



Federal Ministry
of Education
and Research

Milestones in teacher education

Continuity and progress in the 'Qualitätsoffensive Lehrerbildung'



Foreword

Education is the key to the development of personality, social participation and the creation of our common welfare. It begins in the parental home and continues throughout life in formal, non-formal and informal contexts. School is a central educational institution that all people in our country have attended. We need good schools, and good schools need – more than anything else – good teachers. These teachers must be trained to the highest standards both in their academic studies and pre-service teaching, and later they must also, as established teachers, keep up with the times and the current state of knowledge through in-service training and continuing professional development.

Since 2015, the joint ‘Qualitätsoffensive Lehrerbildung’ of the German federal government and the Länder has given a powerful boost to the high-quality education of our teachers. In a competitive procedure, a total of 72 higher education institutions throughout Germany were selected in several stages to sustainably improve teacher education through various projects and reforms. The Federal Ministry of Education and Research (BMBF) is providing a total of up to 500 million euros for this purpose in the period to 2023.

This brochure shows the broad spectrum of activities and measures included in the ‘Qualitätsoffensive Lehrerbildung’, from the optimisation of university structures and increased practical training to the improvement of training in important multidisciplinary fields such as diversity and inclusion. It is also evident from the data that all of these projects were developed very specifically to meet the needs and the development potential of their respective locations. This also includes structured cooperation among the higher education institutions and with schools, pre-service teaching institutions and in-service training institutions.

It is also clear that teacher education is a dynamic field and that the ‘Qualitätsoffensive Lehrerbildung’ takes up and promotes these dynamics. The independent programme evaluation, which also included an analysis of the environment of the funding programme, indicated an increasing need for development in the subject areas of ‘Digitalisation in teacher education’ and ‘Teacher education for vocational schools’. The BMBF responded to this by providing additional funding for 43 projects that have focused on these topics since the beginning of 2020.

The coronavirus pandemic has entailed a deep societal split, not only for schools but also for all institutions and persons involved in teacher education. The impact of the pandemic on teacher education is therefore also addressed in this brochure. Here, again, it is evident that it is worth investing in the people and institutions that strengthen and develop our educational system with great commitment and competence.

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A summary of the first funding phase: Structural changes in teacher education



When the federal government and the Länder launched the ‘Qualitätsoffensive Lehrerbildung’ in 2013 by an administrative agreement, they were responding to the need for action in various fields of teacher education. The following were named as fields of action in which changes should be made: Profile building and optimisation of teacher education structures at higher education institutions; quality improvement of the practical training; improvement of profession-related support and guidance of students; further development of teacher education with regard to the challenges of diversity and inclusion; and further development of disciplines, didactics and educational sciences. The projects to be funded were intended to contribute to improving the quality of teacher education in the long term and also to interlinking it more strongly across all three phases (teacher education, pre-service teaching and learning on the job).

After a competitive selection process, the first projects began to work in 2015, and others joined in 2016, so that a total of 49 projects were funded. After three years, the projects were reassessed, and in case of a positive result received further funding. Parallel to this, the implementation and impact of the programme across the projects was evaluated. The assessment of the projects and the summary of the programme evaluation show consistently that the ‘Qualitätsoffensive Lehrerbildung’ has been highly

successful in the broad and systematic improvement of teacher education in Germany. The projects address all the fields of action defined by the federal and Länder governments and have already achieved important results. They also focus on the particular aspects of teaching for vocational schools and the increasing digitalisation of teacher education. At the higher education institutions, teacher education has also gained greater visibility and recognition through the expansion of related research; improved cross-structures in centres or schools are strengthening teacher education within the higher education institutions and increasing their ability to cooperate with stakeholders outside higher education. The ‘Qualitätsoffensive Lehrerbildung’ has given a particularly strong push to innovation in the fields of ‘Diversity and inclusion’ and ‘Disciplines, didactics and educational sciences’, in which the need for development was particularly evident.

The projects generally deal with multiple fields of action. Some of these have also been presented in the previous programme brochure (published in 2018) or in various theme-based special brochures of the ‘Qualitätsoffensive Lehrerbildung’. The project activities of the funded higher education institutions show a programme that, thanks to its thematic breadth and methodological diversity, offers insights for other stakeholders within higher education institutions and outside of teacher education.



A new, appreciative perception of teacher education needs the support of leadership of higher education institutions.

Profile building and optimisation of higher education structures for teacher education

In order to improve the quality of teacher education, the higher education institutions funded by the 'Qualitätsoffensive Lehrerbildung' are pursuing diverse approaches to structural development. To do so, they each address their particular strengths and weaknesses so as to undertake specific actions with a high degree of effectiveness for profile building. This can, for example, concern a curricular interlocking and networking of the three sciences of teacher education in order to help establish a coherent educational programme. Additionally, the establishment of new teaching and learning formats and future-oriented cross-cutting issues across all teacher education faculties and disciplines hones the profile of higher education institutions. This is especially true when the practical relevance becomes apparent – in other

words, when there is a clear link between theory and practice that explains how it will be of use to future practitioners.

The structures for teacher education also reflect a strengthening of high-quality teaching and the promotion of junior staff. This can be achieved in particular through innovative offers of collegial exchange, in-service training and scientific qualification, and also through formative evaluations. Altogether, these measures promote a change in the perception of teacher education within and outside higher education institutions. They make the quality standards of teacher education in higher education institutions visible at a structural level. They thus contribute to preparing future generations of teachers for their activities in a practical manner and to equipping them with the necessary subject-specific, didactical and social competences for mastering various challenges of the living and working environments of schools.

Qualitative improvements in practical training

Phases of practical experience in schools are intended to help students to find their ways in their professional field and to expand their competences. They are an integral part of teacher education. The learning opportunities offered by practical training phases enable students to prepare themselves for teaching, to test their theoretical knowledge in practice and finally to reflect on it. The specific design and quality of the practical phases is decisive for students' growth in competence.

Practical training phases enable students to review their ideas about the teaching profession and to test their suitability for it in practice at an early stage. A high quality of support is required for this. Accordingly, the funded higher education institutions are creating cooperation networks with internship schools and practical teacher education. They are developing mentoring and peer feedback approaches and creating in-service training opportunities for teachers. Students receive direct personal feedback to improve their professional practice skills. To complement this, they perform self-assessments and reflect on their practically gained experiences.

To further increase the practical elements in the degree programme and to increase the diversity of practical forms, institutions use various practical learning

sites in addition to the school-based internships. For example, teaching-learning labs, practice modules in schools and learning with pupils at extracurricular learning sites are being tested. Simulations, science experiments and small-group teaching are also being used. Students are thereby able to acquire, strengthen and consolidate competences for shaping the learning process and managing various situations.

In these ways, the 'Qualitätsoffensive Lehrerbildung' aims to improve the quality of practical phases in schools. It facilitates a systematic and closer-knit link between teacher education studies and practical work in schools, thereby strengthening the competences of future teachers.

Professional support and guidance

Teachers are faced with a wide range of tasks that require not only subject-specific, didactical and pedagogical knowledge but also personal and social skills. However, the scope and complexity of the requirements are often underestimated. Targeted support and guidance for both students of teacher education and working teachers as they acquire these competences are very important.

The offers for improving professional support and guidance seek to promote the formation of a comprehensive professional competence profile. These offers are provided for all phases of teacher education, from the recruitment of students to support and guidance during studies and traineeship to professional teaching.

In numerous projects, new formats, measures and models are being developed and tested in order to support both adoption at their own higher education institution and transfer to other higher education institutions. Examples of these include self-assessment procedures to determine suitability, targeted support services for students of teacher education and coaching and support for teachers. Due to restrictions linked to the pandemic, low-threshold digital guidance and support services for (prospective) teachers were rapidly expanded in particular. Consequently, increasing number of online platforms for curricular and extracurricular learning content and contexts, e-portfolios and video tutorials are becoming available and offering new opportunities for support and guidance.



Experiments play an important role in natural sciences and must be practiced by students of teaching.

Considering diversity and inclusion in teacher education

Germany has a diverse population. This is also reflected in the increasingly heterogeneous composition of the student body. Schools have the task of providing pupils from different backgrounds and with different preconditions with the same right to education and participation. Dealing with diversity (for example in language skills) and inclusion in school requires diagnostic as well as guidance and advisory skills. The ability to change perspective and to reflect on implicit subjective expectations of normality is both a valuable developmental step and a challenge for teachers.

In order to meet the challenges associated with this, prospective teachers must acquire the necessary expertise and the corresponding methodological knowledge during their studies. Teachers must be offered appropriate formats for qualification in this area. In the 'Qualitätsoffensive Lehrerbildung', many projects focus on or have a sub-project on this matter. Their responses to existing requirements include, for example, setting up inter-university exchanges and

learning platforms with offerings for all phases of teacher education (such as videos, teaching materials, specialist literature, seminar concepts). University schools and cross-Länder networks also help develop inclusive education research and practice.

Diversity-oriented teacher education is of great value because all pupils benefit from schools and lessons designed with diversity and inclusion in mind. School can thus make an indispensable contribution to the creation of a discrimination-free and open society.

Digital media in teacher education

Today's pupils are growing up with digital media as a matter of course. It is impossible to imagine teaching and learning without tools such as tablets, interactive whiteboards or learning platforms. Digital teaching-learning concepts provide new forms of learning approaches and content. Learning can be individualised, independently of place, time or type of end device. Digital distance learning replaces the familiar learning environment entirely.



The increasing heterogeneity of the population is evident both in schools and among prospective teachers.



Teachers at vocational schools need a very good understanding of the future working world of their pupils.

Digital media are gaining importance in teacher education and in-service training. One task of teacher education is to prepare (prospective) teachers to use and apply digital media in schools. In addition to technical and subject-related competence in working with digital media, the pedagogical media competence of teachers plays a major role. Teachers must handle new media in a competent, purposeful and responsible manner and use them in a didactically appropriate way in order to be able to convey their professional knowledge to the class and thus fulfil their educational mandate. At the same time, they must enable pupils to become competent in using the media themselves.

Teaching videos and videography are of great importance in teacher education. Authentic experimentation in a virtual environment also opens up new areas of experience. Centralised learning platforms help to ensure that didactically edited learning content can be shared far beyond a university. Cross-phase didactical concepts for teaching and learning with digital media provide a basis for the digitalisation of class

teaching and other environments in which learning processes are planned and implemented.

