A 'Circulation Model' of Education
Keestra, A.; Keestra, M.

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Introduction

The protests at the Universiteit van Amsterdam (UvA) that began in November 2014 as a reaction to severe cuts in the department of humanities have sparked a broad debate nationally and even internationally about the future of the university and the values and ideals that should define it. It turned out that dissatisfaction was much more widespread in different parts of the university than some had previously thought, and many turned out to share the concerns first put forward in the humanities department, to extend beyond the borders of the university and the country. Increasing focus on getting as many students as possible to graduate promptly has shifted the attention ever more towards quantitative indicators for the evaluation of education rather than qualitative ones, leading to raising the question of whether the quality of education has suffered from these priorities. The executive board of the UvA initially tried to ignore the criticisms and demands put forward by the protesters, but eventually recognized that this strategy was untenable and came forward with a substantial response to the protests: the board presented ‘ten points’ that would guide its discussion of the future direction of the university. Although in general everyone was happy with these points as they contained suggestions in response to important demands of the protesters such as the demand for increased democratisation, a broadly-shared criticism of the ten points was that they were very vague and imprecise and required specification if they were to be implemented. We would like to take the occasion of this special issue of Krisis on the future of the university to take up two of these ten points and discuss in this essay how they could be further elaborated and implemented in student education in the new university, explaining why this is not yet the case.

The two points on which we would like to focus are closely related and connected. Point 6 reads: ‘Priority to creativity and innovation in education and research’ and Point 7: ‘Link education with, and value it as highly as, research.’ Here we have one point emphasizing creativity and innovation in education and research, and one point that stresses the connection between the two. A first reaction might be: isn’t that just what the university should be about anyway? In what sense is this a new direction? Is it new at all or does it merely indicate that the traditional values of the university have been pushed too much to the background? We would like to suggest that all these responses are partly true at least. The fact that these two points are part of a plan to direct the future indicates that these points may have suffered under choices made in university governance in the past couple of years. We would like to stress, though, that the current situation is also a good occasion to reconsider the values of higher (academic) education and explore possibilities to implement these in the new university. We will do this by briefly considering the history of the university as an institute that aims to combine – more or less effectively – research and education, subsequently mentioning some more recent challenges for the university, and we will finish our essay with a brief description of a ‘circulation model of education’ that we consider to be a fruitful source for answering some of the challenges we identified from the current discussions.
A brief history of different educational models: from oral disputations via writing exercises to standardized education

The university is often said to be the internationally most successful European social invention: other than many other inventions and institutions, the university has been adopted by most countries as an institution that combines research and education (cf. Lindberg 1992). Where previous interactions between scholars – ‘masters’ – and pupils were mostly organized at a relatively small scale in monasteries, cathedral schools or at private courts, from the 11th century a rapid change occurred. Increasing wealth, population growth and urbanization provided some of the material conditions for this, while the Renaissance and other cultural changes prepared the intellectual ground. Initially the ‘universitas’ referred to an independent association or guild of teachers and their students, without reference to a particular location or building. When these associations grew, the need for an organization and buildings increased as well. In 1088 freedom of teaching was granted to Bologna’s school, which is considered by many to be the birth-date of the university.3 Papal involvement with the early universities and the recognition by the popes from the 13th century onwards of the universal validity of university degrees facilitated the further institutionalization of universities and the increasingly important status of university degrees as indicators of scholarly and professional qualification (Rüegg 2003b). When this new institution spread more and more through Europe, increasing numbers of individuals who participated in university training entered the ranks of the clergy, merchants, civil servants, medical doctors, lawyers, and so on. With this development, the direct and indirect impact of the university on the larger society grew as well, affected as it was by the students and their skills and expertise as these returned to societal positions after their stay at the university. Of particular interest to us in the present context is the changes that obtained regarding the educational models to be found in these institutions. These educational models affect the interactions between teachers and students and the role and nature of research with regard to education. Moreover, as we will argue, each model is associated with a specific perspective on students as independent learners and researchers.

Medieval and early-modern university training consisted largely of oral exchanges, with the oral disputation being the most important form of assessment. This prominence of the oral nature of academic education and exchange was partly due to the limited distribution of written and printed materials and, consequently, their limited relevance. With the wider availability and distribution of printed publication of scientific results and the emergence of scientific journals, reading and writing largely came to replace the oral disputation – a process that began around 1750 at German universities and from there gradually spreading to other countries. Specific regulations were given as to how seminar writing exercises should be handled, because they were considered to be important as demonstrations of students’ capacity to master original sources and to use these for their own independent research. Indeed, this rise in the prominence of writing reflected the university’s recent emphasis on a student’s individual development for becoming a creative and independent researcher (Kruse 2006). Motivating, supervising, commenting and assessing writing was considered to be the best way in guiding the student along this difficult path, initiating her in the practice and discourse of a particular discipline. This form of ‘student socialization’ (Kruse 2006) has been in place for nearly two centuries until a further development made it nearly impossible to maintain it.

