Exploring Campus Transformation:
A Walking Workshop on Sustainability and Teaching

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Abstract. How can university campuses function as living laboratories for sustainability and hubs for innovative teaching and learning? This interactive walking tour workshop invites participants to explore the Otto-von-Guericke-University (OVGU) campus from a transformative perspective – both in its physical infrastructure and in conceptual approaches to higher education.

Participants experience examples of how sustainability is embedded in everyday campus life, including low-carbon mobility, sustainable nutrition, participatory learning spaces, and biodiversity initiatives. The workshop highlights projects such as KlimaPlanReal, Service-Learning formats that link academic learning to community engagement, and a student-led initiative promoting awareness, participation, and social sustainability. In addition, developments within the EU GREEN Alliance demonstrate how transnational collaboration can advance a shared vision of a sustainable, healthy, and future-ready campus.

Beyond these practical examples, the workshop emphasises the role of the campus as a living lab, where inter- and transdisciplinary experiments and participatory governance structures enable students, staff, and external partners to co-create sustainable solutions. This walking tour operationalises the Whole Institution Approach (WIA), demonstrating how Higher Education Institutions (HEIs) can integrate ecological, social, and organisational dimensions of sustainability across research, teaching and learning, campus operations, and community involvement.

Keywords: Transformation, Sustainability, Campus, Whole Institution Approach, Education or Sustainable Development.

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1 Introduction: Sustainability at Higher Education Institutions

HEIs are central actors in advancing transformation towards sustainable societies: they generate knowledge, educate future decision-makers, and can themselves become models of sustainable practice. Universities' responsibility goes beyond treating sustainability as a research topic or teaching content and is increasingly understood as a cross-cutting task that spans research, teaching, knowledge transfer, third mission, governance, and day-to-day campus operations (Holst, 2023; Findler et al., 2019). International organisations, national bodies, and civil society increasingly call for the reduction of greenhouse gas emissions and the achievement of climate neutrality. The particular role of HEIs lies in their ability to bundle several powerful levers: (1) research that analyses and addresses complex sustainability challenges, (2) teaching that fosters developing competencies and empowers learners to act, (3) the university as a sustainable organisation (e.g. energy, mobility, procurement), (4) campus design as physical infrastructure and learning environment, and (5) participation and engagement, which make sustainability tangible, negotiable and co-created in everyday life (Hilf, 2025). However, the practical implementation of these ambitions is often hampered by the complex governance structures of universities and their institutional autonomy (Nußbaum, 2023; Rühmland et al., 2022).

Building on this understanding, the university campus itself becomes a crucial arena for implementing and testing sustainability strategies. Campuses function as interfaces between academia and the surrounding urban environment. Through their spatial setting and everyday practices, they connect students, researchers, staff, and local communities, forming networks whose synergies can be mobilized to advance sustainability transformations. Tackling complex societal challenges therefore depends on cooperation between the university and a wide range of external stakeholders.

The university campus can be understood as a living lab – a place where transdisciplinary experiments are initiated, observed and evaluated, and where civil society actors are involved with real-life projects. Therefore, campuses function as interfaces between the university and the city: through their structures and everyday routines, they connect students, researchers, staff and external partners, thus creating cooperation networks that can drive sustainability transformations (Parodi & Steglich, 2021). One example of a living lab is the project KlimaPlanReal that used participatory approaches in promoting climate action at the university, combining deliberative processes with practical implementation to achieve holistic and sustainable change (Künzel et al., 2025).

To make these dynamics tangible, the workshop concept adopts the format of an interactive campus walk. Participants are invited to explore OVGU through the lens of transformation, considering both physical changes in infrastructure and conceptual shifts in teaching, learning, and governance. Along selected stations, we present concrete examples of how sustainability is embedded in everyday campus life, which pedagogical approaches are applied, and how student engagement contributes to institutional development. Following the WIA (Holst, 2023; Leal Filho et al., 2021), universities are therefore required not only to contribute through research and teaching, but also to align their organisational practices and campus operations with climate-friendly

and sustainability principles. The following sub-chapters describe the walking tour's stations (fig 1).

