Dealing with Heterogeneity in the Classroom

Barbara Drinck

The school pedagogy's discourse on heterogeneity currently debates the different qualifications of learners. In the classroom, heterogeneity and diversity are omnipresent and they affect all levels in school. These and other factors make the subject of heterogeneity in school worth exploring and important to talk about. This paper gives an overview of the matter and includes a general introduction to the research on heterogeneity and its relation to homogeneity. Different models of dealing with heterogeneity in conjunction with the co-education debate, the intercultural debate, and the integration debate will be introduced and further examined. A critical look at approaches to heterogeneity and gender justice in schools will be provided as well as a closer examination of whether coeducation is still the best strategy for promoting heterogeneous perspectives on gender in teaching.

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1. Diversity as a Guiding Principle?

In recent years, there has been a clear tendency at all levels of society to draw conservative conclusions from crises. These conclusions often lead to simplified solutions of social, political and family problems. A study recently published by the Friedrich Ebert Foundation (Decker, Brähler 2010) proves that the right-wing extremist attitude of the population is increasing and endangering democracy. Not only are anti-democratic and racist attitudes on the rise, the study was also able to prove a newly emerging gender chauvinism, which is confirmed and substantiated in figures by The Global Gender Gap Report 2010 (Hausmann, et al. 2010). This shows that women in Germany are successively falling behind their male competitors in their professional development and income in international comparison. This is mainly due to the different career plans of young women and men, for whom decisive steps are already being taken during school time. Therefore, schools must take their mission of democratic education more seriously than ever before and respond to diversity in the classroom with differentiated didactics. The heterogeneity in class associations could be seen as an opportunity to open up new didactic concepts that individual students can promote and support. In the following, approaches to heterogeneity and gender justice in schools will be critically examined and also a closer look on whether coeducation remains an optimal strategy for promoting heterogeneous perspectives on gender in teaching will be provided.

As one of the leading researchers on heterogeneity in Germany, Norbert Wenning (2007) criticises the fact that a homogeneous group of learners at school is still considered to be the ideal. Most teachers aim at covering the

syllabus seamlessly and without interruptions due to pupils having different learning levels. Jürgen Baumert und Gundel Schümer (2001), two researchers working on the PISA studies in Germany, have discovered that teachers have difficulties teaching classes that consist of pupils with different achievement levels. This means that most teachers cannot or do not want to differentiate between pupils within their teaching. Klaus-Jürgen Tillmann, a renowned researcher in education, calls this phenomenon "*die Sehnsucht nach der Homogenität der Lerngruppe*" (2008:9), or "longing for homogeneity of groups of learners". Because of the existing diversity in schools, however, the aspiration presented in education discussions needs to be a different one. It needs to concentrate rather on the idea of heterogeneity than the one of homogeneity. In this spirit, I am using the motivational heading: "*Vielfalt als pädagogisches und gesellschaftliches Leitmotiv*" or "Diversity as a Guiding Principle in Education and Society" (Boller, et al. 2007:15)!

2. Heterogeneity as a Research Subject

When Annedore Prengel first started to develop her "*Pädagogik der Vielfalt*" or "*pedagogy of diversity*" in her research about differences at school in 1993, the term *heterogeneity* was not an accepted concept in the field of Education Studies yet. She rejects the idea of a hierarchy of differences and describes differences such as gender, culture, age, and others as being equal and in parallel with each other. Ever since this initial research, Annedore Prengel and other education scientists have been searching for ways to promote the acceptance and tolerance of diversity in school classes. The majority should not dictate the rules as to how the minority is supposed to integrate itself into the community. In Germany this means that German children should be educated together with children of other nationalities, whose families may have come to Germany as refugees. Children come together in a collective setting and they can learn from each other that we all live in a world of differences.

As the concept of heterogeneity is fairly new in Education Studies, I would like to explain the etymological meaning of the word "heterogenic". This word is composed of two parts: the first part, "hetero" comes from the Greek word ἕτερος (héteros), which has a huge variety of meanings such as *different, plural, incommensurable, variable, undefined* and *unpredictable*. The second half, "genous", originates from the Greek word γένος (génos),

meaning *I create, bring forth*. If we put both parts of the word together, it comes to mean *distinct, original*. The word heterogeneity is an example of a recent, neoclassical word formation.

In modern General Didactics, the topic of heterogeneity mainly concerns the different preconditions of learners. Pupils are different in terms of age, gender, and cultural or social origin, have experienced various learning environments, and have different cognitive, motivational and emotional needs. (Hirschauer, Kullmann 2009:351)[1] The pedagogical objective when dealing with heterogeneity is to incorporate these differences into lessons.