The development at stake is of course the more recent massification of higher education. After the Second World War, and particularly since the 1970s, the number of students has increased exponentially in many countries. In the last decade alone, a rise of 45% of tertiary educated young adults in the OECD and G20 countries has been observed (OECD 2015). This development took place during an economically challenging period, which has motivated European educational policies – more so than in the US – to emphasize higher education as preparation of students for the job market, rather than as preparation to become fully developed citizens (Keestra 2007; Wildeemeersch 2013). These socio-economic changes went along with an ideological – neo-liberal – turn regarding higher education, together impacting the conditions of the latter in a negative way: ‘[i]n short, massification, the economic crisis, and a widespread acceptance of the private-good argument have led to a worldwide deterioration in conditions as exemplified by deteriorating student/teacher ratios, problems for the academic profession, and the general impoverishment of academe’
Two current challenges of university education

From this brief discussion of the history of university education we surmise that there have been at least three different media of teaching students at the university: a first phase in which verbal disputations occupied a central spot; a second phase in which reading and writing exercises were the main elements of training used at the university; and a third and current phase which seems to be focussed further still on elements such as listening, reading, making exercises and standardized exams, notwithstanding pedagogical and other reasons that point in a contrary direction.

In this model of teaching the role of the teacher is not so much to facilitate the development of students as independent and creative scientists by engaging with their independent thinking through verbal interactions, and by guiding and providing feedback on their writing. Instead, university education in this model consists largely of making students reach certain standardized learning objectives according to predefined pedagogical and scientific methods and processes, preordained by experts whose knowledge and skills students should learn to emulate. In his much debated book *The Ignorant Schoolmaster* (1991), French philosopher Jacques Rancière has argued that there are a number of negative consequences to this approach to education. First of all it makes explanation the primary mode of engagement of teachers with their students and makes understanding its central goal. As a result, students are put in a relatively passive position. The presumption is that students are not yet capable of understanding a certain piece of information deemed important by the teacher, and that the relatively straightforward goal towards achieving comprehension is by way of the teacher explaining it to them. As Rancière points out, this undermines the confidence of students in their own intelligence and capacity and in fact creates a situation of continued ‘enforced stultification’ in which a separation continues to exist between the superior ‘intelligence’ of the teacher and the inferior intelligence of the students (Rancière 1991: 7 ff.). He contends that even sophisticated pedagogies can still not avoid this separation and that ‘all the perfecting of the ways of making understood, that great preoccupation of men of methods and progressives, is progress toward stultification’ (Rancière 1991: 8, italics in original).

It should be rather obvious that such ‘enforced stultification’ is the opposite of what education should in fact achieve. There is however another, more subtle, effect of this predetermined and standardized model of education - for which the traditional lecture is exemplary but not unique - that should also be considered, because it is at least as important. Besides creating a distinction between the intelligence and understanding of the student and the teacher, it also creates a distinction between what the student does as against what the teacher does. Whereas the teacher himself, as a researcher, gets to engage directly with his subject matter in his research, the student is deemed unfit for this task. Indeed, Rancière emphasizes that education usually forces students to attend to subjects and contents that have been chosen by their teachers. As the understanding
of the student is only mediated by the necessary explanation by the teacher, the latter is directing and constraining the student’s attention. Accordingly, the creativity of the individual student is not called into action, either for understanding the material presented to her or for any research or direct engagement with primary material. Thus, the traditional model (and many other models) of education not only undermines the confidence of students in their own intelligence, it also discourages the use of their own creativity. Indeed, creativity in research is considered to be the privilege of the teacher, which the student may reach only at a late phase – perhaps the master’s phase – of her studies, if at all.

It might be surprising to apply this – admittedly somewhat provocative – analysis to the current situation of university education, given that most universities, including the UvA, still contend that their programs and courses are built upon a connection between research and education. However, this connection can be variously implemented and correspondingly offers students more or less exposure to a genuine research experience. Realizing this connection, any program or course must position itself along the following three dimensions:

- the emphasis is on research content or research processes;
- the students are treated as the audience or participants;
- the teaching is teacher-focused or student-focused. (Healey 2005: 187)

It is not surprising that, with increasing numbers of students, universities construe most of their programmes and courses in such a way that students are given only limited experience with a research process as participants with their teachers focusing on such student work.

