Chapter 11
Closing Germany's Skills Gap With Professional Degrees:
A Strategic Repositioning of Educational Research

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ABSTRACT

This chapter analyses the role of "Bachelor Professional" and "Master Professional" qualifications as strategic instruments for closing the skills gap in Germany. Based on current research findings, the historical and legal foundations of these qualifications are analysed in the context of section 53 BBiG. The chapter examines the categorisation of these qualifications in the German and European Qualifications Framework (DQR/EQF) and highlights their relevance for educational science. It also discusses the influence of digitalisation on learning methods and the acceptance of new qualifications. The effectiveness of hybrid learning models and their contribution to the successful labour market integration of graduates are presented using empirical data and case studies, particularly from GrandEdu practice. Finally, the chapter provides research-based recommendations for action for policy-makers, education providers and companies to promote the permeability and recognition of non-academic educational pathways.

11.1 INTRODUCTION: EDUCATION AND RESEARCH IN TRANSITION

The German education system is undergoing a phase of profound change. Demographic change, technological innovations and global competition are placing new demands on educational institutions and the qualification of skilled workers. At the same time, the traditional separation between vocational and academic education is increasingly being questioned, as both areas have to adapt to the changing conditions of the labour market. The concept of lifelong learning continues to gain in importance and

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requires innovative educational models that combine flexibility, practical relevance and a scientific foundation. One of the biggest challenges in this context is the growing skills gap in key economic sectors. Germany, known for its strong dual education system, is facing an increasing shortage of skilled labour in areas such as engineering, healthcare and information technology. This discrepancy between the requirements of the labour market and the skills available is hampering economic growth and the country's ability to innovate. The following chapter analyses the current situation in detail, highlights particularly affected sectors and examines the economic impact of unfilled vacancies. In response to these challenges, new educational pathways have emerged in recent years, particularly in the area of higher vocational education. The introduction of the "Bachelor Professional" and "Master Professional" qualifications represents a significant step towards bridging the gap between vocational and academic education. These qualifications were introduced with the amendment to the Vocational Training Act (BBiG) in 2020 and are intended to increase the attractiveness of vocational training and better align training programmes with the requirements of the labour market. However, their successful implementation requires scientifically sound monitoring in order to evaluate their effectiveness and long-term effects.

This gives rise to a central research question: How can new educational pathways be effectively designed through research to counteract the shortage of skilled labour and ensure Germany's competitiveness?

This question is analysed in the following subchapter, which highlights the role of empirical educational research in the development of new qualification models. The importance of research-based curriculum development, flexible educational pathways and close cooperation between business, educational institutions and politics is emphasised. The discussion shows how empirical studies and political analyses can contribute to the optimisation of education systems in order to ensure that the training on offer meets the requirements of the modern labour market. By integrating scientific findings into practice, Germany can strengthen its competitiveness, optimise the qualifications of its workforce and secure long-term economic growth.

11.1.1 Overview of the Skills Gap and its Economic Consequences

The Federal Republic of Germany is facing a significant challenge: the shortage of skilled workers. This gap between the demand for skilled labor and the available supply has a profound impact on the country's economy. This subchapter analyzes the current situation of the skills shortage in Germany in detail, examines its economic consequences and investigates the underlying causes.

The term "skills shortage" refers to the imbalance between the demand for qualified workers and the actual supply on the labour market. In Germany, this phenomenon has intensified in recent years. According to a study conducted by Tiedemann, Kunath and Werner in 2023, 41.7% of companies were unable to fill vacancies in the long term, leading to production bottlenecks and delays (Tiedemann, Kunath, & Werner, 2024).

Sectors such as manufacturing, information technology and healthcare are particularly affected. In the IT sector, for example, a considerable number of jobs remained unfilled, which impaired Germany's ability to innovate and its competitive position. A study by Sauer and Wollmershäuser (2021) emphasises that the shortage of skilled workers is increasingly becoming a burden for the German economy.

The shortage of qualified labour has a variety of negative effects on the German economy:

1. Production declines: companies are forced to turn down orders or reduce production lines because they do not have enough staff to meet demand.