

International Perspectives on Vocational Schools as Pathways to Higher Education

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Abstract

This thematic issue investigates vocational schools as pathways to higher education (HE) across several countries, analyzing their potential to enhance educational and social mobility. With rising global demand for HE, vocational education and training (VET) systems offer alternative routes to HE, with vocational schools playing a crucial role, providing opportunities for students from less privileged backgrounds. The issue examines how vocational schools in various countries affect the permeability between VET and HE, highlighting the diverse narratives across different educational settings, including the DACH countries, China, the Czech Republic, Japan, Norway, and the United Kingdom. Despite vocational schools' potential to act as bridges to HE, findings remain mixed. Although vocational schools have expanded university access, they often reproduce social inequalities. Analyses suggest that these schools could improve their impact in more targeted ways through stronger teacher engagement, better preparation of students, and structured pathways that acknowledge and address students' diverse needs. The necessity for clear, common terminology and concepts, as well as for appropriate survey data to understand vocational pathways to HE in vocational school research, is emphasized, acknowledging significant research gaps, particularly in Eastern Europe and the Global South. Overall, this thematic issue calls for a new research agenda that includes diverse international perspectives, advocating for the recognition and enhancement of vocational schools as vital components to feed the HE landscape.

Keywords

China; Europe; higher education access; institutional and social permeability; Japan; vocational schools

1. Introduction

Over the last few decades, the demand for post-school education and training, especially university education, has increased worldwide. Education and training have become key parts of the European strategy for responding to major social and economic challenges (Council of the European Union, 2009). Expanding higher education (HE) is not only considered crucial for solving the high skills shortage, but also for achieving economic competitiveness and raising productivity in an increasingly service- and knowledge-based society; it also offers hope of slowing down the growing divide between rich and poor by increasing access to HE for previously excluded students. Accordingly, making access to HE more inclusive has become an important part of the European policy agenda (European Commission et al., 2014). The permeability between vocational education and training (VET) and HE is considered essential for promoting equal opportunities in terms of qualification pathways and enhancing social mobility. The development and upgrading of VET in many countries has created a variety of alternative and “second chance” routes into HE (Orr & Hovdhaugen, 2014).

2. The Special Case of Vocational Schools as Pathways to HE

While alternative pathways that improve permeability between dual VET and HE have been investigated and well conceptualised for the three DACH countries (Germany, Austria, and Switzerland; see Ebner et al., 2013), and while college-based HE common in Anglo-Saxon countries has recently been discussed as a linkage between vocational and HE that may foster social permeability (Moodie et al., 2024), research on vocational schools acting as pathways to HE has remained rare, despite their important function as feeder schools for HE in many countries. Thereby, Frommberger (2019) claims that dual qualifications of school-based vocational training courses that combine a vocational qualification with opportunities for transition to a university degree course are most commonly found in school-based vocational training systems.

According to Frommberger (2019), dual qualifications in school-based VET have traditionally played an important role in Eastern Europe, where the path from VET to HE has remained highly significant since the 1990s. Vocational schools as pathways to HE are also widespread in Nordic countries. Both in Finland and Sweden, the enhancement of the school-based model has been related to increased transitions to HE, although at a different pace and to a different extent (Virolainen & Persson-Thunqvist, 2017). In Norway, students who have completed two years of school-based VET in upper secondary education can opt for a supplementary school program (instead of an apprenticeship), allowing them HE access (Schmees et al., 2024). School-based VET pathways to HE have also been implemented in France (*lycées professionnelle*) as well as in the Netherlands (*Middelbaar Beroepsonderwijs* [MBO]; Frommberger, 2019). Even the DACH countries offer this linkage to HE, traditionally via vocational high schools (*Berufsbildende Höhere Schulen* [BHS]) in Austria (Frommberger, 2019), different types of vocationally oriented upper-secondary schools (*Berufsgymnasien*, *Fachgymnasien*, *Fachoberschulen*) in Germany (Wolter, 2023), and upper-secondary specialised schools (*Fachmittelschulen/écoles de culture générale*) in Switzerland (Esposito et al., 2019).