1.1 Mensavorplatz – Introduction and Welcome

The campus walking tour begins at the central square in front of the cafeteria ("Mensavorplatz"), where participants are welcomed and introduced to the facilitators. To actively engage participants from the outset, small group discussions encourage them to reflect on their motivations for attending the tour and their personal understanding of sustainability. The discussion is guided by the widely recognised definition of sustainable development: *"Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs"* (WCED, 1987). Participants are invited to discuss and compare different perceptions of sustainability while orienting themselves to this framework.

In the following, further details on sustainability at OVGU are presented to provide context for discussion. The university has a sustainability strategy in place since 2018 (Otto-von-Guericke-Universität Magdeburg, 2018). This strategy is currently being revised and is actively discussed across university committees. Previous attempts for sustainability reporting were limited by the lack of measurable indicators, as the original goals were formulated at a very general level. Nevertheless, the strategy covers all relevant areas of university activity, including research, teaching, knowledge transfer, operations, governance, and campus life, providing a comprehensive framework for advancing sustainability across the institution.

Fig. 1. Campus Map OVGU with stations 1-11

1.2 University Library – Sustainable infrastructure and future-proof learning spaces

The next stop on the walking tour is the University Library. The respective part of the tour is led by library staff. The library serves as a prime example of the intersection between sustainable campus infrastructure and modern teaching and learning concepts. Among the topics highlighted is the photovoltaic system on the building, which contributes to the campus's renewable energy supply and makes the university's energy transition tangible for participants (the PV installation is also visible from the rooftop terrace). In addition, recently modernised learning spaces are presented, designed to accommodate diverse learning needs – from quiet individual workstations to open learning zones and flexible common rooms. These spaces are available to both students and staff and are equipped with up-to-date technical infrastructure, allowing their use not only for studying but also for meetings and hybrid teaching and working formats.

In addition to its environmental functions, the library illustrates the social dimension of sustainability on campus. Academic libraries increasingly act as multifunctional learning and interaction spaces that support not only study activities but also collaboration, social encounters, and community building among users (Zhang & Ouyang, 2021). Quiet work areas, facilities that encourage movement, and parent-child workspaces further contribute to an inclusive and supportive environment for a wide range of users.

1.3 Campus Cafeteria – CO_2 Labels and Sustainable Nutrition

At OVGU's main cafeteria, the structural and organisational foundations of sustainable campus gastronomy become visible. The cafeteria is operated by the "*Studentenwerk Magdeburg*", an independent organisation supported by the state of Saxony-Anhalt, with university representation on its board. In addition to the cafeteria, it also manages student residences (Studentenwerk Magdeburg, 2026).

From an ecological perspective, the cafeteria provides concrete contributions to a climate-friendly campus. Within the BMFTR-funded KlimaPlanReal project, CO_2 labels were introduced for menu items, helping guests make more climate-conscious food choices (Studentenwerk Magdeburg, 2026; Künzel & Rühmland, 2025). These labels are based on detailed calculations of the carbon footprint of each dish, from cultivation through transport, processing, and serving, and are complemented by additional indicators such as nutrient content and water usage. Daily vegetarian and vegan options, along with the use of seasonal ingredients, reduce environmental impact while supporting local value chains. Further initiatives, such as the EU GREEN Cafeteria Action Weeks (Otto-von-Guericke-Universität Magdeburg, 2026a), allow students to experience the diversity of European food cultures while raising awareness of sustainable nutrition practices. The *Vytal* reusable container system for take-away meals additionally minimises single-use packaging and encourages sustainable consumer behaviour. Taken together, these measures demonstrate how ecological sustainability can be embedded into everyday campus operations and influence individual choices.

Social sustainability is also an integral part of the cafeteria's approach. Meals are offered at affordable prices to ensure accessibility for all students and staff, and diverse dietary needs are accommodated. Educational and participatory activities, such as the EU GREEN Cafeteria Action Weeks, foster cultural engagement, learning, and community participation. Furthermore, the Studentenwerk offers funding for smaller student projects usually in June for the Student Weeks. By combining structural, ecological, and social dimensions, the campus cafeteria exemplifies how sustainability can be holistically implemented in campus gastronomy, making it a site of experimentation, awareness-building, and responsible consumption.

