Hackathon Challenges

Topic cluster 1 - Early childhood education

1.01   Until a few years ago, almost all preschool children attended kindergarten. Attending kindergarten not only serves to acquire preschool skills (holding a pencil correctly, tying shoes, orienting oneself together with other children in the group, etc.), many kindergartens also visit surrounding schools in cooperation, thus helping to give children a good start in school. With the increased immigration of refugees, but also from southeastern Europe, more and more children are starting school who have not previously attended kindergarten. It would be logical to assume that they would benefit particularly from attending kindergarten. How can we improve the take-up of kindergarten places by newly arrived children? What forms of approach should be chosen? Can there, for example, be incentives to attend kindergarten? The goal must be that 100% of all children again attend at least the last year of kindergarten.

1.02   The Corona pandemic has not only led to gaps in education and care for school children. The pandemic was also clearly felt in the daycare sector. For example, daycare centers were in "restricted regular operation" for a long period of time, meaning that childcare hours were reduced by 10 hours per week. In addition, parents were called upon to care for their children at home if possible. The situation was similarly difficult for parents whose children were not yet cared for; here, for example, there was a lack of play and parent-child groups. The past year was fatal, especially for children who need language support. How can we close the gaps in the education of the youngest children after one and a half years of limited care? Of course, this is very much about language development and social learning. What support needs do parents currently have and how can we meet them?

Topic cluster 2 - School education

2.01   Teachers are important in achieving and shaping educational equity. However, they often lack an understanding of the students' circumstances and problems. Therefore, teacher training should also help to enable a change in thinking. In addition to specialized knowledge, teachers must learn more empathy, develop sensitivity for other life situations, and understand the importance of participation and recognition in everyday school life. More opportunities for this should be created as early as in their studies. What could this look like in practice? What concepts, courses, modules, practical projects or even impetus for structural changes could be offered and advanced?

2.02   Many cities, including Bochum, already have good cooperation structures, projects and a variety of actors who want to contribute to school solutions. However, it is often difficult to implement good practices in a sustainable way or to think in a networked way to make the best use of resources. One suggestion would be to create urban round tables on school issues to bring together the different actors (city, schools, academia, civil society, student and parent representatives) on a regular basis to create new communication and collaboration structures. What could the concept for these round tables look like? Who and how should be invited? How can existing structures be taken into account? Which questions should be the focus? What could the process and methodology of the round tables look like?

2.03   School forms play an important role in the education policy debates on equal opportunities, inclusion and equity. Increased reliance on inclusive schools that seek to enable the learning of children with different abilities is one possible model; special

schools with focused support on students with learning deficits is another. Both have their strengths and weaknesses. There is also an ongoing debate about the optimal time for elementary school students to learn together; both in terms of years of learning and the daily amount of time spent in school. What could a school for all look like that optimizes and cultivates the advantages of the different school types and minimizes the disadvantages?

Topic cluster 3 - Vocational education

3.01   Vocational education is presented as only the second-best solution compared to academic education, with the result that a large number of people go to university who would have much better career prospects if they were to complete vocational training instead of studying (at first) and that training positions remain unfilled even though there is a shortage of skilled workers in Germany. How can we increase the attractiveness of vocational training? Where are the levers that can be used to make training more attractive again?

3.02   In the perception of the students, often only a few occupations are known - mostly shaped by the parental home - moreover, there are few other persons who provide "target group-oriented" information on the apprenticeship occupations or are there to answer questions. There is not only a lack of contact points with the various training professions, but also a lack of role models who exemplify the possibilities of training. How can schools (from elementary school to high school) bring the spectrum of educational paths closer to their students and point out the diversity, development opportunities and perspectives? How can the variety of apprenticeship occupations be made known and how can students be made curious about training?

3.03   One idea for familiarizing students (from elementary school to high school) with the spectrum of different educational occupations is to create more opportunities for career exploration or practical content in school education, aimed at gathering a wide variety of practice-oriented experiences, including extracurricular offerings in work groups for programming, handicrafts, etc. There is often a lack of resources (subject-related, project-related) to promote such initiatives. What possibilities do you see to promote the implementation of various initiatives?