Strengthening teacher education for vocational schools

Since the beginning of the 'Qualitätsoffensive Lehrerbildung' in 2015, there has been a high level of continuity in the working areas of the funded projects. This is ensured above all by the pre-defined fields of action in which the projects have been conducted since the beginning of the programme. The higher education institutions, in which teachers for vocational schools are trained, have been involved in this area since the beginning; diversity and inclusive teaching and the question of profile building and visibility in higher education institutions, have been important working areas and will continue to be so. The special features of this particular area of teaching were addressed early on. These include the high number of lateral and side-entrant students of teacher education, who often still lack access to the humanities

and social science issues of the educational sciences. In order to retain these students and to attract more teachers, innovative concepts are needed in study guidance and structure.

The question of digitalisation in teaching for vocational schools is also of practical training. Students' lives and work environments are increasingly shaped by digital technology – from e-commerce to digital construction tools to electronic medical records. Vocational schools not only have to keep up with changes here, but must also prepare their pupils for their future professions. Accordingly, their teachers must be competent in these areas.

Linking subject, subject didactics and pedagogical knowledge

A central prerequisite for successful, competence-oriented teacher education consists of the curricular interaction of disciplines, subject didactics and educational science. Society – in particular parents and pupils, but also policymakers – expects trained teachers to be able to convey subject-related topics to their classrooms in a manner that is didactically appropriate and that incorporates pedagogical knowledge.

Linking these three areas continues to be a challenge for teacher education institutions and is therefore a focus of the 'Qualitätsoffensive Lehrerbildung'. By now, there are many approaches towards meaningful coordination between disciplines, subject didactics and educational sciences. Disciplinary areas which had long been isolated from one another are showing signs of convergence and synergies are emerging. Teaching-learning labs, theory-and-practice reflections, integrated modules in which discipline-based and subject-didactical perspectives on a subject are linked, and joint lesson planning based on specific themes: these are just a few examples of intensified interdisciplinary exchange. They represent innovative responses to the challenge of overcoming fragmented teacher education structures.

In many places, the necessary networking and exchange formats as well as newly developed teaching-learning formats are being structurally anchored in order to establish a coherent teacher education programme. Future teachers should be properly trained

and equipped to fulfil their diverse tasks in designing learning processes, applying diagnostics and assessment, supporting and educating pupils, and developing instructional design as well as schools as whole.

In-service training and continuing professional development through teacher education institutions

In-service training and continuous professional development are part of the professionalisation of teachers and enable them to meet current school and societal demands competently. In-service training and continuing professional development for teachers are essential elements of school quality development. They are aimed at teachers who are already actively practicing in schools.

In-service training and continuing professional development in the teaching profession involve constantly updating and expanding one's own knowledge and skills, and developing oneself both professionally and in terms of didactics and educational science. It also means pausing once in a while to critically reflect on one's own pedagogical and professional activity. At the school level, in-service training and continuing professional development are all about updating knowledge, expanding competences and maintaining and developing the quality of school and teaching.

In addition to state-run teacher education institutes and private providers, the state higher education institutions offer in-service training and continuing professional development options. The projects of the 'Qualitätsoffensive Lehrerbildung' are building bridges between the academic foundations of teacher education and practice-related in-service training and continuing professional development, and are thereby strengthening cross-phase teacher education.



Insights into the results of the evaluation of the first funding phase:

Interview with Professor Dr Herbert Altrichter

The funding programme ‘Qualitätsoffensive Lehrerbildung’ aims to optimise the structures of teacher education and to valorise the teaching profession. The impact of the programme is continuously evaluated in order both to keep records of the successes of the funding and to enable adjustments during the funding period. The evaluation is independent and external. It is being conducted by Ramboll Management Consulting (RMC) jointly with Professor Dr Herbert Altrichter of the Linz School of Education. An interview with Herbert Altrichter.

Tasks and approach of the evaluation

The ‘Qualitätsoffensive Lehrerbildung’ is being evaluated by Ramboll. What tasks does the evaluation involve?

Herbert Altrichter (HA): The evaluation is intended as a ‘programme evaluation’. This means that the focus is not on the individual projects, but on the extent to which the ‘Qualitätsoffensive Lehrerbildung’

programme – with its funding structure and its accompanying measures – is enabling the further development of structures, processes and contents of teacher education in such a way that one can speak of a strengthening of its quality. The evaluation should not only allow summative assessments of the programme after it has ended, but also contribute formatively to its further development, for example through the interim report of the evaluation in 2018. The programme was reviewed and readjustments were made on the basis of that 2018 report, along with other factors.

In terms of content, the evaluation in the first funding phase focused on the six initial fields of action that were to guide the development work of the ‘Qualitätsoffensive Lehrerbildung’, such as ‘Profile building and optimisation of teacher education structures at higher education institutions’ and ‘Further development of subjects, didactics and pedagogical knowledge’. Conceptually, an educational governance perspective was adopted, that is, the ‘Qualitätsoffensive Lehrerbildung’ was regarded as an intervention in a



At the beginning of the evaluation, Ramboll Management Consulting organised a workshop in Berlin.

complex multi-level system; its effects on the stakeholders and their coordination would be investigated.

The evaluation of the second funding phase also follows this basic perspective. In addition, however, greater attention is given to those activities and stakeholders that are relevant to the priority topics of the additional funding guideline ‘Digitalisation in teacher education’ and ‘Teacher education for vocational schools’. In addition, the topics of ‘Transfer’ and ‘Sustainability’, which appeared to be particularly relevant in the data and events of the first phase and which are unlikely to become less important in view of the end of the funding, are subjected to more in-depth analysis: Which measures will be chosen? Where are the obstacles? What are the project characteristics, activities and structural conditions that influence transfer and sustainability?

What is the methodological procedure of the evaluation?

HA: In order to achieve the objectives of the evaluation, we first analysed the programme profile and its classification in the funding environment – which is characterised by different education policy initiatives and funding offered by federal government, the Länder, foundations and so on. By doing this, we wanted to better understand the programme’s place among the different demands on, and offers being made to, higher education institutions. In addition, we analysed the specific design and implementation of the ‘Qualitätsoffensive Lehrerbildung’ as well as the ways in which the programme was received by the higher education institutions. To do so, we collected appraisals by academic staff and also looked at specific development activities in those institutions. The purpose here was to be able to analyse and evaluate the effects of the funding. The projects were thus asked to provide statements on their development activities in a monitoring process accompanying the programme, thereby making quantitative data available on a longitudinal basis. In addition, qualitative data was collected and analysed through interviews and workshops with project staff and relevant stakeholders.

The concept underlying the evaluation of the first phase has proven to be plausible and will be continued in the evaluation of the second phase. Furthermore, a governance perspective is being adopted and the now

eight fields of action called for by the two funding guidelines are being used as the main orientation. The analysis of the environment is also being repeated in order to take into account changes in the stakeholder constellation and the activities of stakeholders in the multi-level system of teacher education. In contrast to the first funding phase, the evaluation of the second funding phase will cover the project perspective somewhat more broadly in qualitative terms, in that in addition to the continued quantitative monitoring, all projects will be surveyed qualitatively at two points in time through telephone interviews. The increased focus on the ‘Transfer’ and ‘Sustainability’, which are defined as funding conditions for the projects, applies to all survey contexts.

Success factors of the first funding phase

The report containing the results of the evaluation of the first funding phase was published in early 2020. This showed that the ‘Qualitätsoffensive Lehrerbildung’ had been very successful so far and was contributing on a long-term basis to the qualitative improvement of teacher education. In your view, what are the factors that account for this success?

HA: In general, it became clear that the ‘Qualitätsoffensive Lehrerbildung’ was met with broad acceptance by the higher education institutions and in the federal states. The feedback often included statements that saw the ‘Qualitätsoffensive Lehrerbildung’ as a fruitful impetus for the forthcoming development tasks in teacher education.

“Structure building for teacher education was one of the successful areas of the first funding phase.”

We think that there are many indications and examples in the data of constructive steps toward structure-building for teacher education in higher education institutions. Owing to the competitive and comparatively well-endowed call for funding, the leadership of higher education institutions had to take a stand on the status of teacher education and its development within the respective institutions. In a number of cases, this has resulted in increased

consideration of teacher education concerns in decision-making and development decisions.

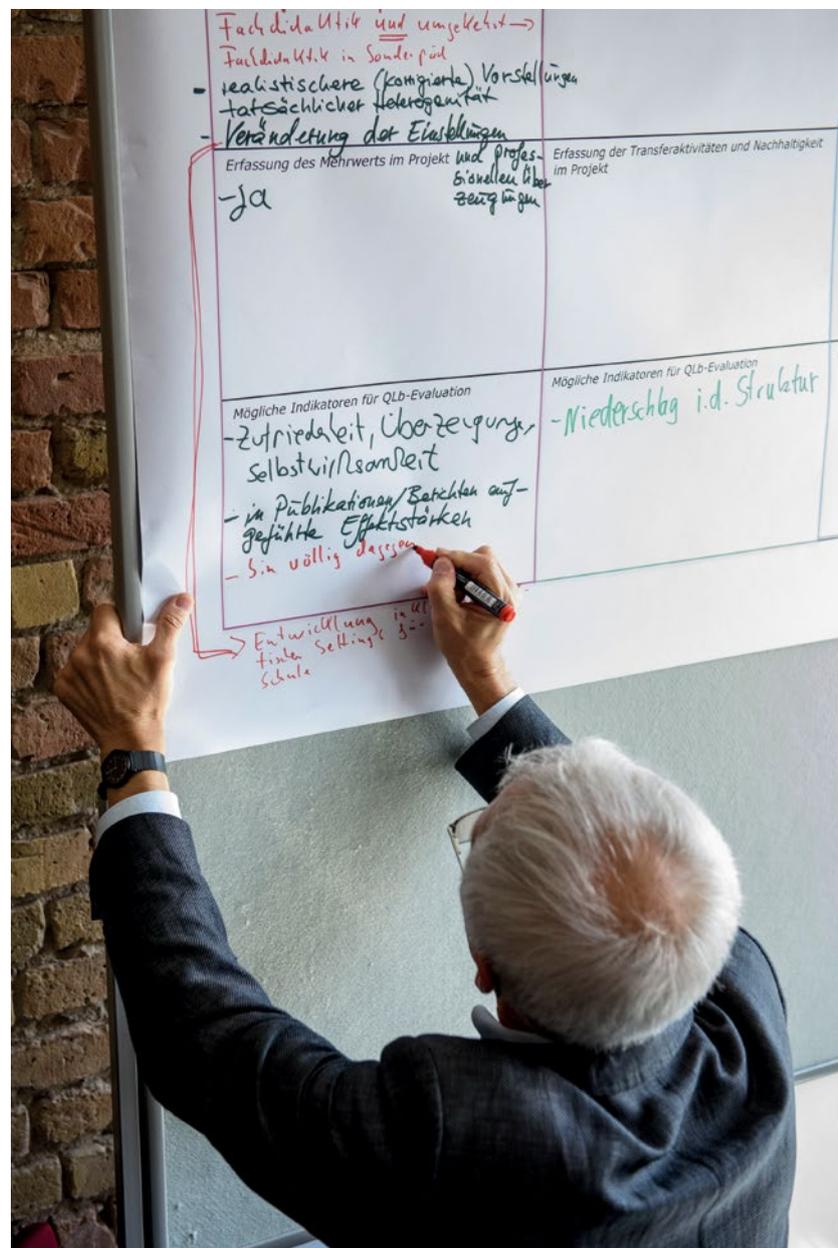
In phase one, work at the funded higher education institutions focused on strengthening cross-structures such as centres or schools, optimising decision-making in committees and integrating teacher education perspectives into the leadership of higher education institution. In addition, an evolving, critically constructive culture of discourse for the benefit of improving the quality of teacher education structures and practice was also reported, which contrasts with the 'collegial consensus culture' lamented by the German Science and Humanities Council.

