

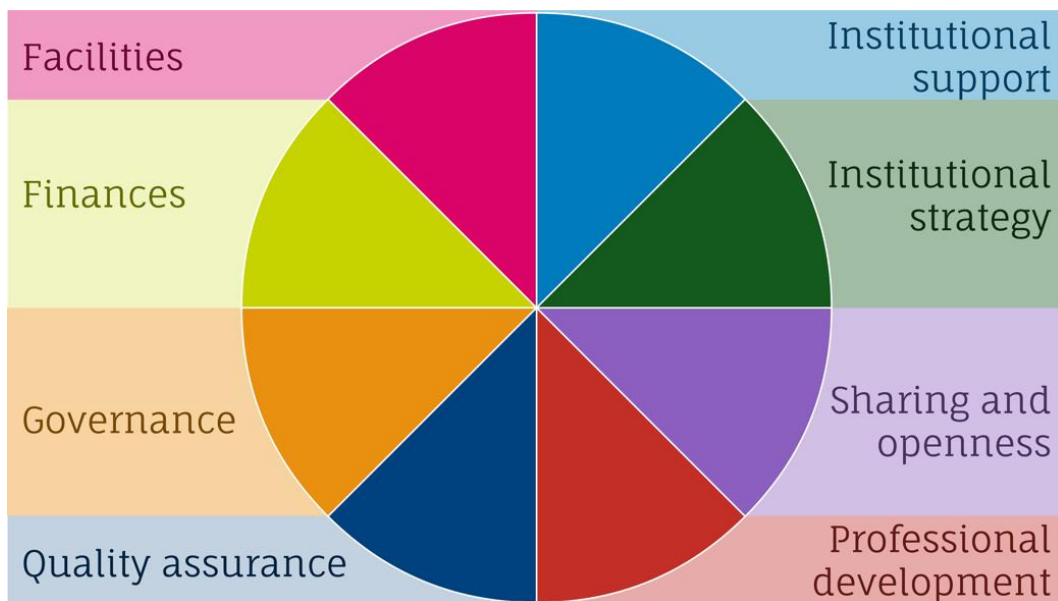
Institution Level

Institution Level

The institution level refers to the formal context of blended learning and education. This is determined by policies and conditions with regard to the organization and support of blended learning. At the institutional level different key actors, teams, or bodies play a role in the decision- making process. Among others, programme coordinators and heads of teaching and learning centres are involved.

The institution level consists of the following eight dimensions:

- [Institutional support](#)
- [Institutional strategy](#)
- [Sharing and openness](#)
- [Professional development](#)
- [Quality Assurance](#)
- [Governance](#)
- [Finance](#)
- [Facilities](#)



INSTITUTIONAL SUPPORT

The manner in which an institution supports teachers and students' blended learning activities

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
Limited support for blended learning and teaching aimed at individual teaching staff and students	Dedicated support for blended learning and teaching is available for all teachers, students and departments.	Support for blended learning and teaching is part of the standard support services of the institution. Continuous quality improvement is deliberately embedded in order to improve the support for blended learning.

Implementation Guidelines

Maturity level 2 of the dimension institutional support requires from an institution that it offers dedicated support to all teachers, students, and departments for blended teaching and learning. This may be a complex endeavour. SURF (2018) published a decision aid with five different approaches regarding the organization of support in an educational organization (e.g., central vs. decentralised support, top-down vs. bottom-up innovation). Also, the JISC guide supports students and staff to work successfully with digital technologies (JISC, 2015), and offers tips and use cases to organise the support for students and staff.

To reach maturity level 3 (Strategic) the institutional support is fully integrated in the standard services of the HE institution. This means that there are no dedicated support desks, but that instructors and students may ask for help from the standard services to get support for blended education purposes. CQI is embedded in order to improve the support for blended learning, using various data sources. These include qualitative data, based on user surveys and interviews, complemented with quantitative data about the most frequently asked questions, about the search queries on the website or the most often visited web pages of the support site. Applications like business intelligence platforms, website analytics, and ticketing systems for help requests can facilitate the support process and provide meaningful insights.

