Higher Education in 2040

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Viewed traditionally, it is the mission of the university to train young people. Providing a highly trained labour force in the form of a social elite has always been something that the university has done successfully. From its founding until deep into the seventeenth century, for instance, the University of Salamanca was almost exclusively responsible for producing all of the key officials and administrators needed to serve the growing Kingdom of Spain and the Habsburg Empire. But all that is in the past; the question is, what kind of graduate will be needed in the future?

In Western European universities in particular, education has become more and more specialized in recent decades, and university training is dominated by the acquisition of what is largely disciplinary knowledge. The balance has often tipped in favour of the latter at the cost of the former. By contrast, the first phase of academic training in American universities is broad, but there, too, we see an increasing shift away from the provision of a broad college education, and a growing number of voices in favour of using the university in a more targeted fashion as preparation for the labour market, also in view of the costs. What is certain, however, is that the labour market that we normally take for granted, which has been employing graduates for centuries, is undergoing a fundamental transformation. A factor that is also playing a major role in this, of course, is the sharp rise in the supply of graduates. Whereas for many years, employment could almost be taken for granted, nowadays we see a general contraction of the labour market and considerable competition, whereby only the very best have a high chance of success. In such a situation, the extent
to which a university programme is tailored to rapidly changing demand from society is becoming increasingly important.

We should not be surprised by the fact that too little attention is often paid to the labour market, when we bear in mind that university curricula tend to be supply-driven, that is, driven by academic traditions or lecturers’ interests; research universities in particular are not demand-driven in the sense that they respond to demand from society. As a result, little attention is paid to soft skills, leadership or IT skills, for example. Nevertheless, these are precisely the skills that could characterize the curriculum of tomorrow, given the completely different role that this knowledge will play in the future. Today, in many respects, there is still an emphasis on the acquisition of knowledge in academic education. But in future, knowledge will be available everywhere in advanced IT systems and the role of the university graduate will shift from gathering and generating knowledge to using it. Both in research and in industry or societal organizations, this will usually take place in wider interdisciplinary contexts, where new scholarship will emerge as a result of the linking of totally different disciplines. These convergences will become a leading form of scholarship, and will therefore also play a defining role in teaching.

In general, we can already see initiatives that incorporate the trend described above. The idea of the ‘T-shaped professional’ is by no means new, but it will undoubtedly become more important in future. In this context, ‘T-shaped’ refers to how the vertical column of the ‘T’ represents in-depth

disciplinary training, whereas the horizontal bar indicates that this disciplinary knowledge is increasingly used in interdisciplinary contexts. Disciplinary training will remain important, however, because this alone will allow for the development of core competencies such as asking the right questions, designing appropriate research and using the right methods. Whilst higher professional education will have a strong focus on specific labour market issues and teaching universities will focus more specifically on the exclusive transfer of knowledge, research universities will have to pay serious attention to the ongoing interconnection of research and teaching, based on disciplinary training. But as research will increasingly become a matter of cooperation between different disciplines, teaching will have to provide thorough training in the ‘soft skills’ that facilitate this interdisciplinary collaboration.

In the period since the Second World War, university programmes have become more and more specialized, and less attention is paid to the more general formation of students or Bildung. The current debate about the university of the future mainly focuses on this broad academic training that students should receive, but as we design the curriculum of the future, it is at least as urgent to reflect on other qualities. The old notion of the university as the place where members of the elite were trained only remains to a limited extent; it can still be found today, for example, in selective and exclusive universities such as American Ivy League institutions. Students at such universities are constantly reminded of their potential future leadership role, although they receive little training for this. In many Western Europe universities, ideas of elites and leadership disappeared long ago as institutions became mass institutions, and this is actually a pity. Many of the problems that
we face today and that we will face tomorrow threaten to become mired in the simple-mindedness of Facebook, Twitter and modern communications. Leadership will be particularly important here, certainly in the extremely complex society of the future, when it will probably entail solving major problems. This would allow the university to underline the social significance of its role, but it should then pay specific attention to the development of leadership training – much more than is now the case.

There are major regional differences, of course, that will play a decisive role in how the general developments described above unfold. In parts of Europe and in North America, we have already seen the first shift towards more interdisciplinary teaching, including a focus on soft skills, and this will undoubtedly continue further in the coming decades. The situation in Asia is very different. The dominant notion of the ideal curriculum in Asia is roughly as follows: teaching should be discipline-based, above all else, and it should be a largely one-way process. Lecturers provide traditional education, often in large groups, which is mainly based on a combination of a large number of contact hours with hardworking students. This picture is strengthened by the fact that even in systems that are more oriented towards the West, such as in Singapore, there is notably little interaction between students and lecturers. Evaluations show that the lecturers hardly pay attention to the students' comments, and the latter subsequently feel that they have very little influence on the quality of the teaching.