1.4 Bicycle Cage – Promoting Sustainable Mobility

From a broader perspective, mobility represents one of the key impact-relevant transformation fields for universities (Helmers et al., 2021), alongside energy demand and the development of a renewable campus supply (including electricity and heating). At this station, the focus is on the importance of bicycle-friendly infrastructure for sustainable mobility on campus. It is important to distinguish between different types of university-related mobility: commuting to, from and on campus, business travel by staff, and mobility linked to exchange programmes such as Erasmus. Especially for commuting, the choice of transport ultimately rests with individuals; however, universities can provide the necessary framework and infrastructure to make climate-friendly options more attractive and accessible (Steg & Vlek, 2009). Measures may include high-quality bike paths connecting the campus with local transport hubs, e-mobility charging stations, support for carpooling, and safe bicycle parking (Pucher & Buehler, 2012). Such interventions not only contribute to climate protection but also enhance the quality of life for students and staff, for example through health benefits and time savings (Oja et al., 2011).

Next to Lecture Hall 1, a new enclosed bicycle cage has been installed, offering students and staff a secure place to park their bikes. Access is contactless via student or staff ID, and the roof provides protection from the weather. By improving these conditions, the university actively encourages cycling as a low-carbon transport option for commuting. Plans are in place to build two additional bicycle cages and expand further incentives to shift from cars to bicycles to reach the university. Infrastructure-based interventions such as these can also contribute to long-term cultural shifts toward active and sustainable mobility (Buehler & Dill, 2016).

The campus is well connected to public transport via the stops "*Universität*" and "*Universitätsbibliothek*", and students benefit from a German-wide semester ticket for trams and buses, including free bike transport in most regional public transport systems in Saxony-Anhalt. Bicycle traffic is actively promoted through initiatives such as the University's Cycling Working Group (part of the Climate Commission), practical examples like the campus bike courier service, and two e-cargo bikes in the university fleet, illustrating how sustainable mobility is integrated into everyday campus life. An additional low-threshold support measure for cyclists is provided at Building 09, where a publicly accessible bike pump and a set of basic bicycle repair tools are available. This infrastructure allows students and staff to perform minor maintenance and repairs

on their own bicycles – such as inflating tires, changing tubes, or making simple adjustments. By making such practical tools easily available, the university facilitates day-to-day bicycle use, encourages responsible bike maintenance, and strengthens a culture of sustainable mobility that extends beyond commuting.

The university administration actively supports various projects and initiatives aimed at promoting sustainable mobility more broadly. Examples include the Integrated Mobility Hub, which introduced a commuter app to facilitate and optimise low-carbon travel choices, as well as the KlimaPlanReal-intensified project, which develops and implements targeted measures to further encourage environmentally friendly commuting and campus mobility. These initiatives foster sustainable transportation behaviours among students and staff (Steg & Vlek, 2009). Ongoing research projects, e.g. "AURA", explore autonomous cargo bikes (Otto-von-Guericke-Universität Magdeburg, 2024), while other collaborations test cargo bike usage among different user groups to collect data on mobility patterns and travel behaviour. Regional partnerships with the public transport provider "*Nahverkehrsservice Sachsen-Anhalt*" (NASA) and the network initiative "*Intelligente Mobilität Sachsen-Anhalt*" further enhance synergies, extending the impact of these initiatives beyond the university.

1.5 Car-Sharing Stations – More Mobility Options

At car-sharing stations, alternative transport options to private cars are highlighted as a central component of sustainable campus development. While parking spaces are available on campus, their use is regulated, and the car-sharing provider "*Teilauto*" (teilauto.net, 2026) offers flexible, resource-efficient mobility options for students and staff at relatively low base fees. Complementary options include ride-sharing arrangements and an e-charging station, currently used primarily for research purposes.

By combining car-sharing, cycling infrastructure, and low-effort maintenance facilities, these measures not only reduce environmental impact but also improve the quality of life for students and staff, offering health benefits, time savings, and equitable access. The integration of these services into campus infrastructure demonstrates how small, practical interventions can encourage low-carbon mobility, support behavioural change (Steg & Vlek, 2009), and contribute to a sustainable, well-connected, and bicycle-friendly university environment.

1.6 Student House "Campuskombinat" – Community and Sustainable Campus Culture

The Student House, opened in spring 2026, represents a significant step toward strengthening sustainable campus culture at OVGU. Initiated and operated by the student-led initiative "*Campus Kombinat*", the building is designed as a vibrant meeting place that fosters learning, exchange, cultural activities, and civic engagement beyond formal academic settings.