References

- JISC. (2015). *Support students and staff to work successfully with digital*. Retrieved from <https://www.jisc.ac.uk/guides/enhancing-the-digital-student-experience/support-students-and-staff>
- SURF. (2018). *Decision aid: Realising support structures for it-driven educational innovation*. Retrieved from <https://www.surf.nl/files/2019-04/decision-aid-realising-support-structures-for-it-driven-educational-innovation.pdf>

INSTITUTIONAL STRATEGY

The extent to which blended learning, teaching and education are embedded in the vision, educational model and goals of an institution

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
No uniform blended learning strategy is in place.	A dedicated blended learning strategy is consolidated within the institution. University administrators recognize and advocate the importance of blended learning, teaching and education.	Blended learning is an integral part of the institutional strategy. The strategy is embedded in the whole institution (throughout faculties and departments), well documented, and evaluated and adjusted on a regular basis. University administrators and departments recognize and advocate for the importance of blended learning, teaching and education.

Implementation Guidelines

The institutional strategy describes the extent to which blended learning, teaching and education are embedded in the vision, the educational model and goals of an institution. To reach maturity level 2, a dedicated blended learning strategy is consolidated in the institution. JISC offers a couple of resources and tools to start developing a vision and a strategy. These include the 'Vision and Strategy Toolkit' (JISC, 2020a), the 'Digital learning in Higher education' (JISC, 2020b) and 'Innovation in Higher Education' (JISC, 2020c). The EEF guide 'Putting Evidence to Work - A School's Guide to Implementation' (EEF, 2019) aids institutions with implementation. Although this publication is more focused on primary and secondary schools, the recommendations are equally useful for HE institutions. Besides a strategy and vision, the role of university administrators is very important. University leadership should recognize and advocate the importance of blended learning, teaching and education. This should be done at management and town hall meetings, during education days and events, in newsletters and other forms of communications, conferences, gatherings and events involving other institutions, and so forth.

To reach maturity level 3 (Strategic), blended learning, teaching and education is an integral part of the institutional strategy. The strategy is embedded in the whole institution implying that the strategy is actively shared and promoted (e.g., documentation, videos, events) in the whole institution. The different departments and faculties of an institution embrace the strategy and incorporate it into their own policies and procedures. Strategy is implemented using implementation plans, and this process is regularly evaluated and adjusted. Therefore, multiple stakeholders (e.g., deans, management, support staff, instructors, and students) are consulted. In addition, other data sources are used to evaluate the institutional strategy. Finally, university administrators, faculties, and other departments recognise and advocate the importance of blended learning, teaching and education. This is done at all levels of the institution.

References

- Education Endowment Foundation. (2018). *Putting evidence to work: A school's guide to implementation*. Retrieved from https://educationendowmentfoundation.org.uk/public/files/Publications/Implementation/EEF_Implementation_Guidance_Report_2019.pdf
- JISC. (2020a). *Vision and strategy toolkit*. Retrieved from <https://www.jisc.ac.uk/guides/vision-and-strategy-toolkit>
- JISC. (2020b). *Digital learning in higher education*. Retrieved from <https://www.jisc.ac.uk/guides/digital-learning-in-higher-education>
- JISC. (2020c). *Innovation in higher education*. Retrieved from <https://www.jisc.ac.uk/guides/innovation-in-higher-education>

SHARING AND OPENNESS

The degree to which an institution facilitates communities for sharing blended practices, materials and courses.

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
Individual teachers or departments share 'blended' best practices with colleagues.	Communities for sharing 'blended' best practices are facilitated. Processes and/or platforms are in place for sharing good practices and/or materials.	Communities for sharing 'blended' best practices are facilitated, actively built and maintained. Processes and platforms are in place for sharing good practices and materials. Processes are in place for quality assurance of the shared materials.