The discourse is also increasingly characterised by exchanges on suitable governance for strong teacher education, for example on different models of and demands on cross-structures. At the same time, these cross-structures are increasingly establishing themselves as central hubs that moderate cooperation both with the higher education institutions and with the surrounding area, for example up to the second and third phases of teacher education.

There are also strong indications that in the course of the 'Qualitätsoffensive Lehrerbildung', the visibility of teacher education has increased not only within the higher education institution, but also in its environment.

The individual projects produce research and development output that is published at conferences and in academic journals – often by junior researchers who are qualified in the field of teacher education research. An increasing visibility of teacher education in higher education institutions can be seen quantitatively in particular in the increased level of communication on teacher education in higher education media and committees. Especially qualitatively, but also quantitatively, it can be observed that teacher education is increasingly being directly supported in its continuing development by the leadership of higher education institutions and in any case by the extended leadership of higher education institutions. Great emphasis is also being placed on communication and cooperation with stakeholders in the second and third phases of teacher education, although this has the potential of being developed even further at many locations.

For the first funding phase, the strongest effects at the level of the specific measures can be seen in the fields of action 'Further development of teacher education with regard to the requirements of diversity and inclusion' and 'Further development of subjects, didactics and educational sciences'. In both cases, many measures were implemented by a particularly large number of projects, without comparable approaches having existed before or having been carried out in parallel independent of the funding.



The representatives of the funded projects actively participated in the development of the evaluation design.

Many open questions exist in the projects with regard to the sustainability of their developments and their transfer. Since almost all projects received funding in the second funding phase, the possibility of further deepening and embedding projects in the long term has been offered.

So it can be said that success is based in particular on changes that optimise structures?

HA: Yes, we think that this message of the ‘Qualitätsoffensive Lehrerbildung’ is a decisive factor for the positive reception and success of the programme: it is necessary to build structures and establish long-term development perspectives for teacher education within higher education institutions. Of course, not only structures are needed. Creative stakeholders and reliable leadership of higher education institutions must also act on these potentials and structural offerings, fill them with life and sustainably establish, maintain and further develop them within changing framework conditions.

The design of the ‘Qualitätsoffensive Lehrerbildung’ as a comparatively well-funded, joint funding competition of the federal government and the Länder was a decisive feature in releasing development energies and opening up the opportunity for sustainable results in the higher education institutions. Some of the Länder have used the programme’s coherence of goals and its linkage to the national objectives to provide additional impetus for development and coordination.

By establishing the aspect of sustainability as an explicit funding criterion, as well as the requirements for co-financing and continued financing, the programme has set the course for ensuring that the impact of the funding is sustainable. Beyond the first funding phase, the sustainability of the ‘Qualitätsoffensive Lehrerbildung’ cannot yet be conclusively assessed. However, the identifiable developments at the higher education institutions in the area of structural development and the establishment of longer-term staff positions in the fields of action required by the programme indicate that the funding programme will have a sustainable effect at least in these areas at the involved higher education institutions. The sustainability of the programme beyond the end of funding in 2023 will then also be determined by the courses set by the higher education institutions and in the Länder.

As regards transfer, it is of interest how the findings, developments and results obtained from the development projects can be made available and useful to other stakeholders. This begins with the transfer of knowledge within an institution, for example between ‘generations’ of teaching staff or between fields of study. But the question also arises across institutions: how can other higher education institutions, but also the stakeholders in the second and third phases with whom an institution wants to cooperate directly, benefit from the experiences and tools obtained in that institution’s own development work? This is certainly a major challenge in the multi-level system of teacher education. In the annual report for 2021, we examine the strategic approaches pursued by the projects and the affected stakeholders in the multi-level system. Our analyses show that transfer within the framework of the ‘Qualitätsoffensive Lehrerbildung’ is a high-threshold process that requires systematic support and for which the funded projects apply differing degrees of effort to influence stakeholders in other systems. In addition to the transferability of the contents, a successful transfer depends on dealing with barriers to that transfer; comprehensible communication of the added value of the innovations to the recipients of the transfer; and appropriate structures as well as sufficient capacities to take on this task in the first place.

Focus of the evaluation of the second funding phase

In the second funding phase, the evaluation will again examine the impact of the ‘Qualitätsoffensive Lehrerbildung’ in the various fields of action of the funding programme. The new fields, ‘Teacher education for vocational schools’ and ‘Digitalisation in teacher education’, are also included. Building on the previous results, the evaluation will set thematic priorities when the various fields of action are examined. Which topics will be brought into focus?

HA: On the one hand, more and more information is available thanks to the evaluation activities carried out so far and also due to the increase in the number of projects for the second funding phase. On the other hand, the results of the first phase allow us to focus on some topics that are central to further development,

which were also agreed on in workshops with project representatives. This makes it possible to go into greater depth.

Structure building for teacher education was one of the successful themes of the first funding phase. The concept of 'structure' sounds somewhat hardened and invariable. And yet, even when structures have been arrived at, they do not remain effective in the same way once and for all, but instead require ongoing observation, maintenance and further development. Does attention to teacher education concerns and their consideration in strategy development and decision-making remain the same when rectorates and presidencies change and set new development priorities? Are support and guidance structures for students still effective if the number of students changes? So, it is not only about building structures, but also about their resilience, maintenance and further development over time.

The establishment of an interdisciplinary working culture at a higher education institution, a culture of cooperation between subjects and phases, is stated as in second place [among the internal success factors of the project], just behind optimal coordination

Another important topic is the cooperation of the different reference disciplines. The data indicate that coordination between subject representatives, subject didactics and educational science has intensified overall in the projects between 2016 and 2019. In particular, the importance of subject didactics has increased, probably also due to the establishment of new positions. However, the involvement of the disciplines in the projects during this period seems to have been successful less often than the cooperation between the other sciences. It will have to be analysed in more detail whether these are intentional shifts of responsibility in the projects or unintended side effects of other decisions, for example the increasing importance of subject didactics.

Another central topic is the legal framework as well as the support and incentive structures for teacher education in the Länder. The feedback from the projects

in the first evaluation phase points to quite different strategies among the federal states for using the potentials of the 'Qualitätsoffensive Lehrerbildung' and for stimulating developments in teacher education, for example with regard to supporting programmes to develop subject didactics, to stimulate cooperation between higher education institutions and other stakeholders in teacher education and so on. Particularly when it comes to safeguarding new internal structures for teacher education in the longer term, education policy in the Länder will be an important stakeholder for productive developments. This applies in a similar way to quality improvements in dealing with diversity and inclusion, as well as to the further development of a meaningful practical training in cooperation with schools and institutions of the second and third teacher education phases.

An outlook

What lessons do you draw from the evaluation results so far and from your observation of the subject area for the future of teacher education? What should definitely be preserved, and where do you see the greatest potential for development in teacher education in the next five to ten years?

HA: I think that our focus of the second evaluation phase also point to longer-term challenges for the productive development of teacher education. Most of the stakeholders in and around the projects seem to be aware of the problem of sustainability; the only question is whether, given that the project funding will end, they will be able to find productive co-operations to secure what has been achieved so far for the longer term.

The requirement of transferring project results, as formulated by the funding programme, seems to be even more difficult. It is not surprising that the energy in the projects is initially focused on internal development work; one wants to achieve something that can then perhaps be communicated to the outside 'later on'. Consequently, the evaluation also revealed the desire on behalf of the projects for a separate transfer phase following the development activities. Nevertheless, there seems to be an intensive transfer between the projects of the programme; this is indicated, at any rate, by statements made by the interviewed experts

from the ministries of science and education of the Länder, by scholars and by practitioners. By contrast, transfer to non-funded higher education institutions, which is not even recognised as a goal by individual projects, and to the second and third phases of teacher education, could be strengthened. As regards the cooperation with the second and third phases of teacher education, however, the work conducted by the projects should be accompanied by additional political measures on a regional level. This can be achieved by creating framework conditions conducive to collaboration, especially at the Länder level.