This is not only hampering student development, it is the more worrying as scientific research and education has undergone another development in the last century, particularly in the last decades. We are referring to the growing importance and prominence of interdisciplinary and transdisciplinary teaching and research, already recognized nearly half a century ago by an international symposium at the OECD headquarters, presenting a crucial challenge to the modern university’s structure and activities (Apostel, Berger, Briggs, & Machaud 1972). Several drivers have been recognized behind this development, ranging from the inherent complexity of society and nature to new problems emerging from particular technologies – such as the computer or MRI-scanner (National Academies of Sciences 2004). By their very nature, interdisciplinary and transdisciplinary research try not to abstract from, but rather focus on, the local, historical and contextual conditions that have an impact on a particular problem. As a result, the applicability of the general or nomothetic knowledge developed in separate disciplines is highly constrained in such cases in which causal and theoretical pluralism reigns in often unprecedented ways (Krohn 2010). This means that to engage in inter- and transdisciplinary research students need to be able to creatively combine different frameworks, methods and sources in order to address the questions and problems at hand. Given the increasing importance and relevance of such research, both inside and outside academia, it is all the more worrying that the education model that has become more and more dominant is not delivering students the expertise and skills necessary to become proficient in it and to perform adequately in future jobs both inside and outside academia.

We thus identify two challenges for education at the new university: on the one hand the increasing numbers of students that universities have to accommodate with decreasing budgets, and at the same time an increasing need for universities to develop the creative skills of their students in order to engage in the modern forms of – oftentimes interdisciplinary and transdisciplinary – research that have become important for academia and society. Whereas universities have responded to the first challenge by relying on predetermined and standardized programs as their educational model, the second challenge cannot be met adequately by such a model. In fact, this model has a lot of undesirable consequences for the students, some even contrary to what education should in fact achieve. Therefore we would like to take this opportunity to investigate what might be an alternative model of education which would be more adequate and that incorporates the two points regarding creativity and innovation, and regarding the connection between research and education mentioned above.
The circulation model of education

As we have seen from our brief history and our brief discussion of Rancière's analysis of the predetermined and standardized model, the students' confidence in their own intelligence and creativity is not strengthened and a separation between education and research has occurred, increasingly barring students from engaging in research. The current discussion about what education at the new university should look like therefore seems to ask for acknowledgment of the limited value of this model and an emphasis on another more recent model of education in which research and education are connected creatively. This type of education does exist, yet unfortunately due to economic conditions mostly in a very limited sense at smaller programs or colleges and for a selected group of students. We would like to sketch a few of the aspects of a Weberian ideal type of what we call a 'circulation model' of education, because within it circulation rather than unidirectional traffic occurs between different elements: circulation between research and education, between insights of teachers and of students, between disciplines, between general and contextualized knowledge, between disciplinary and experiential knowledge, between doing research and (meta-)reflection upon research, and so on. Let us explain.

In a course that complies with the relevant features of the circulation model of education, students are - preferably in a team project - allowed to determine themselves a complex, real-world research problem, for which they need to articulate and analyze relevant conditions. As these conditions probably transcend their own disciplinary backgrounds - and probably the expertise of their teacher(s), too - their teacher should assist them in this difficult process. Assistance here can imply that she has to guide them in acquiring the necessary insights for determining their problem or re-defining it in such a way that they can handle it. Such an acquisition will in many cases imply that the students need to talk to other experts or stakeholders and then to consider how the insights that result from this can be combined with their preliminary insights. The teacher might need to help students to target and collect these different kinds of insights and then to circulate these with the already existing knowledge-base in a constructive way. Moreover, as it is unlikely that all insights, experts and stakeholder views can easily be put together, it will be necessary to reflect on how the different concepts, methods, assumptions and normative statements that have been assembled can be related to each other. Importantly, this can only be done by a teacher who is not only an expert in her field but also has the necessary meta-theoretical and philosophical insights and skills. This is likely to be challenging for her as well, as this process and the resulting problem definition will be at least partially new, preempting her completely relying on pre-existing knowledge. On the contrary, it will likely force her to participate actively in this research process, which allows students also to witness closely how she approaches this demanding situation which will in itself offer important insights to them. In such a situation, teacher and students are equally engaged in entering unknown territory, which emancipates the students in a way that other educational models hardly do.

