Final Paper

In this document, we present the results of our 2016 IDEALiStiC conference.

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Nowadays, the term 'soft skills' is thrown around so effortlessly and is a given that everyone knows which criteria fall under these two catchy words. We decided to make a list of all the attributes one should possess nowadays to be a master in soft skills. These would be: research and analytical skills, communication capabilities, ethics, creativity, teamwork skills and self confidence. All the skills and knowledge contribute to character building and help to make the student well-rounded. We believe that our universities already offer some opportunities to learn these necessary skills to become successful and competitive in the job market, but as always, there is definitely room for improvement.

We came up with a few ideas of how one could implement soft skills into the curriculum, one way being projects and workshops. As an example, the ETH launched for the first time in autumn 2015, a voluntary one week project course, where students were randomly assigned in groups and had to work together to create a solution for a specific food problem they decided to work on. Such a project week makes students think critically and out of the box, challenging them in ways no normal lecture could ever hope to achieve. The situation simulates a real-life job situation, where one cannot afford to be stubborn and not work as a team player and to communicate with his co workers. Such projects would really enrich a student's curriculum.

We also thought about specific courses concerning soft skills being integrated into the curriculum. Such courses could easily be based off of other already solid communications classes, ethics classes, writing classes, etc. This would also add a bit of variety to a typical engineer's course schedule.

There are many possible extracurricular activities that can be offered to enhance one's soft skills. As we are all a part of our student councils, we firmly believe that such (study) associations vastly improve one's teamwork skills, self-confidence, time management, communication capabilities and a slew more of positive qualities. Such extracurricular activities actively enhance a person's character.

A huge factor which we would really like to emphasize, is the opportunity for all students to be able to go abroad. Such opportunities have a major impact on a student's university experience. They learn how to be independent and fend for themselves, while having to adapt to new surroundings and people. An enormous amount of intangible and priceless skills are acquired during the time spent abroad. Giving every student the chance to embark on such an impacting journey would be something we wish our universities would offer.

Workshop 3: Future universities

In a world that becomes more globalized and technology becomes more advanced, universities have to advance and change to meet future expectations. To face that main thought the workshop future universities addressed the questions whether there will be a change in the university education, whether there is a need to invest in new online technology and how can universities face competition.

First of all we need to think about the changes in the environment in the next 20 years. The IDEALiStiC assume in a more globalized world there are less non-physical borders between countries and therefore students expect a more flexible curriculum to easily do exchanges. Because of the development in information technology knowledge and schooling become freely or cheaply available from all over the world. Therefore we expect an increase in the number of students around the globe. Additionally the student councils anticipate job insecurity and more competition between students. Due to advanced technology there will be that much knowledge nobody can learn and know about everything. In the end universities have to compete to attract the best students and staff.

To have universities that fit in a future IDEALiStiC suppose to occur we think the following changes are necessary. Because we think future students expect a flexible curriculum universities should integrate more more blended classes such as Video and Basic Courses mentioned in the paper "IDEA League Universities 2030" [1]. But those Courses will need peer groups in the universities like practicals and tutorials to get the skills and to stay in contact with other students. Additionally curriculums need a space for mobility. Therefore we think universities should recognise more abroad courses and foster more joint degrees. Additionally for an easy exchange universities should inform more about the programs available and increase the number of exchange programs. Another option to flexibilize the curricula is the integration of internships and research stays. Additionally internships and research stays can help students to learn soft skills needed for their job life.

Another important point in the future education universities need to face is the fact that education will be freely or cheaply available. To attract students IDEALiStiC thinks that universities should be the place where networking skills are tought. Universities shall create additional values out of professor-student and student-student contact by offering project groups and space as well as a more intense contact to professors. A possible way to achieve such an intense contact could be having smaller lecture groups and discussion with the professors in class.

Due to the supposition that there will be too much knowledge to learn everything IDEALiStiC student councils think that universities should invest in lifelong learning and shift from knowledge based education to skill based education.