Emerging from the demand for an open, self-governed space for students, the Student House will offer multifunctional areas, including a learning café, lounge and event spaces, a stage for workshops, film screenings, and cultural events, as well as informal

meeting areas. Geister et al. (2025) argue that informal learning spaces contribute significantly to social integration and student wellbeing in higher education.

The building itself also reflects ecological sustainability principles. Constructed using timber as the primary material, it serves as an example of resource-conscious campus development and low-carbon construction practices (Tupenaite et al., 2023). In this way, the Student House combines environmental considerations with participatory governance structures.

Students will be able to use the space for their own initiatives, projects, and working groups, contributing not only to the physical activation of the building but also to the co-creation of campus culture. Through organising events, shaping the interior design, and developing independent activities, they become active contributors to institutional transformation processes. The Student House thus illustrates how ecological and social dimensions of sustainability can intersect in a tangible campus setting, reinforcing the university's broader commitment to a Whole Institution Approach to sustainable development (Holst, 2023).

1.7 Eco-Social University Days – Student Engagement and Institutional Anchoring of Sustainability

The next station of the walking workshop is marked by the tree in front of Building 18, planted during the Eco-Social University Days (ÖSHT, Otto-von-Guericke-Universität Magdeburg, 2026b) and identified with an information board as a visible symbol of student engagement in sustainability. This location highlights the significance of the ÖSHT, an annual, student-organised series of events that addresses a changing thematic focus each year; in its 13th edition in 2026, the focus is on "Climate and Democracy." The ÖSHT make sustainability tangible on campus through diverse formats and fosters exchange, participation, and action competence.

Attention is also drawn to the university's Sustainability Office, located in Building 18, which coordinates and strategically supports sustainability initiatives at the university. The office supports recurring activities such as the ÖSHT, the Progressive Introduction Weeks, and the discussion format "OVGU discusses sustainability." Beyond event coordination, the Sustainability Office supports students and staff in developing sustainable ideas, providing advice, networking opportunities, and supervision for thesis projects (BNE-Portal, 2021).

Students and staff have additional opportunities to get involved, such as regular campus clean-up campaigns and the spring campus clean-up. The Sustainability Office also shares information about events and participation opportunities through its website, Instagram, and newsletter. By offering these platforms and visibly recognising student initiatives, the university helps students take an active role in campus life, strengthening their sense of belonging and supporting social sustainability on campus.

1.8 EU GREEN Pavilion – European Universities Alliance for sustainability: Responsible Growth, inclusive education and environment

The EU GREEN Pavilion shows the European dimension of sustainability transformation at OVGU. The EU GREEN Alliance is a collaboration of nine mid-sized universities located in peripheral regions across Europe, working together to advance sustainability in their institutions, research, and communities. As a visible hub of the EU GREEN Alliance, it makes the international cooperation of nine European universities tangible on campus. This station highlights how joint strategies, projects, and exchange programmes contribute to the development of a sustainable, healthy, and future-ready campus (EU GREEN, 2026).

The pavilion also serves as a space for information, interaction, and participation. Here, initiatives, teaching offers, and projects of the EU GREEN Alliance are presented, demonstrating how sustainability, Education for Sustainable Development (ESD), and innovation are integrated across teaching, research, and campus operations. This station emphasises how local campus measures are embedded within a European framework and illustrates ways in which students and staff can actively engage in transnational learning and co-creation processes.

1.9 Campus Welcome Center – Climate Adaptation

This station shows a practical example of everyday sustainability within campus infrastructure at OVGU. The water dispenser located in the "*Campus Welcome Center"* (CWC) provides students and staff with a hygienic and climate-friendly alternative to bottled drinking water. The dispenser offers chilled and unchilled, still or sparkling tap water that can be filled directly into reusable bottles, thereby contributing to the reduction of single-use plastic consumption and associated CO_2 emissions. Structural interventions of this kind are considered effective instruments for encouraging more sustainable consumption behaviour by lowering practical barriers to environmentally friendly choices (Steg & Vlek, 2009). Additional drinking water stations are distributed across the campus, and an updated map is available via the Sustainability Office website.