It is the duty of a school to instruct all learners in a variety of different areas and to prepare them for society at large in as fair a way as possible. Dealing with heterogeneity in schools and lessons is currently one of the major challenges when considering reform processes. Planning a lesson for a heterogeneous group requires much more work than it would for a homogeneous group. Hence, organising and giving lessons with a view to heterogeneity can overload teachers.

Unequal individual conditions become the reason for different educational opportunities: Pierre Bourdieu describes the "social capital" as a particular resource (cf. Bourdieu 2001), but a certain social inequality can be connoted as well. For if we understand "social capital" as being connected to our individual everyday reality, then it can only be activated in conjunction with the available economic and cultural capital. Due to unequal distribution amongst individuals, however, social capital still contributes to the creation and reinforcement of social inequalities. Schools must dissolve this disparity and ensure equality to all pupils as a matter of social duty and as a pedagogical principle!

The discussion concerning attempts at reforming the school system in regards of equality began in the Federal Republic of Germany as early as the 1960s. With his book "*Bildung ist Bürgerrecht*" or "education is a civil right" (1965), which had momentous consequences in the field of education politics, Ralf Dahrendorf initiated a discourse about fair educational opportunities. He was particularly appalled that the decisive factor for children's educational success was not their individual achievements or talents, but their social background. In pointing this out, Dahrendorf had discovered the sore point in the German education system: Equal opportunities in education were impossible to achieve, when, at the same time, the lesson plan did

not take pupils' religious affiliation, social background and gender into account. It also did not acknowledge the urban-rural divide, even if all these factors could clearly lead to disadvantages. Dahrendorf described these disadvantages using his now famous discrimination formula based on the Catholic working-class girl from the countryside. He warned that, if we did not act to compensate for the special cases of multiculturalism, gender and family background, these inequalities would start to play a negative role and educational resources for both individual pupils and for society as a whole would go unused.

As literature in Education Studies states, for teachers to be able to work successfully with heterogeneous groups, that is, for them to give successful lessons, they need to change their attitude. Here, the teachers' "longing for homogeneity of groups of learners", as described above, is the main problem. For this reason, Olga Graumann (2002) calls for teachers to be prompted to constantly review and question their approaches to teaching heterogeneous groups. Teachers have to adopt an attitude that recognises differences between pupils according to a definition of difference based on equality (Prengel 1993, 2001), where all pupils are respected and appreciated. This is not yet true in all cases.

3. Different Learning Needs

In Education Studies, the concept of heterogeneity covers the individual needs of learners when they take part in lessons. The pedagogical aspiration for 'handling heterogeneity' tries to encourage being mindful of these differences during the learning process.

Beate Wischer of Bielefeld University goes beyond the traditional categorisation of heterogeneity into culture, gender, and the effects of either a talent or an impairment and describes heterogeneity at school as a much more comprehensive construct. Her categories of heterogeneity are as follows:

- heterogeneity due to achievement levels, cognitive learning needs
- heterogeneity due to age
- socio-cultural heterogeneity (Bourdieu's ideas on capital: social capital; differences in tradition, values and norms)
- differences in social competence
- differences in interests and inclinations
- linguistic heterogeneity (difference: oral language and written

language used in schools)

- heterogeneity due to migration
- heterogeneity due to state of health, differences in mental and physical health
- gender-based heterogeneity, gender-specific socialisation

There is a large number of complex interconnections, here. This complexity can be described using the term *intersectionality*, because an accumulation of differences often leads to a disadvantage.

"We understand intersectionality to mean that social categories like gender, ethnicity, nation or class cannot be conceptualised in isolation from each other, but must be analysed according to their intersections. It is therefore not only a case of considering several social categories."

4. Objective of Discussion in Education Studies: Diversity as a Guiding Principle in Education and Society

Especially at secondary school level, heterogeneity is considered a 'problem'. It is seen as a didactic problem that can only be solved through a differentiated lesson plan. But according to Klaus-Jürgen Tillmann, heterogeneity is not new. It is an old 'problem' that schools have had to deal with since time immemorial. It just used to have a different name. Even Friedrich Herbart talked about "*Besonderheiten*", or "*special characteristics*", when dealing with the "*Verschiedenheit der Köpfe*" or "*diversities of heads*". Maria Montessori and Peter Petersen reacted to the *different characters of pupils* in a constructive way by using a rotating system of pedagogical reformatory teaching methods such as free activities, weekly plans, open lessons, individual work and project work.

5. Heterogeneity is not the Opposite of Homogeneity

Even though many teachers think so, heterogeneity is not the opposite of homogeneity! The concepts belong together: diversity and similarity are both always present in groups of learners. The social background and achievement of two pupils could be different, for instance, while their personal interests and gender are the same. It is evident that exclusively considering heterogeneity in learning groups as opposed to homogeneity is unrealistic. In addition to that, it is clearly just as unrealistic to look at homogeneous groups in isolation.