As a last point we have to take a look at research of university in the future because research affects the way education programs look like. IDEALiStiC thinks that universities should specialize more in some research areas to be one of the leading universities. So it is possible to be compatible with other universities. But such a specialisation must not lead to only focus on that area and forget about the basic education within the university.

Workshop 4: IDEALiStiC fellow feeling

We are grateful that we hold monthly Skype conferences and have biannual conferences where the board members meet each other, to keep up the contact between the universities. The bigger problem we continually face, is improving the contact between our university students in general. Many students are not aware of what IDEALiStiC or IDEA League is and what each party has to offer. We decided to focus on strengthening our ties between each of our universities and we came up with some constructive ideas, which we hope will help to advertise IDEALiStiC.

The first project which has already been set in motion is setting up road signs at each university, which point in the direction of the other IDEALiStiC universities and are also marked with the distance. We believe that having something tangible that the students can actually see will capture their attention.

Previously, IDEALiStiC hosted a sports competition between the universities. However, due to organizational problems and other certain aspects, a second sports event was never planned. We thought about reviving this idea with a rowing competition, which would be easier to organize since only a small number of students from each school would participate. However, we believe that such an event could take place in the future, when have built a stable relationship and contact exchange between all universities.

The Internet really enables users from all over the world to interact with one another, which is why we thought we could easily hold a shared LAN party. In each university there are already LAN parties being held, so making another one between IDEALiStiC universities should not be difficult. Planning for the first shared LAN party is already happening and the goal would be to hold one in autumn 2017.

We realized that there a few problems when trying to organize an event for 4 universities spread out over Europe. Not only is the distance a problem, but the time and organizational efforts it would be. At the

moment, our university student associations do not have the capacity to delegate this work to one of their members. Another point, which we consider to also play a substantial role, is that IDEA League isn't as well known as it should be. Mainly students who have participated in a summer program or the joint master program know what the IDEA League is - the rest of the students will tell you they have no clue.

The final consensus was to start small, in terms of organizational technicalities, with a LAN party. Each university has a contact person and they are organizing the details. Our goal would be to grow and hold bigger events in the near future, when IDEA League and IDEALiStiC are better known and have firmer roots within the universities.

Workshop 5: Rankings

University rankings appear to become an increasingly important subject for discussion. What is the importance of these rankings? And why are the top American and British universities ranked higher than European universities? In order to answer these questions, IDEALiStiC took a closer look into the QS rankings.

QS methodology

For the QS ranking, university rank is based on six parameters. First, the academic reputation is measured via a global survey in which academics are asked to identify the institutions where they believe the best work is currently taking place within their own field of expertise. This parameter is responsible for 40% of the rank. Second, the employer reputation is measured. Employers are asked to identify the universities they perceive to be producing the best graduates (10%). The ratio between the number of academic staff and students is responsible for 20% of the rank. Citation per faculty (corrected for the number of academic staff) also counts for 20%. The international faculty ratio and international student ratio both count for 5%.

Significance of rankings

A survey commissioned by Hobsons and The Parthenon Group was issued under 14,000 international students and showed clear proof that the university rankings are the most important factor for international students to choose a university. Also for academic staff these rankings are important in making their choice where to do research or work as a teacher. Good ranking attracts more and better students and academics. With excellent students, high-level academics and a high ranking, it becomes easier to attract funding for education and research, giving the university even a better reputation. Therefore rankings are a handy tool for quality improvement of universities.

American and British vs. European top universities

If we look at the top ten of the QS rankings, nine out of the ten universities are British or American (with the exception of the ETH Zürich). These nine universities have much higher tuition fees which financially allow them to lower the student/staff ratio and to perform more or better research. Since research is in majority responsible for the university rank, these universities are likely to end up high in ranking. Also the English language makes it easy to attract (the best) international students and academics. At last, we believe branding is of high importance. Ranking is for a large part based on surveys. With a wide and proud alumni network, a prestigious image and a lot of appearance in media, an advantage in the surveys is likely to be present.