Beyond resource efficiency, such infrastructure can also be interpreted as a small-scale climate adaptation measure. Accessible drinking water points support wellbeing during increasingly frequent heat periods and enhance the quality of stay on campus. This is only a minor measure when considering the need for climate adaptation due to climate change (IPCC, 2022). The CWC also plays an important role in fostering social sustainability on campus. It serves as the primary point of contact for all students, offering guidance on administrative procedures and directing them to the appropriate services. Staff from central student services and various examination offices are co-located here, enabling efficient and coordinated support. Beyond this administrative function, the building also reflects social sustainability in its physical design: it features shared office spaces as well as small enclosed cubicles that provide quiet areas for individual work or online meetings.

1.10 University Garden "Magdegrün" – Urban Gardening and Biodiversity on Campus

The university garden "*Magdegrün*" represents an open experience and discovery area dedicated to sustainable gardening, biodiversity promotion, and hands-on environmental education directly on campus. Maintained collaboratively by students, staff, and initiatives, the garden includes raised beds, planting areas, and near-natural habitats that support vegetables, herbs, flowering plants, and diverse ecological niches.

Research suggests that participation in urban gardening activities can have multiple psychological benefits, including improved wellbeing and perceived restorativeness, resilience, sense of community, and lower stress levels among participants (Kim et al., 2023), highlighting the role of gardens not only as ecological assets but also as spaces that support mental and physical wellbeing. The garden functions not only as a green recreational area but also as an open project space addressing ecological cultivation, biodiversity, soil ecosystems, composting, and sustainable nutrition. Due to the study programmes at OVGU the garden is not part of a teaching programme.

At the same time, "*Magdegrün*" contributes to the university's Third Mission by strengthening connections between academia and society through knowledge exchange, participation, and community engagement (Trencher et al., 2014). As an inclusive and participatory environment, the garden invites members of the university community to actively contribute ideas and projects, supporting engagement processes that are closely linked to environmental awareness, and a sense of belonging within higher education contexts (Gillen-O'Neel, 2021).

1.11 The Green Classroom – Education for Sustainable Development

This station is located at the Green Classroom, an outdoor learning space equipped with technical infrastructure for teaching purposes and embedded within the green campus surroundings. By combining this technical equipment with an open-air setting, the space lends itself particularly well to flipped-classroom formats, in which students prepare theoretical content independently beforehand and use in-person time for interactive, application-oriented work. Learning outdoors, surrounded by greenery rather than four walls, offers a welcome change of pace from conventional lecture halls and seminar rooms, while additional exposure to daylight and sunshine can further support attention, wellbeing, and motivation during teaching sessions.

Following the UNESCO roadmap for implementing the Global Action Programme on Education for Sustainable Development, it can be understood as an empowerment-oriented educational approach that enables learners to think and act in ways that support sustainable development, by linking knowledge about global interdependencies with reflection, responsibility and the capacity to shape societal transformation processes (UNESCO, 2020). It combines two complementary dimensions: on the one hand, the promotion of concrete pro-sustainability actions (often described as ESD 1), and on the other, the fostering of critical thinking, problem-solving and the questioning of dominant narratives (ESD 2), which together form the basis for transformative learning and

an expanded understanding of ESD 3 (Pettig & Singer-Brodowski, 2024). This perspective emphasises learners as change agents who develop competencies to address complex socio-ecological challenges, engage with uncertainty and contribute to more just and ecologically sound societies through informed, reflective and collaborative action.

Within this perspective, ESD at OVGU is not understood as an add-on topic, but as an emancipatory educational approach that aims at empowerment: enabling learners to understand the implications of their actions, critically reflect on social structures, and actively engage in transformation processes. This includes fostering students as change agents who combine a critical and transformative mindset with knowledge, skills and reflexive capacities to address complex sustainability problems in diverse professional and societal contexts.

At OVGU there are many lectures and learning activities for students linked to sustainability. Some of those are interdisciplinary courses, e.g., "footprints – an interdisciplinary teaching project" where students had to combine aspects of informatics (digital footprint) und sustainability (ecological footprint) creating an interactive film (Freudenberg et al., 2025). In addition to these contributions from various disciplines, the sustainability certificate (NaO) bundles them into a structured programme, which is offered as an additional sustainability certificate that all students can complete alongside their regular studies. Participants select courses across different module areas and earn ECTS. By accumulating these credits and completing the programme, students can demonstrate a comprehensive understanding of sustainability in practice (Hilf & Berker, 2022).