3.04   Immigrants prefer an academic education path to a vocational education path. The reason for this is certainly, on the one hand, a lack of knowledge of the German education system and thus a lack of insight into the development opportunities and prospects of a dual education. On the other hand, a 3-year apprenticeship is less interesting, especially for people with an unclear residence status, because if the apprenticeship is terminated prematurely, the ability to continue in another country is sometimes not given. How can immigrants be familiarized with the German education system and how can the challenges of a lack of connectivity be met?

Topic cluster 4 - Academic education

4.01   For years, the proportion of students from non-academic households at German universities has stagnated. However, evaluations show that there is no difference between these students and students from academic households in terms of academic success later in their studies. One way to increase the proportion of these students could be to target them before they leave school. What form could such an approach take? What information is needed? How can this be prepared and made available?

4.02   The introductory phase of studies, the period from the time when one has decided to study at a particular university and the end of the second semester, has a great influence on later success in studies. Students' success in their studies can be increased by offering social integration services, counseling for financial and personal problems, and support services for access to the field of study itself and for problems with their studies. This is because social background can also determine how well students arrive at the university and how successful social integration is. Students with a migration background and/or from socially weaker families tend to wonder whether they belong and how they can connect with fellow students. What services should a university provide for its students during the introductory phase of their studies? How do students get the information they need?

4.03   Teachers also make a significant contribution to educational and equal opportunities in academia. For example, adjunct positions are still assigned according to certain stereotypes, which leads to discrimination against certain types of students. By working at the chair or faculty, students become more attached to the university and thus find easier access to a possible career in academia. Teachers also determine the communication culture at the university. Through trusting communication, a bond is created between students and the university/teaching staff, which can help students succeed in their studies and thus reduce the dropout rate. In addition, the establishment of social contacts is facilitated, especially at the beginning of the studies, if social integration and arriving at the university are integrated into the courses as part of the teaching. How can the allocation of assistantships be made more equitable? What does an ideal typical course look like at the beginning of the studies? How can the transfer of knowledge be linked to social integration and arrival at university? Which didactic tools can be used?

4.04   Sustainable teaching has received new attention with the experience of the Corona pandemic. The topic is associated with questions such as: Is it possible to design climate-neutral teaching in view of post-pandemic increases in commuting mobility and resource consumption? In what ways can digital and face-to-face formats be combined in the future? How can university learning become more fair, i.e., what are the needs of an increasingly diverse student body in terms of time-flexible or completely asynchronous events? Which teaching formats can be made permanent with little effort or used for a broader range of participants and adapted to different learning needs? Which job-relevant competencies need to be anchored in teaching in the long term? How can students help constructively shape teaching so that student satisfaction and success increase?

Topic cluster 5 - Out-of-school education and lifelong learning

5.01   Educational opportunities outside of school and complementary to school are important for many students in order to compensate for learning deficits. The Corona pandemic has further reinforced this need. How do programs have to be designed to generate the desired effect? Are there any experiences of "good practice" from which the overall supply landscape can benefit?

5.02   Lifelong learning is a widely accepted concept in a knowledge-based society. Many non-profit as well as commercial providers are now active in this field. The best known non-profit institutions are the Volkshochschulen (VHS). These are municipal centers for continuing education and are usually funded by the respective local authorities. What is the role of VHS in promoting educational equity in lifelong learning? What can/must VHS do to fulfill this role? What are appropriate measures and approaches? Which target groups should be given special attention, and what needs to be considered when addressing them?

5.03　The House of Knowledge - HdW (working title) is the education policy project of the city of Bochum for the next few years. It integrates the VHS, the public library and the local university network UniverCity Bochum at a central location in the middle of Bochum's city center in combination with a market hall. The HdW is a projection surface for social and educational hopes and desires. Last but not least, it should contribute to more educational justice in Bochum. How should the HdW be designed, both spatially and in terms of content and concept, in order to live up to this claim? What is the role of the interaction of the different partners and uses? Under which (future) circumstances can the project be described as a success and how should this be determined or measured?