IDEALiStiC view on rankings

IDEALiStiC sees the importance of ranking as a tool to attract talented staff, students and financing. We like to put emphasize on 'tool'. Ranking should never be viewed as a goal. University regulations shouldn't be based on the effect on the ranking if it undermines the position of students. At last we believe that the educational qualities of universities should be playing a larger role in the ranking. For students, the education is the most important aspect of a university. Research and education are

inseparable but we believe that rankings should pay more attention to the quality of education in order to give a full review on a university.

Workshop 6: Student admission percentage

Due to the very different school system in europe, students may not meet the necessary criteria when applying for university, just because they were not interested in subjects taught in school. So in this workshop we discussed whether universities should allow a certain percentage of students to study even if they do not meet the criteria. We asked ourselves if there should be a quota allowing such students to attend university and what could a criteria be.

At first we found out, that there are different criteria to enter a university. In Germany you have to have a Allgemeine Hochschulreife known as Abitur or a similar foreign degree to enrol at a university. To enrol at TU Delft Students need to have a technical profile when they finish school. In case of ETH Zurüich you can enter the university if you have a Matura or pass the application test. Due to this different requirements we discussed an alternative model.

The entrance model IDEALiStiC propose decides whether a university has capacity problems. On one hand if a university has no capacity issues, all students applying to that university should be accepted. On the other hand university with capacity problems should adapt the number of student to their capacity. Also the education quality should stay on a high level. To filter the students there can be certain criteria. We discussed three different way. The first option is to have no entrance criteria in order to give all students a chance. But we see possible problems in lowering the education standard for freshman's. Another option is to decide on the student's high school profiles. In that case students have to choose very early in their life, what can cause trouble. The last option we see to filter students is an entrance exam for all students. In that case all students have the same chance, you can be sure all students are on the same level and the capacity can be regulated. On the other side the recognition of high school diploma would be eliminated, so that this option would not be favorable for national students.

All in all we can say, that it is hard to answer the question if there should be a quota allowing such students to attend university and what could a criteria be due to the very different university entry systems in europe.

Workshop 7: Future Faculties

Currently, in an age of quickly-developing areas and focuses in research, technological universities are undergoing profound changes, with many determining the direction they will follow for the next decades now. In the seventh workshop of our conference, we attempted to address the question of which faculties would be needed for technical universities in the future and in which directions we saw a lot of potential, from the perspective of students currently involved in and exposed to some of the biggest research topics.

The first question we addressed was whether or not we thought technical universities should be expanding by adding new faculties in fields not traditionally associated with them. The question poses itself both for fields very far-off, such as perhaps faculties in the humanities, and fields somewhat more related, such as medicine. To both, however, the answer from the student councils, expressed perhaps most fervently from Delft, was a strong no. For one, as students from engineering and the sciences, we place a certain pride in attending technical universities. Perhaps having certain course requirements and a single faculty for the humanities such as the D-GESS at the ETH is a good compromise, but we are strongly against further expansion into these areas. Competition between universities is becoming more and more intense, and so we believe the first priority for the universities in the IDEA-League should be maintaining and furthering their elite status in technical fields. To satisfy the needs of those students who also want to further their education in other areas, we recommend increased cooperation with non-technical universities, facilitating the ability of students to attend lectures at other universities. This

way, students will have the ability to also receive a stellar education in the humanities, without diverting precious resources away from the university's main disciplines. With a look towards workshop 3 on future universities, the council noted that in the future, with the rise of tele-teaching, such cooperation will doubtlessly only become easier.

A similar logic can be applied to the more pertinent issue of medical faculties, which ETH Zurich will be adding within the next few years. Although in the case of Switzerland, it is understandable given the country's pressing need for more doctors, generally speaking, the student councils maintain their stance against expanding into new areas. More can be achieved through increased cooperation with already-established faculties which, frequently, are at universities right next door, as is the case for the ETH Zurich and TU Delft. The students from TU Delft in particular stress how well their alliance with Rotterdam and Leiden is working, both for research and teaching, rendering a medical faculty at the TU Delft unnecessary. Having a medical faculty "within reach" certainly is necessary.