We will probably continue to see significant differences between the student populations across the different continents in the coming years, as these have deep-rooted cultural causes. Asian students are exceptionally disciplined,
competitive, deeply wishing to make their mark, and, above all, they accept authority with little public critical reflection. This means that they keep their opinions to themselves and it is difficult to elicit critical comments from them, even in private conversation. But both in China and Hong Kong and also in Singapore, for example, there is a second element that distinguishes Asian students sharply from their Western, and certainly from their European and Dutch, peers: many of them are keen to enter the labour market immediately after gaining a degree, due to the high level of demand. There is a flexible labour market in Asia, where academically trained graduates are prepared to accept jobs that are totally unrelated to the subject they originally studied. These Asian students also have high expectations of the future, characterized by the image of the social climber. Parents and children make huge efforts to ensure that children have a better life than their parents: students therefore want to get working as soon as possible after their Bachelor’s degrees, so they can earn a good income.

More so than in Europe, students in the US are often articulate and trained in rhetoric. They are good at debating in public, certainly compared to their Asian peers. In the coming years, Western universities will be able to draw considerable benefit from the fact that their students’ articulate nature lends itself particularly well to bringing research into the curriculum at an early stage, and to training students to think creatively and independently. Conversely, in the coming years, one disadvantage could be that as a result of increased prosperity in Europe in particular, student motivation may remain low and dropout rates high, especially in countries with free or low-cost university teaching. In addition, most students have only a vague idea of their future role in the labour market. This
will undoubtedly change, certainly if funding proves harder to come by, and particularly if European universities move in the direction of rising tuition fees and more selection.

In any case, there is one quality that makes the Asian curriculum – with the forerunners again being Singapore and Hong Kong – stronger than those in Europe or North America: internationalization. In Hong Kong, the Bachelor’s phase was recently lengthened by a year, and there is a striking degree of interest in and attention paid to spending a period abroad, both in Hong Kong and in Singapore. In Hong Kong, this additional fourth year is partly intended for international orientation. Governments also strongly encourage international exchanges, on the basis that it is essential to have an understanding of the world beyond Asia. This is much less the case in Europe and the US. Despite this, the internationalization of teaching will undoubtedly increase in future, due to the importance of remaining connected to the international pool of talent.

In short, where will the contours of the teaching of the future lie? What will the core competencies be in the curriculum of the future? In addition to disciplinary training (for this will always be needed), the accent will shift to the development of strong academic skills. The emphasis will come to lie more on training students how to ask the right questions and how to extract knowledge from the large data systems and expert systems that we will have in 2040. In this context, it is extremely important to develop a good academic core curriculum that serves these objectives. The American system appears to have a head start in this respect, because it already has a broad Bachelor’s phase that mainly provides academic education. But there, too, just as elsewhere in the world, a greater emphasis on leadership is needed, on playing a visible role in social debates, rather
than disciplinary skills alone. The image of the T-shaped professional will need to be reinforced everywhere, and will also partly shape the curriculum.

The university’s educational mission will thus change radically in the coming years: there will be significant differentiation between universities, the top universities will enjoy a larger share of academic education, and there will be greater emphasis on leadership and interdisciplinarity. Putting all of the above together, a picture emerges that is captured well in the old, now unfortunately abandoned, mission statement of the University of Manchester:

Likewise Manchester’s educational mission goes well beyond the development of highly employable professionals, vital though that is, and places equal emphasis on preparing graduates to take personal responsibility, as citizens, for building sustainable civil societies in the 21st century and addressing the great social and environmental issues confronting humanity. Our idea of a university is of a strong, independent knowledge institution seeking not only to understand the human and natural world, but to bring knowledge and wisdom to bear on sustaining and improving the quality of life on earth.

In recent years, the world has changed fundamentally as a result of globalization and developments in IT, leading to the emergence of a modular economy. Parts of the design and manufacturing process take place in completely different corners of the world and are eventually assembled into an end-product for sale. This latter part of the process – the marketing and sale of the product – can also take place in a range of different places, thanks to rapid connections and good communications. We could imagine a similar trend in education, especially in higher education. Modular teaching
is provided in accordance with taste and demand, and will increasingly have to meet the needs of the student. These could be needs relating to time, such as the time periods when a student studies, but also changing needs over a lifetime. Thus there will undoubtedly be growing demand for lifelong learning. But there are also aspects that relate to the organization of teaching, rather than just dividing up teaching into modules.

