital and the length of placement can be explanatory factors. In Oslo, the educational system has a close relationship to hospitals, while Bergen, Østfold, Trondheim and Ålesund have been organised at engineering educational institutes.

Not all the presumption for regression analyses was fulfilled and the credibility of these tests can be discussed⁵. For the educations in Tromsø, Bergen and Trondheim the result go together with earlier research carried out of Drange (1995). Since 1992 Tromsø all the health care programs have had a common course concerning hospital assignments and challenges. The aim of interprofessional learning is by sharing knowledge, experience and attitude; the students will have knowledge of difference and similarity between various health professions (Areskog 1994). May be the students, in interaction with students from other health care programs, will gain a more common professional identity?

Conclusion

Students who are more positive towards being more positive towards interprofessionality may have a more common health worker identity, compared with students being less positive to interprofessionality. The research shows that patient relation affects the students' comprehension of her/his role as a health worker. Students who are without patient relations will end up with a more engineer identity.

⁵ The analyses showed some tendency to heteroscedasticity. Some outliers were observed by Dfettas, Cook's D and leverage. But omitting these extreme values, did not change the coefficients and was therefore included in the analysis. The condition about normality of sampling distribution was tried improved by transformation but this did not improve the distribution.

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