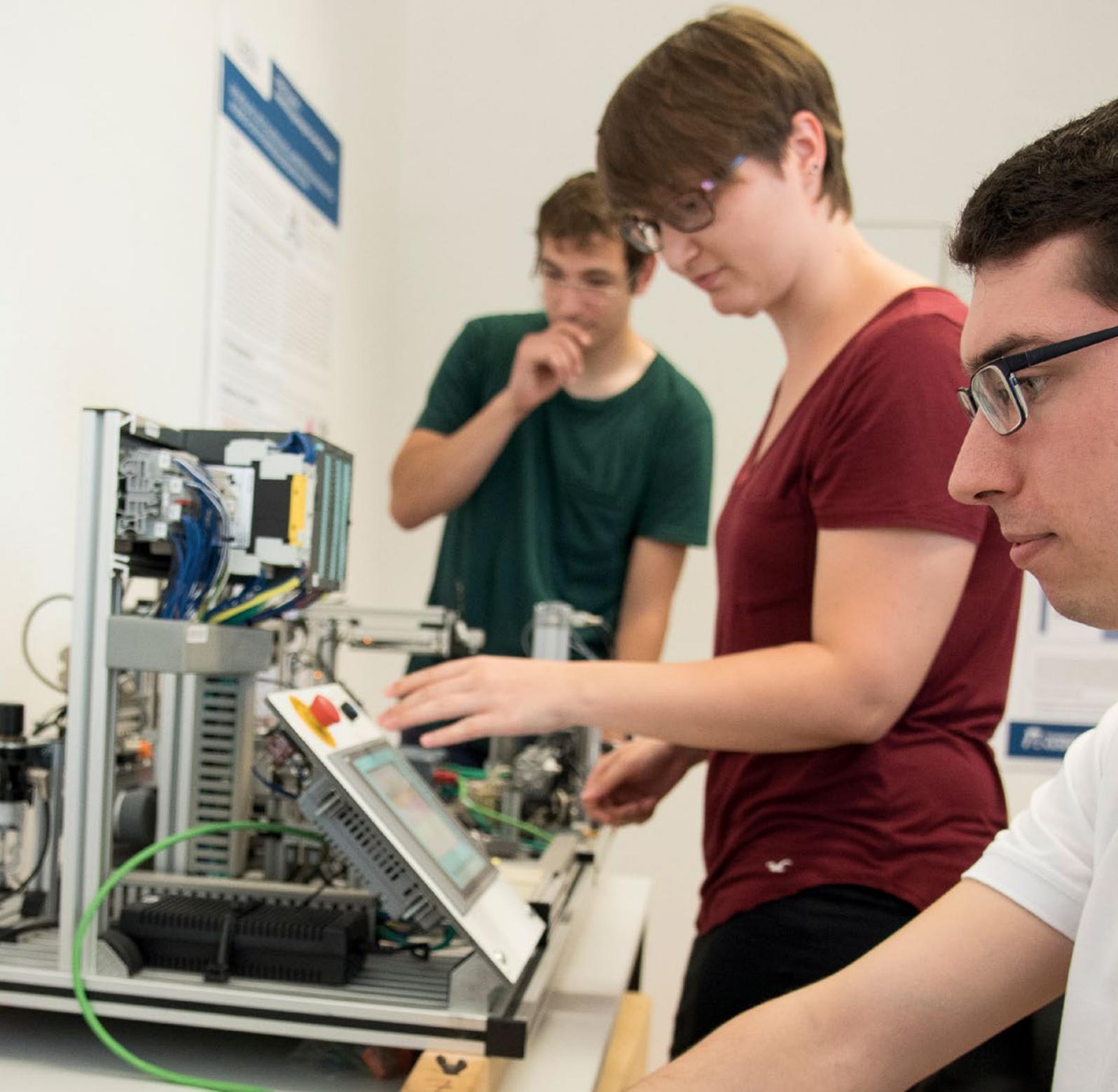


Short CV Herbert Altrichter

- Education, psychology and history studies and doctorate at the University of Vienna
- Habilitation in educational science at the University of Klagenfurt
- Research visit and visiting professorships: Cambridge Institute of Education, Deakin University (Melbourne, Australia), University of Jyväskylä, University of Oldenburg, University of Basel among others
- Professor Emeritus of Education and Educational Psychology at the Johannes Kepler University (Linz, Austria)
- Founding chairman of the Austrian Society for Research and Development in Education; board member of the European Educational Research Association; founding editor of the 'Zeitschrift für Bildungsforschung' (Journal of Educational Research)

In those Länder in which cooperation between the ministries of education and science is perceived by project stakeholders to need development, there is a desire for a methodical dealing with the other two phases. Some experts, for example, suggested initiating a quality offensive for the pre-service teaching as well as establishing the goal of a binding agreement with the second and third phases in the remaining term of the 'Qualitätsoffensive Lehrerbildung'. The work of the higher education institutions especially in the field of action 'Quality improvement in the practical training' clearly shows that the smooth cooperation of all institutions and stakeholders involved in the training process is necessary in order to achieve sustainable effects.

As already mentioned, there are many good examples within the projects of structure building for teacher education. In the future, however, it will also be important to maintain and renew these structures in the face of changing framework conditions, new stakeholders and new goal perspectives. And in view of different subject cultures, diverging disciplines and differing conditions in the various phases, it will also be important to deal with the issue of different cultures. In the 2021 programme monitoring, when asked about the most important internal success factors for the long-term safeguarding of project content and changes, the establishment of an interdisciplinary working culture, a culture of collaboration between subjects and phases that carries on after the funding is completed, was allotted to the second place, just behind the factor of ideal coordinating structures. The establishment of a common culture thus plays a central role in terms of a programme for sustainability. The perception that stakeholders from different subsystems follow different cultures, whose possible contradiction should not simply be analytically levelled, can be taken as the starting point of this strategy. Only cultural education in the sense of a habit of exchanging and a common language for doing so will create conditions for longer-term disciplinary cooperation and a reliable transfer to the second and third phase and to schools. This developmental step is still in progress for some projects and already achieved for others, when examples of growing collaboration with schools, study seminars and between disciplines are reported.



A look at the second funding phase:

New aspects arising from the expansion of the fields of action to digitalisation and vocational college teaching



The ‘Qualitätsoffensive Lehrerbildung’ is a lively and dynamic programme that is responding to the demands of research and training. In the course of the interim evaluations and funding applications for the second phase, the projects have been able to continue with successful measures as well as develop them further, considering the insights that have been gained so far. At the same time, in the course of the first funding phase, it became increasingly clear that additional measures would be necessary in the areas of digitalisation in teacher education and the training of teachers for vocational schools. The federal government and the Länder responded to this with an additional funding round that supports innovative approaches to quality improvement in these areas. Since 2020, 43 additional projects have been funded that are either carried out as individual projects at a single higher education institution or form a network together with others. In this additional funding round, it is again important to ensure the connectivity and transferability of the approaches and results from the higher education institutions to the second and third phases of teacher education.

The digitalisation of learning contexts in teacher education is being used to increase the didactical and methodological quality of teaching-learning processes and outcomes at higher education institutions. In addition, the digitalisation-related competences of future teachers are being strengthened in order to

enable them to use digital media meaningfully and purposefully in their respective subjects. They should also provide their students with the capacity to reflect upon and act in a society shaped by digitalisation more generally, irrespective of the subject matter at hand. This means that the technical, didactical and educational competences of teachers in regard to media use will be enhanced. The urgency of these measures was further highlighted by the school closures and distance learning necessitated by the coronavirus pandemic.

Teacher education for vocational schools is to be improved in all courses of study – that means for the industrial and technical professions, the commercial and administrative professions and the service professions. Here, pioneering measures are being initiated to expand and optimise these courses, such as making study programmes more flexible, attracting new students and making training more practice-orientated. The ‘Qualitätsoffensive Lehrerbildung’ is thus also contributing to the effectiveness of the vocational training system in Germany.

If the structure-building effects of the programme in the higher education institutions and the links being formed to other teacher education institutions are also considered, it becomes clear that the programme’s impact extends beyond the teacher education programme to broader areas of our educational and academic system.

Digitalisation-related competences of teachers

In order to be able to teach pupils in an up-to-date fashion and provide them with the capacity to act in a digital society, teachers need specific digitalisation-related competences. The 'Qualitätsoffensive Lehrerbildung' supports projects which contribute to empirical research on the question of which skills are needed. The focus of these inquiries includes competencies in the fields of computer science and information technology, didactics and teaching methodology as well as school development. In addition, the focus of the projects is also on the aspect of teaching digitalisation-related competences so that prospective teachers will be able to adequately convey the respective subject content to their pupils. The continuous development of competences, which often takes place throughout the entire degree programme, takes into account the interconnectedness of the competences by being carried out in subject didactics, subject-specific sciences and educational sciences parts of the degree programme. The digitalisation-linked competences

that prove to be relevant in the course of the project are being laid down in curriculum and are obligatory for all students.

Digitalisation-related learning contexts in teacher education

The projects of the 'Qualitätsoffensive Lehrerbildung' develop and test innovative learning environments and formats using digital media. For example, virtual reality, blended learning and social media applications are being used to increase the didactical and methodological quality of teaching-learning processes and thus achieve better results. In this way, the potentials and limitations of new technologies in teacher education are made tangible. In the design of the digitalisation-related learning contexts, current educational policy developments on digitalisation in teacher education and in schools are included in the overall concept. The project content is also linked to the international state of knowledge and development. By systematically interlinking the measures



Digitalisation in teacher education is promoted in an additional funding round of the 'Qualitätsoffensive Lehrerbildung'.



Natural science experiments can be placed in new learning contexts using virtual technology.

developed with overall concepts for digitalisation in higher education more generally, they can have structural effects in teacher education and beyond. They become new curricular components of teacher education courses and are tested for their transferability to all phases of teacher education and school practice. Their impact is reviewed using appropriate evaluation procedures. The developed content and materials are intended to be made available as open-access educational resources.

Digitalisation-related linkage of theory and practice

The 'Qualitätsoffensive Lehrerbildung' projects use the possibilities of digitalisation for the targeted and systematic linking of theory and practice in teacher education and for the incorporation of theory-based teacher education into practice in schools. The cooperation is focused on agreeing common goals, digital resources and quality standards. The participants are working on to systematically networking all institutions with the aid of digital tools, establishing digitalisation-related competences among (prospective)

teachers across all phases and interlinking science with (continuing professional development) practice. Here, both typical teacher education paths (such as higher education study followed by traineeship) as well as education paths that are new or were previously untypical for teachers are considered. A possible transfer to other higher education institutions can likewise be explored, as well as possibilities for making the cooperation and project results permanent. Using suitable evaluation designs, the funded projects verify the effectiveness of their cross-phase and cross-institutional cooperation concepts. In this way they contribute to a content-related and structural profile building across various sites of digitalisation in teacher education.

Student recruitment and dropout prevention in vocational school teaching

The vocational schools and the teacher education programmes for this field are currently suffering from a considerable shortage of (prospective) teachers. To attract prospective students to study vocational teaching, the funded projects are building flexible training

structures and addressing suitable target groups. In the process, they take into account the potentially different backgrounds of the students and respond by tailoring communications to the addressees. Approaches and support programmes are being developed, tested and evaluated to reduce the high dropout rates in vocational school teaching studies (such as those seen in the industrial and technical teacher education programmes), for example by creating support and monitoring structures appropriate to the target group. Concepts for part-time or other alternative forms of study programmes can also be developed, which are then tested and evaluated. The forward-looking measures of the projects can range from the course entry phase to the traineeship and consider all vocational disciplines. They serve to expand and optimise the teacher education programmes for vocational training and are part of an overall concept for vocational training at the respective higher education institution.