3. More Equal Opportunities Through Vocational Pathways to HE?

Permeability between VET and HE is considered key for improving access for new social groups. Each country’s enhancement of VET has created specific alternative and “second chance” routes into HE,

including vocational schools offering dual qualifications, which many students use to enter HE. While vocational routes to HE have evolved significantly, it's unclear if they boost social mobility or sustain social reproduction mechanisms, as seen in educational transitions to secondary education and traditional universities (Hillmert & Jacob, 2003). Research indicates that HE expansion has somewhat reduced educational inequalities, particularly between genders, but disparities by social origin persist (Arum et al., 2007). Evidence on whether vocational routes to HE reduce inequalities is mixed. In Germany, more and more students enter HE via vocational routes, but this expansion has directed less privileged groups to less prestigious colleges of applied sciences (Lörz, 2013). Conversely, Lassnigg (2011) asserted that Austrian VET colleges offer upward mobility opportunities for middle and lower-class youths. France's baccalaureate diversification increased baccalaureate rates considerably, with less privileged students more likely to achieve a professional baccalaureate than the more prestigious general one. Merle (2002) termed this trend the "segregative democratisation" of HE access.

Research from several European countries suggests that vocational pathways to HE may not enhance social mobility and often reproduce social inequalities (Boliver, 2011). In Switzerland, Falter and Chávez-Juárez (2016) found that dual qualifications connecting apprenticeship training with HE have not reduced inequality and might even strengthen the link between socio-economic status and educational achievement. Nika (2025) points out that in Germany, vocational school graduates are less likely to enter HE compared to general school graduates, and social background inequalities remain despite vocational schools being less socially selective both in terms of social composition and in the transition into HE. In contrast, findings from Finland by Haltia et al. (2021) indicate that those enrolling in HE through the vocational route are more often mature students from lower parental educational backgrounds. Schuchart and Rürup (2017) found that alternative university entrance routes in Germany can offer significant educational benefits, particularly for people with a migrant background. Imdorf et al. (2017) analyzed gender differences, showing that in France, vocational routes help young women with lower cultural capital access HE, whereas in Switzerland these pathways are mainly used by young men from privileged backgrounds to offset their underrepresentation in traditional general education paths. These findings highlight the need to consider an intersectional perspective when analyzing the social permeability of vocational pathways to HE.

4. Contributions of the Thematic Issue

We were especially interested in better understanding how vocational schools select (e.g., by expanding their aspirations) and prepare their students (e.g., by counselling strategies) for trajectories into HE, how effective those schools are in terms of transitions to HE and labour market returns, and the potential of vocational schools to reduce educational inequalities across countries. Finally, we were interested in the ways educational trajectories through these schools are governed at an organizational and institutional level. The aim of this issue is therefore to spotlight international research on these crucial but underexplored topics. The thematic issue contains 10 original contributions covering vocational pathways to HE in eight countries: Austria, China, the Czech Republic, Germany, Japan, Norway, Switzerland, and the United Kingdom. The contributions are on vocational schools of different kinds, which are, however, united in their institutional and social function to feed HE.

4.1. Individual Trajectories Through Vocational Schools Towards HE: Social Causes and Consequences

In Germany, socially disadvantaged students often take alternative routes to obtain the Higher Education Entrance Certificate (HEEC), but these paths lead to fewer transitions to HE. Authors Heiko Quast, Heike Spangenberg, Hanna Mentges, Jessica Ordemann, and Sandra Buchholz examine the differing social compositions of traditional versus alternative pathways to HE. Drawing on rational action theory, their article analyzes the reasons behind these differences using data from the DZHW Panel of School Leavers 2018, employing sequence analysis, logistic regressions, and decomposition techniques. Their findings identify six distinct, socially selective pathways to a HEEC, with four featuring strong vocational elements. Graduates from nearly all alternative paths are less likely to enter HE compared to those from the classical pathway.

Oliver Winkler, Robin Busse, and Stefanie Findeisen investigate opportunities for students in Germany taking vocational routes to obtain a HEEC and transition to university. Using rational choice theory and NEPS starting cohort 4 data, multivariate logistic regression models reveal that initial social selection into either general or vocational educational pathways fully accounts for the probability of obtaining a HEEC. This entry selection also largely explains the effect on transitioning to HE, with less than three percent attributed to developments during upper secondary education.

Petr Novotný, Katarína Rozvadská, and Martin Majčík study the challenges faced by upper secondary vocational education students in the Czech Republic who have failed the *Matura* exam at least twice. This failure restricts access to HE and limits job prospects, deeply impacting their educational and professional paths, as well as their identities. Through longitudinal biographical interviews with 46 individuals who failed the exam, a holistic content analysis shows these students struggle to establish their identities via study, work, or family, sometimes relying on non-systemic permeability mechanisms. The authors suggest that structured, institutional pathways would better support young people transitioning to HE or the workforce than unpredictable, ad hoc measures.