2 Combining Engagement and Academic Learning: Service-Learning

One of the courses available within the NaO programme is a Service-Learning seminar. Service Learning in higher education can be described as an experiential teaching and learning approach that deliberately combines academic theory with meaningful community engagement, creating reciprocal benefits for students and societal partners alike (Furco, 1996; Backhaus-Maul & Jahr, 2021). It is characterised by a didactic triad of service, learning and reflection: students work on real-world projects with external partners, link these activities to disciplinary theories and concepts, and systematically reflect on their experiences in order to deepen understanding, question assumptions and develop competencies for responsible action (Rieckmann et al., 2024). In the context of ESD in higher education, Service-Learning is increasingly seen as a promising format for fostering sustainability competences and change agency, as it situates learning in authentic socio-ecological contexts and integrates cognitive, practical and normative dimensions of education (Bremer et al., 2024; Schank et al., 2020).

The NaO certificate, therefore, provides both structured learning opportunities and recognition for students' sustainability-related competencies and engagement. It contributes to a broader strategy of fostering interdisciplinary knowledge, practical experi-

ence, and transformative skills that are essential for sustainable development: More information on the programme and current projects can be found at https://www.nao.ovgu.de.

3 Conclusion: Operationalizing the Whole Institution Approach for Campus Sustainability

The university campus functions as a dynamic platform for sustainability, illustrating how the WIA can be operationalised across research, teaching, governance, operations, and student engagement. The examples presented in this walking tour workshop showcase the diverse ways higher education institutions contribute to sustainable transformation, from ecological infrastructure and low-carbon mobility to participatory learning spaces and biodiversity initiatives. Climate action on campus is a complex transformation process requiring transparent information, active participation, and shared commitment across all university stakeholders. By integrating ecological, social, and organisational dimensions, universities foster resilient, inclusive, and future-ready learning environments. Ultimately, campuses that serve as living labs exemplify how collaborative, systemic, and context-sensitive approaches are essential for achieving lasting climate impact. Beyond illustrating the WIA in practice, the walking workshop format itself carries a transferable lesson: sustainability transformation becomes more legible – and more actionable – when it is walked, seen, and discussed on the ground rather than read about in a strategy document. Its interactive, dialogic structure (small-group reflection, station-based expert input) mirrors the didactic logic of Service-Learning and ESD more broadly, linking cognitive understanding with situated experience.

Looking ahead, the campus-as-living-lab model invites further development along three lines: (1) closing the current gap in measurable sustainability indicators identified in the OVGU strategy revision, (2) extending participatory formats such as the ÖSHT and "*Campus Kombinat"* into recurring, credit-bearing teaching formats, and (3) deepening transnational exchange within the EU GREEN Alliance to compare campus transformation strategies across institutional and national contexts.

References

1. Backhaus-Maul, H., & Jahr, D. (2021). Service Learning. In T. Schmohl & T. Philipp (Hrsg.), *Handbuch Transdisziplinäre Didaktik* (pp. 289-299). transcript Verlag.
2. BNE-Portal. (2021). *The Eco-Social University Days*. https://www.bne-portal.de/bne/en/the-eco-social-university-days.html, last accessed 2026/02/27
3. Bremer, A.-K., Lindau, A.-K., & Brok, U. (2024). Entwicklung von Nachhaltigkeitskompetenzen bei Studierenden im Service Learning – ein Erhebungsinstrument zur Selbsteinschätzung. *ZEP – Zeitschrift für internationale Bildungsforschung und Entwicklungspädagogik, 47*(4), 10–14. https://doi.org/10.31244/zep.2024.04.03
4. Buehler, R., & Dill, J. (2016). Bikeway networks: A review of effects on cycling. *Transport Reviews*, 36(1), 9–27. https://doi.org/10.1080/01441647.2015.1069908