Structural development in vocational school teaching

Structural developments are constantly taking place in vocational teacher education programmes in order to further expand the cooperation between the teaching subjects, the subject didactics and the educational sciences and to adapt them to the practical needs of the students and their future working environment. The measures are constantly being tested empirically for their effectiveness. The various study programmes are structurally embedded in an overall strategy of teacher education at the respective higher education institution. For example, topics are adopted that are central to vocational teaching, such as dealing with diversity, harnessing the possibilities of digitalisation and developing teaching-related core modules in the subjects and subject didactics. The projects also build cross-phase cooperation



The use of digital media during studies can prepare prospective teachers for example for challenging teaching situations.



Teachers at vocational schools equip their pupils for a wide variety of professions.

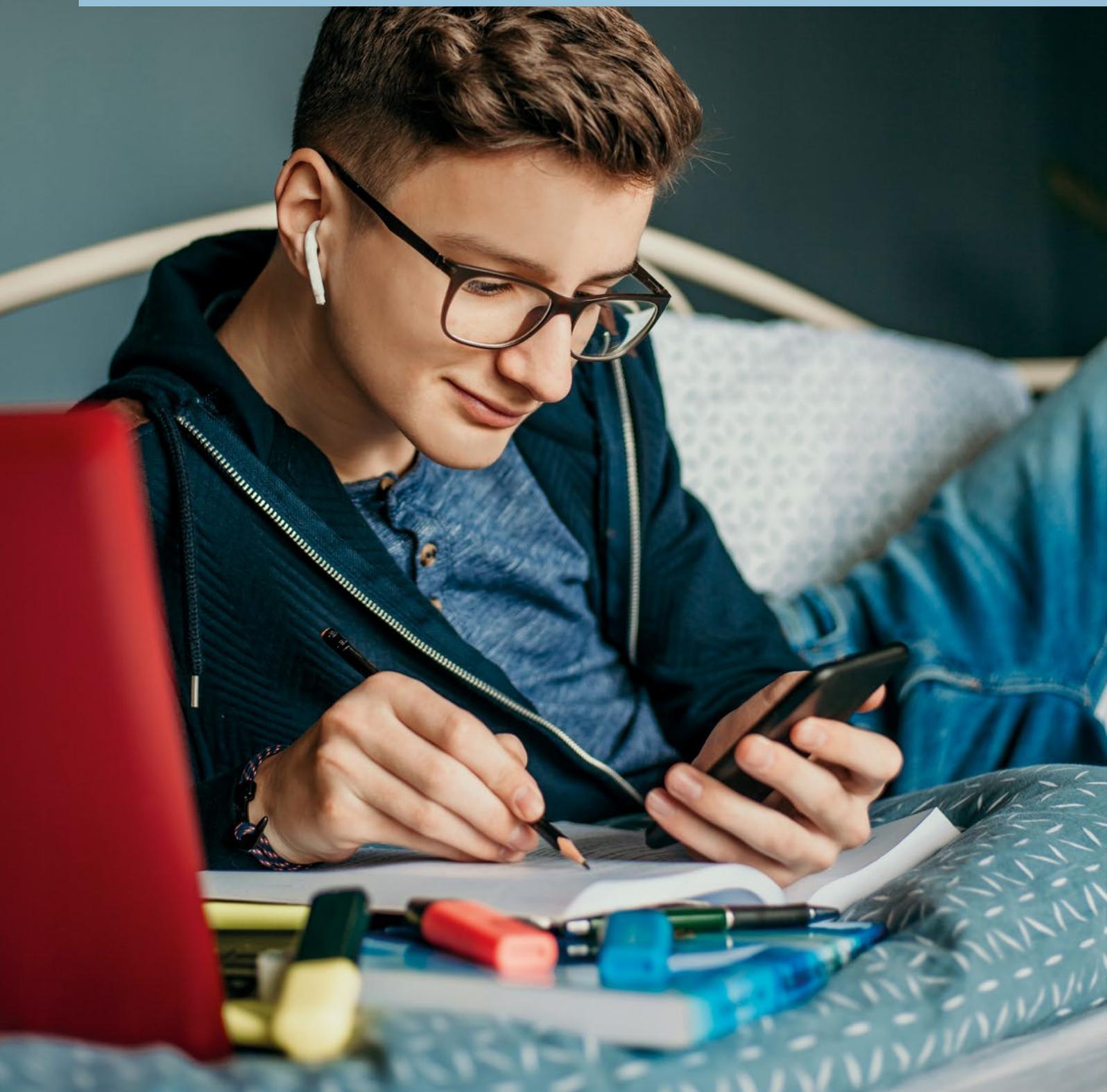
and strengthen collaboration with companies and business associations. The development of in-service training and continuing professional development concepts in cooperation with non-university actors in teacher education and the business community is also being addressed within the framework of structural development for vocational school teaching. The ultimate aim is to provide cross-phase, coherent and high-quality teacher education for prospective vocational teachers with an extremely diverse range of prior experience.

Quality assurance and quality development in vocational school teaching

To ensure the quality of the various initial and in-service training programmes in the vocational school teaching, the projects focus on different areas. Concepts are developed, evaluated and consolidated to ensure the quality of the programme; they are tailored to the curricula of the different training

disciplines. The projects also create specific quality-assurance approaches for side-entry and lateral entry into vocational school teaching and implement them at higher education institutions. Additionally, the projects develop quality-assurance tools that explicitly address the practical training phases. The most essential starting points here are 'referring to theoretical foundations' and 'reflecting on one's own didactical actions'. Likewise, references between the discipline-based, subject-didactical and educational science aspects of the studies are focused on from the perspective of quality assurance and development. In this case, indicators are created that facilitate expanding the subject didactics of the study subjects to include the specifics of vocational training. These indicators also provide orientation towards vocational disciplines that are related in terms of content, across vocational fields wherever possible. The quality of individual teaching courses is another field of action, for example through the use of digital teaching and learning units.

Teacher education in times of COVID-19



In the spring of 2021, the third semester spent under pandemic conditions, the DLR project management agency (DLR-PT) conducted a survey on the effects of the pandemic on the projects funded under the 'Qualitätsoffensive Lehrerbildung'. All of the projects provided information on how COVID-19 and the closures affected their higher education institution. They reported on the specific consequences for their sub-projects and work packages and gave insights into expectations and aspirations for the future. From the numerous reports and observations, it was possible to compile both a general overview and a collection of individual assessments in the areas of 'The higher education institution as a learning system', 'Effects on (digital) teaching', 'Strained interaction with schools', 'Research under pandemic conditions' and 'New communication channels'. The description and appraisal offered here conclude with an outlook into the future.

The higher education institution as a learning system

Ongoing teaching and research activities were severely affected by the pandemic in the spring of 2020 at every higher education institution. These activities were completely reorganised, with a slight time lag depending on the federal state. Within a few days, not only were face-to-face classes suspended, but administrations, libraries and canteens were also closed and there was virtually no research activity. All projects funded by the 'Qualitätsoffensive Lehrerbildung' were hit by the closure of university buildings in March 2020 unexpectedly, but not all were unprepared. The weeks and months that followed became a strain for everyone involved; 'maintaining operations' was the order of the day. In a very short time, teaching had to be moved from face-to-face classes to online to enable students to complete their semester or degree in an orderly manner. At the same time, the situation was new for all of them and became more difficult due to distance teaching and childcare, as well as due to concerns for their own health and that of their relatives and friends.

Although the higher education institutions reacted differently, the course of the next three semesters was similar for all of them. With immense effort and a great deal of inventiveness, the teaching staff transferred their lectures, exercises and seminars to online formats and often resorted at first to asynchronous event formats, which means formats that were not

followed live on the screens. Recorded lectures, self-study courses, podcasts and blogs could be produced and accessed independently of the actual timetable in terms of time and space. At first these materials were produced on the university premises, but soon the capacities of these became too restricted (or it was forbidden to enter the buildings), and the homes of teaching staff served as the studio.

“Since subject cultures are very different, there cannot be only one form of teaching under pandemic conditions.”

Once the initial, acute crisis had passed, a phase of reflection and reassessment followed. During this time, there was an opportunity to examine the quality of the initial digital measures. Teaching staff and students were asked about their experiences, successful measures were expanded, concepts developed ad hoc were revised, and gaps were identified and filled. Online events developed for the needs of the moment were increasingly replaced by digital teaching and learning offers based on higher education didactics. These measures combined the applicable safety regulations of the respective Länder with the individual requirements of the study programmes and the specific conditions on site. The higher education institutions also strengthened their support services for all groups, revised examination formats and made efforts to establish hygiene concepts for in-person attendance that could not be avoided. The situation became complicated over and over again as the safety situation of the pandemic continued to change.

Effects on (digital) teaching

The pandemic gave the higher education institutions an unexpected digitalisation boost in spring 2020, since only with the help of digital technologies could teaching and research be maintained and classroom lectures be converted into online courses. Learning platforms such as Moodle, ILIAS and Stud.IP have been known at most higher education institutions for years, now became the mainstay.

Expansion of IT performance capacities and the procurement of licences were now the top priorities.

With the support of the leadership of higher education institutions, which had to release funds for these acquisitions and in some cases also for additional staff, software and hardware inventories were increased. Some of the project leaders interviewed described the first weeks or the first semester of the pandemic as ‘emergency remote teaching’, in explanation as a distance learning programme born out of necessity. ‘Competence teams’ and ‘digital teaching task forces’ supported lecturers and students in using the technology. However, not everybody was able to make use of it: some 40% of participants in a student survey at one higher education institution said they did not have a stable internet connection. At another higher education institution, a collection and donation campaign was held to equip students with the necessary hardware for online study.

Another important lesson was that not all teaching, learning and research activities can be transferred to the digital space. Laboratory and practical work, activities in sports science and musicology, as well as in visual arts and crafts are often only possible in person. Some departments and degree programmes were thus faced with additional challenges and had to cancel or postpone certain courses.

The pandemic has certainly had positive effects as a kind of accelerator and door opener.