4.2. Organisational Perspectives on Permeability Between Vocational Schools and HE

Nadine Dörffer and Nadine Bernhard highlight that vocational schools' organizational and internal structures have been largely ignored in understanding the social gradient affecting students' HE aspirations and transitions. Utilizing the concept of institutional permeability (Bernhard, 2019), they examine how vocational schools in Lower Saxony, Germany, assist their diverse student body in transitioning to HE. Their qualitative exploratory study includes document analysis of school websites, legal regulations, and interviews with school staff from various vocational schools. Through theory-guided content analysis, they find that school structures can either facilitate or hinder HE access based on how support is institutionalized. While vocational schools could enhance social and institutional permeability, this potential is mostly untapped. School staff often lack awareness of disadvantaged students' specific needs and provide limited personalized support.

Anh Phuong Le examines how language academies and vocational schools in Japan accommodate international students from emerging countries in the Global South, focusing on their transition from VET to HE. Using the "education-migration industry" and institutional permeability (Bernhard, 2019) concepts, the

study finds that while pathways exist, they are hindered by structural barriers and informational gaps stemming from study-abroad agencies and institutional practices. Based on ten semi-structured qualitative interviews with Vietnamese vocational students and contextualized with official statistics and policy reports, the study identifies three types of vocational schools—vocation-oriented, hybrid, and further education-oriented—that offer varying levels of support for academic progression. The author concludes that permeability is negotiated and stratified, largely influenced by students' academic performance and persistence.

Yuan Wan, Nadia Siddiqui, Xiaodong Wei, and Zheng Li explore the shift in Chinese vocational schools from focusing on employment to emphasizing HE progression, amid China's nationwide growth in HE opportunities. Employing organizational sociology, particularly resource dependence theory and new institutionalism, they conduct a multiple case study of three public secondary specialized schools in Shandong. Their study investigates vocational schools' attitudes and actions regarding students' HE aspirations. Through thematic analysis of semi-structured interviews with thirteen organizational members in 2024, along with policy documents and administrative data, the authors find that these schools actively encourage the "HE progression" trend. This shift serves as a strategy for organizational survival and a way to establish legitimacy.

4.3. Labour Market Outcomes of Vocational School Graduates

Despite vocational high schools (BHS) being a key route to HE in Austria, half their graduates enter the labor market instead. David Binder, Nora Haag, and Bianca Thaler explore whether graduates from low-income families attending BHS in Austria are less likely to transition to HE in regions with lower unemployment rates. Using rational action theory and logistic regression models on the entire 2016–2017 cohort of Austrian BHS graduates, they find that graduates from families with lower educational levels are less likely to pursue HE. While higher regional unemployment rates correlate with increased transitions to HE, the study does not find evidence of graduates from lower-education families being diverted to the labor market in areas with lower unemployment.

Claudia Schuchart and Benjamin Schimke investigate whether vocational schools leading to a HEEC can mitigate the disadvantages faced by students transitioning from non-academic schools in Germany. They also explore income discrepancies between graduates of vocational and general education pathways to HEEC. Using human capital and signalling theory, along with data from the German NEPS-Starting Cohort 6-ADIAB, their gender-sensitive multilevel regression models and decomposition analyses show that graduates from general education pathways earn higher wages than those from vocational pathways. This wage gap is influenced by vocational graduates' lower further education rates and school-related achievements. Furthermore, female graduates of vocational pathways often face job overqualification and limited access to higher-paying "closed" occupations compared to their peers from direct pathways.

4.4. Governance and Institutional Perspectives on Vocational Pathways to HE

In Switzerland, four pathways to HE exist, but not all are equally supported by education policy. The traditional baccalaureate and the dual qualification of dual VET paired with a federal vocational baccalaureate are prioritized as the main routes, while vocationally oriented upper-secondary schools

receive less political attention despite their social permeability and high transition rate to HE. Drawing on the sociology of conventions and the concept of valuation practices, Raffaella Simona Esposito examines how the “royal roads” to HE concept is constructed and maintained, impacting the status of vocational schools as HE pathways. Through a theory-driven qualitative content analysis of policy documents, official statistics, and interviews with education governance representatives, the author finds that influential stakeholders in upper-secondary education governance downplay the significance of vocational schools. Their positive attributes often remain unacknowledged to align with educational policy interests, rendering their value and potential invisible or ignored.