The second overall topic discussed in the seminar was specialization within technical fields, both at the university-level and for individual students.

On the university level, the question is difficult. Specialize too far and you risk facing marginalization if your field loses in importance. On the other hand, as competition increases between universities, driven by the rise of elite universities in Asia and other parts of the world, it will inevitably result in more specialization. The university council should strive to predict as well it can which research topics have the most potential and invest heavily in them. The IDEALiStiC council is aware of the difficulty in making such predictions -- internally, we found each student had a natural bias towards their own field of study -- yet we hold artificial intelligence, biomedical engineering and biotechnology, sustainable energy and quantum computing to be particularly promising. It is the firm belief of the student councils that we live in a golden age of technical innovation. Perhaps in the future, as societal pressures mount, the political sciences and government will play a larger role, yet at the moment, no expense should be spared pursuing technical advances as aggressively as possible.

For individual students, the answer is a bit more complex as well. Master's programs can and should be very specialized. Specialization gives a competitive edge, and especially with the option of completing a second master's degree and anticipated lifelong learning programs, master's programs should prepare you directly for the job after graduation. Bachelor's programs, on the other hand, should be broader. As reflected in the German term, "Grundstudium," they provide the basis for future studies and lifelong learning. The modern workspace requires moving between industries more and more fluidly, and it is becoming increasingly difficult to predict where a student will end up. Therefore, bachelor's programs must be broad enough to provide the foundation for a variety of different master's programs and career paths after graduation.

Workshop 8: IDEA League promotion

The IDEA League is not as well-known as we would like it to be, it's been around for a while but it's still not a recognizable brand among the students it's meant for. Therefore we asked ourselves the question how can we promote the name and make it the European equivalent of the 'Ivy League'?

The first part of the question could be described better as, how are other universities supposed to know what the IDEA League does and aims for if most students that belong to it don't even know what it's supposed to be. With this thought in mind we divided the subject into two categories, the internal promotion of the IL among the participants and the external promotion. These are also the two steps in which it needs to be promoted. First set down the foundations for a strong partnership and more internal recognition before you can start showing it off to the outside world.

Internal

The internal promotion can be done in multiple ways and most of them are intertwined with the fellow feeling principle. First of all students need to know that there is an IL and that it bears activities and

provides opportunities. It's got a bit of a conundrum, with which part do you want to start first, the amount promotion or sufficient activities so the students that get interested also have something to participate in. This, of course, is not something that can be solved by just addressing one of the two, there must be an initiative on both fronts. Right now the IL only offers privileged programs. In which most of the students cannot participate. We discussed all this among each other and came up with different solutions to tackle the problem from both sides, on one side provide more programs and on the other side provide more promotion. Both are pretty straight forward but still need some filling in.

For one the student organizations that come together in the IDEALiStiC can promote the IL more on their websites, provide more information. But not just the students need to increase the promotion also the universities themselves need to promote the program more prominently on the websites because the description is rather shallow right now. But it also needs to be promoted in the regular curriculum more often. Besides that we want to give an update to the universities magazines and social media of what is reached during the IDEALiStiC conferences to show that from all different layers among the universities community the program is being discussed and thoroughly examined.

A little project being put to practice right now is putting down a sign on all the different campuses of the participating universities with a direction and indicator with the distances written on them.

Student awareness

And then there is the second part of the problem that needs to be addressed the amount of activities and programs offered. Many of which are already stated in the fellow feeling section. There is a big opportunity on many levels to make more joined programs. The Applied Geophysics master is a nice example of such a program. There is also an opportunity to make more exchange programs, the universities are relatively close by and even when there is no border limitation there still is an abundance in the approach of education and way of thinking.

External

After the internal promotion and programs are developed further we can promote the collaboration more prominently to the outside world. On the short term, one thing that can already be promoted is the addition of the fifth university, Milan, to our network.

Sources

[1]   *IDEA League Universities 2030 - Visions of IDEALiStiC*. IDEALiStiC, Aachen, February 2016.