Similar forms of circulation will obtain in the next phases of such a research process, as when the now determined problem is subsequently investigated and the eventual research results are implemented in one way or another. Clearly, this process will look differently depending upon the problem at stake and the students involved. As a consequence, the modes of circulation will differ from case to case as well. An analysis of alternative interpretations of a Homeric simile which draws upon different theoretical frameworks and linguistic insights will yield a completely different process, including different types of circulation, than the development of policy advice in response to demographic and economic changes in a particular urban area, or the explanation of the role of maternal stress via a specific epigenetic factor in the development of a particular type of cancer. Depending upon the stage of the students' education - whether at the undergraduate or graduate level - they can perform a certain amount of original or empirical research themselves while relying for other insights upon already available resources, which the teacher must help to assess adequately.

Referring to the three dimensions of research-based education mentioned above, this circulation model is very different from a process in which the teacher possesses and provides all necessary expertise and knowledge which is then transmitted to the student – perhaps in the form of prede-
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research process, students are granted freedom in the choice of the prob-
lem they will be trying to solve and the teacher – or teachers – facilitating
research process will herself almost need to take up a role of a co-
creating researcher. In such a circulation model of education the borders
and distinctions between the intelligence and activity of the teacher and of
the students are erased, and students and teachers are encouraged to ben-
efit mutually from each others’ activities.

After this brief description of students’ research projects that concurs with
our idea of a circulation model, motivated by the aims of 1) connecting
research and teaching and 2) stimulating creativity and innovation, while
keeping an eye on the increasing demand for inter- and transdisciplinary
research, what should the implication of this be for current academic
programs? Moreover, what does the other development mentioned above,
the still growing number of university students, imply for teaching such
research projects?

One of the consequences of our preceding analysis and description is that
universities should offer students more opportunities for engaging in such
team-research projects across the boundaries of their programs and disci-
lines than is now usually the case. Obviously, these should be offered in
addition to and not as a substitution for courses that introduce students
to particular contents and methods: we are not denying the merit of such
predetermined and standardized courses as part of an academic program
nor do we deny the importance of sound disciplinary training. However,
only if students will have the opportunity to engage in such research pro-
jects can they truly be prepared for the work that most academics inside
and outside of academia are performing. Such work will scarcely be con-
ducted by an individual academic without interaction with individuals
from other disciplines or other walks of life, on the contrary. Whether it is
in the form of clients or customers, policy-makers or citizens, patients or
other stakeholders, academics will need to be able to interact, communi-
cate and collaborate adequately during such research projects.

Another consequence is that it should be recognized that enabling stu-
dents to participate in such research projects might require extra efforts
and resources. Whereas it sometimes happens, for example at the UvA,
that interdisciplinary or liberal arts programs are being proposed in par-
allel to budget-cuts measures (see footnote 1), these practices are questiona-
ble and often fail to reach such a goal (see Augsburg, Henry, Newell, &
Szostak 2009). The non-standard teacher-student interaction upon which
our circulation model relies is such that it requires even a senior teacher
with extensive teaching and research experience extra time and efforts to
prepare if she is to adequately facilitate and guide her students through
the research process focused on the particular real-world problem that
they have settled upon. Indeed, the new group of teachers that the Secre-
tary of Education has recently promised to appoint could be put to opti-
mal use in such projects.

Though these observations may appear disheartening, we want to close
with a final and more optimistic consequence that can be drawn. When
teachers and students move away from the increasingly prominent prede-
termined and standardized model of education and engage with each oth-
er in the way captured by our circulation model, they will contribute to
fulfilling the demands that were captured by the two points upon which
the board, faculty and students of the UvA agreed and which were men-
tioned above: (6) to give priority to creativity and innovation in education
and research and (7) link education with, and value it as highly as, re-
search. Moreover, and perhaps even more importantly, they will revitalize
and update the early modern ‘universitas’ or association between re-
searchers, teachers and students from which the current universitari-
stem. Through such projects, the circulation will be fostered between re-
search and teaching, between teachers and students, between meta-
reflection and research, between disciplines, between disciplinary and ex-
periential knowledge, between doing research and (meta-)reflection upon
research, contributing to the essential role that academia has to play in
our current knowledge society. We hope that in future discussions about
the new university the importance of this interaction between students and teachers will be recognized and will be given the role it should have, to the benefit of all actors involved and of the society at large.

Amos Keestra has finished his BSc in Psychobiology (cum laude) and his BSc in Natural and Social Sciences (Bèta-Gamma Bachelor), with a major in Philosophy at the University of Amsterdam. He is working as a teaching assistant in Psychobiology and as a research assistant at the SILS-Cognitive and Systems Neuroscience institute.