In their comparative study, Johannes Karl Schmees, Tim Migura, Bill Esmond, Dietmar Frommberger, and Eli Smeplass explore how education systems in the UK, Norway, and Germany support or hinder progression from upper secondary apprenticeships to HE. They expand on vocational schools as pathways to HE and examine the promise of equal permeability for apprenticeships. Despite claims of increased permeability, they argue that structural, organizational, and individual factors often prevent apprenticeship holders from progressing to HE. The authors identify three routes from apprenticeships to HE, each involving different vertical, horizontal, and lateral transitions between vocational and higher education. Their findings show that more pathways are being developed to allow those with apprenticeship qualifications to access HE. However, nearly all these routes involve opportunity costs, posing significant challenges for individuals from low socio-economic backgrounds.

5. Conclusion

The articles in this thematic issue highlight how, in various countries, vocational schools have become essential for students lacking an academic background in their families to prepare for and access HE. In Germany, vocational schools account for about a third of HE entrance certificates, serving as the primary alternative route to HE. In China, they serve as a tool to expand university access, while in Austria, they offer an alternative HE pathway, especially when entering the labor market is uncertain. However, in some countries, vocational schools are less politically prioritized for widening HE access. In Switzerland, vocationally oriented upper-secondary schools receive little policy support, and in Japan, government policies emphasize placing non-Japanese vocational graduates in low- and middle-skilled jobs.

The findings of this thematic issue on vocational schools as socially inclusive pathways to HE remain ambivalent. Although vocational school students often come from less privileged backgrounds, these schools are not entirely effective in transitioning them to HE, and they tend to reproduce social inequality, though less so than traditional education pathways. Vocational schools as a potential bridge to HE appear to contribute little to helping disadvantaged students reach their potential. However, they could make a significant impact by implementing appropriate measures such as strengthening the pivot role of VET teachers in encouraging students to recognize their potential to succeed in their studies (Barber & Netherton, 2018). On a positive note, when students from disadvantaged backgrounds use vocational schools for university admission, they often experience job placement advantages, although this benefit becomes evident only at the final selection stage.

Most countries display institutional complexity with various alternative pathways to HE beyond the traditional academic track. This complexity is often coupled with insufficient representation of vocational

schools' organizational diversity in educational survey data, complicating research both within countries and from a comparative standpoint. Establishing common and clear terminology for the diverse vocational pathways to HE is crucial but not self-evident. We have to admit that the international perspectives in this issue are limited, predominantly featuring Western European views on vocational schools. Knowledge remains scarce about how vocational schools in Eastern European countries—where they are widespread—and the Global South prepare students for HE. The low status and institutionalization of VET research in the social sciences have further limited studies on vocational schools. For example, mainstream educational attainment research is often disconnected from vocational school research. This thematic issue aims to inspire the development of a new international research field and encourage further studies into vocational schools as a crucial pathway into the growing HE sector.

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Conflict of Interests

The authors declare no conflict of interests.

References

- Arum, R., Gamoran, A., & Shavit, Y. (2007). More inclusion than diversion: Expansion, differentiation, and market structure in higher education. In Y. Shavit, R. Arum, & A. Gamoran (Eds.), *Stratification in higher education: A comparative study* (pp. 1–35). Stanford University Press. <https://doi.org/10.1515/9780804768146-003>
- Barber, T., & Netherton, C. (2018). Transitioning between vocational and university education in Australia: The impact of the vocational education experience on becoming a university student. *Journal of Vocational Education & Training*, 70(4), 600–618. <https://doi.org/10.1080/13636820.2018.1463279>
- Bernhard, N. (2019). Supporting the needs of vocationally qualified students—Changes towards institutional permeability in Germany? *Formation Emploi*, 146(2), 129–147. <https://doi.org/10.4000/formationemploi.7255>
- Boliver, V. (2011). Expansion, differentiation, and the persistence of social class inequalities in British higher education. *Higher Education*, 61(3), 229–242. <https://doi.org/10.1007/s10734-010-9374-y>
- Council of the European Union. (2009). European Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (ET 2020). *Official Journal of the European Union*, 119/2.
- Ebner, C., Graf, L., & Nikolai, R. (2013). New institutional linkages between dual vocational training and higher education: A comparative analysis of Germany, Austria and Switzerland. In M. Windzio (Ed.), *Integration and inequality in educational institutions* (pp. 281–298). Springer. https://doi.org/10.1007/978-94-007-6119-3_14
- Esposito, R. S., Leemann, R. J., & Imdorf, C. (2019). Establishment of a school-based pathway to universities of applied sciences in Switzerland: Conventions of higher education access in vocational and general education. *Swiss Journal of Sociology*, 45(3), 337–358. <https://doi.org/10.2478/sjs-2019-0016>
- European Commission, EACEA, & Eurydice (2014). *Modernisation of higher education in Europe: Access, retention and employability*. Publications Office of the European Union.
- Falter, J.-M., & Chávez-Juárez, F. (2016). Professional baccalaureate as a measure of reducing inequality?