The majority of the projects interviewed reported creative solutions that could be gradually developed. In the teacher education courses, the current developments were addressed and the didactical focus shifted in many cases towards ‘Conception of digital teaching’. In some cases, teaching staff were also able to draw on freshly developed concepts and strategies for the digitalisation of studies and teaching, such that the crisis became a pilot study.

During this time, teaching support centres, the centres for teacher education and the projects of the ‘Qualitätsoffensive Lehrerbildung’ often gained visibility. In the development of standards for didactics and technology, which began at the latest after the end of the first ‘corona semester’, these bodies were

able to contribute their earlier experiences in the creation of teaching-learning modules and offer specific assistance. They developed didactically based formats and supported their implementation. At some higher education institutions, e-tutors were trained to advise teaching staff individually on the digitalisation of online classes. Others created digital toolkits containing instructions, handouts and good practice examples. In the wake of the loss of community-building activities for students such as excursions, information events and everyday campus life, online offerings were increasingly developed for this as well, such as digital working groups.

Strained interaction with schools

The cooperation between higher education institutions and schools is an important aspect of the ‘Qualitätsoffensive Lehrerbildung’ projects, since there is a direct exchange that is not limited to the supervision and support of students in their practical phases (practical semester, practical school studies, et cetera). Since 2015, various cooperation networks between ‘research and practice’ have been formed. These are concerned with contributing to school development, delegating teachers to work at higher education institutions, and testing new teaching concepts in teaching-learning labs or real classes. Numerous projects are developing in-service training and continuing professional development concepts for teachers and running them, and in some cases have done so for several years, at partner schools. Other stakeholders in teacher education, such as study seminars, school boards and district governments, may also be involved in these networks. This multifaceted cooperation was affected by the immense impact of the pandemic on schools and had partially come to a standstill.

The teachers at the schools were heavily burdened by the lockdown and by the changeover to distance or mixed presence-distance teaching. Like the teaching staff at the higher education institutions, they had to change and adapt their teaching concepts in a very short time, often without technical or didactical support. Ensuring a seamless process for distance and mixed teaching was the top priority, to avoid any negative impact on the academic chances of the children and young people affected. In a survey conducted by DLR-PT at the beginning of the pandemic in spring 2020, some higher education institutions reported the practical help they were able to provide to schools;

overall, however, the collaborations and networks were severely strained. Well-established networks between schools and higher education institutions managed to weather the crisis together. Attempts to create new collaborations or expand those that had just recently been formed, however, proved impossible under pandemic conditions. Additionally, many teachers did not have the capacity to participate in additional in-service training or research projects, with the result that these offers and sub-projects came to a standstill at first. This also affected the training of teachers to act as mentors for students during their practical phases or in the pre-service teaching.

An exception to this was the teaching-learning labs: by changing the didactical and methodological planning, some projects succeeded in transferring their labs to an online format and testing them. There was also some success with projects that were able to conduct real-world experiments with small groups in science laboratories as early as 2020. Visits to other places of learning with school classes, for example museums or places of worship, however, proved to be impossible.

Visits by entire school classes to higher education institutions became much more difficult or even impossible, nor were (prospective) teachers able to visit schools. Real-life observations of typical classroom dynamics and feedback options for teachers could thus not take place. The use of video formats compensated for some of this. However, the creation of new instructional videos was not generally possible, and the testing of interventions in classroom practice also had to be dispensed with.

By developing modified offers for school placements, some alternatives also emerged. The teaching students were involved to a certain extent in the alternating and distance teaching, while in other cases they supported the pupils concerned by means of supplementary online lessons. Nevertheless, many practical placements were omitted for the students and a 'backlog' built up of practical placements. Higher education institutions that train prospective vocational school teachers reported great difficulties in cooperation with the companies at which prospective teachers are expected to gather practical experience.

Research under pandemic conditions

The pandemic has also had adverse consequences for teacher research and the accompanying research within the funded projects; willingness to participate in surveys decreased among teachers and learners alike owing to the new and often high stress levels. One response to this challenge was to adapt the survey design. Research teams shifted, for example, from quantitative to qualitative designs, such as interviews with individuals or small groups or the analysis of documents, in an attempt to collect the necessary data. But even where school classes or students continued to be available, the data pool changed. The lessons no longer took place under the same conditions as in previous survey waves.

For the projects in the additional funding round of the 'Qualitätsoffensive Lehrerbildung' with their focus on 'Digitalisation in teacher education' and 'Teacher education for vocational schools', the project start coincided with the first lockdown in spring 2020. This made the launch much more difficult. Recruitment of staff was delayed in some cases, as well as of student and research assistants. The projects in the additional funding round adapted their survey designs directly to the changed conditions, but nevertheless had particular difficulty in recruiting participants for their surveys. Generally, they still could not establish sustainable cooperation with schools. Recruiting student subjects was also difficult during the lockdown and while studies were in digital form; this in turn had a significant impact on the carrying out of research projects and surveys in this group. In the field of action of digitalisation, many acquisitions had been planned in order to provide an empirical basis for teacher research. These teaching-learning labs could not be set up as planned at first, and work in them was delayed.

Researchers working internationally were affected in particular; the conduct of surveys at partner schools abroad had been virtually impossible since the spring of 2020. A large proportion of the planned stays abroad, many of them financed by scholarships, had to be cancelled or were interrupted.

New communication channels

Within the funded projects, the pandemic had an impact on the immediate course of the project, not only due to the necessary adjustments in the conception

and implementation of the project content, but also in terms of project set-up, communication with cooperation partners inside and outside the higher education institution, and the visibility of the project and its results.

Communication with network and cooperation partners was more difficult when only few digital communication channels were available. Where video conferencing had already been tested, however, the alliances and networks were able to continue their work largely unaffected. The dynamic and success of a project often depend on personal contact and direct communication. Especially on the exchange with stakeholders in the second and third phases and on rolling out (interim) results to other departments, the virtualisation of project communication had an inhibiting effect.

The projects also had to change their strategies in some cases in the area of public relations: events that served to give broad visibility to sub-projects and their results were cancelled and could not always be made up for digitally. This has had consequences in the university-wide space and in the dialogue with stakeholders outside the university in particular, for example in the areas of democracy building, sustainability and inclusion. Here, forms of social media were increasingly used for contributions.

Assessments and prospects

Despite those challenges, the mood among the funded projects of the 'Qualitätsoffensive Lehrerbildung' is generally good, and the outlook for the future appears consistently optimistic. The challenges were great, the efforts sometimes immense, but the majority of respondents also recognise the positive side.

The efforts towards digitalisation in higher education institutions and especially teacher education experienced a surge in development and acceptance throughout, as the relevance of this issue suddenly became clear to everyone involved. Many reservations could also be overcome through practical experience, while the digital competences of teachers and students grew significantly. Some funded projects report that public perceptions of them have improved and that their results and products are more widely received. The spectrum here ranges from e-portfolios to digital examination formats and the use of video

platforms to the adaptation of higher education teaching formats to current didactical findings and formats.

The networks and project teams have grown together in the face of the immense challenges. Virtual meetings often had higher attendance than face-to-face meetings because there were fewer overlapping appointments and no need to travel. In some cases, this has led to new types of discussion constellations.

In addition, problems that had perhaps been neglected so far have also come into view; these include the possibility of reaching socially disadvantaged children and young people through distance learning as well as the lack of accessibility of digital teaching-learning formats. The effort required to maintain research and teaching operations is still very high and continues to put a strain on the physical and mental health of many. A return to 'more normality' is therefore a frequently expressed wish.

At the same time, the respondents would like to see the achievements of the last three semesters maintained: the acceptance of digital teaching and learning, further developments in the area of interactive classes and the expansion of quality standards in digital teaching-learning formats. However, they also long for a 'normal campus life' with in-person meetings, casual occasions for conversation and, above all, more security of planning with regard to the course of the project.



On the programme management

With the ‘Qualitätsoffensive Lehrerbildung’ the federal government and the Länder have created a comprehensive funding programme that aims to strengthen teacher education as a whole and prepare future teachers for their professional tasks in the best way possible. In order for the funding to have a long-term effect that extends beyond the funding period, the structural embedding of project results is central, as is their transfer to other higher education institutions and to institutions of the second and third phases of teacher education. In order to strengthen the exchange and interlinking of the 91 funded projects with each other and with other stakeholders in teacher education, a programme management is necessary that initiates and maintains supportive measures. The BMBF has commissioned the DLR-PT with the programme management of the ‘Qualitätsoffensive Lehrerbildung’. In addition to providing technical and administrative support to the application and funding process, DLR-PT initiates measures to launch a joint development of the projects in order to identify viable approaches that can also be disseminated beyond the programme and thus improve teacher education. For example, DLR-PT identifies useful results and solutions generated by the projects and puts them out to the broader public in an appropriate manner. In addition, DLR-PT assists the projects in disseminating their own results. Since the start of the programme, a wide range of measures have been developed that are aimed at different stakeholders and are also supported and borne by the funded higher education institutions.

The **website** of the programme [qualitaetsoffensive-lehrerbildung.de](https://www.qualitaetsoffensive-lehrerbildung.de) is the central source for detailed information about the ‘Qualitätsoffensive Lehrerbildung’ and all programme support measures. Projects thus continuously present results from their current work in their own articles on the homepage, and other current news from politics and society that is relevant to the programme is included and disseminated widely.

An essential tool for bringing current topics of the ‘Qualitätsoffensive Lehrerbildung’ and teacher education in general to the attention of the general public is the **newsletter**, which has been published five times a year since 2018 and can be subscribed to via the homepage. It already informs more than 2,000 subscribers. Its target audience is mainly professionals

in the field, including those in the second and third phases of teacher education. Each issue takes up current topics and is devoted to a particular focus. In editorials, science journalists, researchers and stakeholders working in higher education and schools comment on the main topic from an external perspective. Stakeholders from selected projects discuss core fields of action in teacher education and show examples of the solutions they are developing and implementing for specific challenges within the framework of the ‘Qualitätsoffensive Lehrerbildung’. A special newsletter was published in the pandemic year of 2020, focusing on the exceptional conditions for teacher education and the solutions that the projects developed. The steadily increasing number of subscribers reflects the high level of interest in this medium among the (professional) public.