Implementation Guidelines

The dimension 'Sharing and openness' describes the extent to which an institution facilitates communities and platforms for sharing good practices, materials and courses. For maturity level 2 (Consolidated), communities are facilitated. Models like the 'community of practice' (Wenger, 2011 and Farnsworth, Kleanthous, & Wenger-Trayner, 2016) can be used to build professional communities of instructors. Additionally, platforms that facilitate communities and the sharing of best practices, are supported. Such platform may be an institutional platform like the 'Online Learning Hub', 'CELT Toolboxes', 'OpenEd', or (inter)national platforms (e.g., SURF Communities or Empower). Using standardized templates (Alwazae, Perjons & Johannesson, 2015) enable an institution to share and disseminate best practices. Besides sharing best practices, also courses materials are exchanged. This is possible within an institution, using repositories, shared folders or other platforms. Furthermore, establishing an open course ware (OCW) website can contribute to the openness of an institution. Examples include MIT, Harvard or TU Delft.

At the maturity level 3 (Strategic) communities are actively built and maintained. One way in which this can be achieved, is with 'community facilitation teams. These schedule meetings, events, publications, and so forth. Moreover, QA processes are in place for sharing materials. These can be designed by using frameworks like 'OERTrust' (Almendro & Silveria, 2018) or the 'Quality Assurance of Open Educational Resources' (SURF, 2020).

References

- Almendro, D., & Silveira, I. F. (2018). Quality Assurance for Open Educational Resources: The OERTrust Framework. *International Journal of Learning, Teaching and Educational Research*, 17(3), 1–14. Retrieved from https://www.researchgate.net/publication/323882739_Quality_Assurance_for_Open_Educational_Resources_The_OERTrust_Framework
- Alwazae, M., Perjons, E., & Johannesson, P. (2015). Applying a Template for Best Practice Documentation. *Procedia Computer Science*, 72, 252–260. Retrieved from <https://doi.org/10.1016/j.procs.2015.12.138>

- Farnsworth, V., Kleanthous, I., & Wenger-Trayner, E. (2016). Communities of Practice as a Social Theory of Learning: A Conversation with Etienne Wenger. *British Journal of Educational Studies*, 64(2), 139–160. Retrieved from https://www.researchgate.net/publication/291423559_Communities_of_Practice_as_a_Social_Theory_of_Learning_a_Conversation_with_Etienne_Wenger
- SURF. (2020). Quality assurance of open educational resources. SURF. Retrieved from <https://www.surf.nl/en/quality-assurance-of-open-educational-resources>
- Wenger, E. (2011). Communities of practice: A brief introduction. Retrieved from <http://hdl.handle.net/1794/11736>

Examples of platforms for sharing materials and best practices:

- [TU Delft - Online learning Hub](#)
- [UTwente - CELT Toolboxes](#)
- [The University of Edinburgh - OpenED](#)
- [SURF Communities](#) (only in Dutch)
- [EADTU - EMPOWER](#)

Examples of Open Course Ware platforms

- [MIT](#)
- [University of Michigan](#)
- [TU Delft](#)

PROFESSIONAL DEVELOPMENT

The extent to which teaching staff are able to develop their blended teaching skills

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
A few different workshops or courses related to blended learning and teaching are offered.	Solid efforts to organise workshops and/or courses related to blended learning and teaching are offered for the teaching staff. The blended teaching activities of staff are incidentally recognized.	All teaching staff is trained in blended learning and teaching. The institution offers a well aligned portfolio of workshops and/or courses (related to blended learning and teaching) for the continuous professional development of their staff. The blended teaching activities of staff are recognized and valued by the institution.

Implementation Guidelines

At maturity level 2 (Consolidated), institutions organise workshops, courses and other professional development instances related to blended teaching and learning. In 'Building blocks for effective professional development' one finds scenarios for training, as well as 37 building blocks for the professional development of instructors in HE (Zone Facilitating Professional Development for lectures, 2020). Also, the Digi Competence Framework (Redecker & Punie, 2017) offers guidelines regarding the offer of training and workshops. It presents six categories with 22 competences deemed necessary for instructors to acquire when being involved in digital education. Besides organising an array of training possibilities and workshops, the institution needs to recognise blended teaching activities and staff's professional development. This signifies that the institution should at the very least provide time and appreciation for the professional development of staff.