This means that heterogeneity and homogeneity are like two sides of the same coin - One cannot exist without the other.

As a logical consequence, this means that heterogeneity is to be found wherever the presence of homogeneity is assumed!

6. Heterogeneity is Discernible at all Levels in School: A Breakdown according to Renate Hinz

Renate Hinz of TU Dortmund differentiates between four levels on which teachers' professional handling of heterogeneity in schools becomes relevant:

(1) The *personal level (personale Ebene)*, which includes academic achievement, personal development, language proficiency, mathematic-scientific skills and the general school career of individual pupils. Teachers have to learn to confront their own prejudices towards *the unknown*. They should make it their goal to understand the *other* and to recognise their own culture, which may be incomplete and which can be enriched by the influence of other cultures. They should also aim at seeing their own fixation with old systems critically. The main idea is thus being able to accept this *otherness*, instead of rejecting it without having even considered it.

(2) The *interactive level (interaktive Ebene)* exists in all communication in school life (between teachers, parents, pupils). It involves maintaining good relationships and friendships on all levels, which in turn means fostering a culture of acceptance and encouraging social interactions at school. Teachers must learn to come into contact with the unknown, for example by organising communal celebrations and school events. They should interact with others and work to overcome any alienation.

(3) The *level of the pedagogues' fields of action (Ebene der Handlungsfelder der Pädagogen)*, which should include cooperation with various institutions outside of school, is very important for the integration of the school into the local community. Furthermore, this level also entails the development of appropriate teaching methods and didactic materials. Teachers should also extend their knowledge about heterogeneity by attending relevant courses: lessons should be carried out in such a way that children are treated as individuals, so that both their differences and their similarities are accounted for. This refers not only to linguistic and cultural differences, but also to differences that may arise due to gender, disabilities or social disadvantages. The key word on this level is *cooperation*.

(4) The *institutional level (institutionelle Ebene)* also strives towards collective lessons that do not single children out on the basis of achievement. This level includes the legal and administrative regulations for schools, the overall institutional and organisational conditions and the regulations on performance diagnostics. The German education system has already taken a step towards introducing intercultural pedagogy by restructuring schools to provide integration classes for foreign children and children of refugee families. In this way, schools already take the different needs of children into account, not only concerning social origin, but also linguistic and cultural background.

7. What does Heterogeneity mean for Lessons?

In pedagogic literature, two main conditions leading to successful lessons in heterogeneous groups are named:

(1) The first condition concerns a change in the teachers' attitudes.

(2) The second condition concerns the necessary new didactic-methodical organisation of lessons.

In regards to the change in teachers' attitudes: the main problem in schools is that teachers often favour homogenisation and reject diversity in lessons.

For this reason, Olga Graumann (2002) calls on teachers to re-orientate their expectations of lessons with heterogeneous groups. Teachers should try not to base lessons on certain teaching concepts that they think are particularly well suited to heterogeneous groups. Instead, they should examine their attitude, their mindset and their habits and question whether they themselves can still do justice to a heterogeneous learning environment. Olga Graumann indicates the diversity of pupils with reference to Annedore Prengel's definition of difference and advocates seeing this diversity as equality and treating other people with respect and appreciation, regardless of their differences.

This requires a thorough examination of one's own current fixed ways of thinking and a fundamental review of one's own cultural and social guiding principles.

The hidden, but still virulent, guiding principles for the "ideal" lesson are based on an imaginary script ("*Die Schulklasse als Kollektiv*", or "The School Class as a Collective") that favours uniformity and synchrony in every lesson. A collectivisation of the lesson seems to be the ideal: a common and uniform way of working that allows pupils to learn the same

topics or topics of a similar level (same achievement level) within the same time intervals (timetable) and for the pupils to have the same chances of achievement (assessment of achievement based on certain criteria). We assume that the situation is fair when pupils have exactly the same learning conditions and are assessed in exactly the same way. However, if the challenge of heterogeneity is to be taken seriously in schools, priority must be given to the individual. It is for this reason that in differentiated lessons, pupils must be assessed according to individualised achievement criteria. Unfortunately, schools still have a long way to go.

With regards to the new didactic-methodical organisation of lessons, the new learning culture has to be implemented in schools as well as in the workplace. It is crucial to allow individualisation and differentiation.

Back in 1973, Wolfgang Klafki explained that if we wanted a lesson to support every individual in the best possible way, we would have to plan lessons according to inner differentiation. *Inner differentiation* and *individualisation* are always fundamental principles of a good lesson. In these considerations we find that old and well-known *reformatory pedagogical methods*, such as independent work, weekly schedules, open teaching, project work and interdisciplinary lessons, are being used again.