DLR-PT also supports cross-project exchange in order to initiate cooperation between projects. The resulting synergies stimulate developments that extend beyond the programme. They are made visible at programme congresses and network conferences, which take place in alternating years and facilitate direct exchanges of ideas between project staff, leadership of higher education institutions and education policymaking. Both **programme congresses**, which were held in Berlin in 2016 and 2018 and opened by the Federal Minister for Education and Research, were attended by more than 500 people from federal, state and association politics as well as academia and non-university teacher education. The researchers of the funded projects participated actively in these two-day events and, once dialogue had been successfully initiated, used the opportunity to continue exchanging ideas with one another. Alternating with the programme congresses, the **network conferences** serve to intensify the exchange of knowledge and results and to boost networking between the projects.

Working together with the projects, the programme support develops **workshops** on the various fields of action of the ‘Qualitätsoffensive Lehrerbildung’. These are organised and hosted jointly with a funded higher education institution and serve to promote academic exchange within the programme, the further development of programme topics and are intended to initiate cooperation and networking on current subject issues. These formats lead in many cases to follow-up workshops, working groups or publications,



The informal exchange between the projects is just as important as the subject-specific dialogue.

which are set up by the projects in their own capacity. The idea of 'transfer' is becoming increasingly important in this area. So far, the following topic-specific workshops have been held:

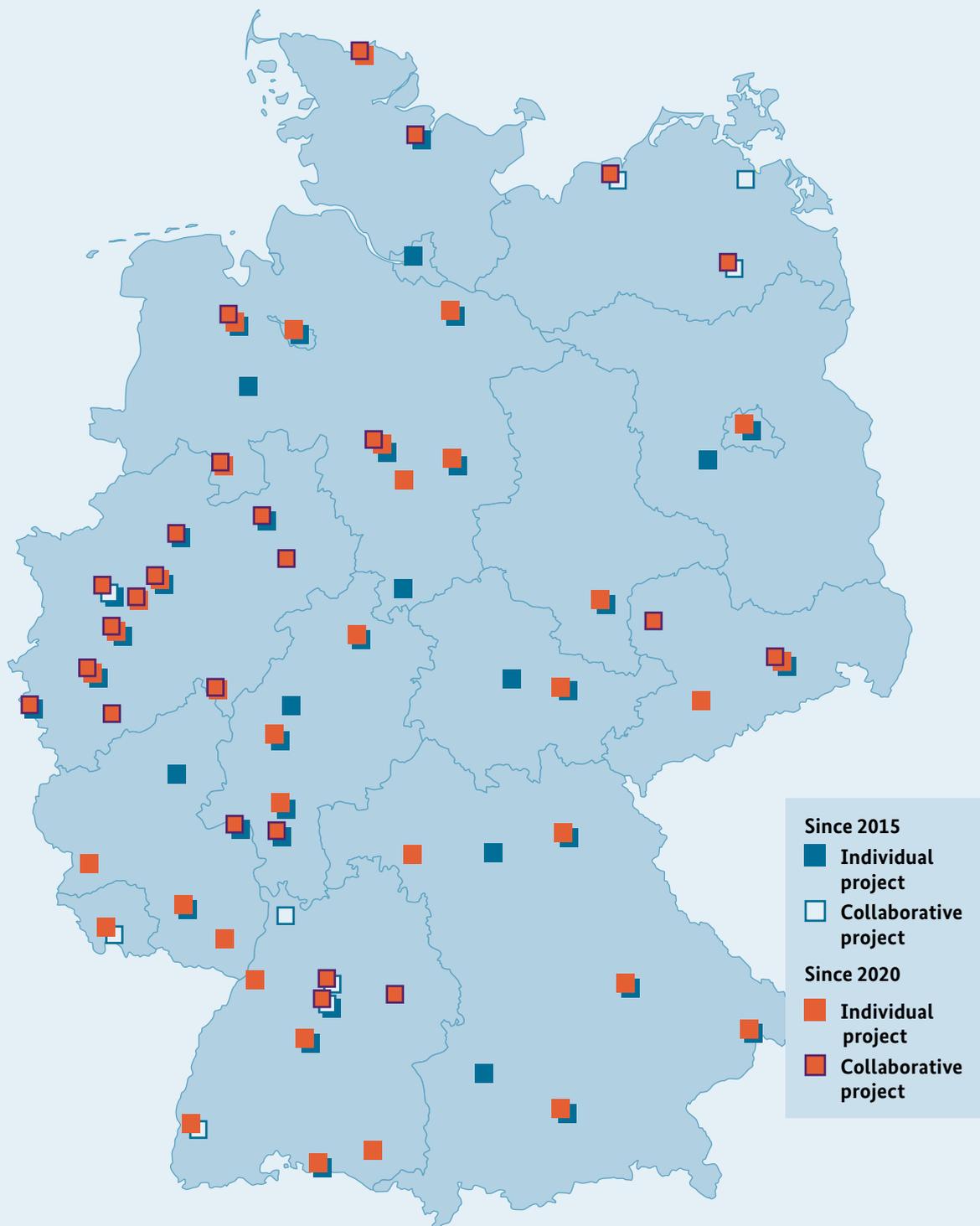
- Videos in teacher education, University of Münster
- Interlinking of disciplines, subject didactics and educational sciences, Leibniz University Hannover
- Inclusion and diversity, Heidelberg University of Education
- In-service and continuing teacher education in and through higher education institutions, University of Kassel
- Practice orientation in teacher education – Innovations and findings in the 'Qualitätsoffensive Lehrerbildung', Freie Universität Berlin
- Profile building in teaching profession – outlines for studies, subjects and university, University of Kiel
- Quo vadis vocational teacher education? Training teachers for vocational schools: challenges, starting points and interim results, University of Osnabrück (virtual)
- Teacher education after the pandemic-driven digital turn, Goethe University Frankfurt (virtual)
- Profession-related support and guidance of teacher education students, Technical University of Braunschweig (virtual)

Various **brochures** offer in-depth insights into the 'Qualitätsoffensive Lehrerbildung' for the interested

(professional) public: topic-specific brochures reflect the diversity of the fields of action of the funding programme, while the general programme brochure provides a broad and in-depth overview of the funded projects and the programme itself. The topic-specific brochures are produced by the programme support team following programme workshops, jointly with some of the projects. So far, publications have appeared on the topics of 'Perspectives for successful inclusion', 'Interlinking theory and practice in teacher education', 'Profile building in teacher education', 'Perspectives on vocational teacher education' and 'Teaching and research with videos in teacher education'.

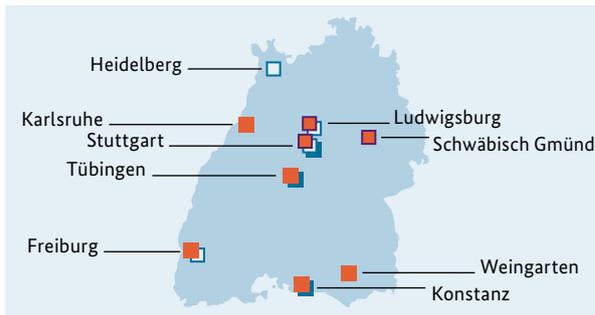
A programme brochure is published for each programme congress, describing the status of the implementation of the funding programme for every project and for the evaluation. The brochure covers the results in the various fields of action, as well as plans for the future development of the projects. Shorter versions of all programme brochures are also published in English.

Each year, a **short film** illustrates selected topics of the 'Qualitätsoffensive Lehrerbildung' and teacher education in general to a broader public. It is presented at the programme congresses or network meetings. In 2021, an additional film was produced focusing on the challenges of teacher education during the coronavirus period.