In maturity level 3 (Strategic), all teaching staff are trained. The topic of blended learning, teaching and blended course design are incorporated in mandatory training possibilities (for example, by means of [University Teaching Qualifications](#)). A well-aligned portfolio of training possibilities is also offered for the continuous professional development of teaching staff. Although it is not explicitly mentioned in the maturity model, it is important to embed CQI procedures in courses and workshops. Both qualitative (surveys, interviews, focus groups) and quantitative (learning analytics) data can be used. Further, a peer review involving other institutions can be organised to assess the portfolio of training possibilities (see also the publication of VSNU (2018)). To conclude, the blended teaching activities of all staff are recognised and valued by the HE institution.

References

- Redecker, C., & Punie, Y. (2017). *Digital Competence Framework for Educators (DigCompEdu)*. Publications Office of the European Union. Retrieved from <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu>
- VSNU. (2018). *Professionalisation of university lecturers: The UTQ and beyond*. Retrieved from <https://www.vsnu.nl/files/documenten/Professionalisation%20of%20university%20lecturers.pdf>
- Zone Facilitating Professional Development for Lecturers. (2020). *Building blocks for effective professional development*. Acceleration plan Educational Innovation With ICT. Retrieved from <https://versnellingsplan.nl/english/publication/building-blocks-for-effective-professional-development/>

QUALITY ASSURANCE

The process where blended courses, programmes, strategy, rules and regulations are evaluated and revised on a regular basis

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
No deliberate quality assurance for blended courses, programmes, strategy and policies.	Special processes for evaluation of blended courses, programmes, strategy and policies are developed and implemented. Some research is conducted on blended courses and/or programmes.	Quality assurance for blended courses is part of the standard quality assurance processes of the institution. The evaluation and improvement are based on clear criteria and multiple data sources. The institution has a research agenda for researching its own courses, programmes and education.

Implementation Guidelines

Quality assurance is the process during which blended courses, programmes, strategies, rules and regulations are evaluated and revised regularly. Maturity level 2 (Consolidated) requires that dedicated processes for QA evaluation and improvement are implemented. It is advised to use QA frameworks to this end, like the generic ‘Standards and Guidelines for Quality Assurance in the European Higher Education Area’ (ENQA, ESU, EUS, & EURASHE, 2015). The ‘Statutory Quality Assurance Guidelines’ (QQI, 2018) provide specific QA guidelines for blended learning programmes. The ‘UCD Quality Framework’ (UCD, 2015) is an example of QA at the University College Dublin. Another framework which may be used or combined is the ‘E-xcellence framework’ (EADTU, 2016), originally a QA framework for e-learning. It is supported by a manual, videos, and other materials for implementation. Besides implementing a dedicated QA framework, QA studies must be conducted on blended courses and/or programmes. Individual researchers, a research institution or a department may be involved for this purpose.

To reach maturity level 3, labeled as ‘Strategic’, QA for blended education is part of the standard QA approach of an HE institution. There are no separate processes or procedures for blended education, on the contrary, they are integrated in the standard approach, with a shift from quality assurance to CQI. Working on a quality culture in a HE institution can contribute to this process. The report ‘Quality culture in European universities: A bottom-up approach’ (EUA, 2006) gives some insight into quality cultures and implementation. Besides striving towards CQI or a quality culture, this maturity level describes that the institution has a research agenda for researching its own courses, programmes and education. Both Zeichner (2005) and the National Research Council (1999) give insights into how to design and execute such a research agenda. Collaboration with other higher education institutions or research institutions can enhance research and the dissemination of findings and results.