Machiel Keestra, PhD, is Assistant Professor at the Institute for Interdisciplinary Studies at the University of Amsterdam, involved in its interdisciplinary Natural and Social Sciences bachelor’s, Brain and Cognitive Sciences master’s and Interdisciplinary Honours programs. His research focuses on the philosophy of cognitive neuroscience and interdisciplinarity. Dr. Keestra is the president of the international Association for Interdisciplinary Studies.

Both Keestra’s are involved in Rethink Science Park, it being part of the Rethink UvA movement.

References:


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1 Actually, the cuts were presented as a reform of the study programmes in which the humanities department would offer a broad liberal arts programme to all its students (Dagelijks bestuur van de faculteit der Geesteswetenschappen, 2014). What this meant in practice however was that all the students, irrespective of their specialization, would receive a rather similar programme with a lot of specialised disciplinary courses being cut away. Irrespective of its potential merits, the result of this package of measures was that many people at the UvA rejected interdisciplinarity altogether. However, the proposed measures were not in fact stimulating diversity and interdisciplinarity in ways such as we are further suggesting below.

2 Taken from the ‘10-points plan’ in Dutch and English at the UvA website: (UvA Persvoorlichting, 2015).
Although not relevant here, it has to be noted that the date 1088 is disputed as the birth-date of the university of Bologna, as is the case with the precedence of Bologna over Paris university (Rüegg, 2003a).

It is estimated that in Germany during the 150 years between 1377 and 1520 more than 200,000 students had visited a university (Lindberg, 1992 209).

This is a conclusion drawn by the same authors of a 2009 UNESCO report on ‘Trends in Global Higher Education’ (Altbach, Reisberg, & Rumbley, 2009).

Problem-based education, for example, has been implemented particularly in academic programs preparing for certain professions, such as in medical, nursing and engineering programs. Overall, results of these programs conducive for ‘constructive, self-directed, collaborative and contextual learning’ appear to be positive in terms of skill learning, less so in terms of – new – knowledge acquisition. There are specific challenges for such education, such as the number of well-trained tutors required for its implementation (Dolmans, De Grave, Wollhagen, & Van Der Vleuten, 2005).

In a way, teaching masses of students intensifies the paradox of education that has been at the focus of (social) pedagogical discussions since Kant noted in his essay on Enlightenment a tension between emancipation and education: can education enhance students’ emancipation and freedom, given the inequality that appears inevitable in educational relations between teachers and their pupils? See (Wildemeersch, 2013) for a succinct history of these discussions.

The French word ‘abrutir’ could also be translated as ‘to numb (down)’. Stultification is also taken by Rancière as being opposed to emancipation as an educational goal. Stultification and emancipation cannot be associated with ‘traditional or authoritarian’ versus ‘new and active’ methods, as Biesta points out that stultification can also continue to occur with those newer and activating pedagogies (Biesta, 2010).

Alternatively, an ‘inter-esting’ object for teaching would be an object that is placed between teacher and students, demanding attention equally of all those involved and thus creating an equality that leaves no room for the aforementioned stultification. Our current educational system, with its emphasis on differentiating between students and their learning trajectories, still offers rare opportunities for such situations (cf. Cornelissen, 2010).

Another fact that merits mentioning — especially in the context of this special issue’s focus — is that universities have also increasingly approached their students as consumers. Adoption of such consumerist attitudes seems to produce negative effects in students and their education, e.g. enhancing their passivity and their taking a more instrumental view regarding their academic education. Institutions, for their part, tend to avoid risks and have increasingly commodified their programs (Naidoo & Jamieson, 2005). Related to this development is the ‘occupation’ of the university by management and its logic, which has been critically analysed in Krisis in 2013 - recently published in English (Halffman & Radder, 2015).

In his epilogue to ‘What the best college teachers do’, Bain writes: ‘Rather than thinking in terms of the traditional dichotomy of research and teaching, a separation that often paralyzed higher education in the twentieth century, we can begin to think of ourselves as a learning university concerned with the learning of both faculty (research) and students (teaching) and the ways in which the learning of the one can benefit the other’ (Bain, 2004).

Since such research projects require a higher teacher/student ratio and more intensive feedback interactions than most other courses, this is another reason to reconsider university budgets and the precarious situation of increasing numbers of teachers – the latter being another reason for recent protests at the UvA.

It may be good to note that the pioneer of so-called Massive Open Online Courses has some time ago admitted that these turned out not to offer the solution to educational challenges for which they were initially developed. They appear to serve well primarily those students who already possess the necessary resources, attitudes and competencies instead of the group of underprivileged, more challenged students (Schuman, 2013).

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