5. EU GREEN. (2026). *Für eine nachhaltige Zukunft in Magdeburg und Europa*. https://www.magdeburg-eugreen.de, last accessed 2026/02/27
6. Findler, F., Schönherr, N., Lozano, R., Reider, D., & Martinuzzi, A. (2019). The impacts of higher education institutions on sustainable development: A review and conceptualization. *International Journal of Sustainability in Higher Education, 20*. https://doi.org/10.1108/IJSHE-07-2017-0114
7. Freudenberg, R., Wilde, K., Richter, J., & Rühmland, S. (2025). Fußabdrücke – ein interdisziplinäres Lehrprojekt. In W. Leal Filho (Hrsg.), *Innovative Ansätze für die Nachhaltigkeitslehre und Forschung in der Hochschulbildung. Theorie und Praxis der Nachhaltigkeit*. Springer Spektrum, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-71601-4_18
8. Furco, A. (1996). *Service-Learning: A Balanced Approach to Experiential Education*.
9. Geister, S., Keser Aschenberger, F., Çetinkaya-Yıldız, E., & Apaydın, S. (2025). The role of informal learning spaces in promoting social integration and wellbeing in higher education. *Frontiers in Education, 10*, 1637874. https://doi.org/10.3389/feduc.2025.1637874
10. Gillen-O'Neel, C. (2021). Sense of belonging and student engagement. *Research in Higher Education, 62*(1), 45–71.
11. Helmers, E., Chang, C. C., & Dauwels, J. (2021). Carbon footprinting of universities worldwide: Part I—objective comparison by standardized metrics. *Environmental Sciences Europe*, 33(1). https://doi.org/10.1186/s12302-021-00454-6
12. Hilf, J. (2025). Competence development in higher education for sustainable development through the inter- and transdisciplinary course "Footprint and Handprint". In W. Leal Filho, M. Sima, A. Lange Salvia, M. Kovaleva, & E. Manolas (Hrsg.), *University Initiatives on Climate Change Education and Research*. Springer. https://doi.org/10.1007/978-3-031-25960-9_113-1
13. Hilf, J., & Berker, L. E. (2022). Das Nachhaltigkeitszertifikat. In H. Haase (Hrsg.), *Bildung für nachhaltige Entwicklung in der universitären Lehre: Best Practice Beispiele der Otto-von-Guericke-Universität Magdeburg* (pp. 107-114).
14. Holst, J. (2023). Towards coherence on sustainability in education: a systematic review of Whole Institution Approaches. Sustainability Science, 18(2), 1015–1030. https://doi.org/10.1007/s11625-022-01226-8
15. IPCC. (2022). *Climate change 2022: Impacts, adaptation and vulnerability*. Cambridge University Press.
16. Kim, H.-R., Oh, W.-S., Kim, J.-G., & Shin, W.-S. (2023). The influence of urban gardening activities on participants' perceived restorativeness, resilience, sense of community and stress. *Healthcare, 11*(12), 1664. https://doi.org/10.3390/healthcare11121664
17. Künzel, C., & Rühmland, S. (2025). Klimaschutzmaßnahmen effektiv an Hochschulen initiieren und steuern: Ein Praxisbeispiel des Transformationsprojekts KlimaPlanReal. In W. L. Filho & V. Scherenberg (Hrsg.), *SDG 13: Maßnahmen zum Klimaschutz. Globale Ziele für nachhaltige Entwicklung*. Springer Spektrum, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-70588-9_7
18. Künzel, C., Rühmland, S., Kastner, K., Simon, C. E., & Matthies, E. (2025). Partizipative und innovative Ansätze zur Förderung der Klimaneutralität an Hochschulen: Das Projekt KlimaPlanReal als Modell für die DACH-Region. In W. Leal Filho (Hrsg.), *Innovative Ansätze für die Nachhaltigkeitslehre und Forschung in der Hochschulbildung. Theorie und Praxis der Nachhaltigkeit*. Springer Spektrum, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-71601-4_26