Project location map

Baden-Württemberg



University of Freiburg

FL2_FR_Lehramtskoop 2

University of Education Freiburg

FACE-Beruf

FL2_FR_Lehramtskoop 2

Heidelberg University

heiEDUCATION 2.1

Heidelberg University of Education

heiEDUCATION 2.1

University of Hohenheim

Lehrerbildung PLUS

University of Education Karlsruhe

InDiKo

Karlsruhe Institute of Technology

digimINT

University of Konstanz

edu⁴

edu 4.0

Ludwigsburg University of Education

Lehrerbildung PLUS

MakEd_digital

University of Education Schwäbisch Gmünd

TWIND

Stuttgart State Academy of Art and Design

Lehrerbildung PLUS

MakEd_digital

State University of Music and Performing Arts Stuttgart

Lehrerbildung PLUS

MakEd_digital

University of Stuttgart

LEBUS

Lehrerbildung PLUS

MakEd_digital

University of Tübingen

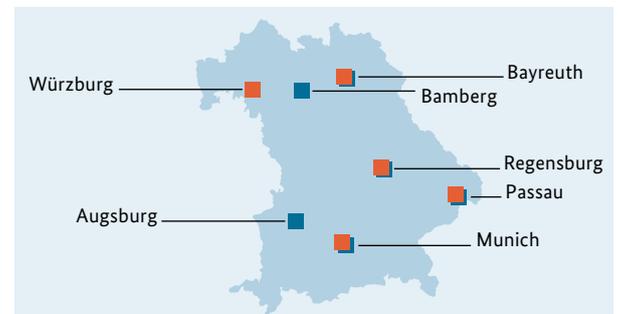
TueDiTeach

TüSE

Weingarten University of Education

TEgoDI

Bavaria



University of Augsburg

LeHet

University of Bamberg

WegE

University of Bayreuth

Diversitaet_Bayreuth

Uni_Berufsschule

Ludwig-Maximilians-Universität München

Lehrerbildung@LMU

Technical University of Munich

Teach@TUM

Teach@TUM4.0

University of Passau

primary::programming

SKILL.de

University of Regensburg

KOLEG2

L-DUR

Julius-Maximilians-Universität Würzburg

CoTeach

Berlin



Freie Universität Berlin

■ K2teach

Humboldt-Universität zu Berlin

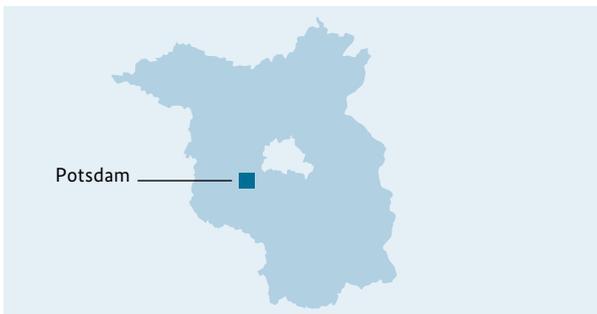
■ FDQI-HU-MINT

Technische Universität Berlin

■ DiBeLe

■ TUB-Teaching 2.0

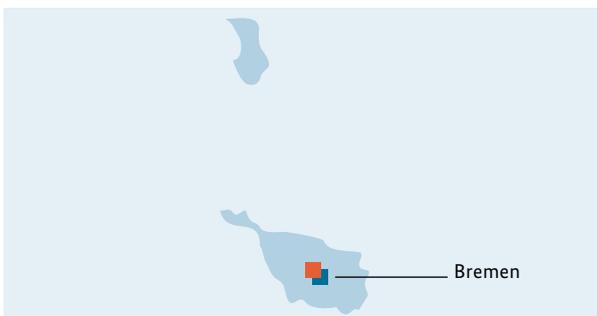
Brandenburg



University of Potsdam

■ PSI-Potsdam

Bremen

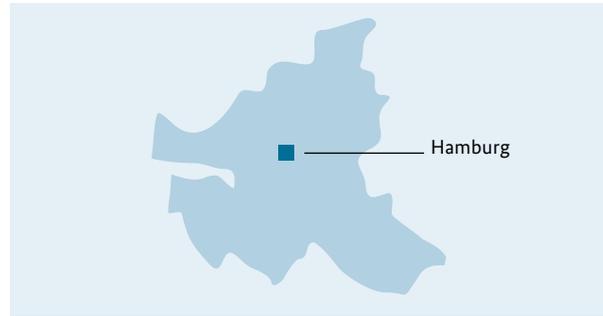


University Bremen

■ Schnittstellen gestalten

■ SteBs

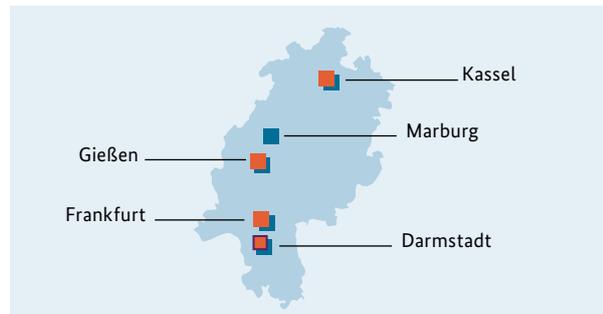
Hamburg



Universität Hamburg

■ ProfaLe

Hessen



Technical University of Darmstadt

■ MINTplus²

■ TWIND

Goethe University Frankfurt

■ Digi_Gap

■ The Next Level

Justus Liebig University Giessen

■ GOBeL

■ GOL

University of Kassel

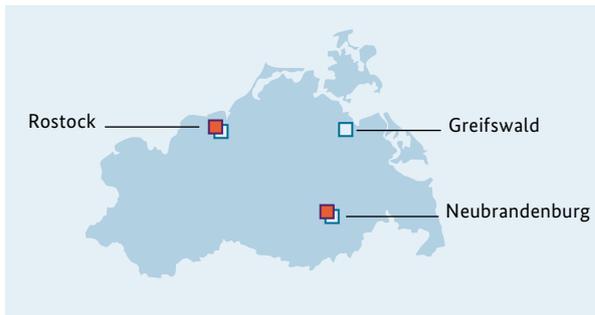
■ PRONET²

■ PRONET-D

University of Marburg

■ ProPraxis

Mecklenburg-West Pomerania



University of Greifswald

LEHREN IN M-V

Neubrandenburg University of Applied Sciences

Campus BWP MV

LEHREN IN M-V

Rostock University of Music and Drama

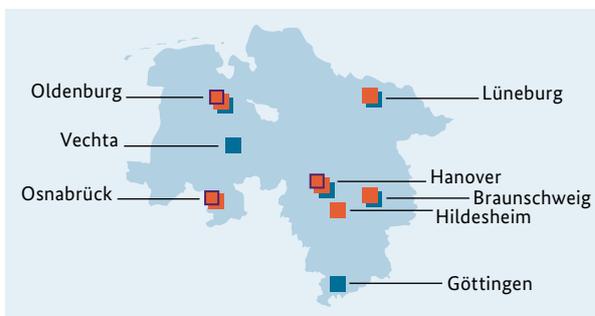
LEHREN IN M-V

Rostock University

Campus BWP MV

LEHREN IN M-V

Lower Saxony



Technical University of Braunschweig

DiBS

TU4Teachers II

University of Göttingen

SPL

Leibniz University Hannover

Leibniz-Prinzip

Leibniz works 4.0

TWIND

University of Hildesheim

Cu2RVE

Leuphana University of Lüneburg

CODIP

ZZL-Netzwerk

Carl von Ossietzky University of Oldenburg

DiOLL

OLE+

SeReKo

Osnabrück University

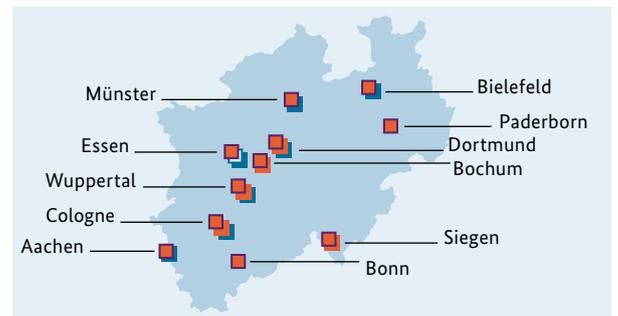
DEIN_LBS Campus

SeReKo

University of Vechta

BRIDGES

North Rhine-Westphalia



RWTH Aachen University

Com^eIn

LeBiAC

Bielefeld University

BiProfessional

Com^eIn

Ruhr-Universität Bochum

Com^eIn

DiAL:OGe

The University of Bonn

Com^eIn

TU Dortmund University

Com^eIn

DoProfil

K4D

University of Duisburg-Essen

Com^eIn

ProViel

German Sport University Cologne

- Com^eIn
- Schulsport2030

University of Cologne

- Com^eIn
- DiSK
- ZuS

University of Münster

- Com^eIn
- WWU-QLB

Paderborn University

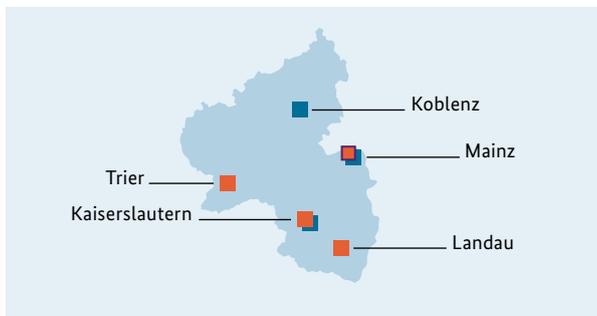
- Com^eIn

University of Siegen

- Com^eIn
- FAKTUR.

University of Wuppertal

- Com^eIn
- KoLBi
- KoLBi-BK

Rhineland-Palatinate**Technical University Kaiserslautern**

- BBSatUEDU
- U.EDU

University of Koblenz Landau

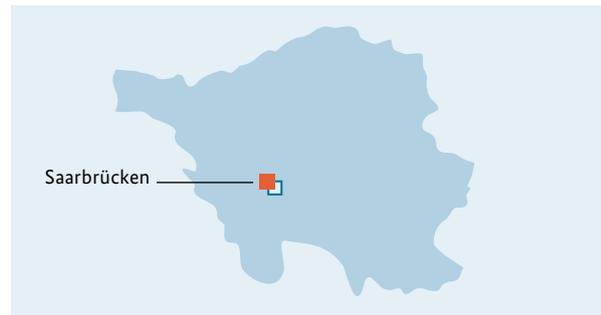
- MoSAiK
- WeLT

Johannes Gutenberg University of Mainz

- LLF
- TWIND

Trier University

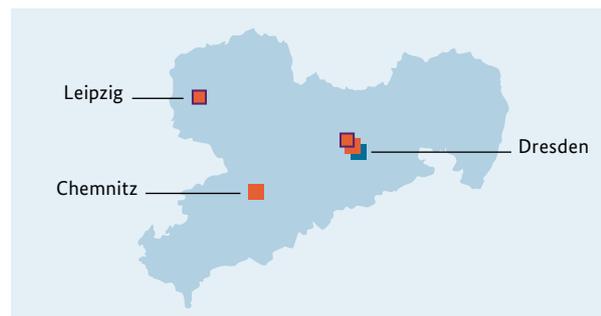
- TRIGITALpro

Saarland**University of Music Saar**

- SaLUt

Saarland University

- MoDiSaar
- SaLUt

Saxony**Chemnitz University of Technology**

- DigiLeG

Technische Universität Dresden

- PraxisdigitaliS
- TUD-Sylber
- TUD-Sylber-BBS

Leipzig University

- PraxisdigitaliS

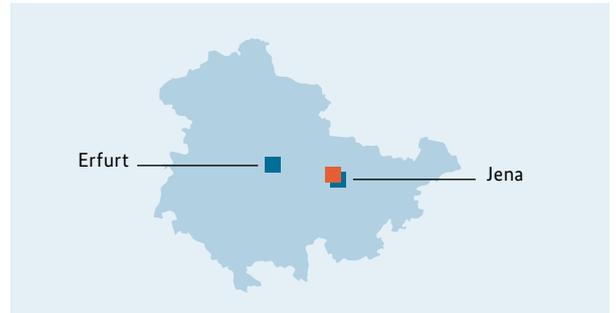
Saxony-Anhalt



Martin Luther University Halle-Wittenberg

- DikoLa
- KALEI²

Thuringia



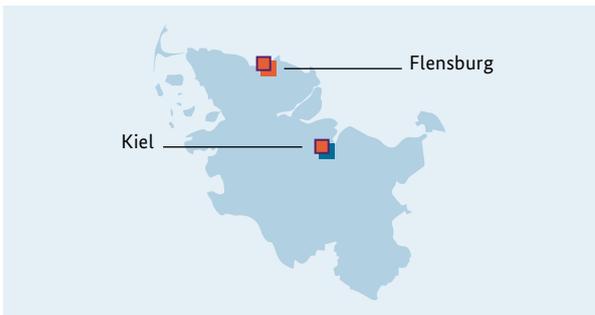
University of Erfurt

- QUALITEACH II

Friedrich Schiller University Jena

- DiLe
- PROFJL²

Schleswig-Holstein



Europa-Universität Flensburg

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