- In K. Scharenberg, S. Hupka-Brunner, T. Meyer, & M. M. Bergman (Eds.), *Transitions in youth and young adulthood: Results from the Swiss TREE Panel Study* (pp. 183–204). Seismo Verlag Zürich.
- Frommberger, D. (2019). *Wege zwischen beruflicher und hochschulischer Bildung. Ein internationaler Vergleich*. Bertelsmann Stiftung. <https://doi.org/10.11586/2019005>
- Haltia, N., Isopahkala-Bouret, U., & Jauhiainen, A. (2021). The vocational route to higher education in Finland: Students' backgrounds, choices and study experiences. *European Educational Research Journal*, 21(3), 541–558. <https://doi.org/10.1177/1474904121996265>
- Hillmert, S., & Jacob, M. (2003). Social inequality in higher education: Is vocational training a pathway leading to or away from university? *European Sociological Review*, 19(3), 319–334. <https://doi.org/10.1093/esr/19.3.319>
- Imdorf, C., Koomen, M., Murdoch, J., & Guégnard, C. (2017). Do vocational pathways improve higher education access for women and men from less privileged social backgrounds? A comparison of vocational tracks to higher education in France and Switzerland. *Rassegna Italiana di Sociologia*, 2017(2), 283–314. <https://doi.org/10.1423/87310>
- Lassnigg, L. (2011). The 'duality' of VET in Austria: Institutional competition between school and apprenticeship. *Journal of Vocational Education and Training*, 63(3), 417–438. <https://doi.org/10.1080/13636820.2011.590220>
- Lörz, M. (2013). Differentiation in higher education and social inequality: Have the mechanisms of social inequality changed with the expansion of vocational education? *Zeitschrift für Soziologie*, 42(2), 118–137. <https://doi.org/10.1515/zfsoz-2013-0204>
- Merle, P. (2002). Démocratisation ou accroissement des inégalités scolaires? L'exemple de l'évolution de la durée des études en France (1988-1998). *Population*, 57(4/5), 633–659. <https://doi.org/10.3917/popu.204.0633>
- Moodie, G., Wheelahan, L., & Kost, J. (2024). Editorial. *Journal of Vocational Education & Training*, 77(1), 1–8. <https://doi.org/10.1080/13636820.2024.2447634>
- Nika, D. (2025). Social inequalities at the transition to higher education: The role of personality for graduates from vocational and general schools. *Empirical Research in Vocational Education and Training*, 17, Article 7. <https://doi.org/10.1186/s40461-025-00181-9>
- Orr, D., & Hovdhaugen, E. (2014). 'Second chance' routes into higher education: Sweden, Norway, and Germany compared. *International Journal of Lifelong Education*, 33(1), 45–61. <https://doi.org/10.1080/02601370.2013.873212>
- Schmees, J. K., Smeplass, E., Skålholt, A., Hovdhaugen, E., & Imdorf, C. (2024). Pathways to higher education for vocationally qualified students: The case of Norway. *Nordic Journal of Studies in Educational Policy*, 11(1), 93–106. <https://doi.org/10.1080/20020317.2024.2384165>
- Schuchart, C., & Rürup, M. (2017). Alternative Wege zur Studienberechtigung und die weitere Bildungs- und Berufskarriere: Können durch die Öffnung des gegliederten Schulsystems Ungleichheiten reduziert werden? In T. Eckert & B. Gniewosz (Eds.), *Bildungsgerechtigkeit* (pp. 249–267) Springer. https://doi.org/10.1007/978-3-658-15003-7_15
- Virolainen, M., & Persson-Thunqvist, D. (2017). Varieties of universalism: Post-1990s developments in the initial school-based model of VET in Finland and Sweden and implications for transitions to the world of work and higher education. *Journal of Vocational Education & Training*, 69(1), 47–63. <https://doi.org/10.1080/13636820.2016.1238836>
- Wolter, A. (2023). Beyond the segmentation between vocational training and higher education: New qualification pathways in Germany. In G. Parry, M. Osborne, & P. Scott (Eds.), *Access, lifelong learning and education for all* (pp. 1–16). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-12342-9_6

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