The concept of "freedom didactics" ("*freiraumlassende Didaktik*"), developed by Annedore Prengel, is dependent on the teachers' level of pedagogical-diagnostic competence, as the abilities of individual pupils are to be judged. High levels of competence need to be acquired in pedagogical-diagnostic courses during the teacher training degrees.

Teachers are also expected to have a high level of *elaborated didactic-methodical competence*. They need to have a broad repertoire of teaching strategies and should be familiar with a variety of teaching methods. Furthermore, they should be able to adapt these strategies and methods to the learning level of their individual pupils.

The obvious consequence of this is that lessons have to be managed in a very complex way, both by teachers and by school administrative departments or organisational bodies. It has been shown that primary schools, which demonstrate the highest level of heterogeneity within the German educational system, are the most open for alternative, individualised ways of teaching, and that primary schools rise to the challenge of heterogeneity better than other institutions. Subsequent schools tend to see lessons more as

a collective way of teaching.

After leaving primary school, pupils in Germany go to one of four different schools, which begin at Class 5. The school they go to is chosen according to their achievement level. Only one of these four schools, namely the "Gymnasium" (similar to a grammar school) gives pupils the qualifications needed to apply for university.

8. Separation Model, Adaptation Model and Completion Model when dealing with Heterogeneity in Schools - here in conjunction with the Co-education Debate, the Intercultural Debate and the Integration Debate

Model	Co-education Debate	Intercultural Debate	Integration Debate
Separation model	Gender-specific stance: Girls' schools and single-sex education.	Deficit theory: special schools. Differentness of foreign concepts. Promotion of special characteristics of all cultures.	Segregative stance; Special schools for gifted children/ children with SEN[2]: Special schools and schools for children with learning difficulties
Adaptation model	Androcentric norm: focus on male pupils. Hence extra projects: compensatory support of girls in secondary schools.	Ethnocentrism: orientation based on 'the German'. Compensatory support of foreign pupils in secondary schools to further their integration into the German system.	Centrist orientation based on '*normality*': additional support of gifted pupils and pupils with SEN in secondary schools: Integration model.
Completion model	Dialectic and complementary stance. Diversity and equality of the sexes. Characteristics that complement each other.	Intercultural stance: Diversity and equality of cultures. One school for all cultures.	Inclusive stance: Support of the diversity of talents and the fact that they complement each other.

The *Separation Model* highlights the differences between girls and boys. Following this model, we should start establishing separate girls' schools and boys' schools again. Lessons should be carried out mono-educatively, that is, in single-sex settings. (In the case of pupils with special educational needs, this would mean maintaining special schools as an institution within the education system and not organising inclusive lessons.)

The *Adaptation Model* takes a stance that disregards all fundamental

differences between the sexes. This would have two possible consequences:

    (1) male characteristics would be seen as the standard and used as an orientation point for teaching girls

    (2) preferential treatment of boys, for example in specific subjects such as Maths and Physics, would be prevented and girls would even receive extra support (be given an advantage), due to individual promotion of girls (promotion of women). (For pupils with special educational needs this would mean integration into regular classes but also impairment caused disadvantages.)

The dialectic stance of the *Completion Model* focuses on disadvantages of girls in the educational system due to social inequalities. In a collective co-educational school, the differences of the sexes become invisible when viewing the community as a whole. It is assumed that just the collective schooling (co-education) of boys and girls is enough to accommodate the different behaviour, interests and talents of the two sexes. (For pupils with special educational needs this means the creation of inclusive schools).

9. Conclusion

Up until 1993, the concept of heterogeneity was unheard of in the field of Education Sciences. However, Annedore Prengel of the University of Potsdam speculated about dealing with diversity in schools in her concept of the "*Pädagogik der Vielfalt*" or "pedagogy of diversity", quite early on. She investigated ways of accepting differences without thinking in terms of majorities into which minorities should integrate. She rejected the establishment of any hierarchy of the differences.

The question of the best way to deal with heterogeneity in school classes remains to be answered. So far, we can only report on real school conditions and real experiences made by both teachers and pupils, so this question will have to remain unanswered to a certain extent.

A problem that has been addressed is the less than optimal approach to the individualisation of lessons and the heterogeneous composition of school classes in basic and additional teacher training courses. Norbert Wenning (Klagenfurt, 2007) criticizes the fact that even today, a homogeneous learning group is considered the ideal in schools, and is expected to progress as a collective without disturbances to learning processes. This has long been proven to be a misconception.

Footnotes

1 Beate Wischer (cf. 2007a; 2007b) also includes disability, various interests and inclinations, migration experience, health conditions and finally also gender-specific socialisation patterns.
2 Special Educational Needs

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