Modularization enables a student to select individually those parts of the curriculum in which he or she is interested, for which there is a need, or that provide a direct solution to a problem that has arisen. We will see an inevitable shift from curriculum-based education to personalized, customized education. According to Dawson, the learning process will move from the formal to the informal domain, and we will increasingly see phenomena such as ‘workflow learning’; that is, only learning something if there is a need to do so in response to a problem or question. To quote Dawson: ‘This kind of learning is about networks, about access, about critical thinking and problem solving.’

If there is indeed a shift from the formal, coherent curriculum to digital, informal and modular teaching, we will also see a shift in certification. For centuries, the university has derived much of its power and prestige from the conferral of qualifications; that is to say, issuing a guarantee that the individual who is graduating is actually able to do what has been promised and what is expected of them. Students pay for the diploma with rising tuition fees, so that they can obtain a good job in exchange. But the situation in future

may be very different: students may study for as long as they consider necessary, and may tailor their studies to their own taste and choices, for which certification will be required from the university or another institution.4

The later phases of the Bachelor’s programme will be especially susceptible to modularization and ‘unbundling’, and a decrease in campus-based teaching in favour of online education. This will undoubtedly lead to further differentiation between teaching universities and research universities. The latter will only be able to distinguish themselves successfully through the intensity of their research-driven training, which can only really be provided in a campus environment. It will be this latter form of teaching (which private and online providers will find much more difficult to offer) that will put the research university on the firmest ground in comparison with teaching universities. In addition, the research university will only be able to survive if it can make good on its promise to provide the best academic education for the best students, thorough training in research, and produce graduates who are among the best in their generation. Another factor playing a decisive role here will be the speed at which the government steps back and tuition fees rise. Certainly if the government continues to withdraw at the same rate as in recent decades, students will quickly conclude that the combination of university teaching plus making an early start to their career in the labour market is much more attractive than four years of increasingly expensive campus tuition.

In a number of cases, it will be possible to establish a fully digital university; this will be easiest in certain niche areas,

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such as business administration, law and similar disciplines, which are relatively independent of facilities or laboratories. But there is every reason to assume that there will still be a rationale for the existence of the campus. It is of unquestionable value to young people, especially in the first years of university education, to be educated in physical proximity to their peers and receive real-world teaching with a high degree of interaction. If the trend towards the unbundling of education and blended learning increases, however, as is anticipated, the character of the campus university will undoubtedly change. The campus will no longer be full of teaching buildings, as students will take many courses at a distance and in their own time. The campus will mainly become a place where research is conducted, as well as teaching, and where students meet for a whole range of purposes: to discuss their courses, to prepare for research, but also to meet up socially. Rather than formal learning in which the lecturer plays the main role, the university will have to invest in informal learning, whereby students are encouraged to meet one another in order to support the formal study process in every possible way.

The campus of the future will thus be very different from the campus of today: there will be fewer teaching buildings, more interaction, more culture and more conviviality. In this respect, universities are becoming much more than simple providers of teaching and producers of research: they will return to the formational task that used to characterize the university years back. What is more, once they have completed their studies, the university will become a centre of lifelong learning for alumni, where they can do further training, if needed, and can make use of facilities by means of alumni return schemes. In short: the university’s influence will extend more deeply into the life of society.
As suggested above, the campus will be on firmest ground in the research universities: this is where we will always find the clearest rationale for a campus based on links between research and teaching, and thereby often the links with campus-based facilities. Nevertheless, we will also see a rise in blended learning, and having actual physical buildings will become less important. The US is a clear frontrunner in this respect, and will remain so: there, digitalization has partly been funded through the savings made on buildings, and this is certainly something that is also happening in Europe. Despite this, digitalization will be so expensive that it will not be possible to cover the costs simply by building less. Increasingly, this will compel universities to work together in consortia that share the cost of digital teaching, whereby the offering for the students could become extremely broad. In future, the selection of or admittance to a consortium will play a determining role in the profile of a university: there will be consortia of top universities, but also of less renowned ones, and this will count when students decide where to go to university.

What will the students of the future want? Like today, of course, they will want, first and foremost, to follow a degree programme that secures them a good job. Second, however, students will increasingly want insight into choices for the future that are based on broad social engagement. We will see a new kind of student, who is more interested in the future and the role that he or she will play in it, and who will also be looking for a profile with greater utility and connections with the job market. In the US, and especially in Europe, this will be shown by a fall in the number of disciplinary Bachelor's programmes, and in Europe there will be a sharp fall in the number of disciplinary Master's programmes; we will increasingly see broad Bachelor's degrees
for the many, followed by specialized PhD programmes for a relative few. One should add, though, that scenarios on demand for doctoral students suggest that their numbers should rise in response to demand, and broad universities could develop a specialized position here by developing a particular focus on graduate degree programmes. Regardless of this, more than has been the case until now, the number of PhD students – given the determining role they play in scholarly production – will be of great importance for maintaining the position of research universities.