19. Leal Filho, W. (2021). *Non-conventional learning on sustainable development: Achieving the Sustainable Development Goals*. Environmental Sciences Europe, 33, Article 97. https://doi.org/10.1186/s12302-021-00525-8
20. Nußbaum, P. (2023). Nachhaltige Entwicklung an deutschen Hochschulen: Bestandsaufnahme und Ausblick. In HIS-Institut für Hochschulentwicklung e. V. (Hrsg.), HIS-HE: Mitteilungsblatt – Arbeits-, Gesundheits- und Umweltschutz (Nr. 1/2023)
21. Oja, P., Titze, S., Bauman, A., de Geus, B., Krenn, P., Reger-Nash, B., & Kohlberger, T. (2011). Health benefits of cycling: A systematic review. *Scandinavian Journal of Medicine & Science in Sports,* 21(4), 496–509. https://doi.org/10.1111/j.1600-0838.2011.01299.x
22. Otto-von-Guericke-Universität Magdeburg (2018). *Nachhaltigkeitsstrategie 2018*. Otto-von-Guericke-Universität Magdeburg https://www.nachhaltigkeit.ovgu.de/nachhaltigkeit_media/Governance/NHStrategie/Nachhaltigkeitsstrategie+2018.pdf, last accessed 2026/02/27
23. Otto-von-Guericke-Universität Magdeburg. (2024). AuRa – Autonomes Rad. https://www.aura.ovgu.de/Vergangene+Projekte/Aura.html, last accessed 11.04.2026
24. Otto-von-Guericke-Universität Magdeburg. (2026a). EU GREEN Mensa Aktion. https://www.nachhaltigkeit.ovgu.de/mensaaktion, last accessed 2026/02/27
25. Otto-von-Guericke-Universität Magdeburg. (2026b). Ökosoziale Hochschultage (ÖSHT). https://www.nachhaltigkeit.ovgu.de/oesht, last accessed 2026/02/27
26. Parodi, O., & Steglich, A. (2021). *Reallabor*. In T. Schmohl & T. Philipp (Hrsg.), Handbuch Transdisziplinäre Didaktik (pp. 255–265). transcript Verlag.
27. Pettig, F., & Singer-Brodowski, M. (2024). Learning in relation with a changing world: Thinking beyond ESD 1 and ESD 2 towards ESD 3. *Journal of Education for Sustainable Development, 18*(2), 176–201. https://doi.org/10.1177/09734082251347383
28. Pucher, J., & Buehler, R. (Eds.). (2012). City Cycling. MIT Press, Cambridge, MA.
29. Rieckmann, M., Hilf, J., Bremer, A.-K., Hedemann, K., Reith, A., Lindau, A.-K., & Böcher, M. (2024). Bildung für nachhaltige Entwicklung und Service Learning an Hochschulen – Grundlagen, Konzepte und Potenziale. *ZEP – Zeitschrift für internationale Bildungsforschung und Entwicklungspädagogik, 47*(4), 4–9. https://doi.org/10.31244/zep.2024.04.02
30. Rühmland, S., Brinken, J., & Haase, H. (2022). Challenging transformation for universities. In W. Leal Filho, A. M. Azul, F. Doni, & A. L. Salvia (Hrsg.), *Handbook of Sustainability Science in the Future*. Springer, Cham. https://doi.org/10.1007/978-3-030-68074-9_95-1
31. Schank, C., Biberhofer, P., Halberstadt, J., & Lorch, A. (2020). Service Learning als kompetenzorientierte Lehr- und Lernform. In C. Fridrich, R. Hedtke, & W. O. Ötsch (Hrsg.), *Sozioökonomische Bildung und Wissenschaft. Grenzen überschreiten, Pluralismus wagen – Perspektiven sozioökonomischer Hochschullehre* (S. 217–239). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-29642-1_12
32. Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology, 29*(3), 309-317. https://doi.org/10.1016/j.jenvp.2008.10.004
33. Studentenwerk Magdeburg (2026). *Climate-conscious eating*. https://www.studentenwerk-magdeburg.de/en/canteens-cafeterias/climate-conscious-eating/
34. teilauto.net. (2026). *teilauto – gemeinsames Fahren und nachhaltige Mobilität*. https://teilauto.net, last accessed 2026/02/27
35. Trencher, G., Yarime, M., McCormick, K., Doll, C., & Kraines, S. (2014). Beyond the third mission: Exploring the emerging university function of co-creation for sustainability. *Science and Public Policy, 41*(2), 151-179.

36. Tupenaite, L., Kanapeckiene, L., Naimaviciene, J., Kaklauskas, A., & Gecys, T. (2023). Timber construction as a solution to climate change: A systematic literature review. *Buildings, 13*(4), 976. https://doi.org/10.3390/buildings13040976
37. UNESCO. (2020). Education for Sustainable Development: A Roadmap. https://doi.org/10.54675/YFRE1448
38. WCED. (1987). *Our common future*. World Commission on Environment and Development. Oxford University Press.
39. Zhang, W., & Ouyang, F. (2021). Library spaces and student engagement: An empirical study of academic libraries as social and collaborative environments. *Journal of Academic Librarianship, 47*(5), 102350.