References

- EADTU. (2016). *E-xcellence: Quality Assessment for E-learning, A benchmarking approach* (No. 3). European Association of Distance Teaching Universities. Retrieved from <https://e-xcellencelabel.eadtu.eu/e-xcellence-review/manual>
- ENQA, ESU, EUS, & EURASHE. (2015). *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)*. EURASHE. Retrieved from <https://enqa.eu/index.php/home/esg/>
- EUA. (2006). *Quality Culture in European Universities: A Bottom-Up Approach*. European University Association. Retrieved from <https://eua.eu/resources/publications/656:quality-culture-in-european-universities-a-bottom-up-approach.html>
- National Research Council. (1999). *Proposing a Research and Development Agenda*. In *How People Learn: Bridging Research and Practice* (pp. 30–64). National Academy Press. Retrieved from <https://www.nap.edu/read/9457/chapter/6>
- QQI. (2018). *Statutory Quality Assurance Guidelines for Providers of Blended Learning Programmes*. Quality and Qualifications Ireland. Retrieved from <https://www.qqi.ie/Publications/Publications/Statutory%20QA%20Guidelines%20for%20Blended%20Learning%20Programmes.pdf>
- University College Dublin. (2018). *UCD Quality Office | UCD Quality Framework*. UCD Quality Office. Retrieved from <https://www.ucd.ie/quality/ucdqualityframework/>
- Zeichner, K. M. (2005). *A Research Agenda for Teacher Education*. In M. Cochran-Smith & K. M. Zeichner (Eds.), *AERA Panel on Research in Teacher Education* (pp. 737–759). American Educational Research. Retrieved from https://www.researchgate.net/publication/303382056_A_Research_Agenda_for_Teacher_Education

GOVERNANCE

The way in which the vision and policies are translated to rules, regulations and actions that facilitate blended education

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
<p>Some informal policies, rules, regulations, action plans and guidelines (e.g., legal, ethical, privacy, data) related to blended learning are used in the institution. The institution does not have standardized models for blended course and programme design.</p>	<p>Policies, rules, regulations, action plans and guidelines (e.g., legal, ethical, privacy & data) related to blended learning are developed and implemented in the institution. Some key actors in the institution are involved in the process of developing new and existing policies, rules, regulations and action plans. Models for blended course and programme design are shared in the institution.</p>	<p>Policies, rules, regulations, action plans and guidelines (e.g., legal, ethical, privacy & data) related to blended learning are embedded in the standard governance structure of the institution. The governance of the institution is systematically reviewed and adjusted. Key actors, at different levels in the institution, are involved in the process of reviewing, adjusting and developing new and existing policies, rules, regulations and action plans. Standardized models for blended course and programme development are provided.</p>

Implementation Guidelines

Governance refers to the way in which the vision and policies of a HE institution are translated into rules, regulations, and actions that facilitate blended education. Maturity level 2 (Consolidated) describes that policies, rules, regulations, action plans, and guidelines related to blended education are developed and implemented. Developing effective governance and policies can be a challenging endeavor. Dobbins, Knill and Vögtle (2011), next to Mader, Scott and Raza (2013) offer some insights into these topics. In addition, the guide ‘Developing organisational approaches to digital capability (Killen, Beetham, & Knight, 2017) explains how to develop a culture, infrastructure and practices regarding digital capacity of the organisation.

Maturity level 2 of the dimension Governance describes that some key actors in the institution are involved in the process of developing new and existing policies, rules regulations and action plans. These key actors can be lecturers, students, policy officers, educational advisors, deans, and/or (vice)-rectors. To identify the key actors, Mirriahi, Dawson and Hoven (2012) offer a useful approach. The last aspect of maturity level is that the models for blended course and programme design are shared within the institution (see also the dimensions [course design process](#) and [programme design process](#)). This will lead to a more standardised approach of developing blended education.

Maturity level 3 (Strategic) calls for policies, rules, regulations, action plans and guidelines to be embedded in the standard governance structure of a HE institution. There are no separate policies or regulations regarding blended teaching and learning; they are part of the default or standard education formats. The governance of a HE institution is also systematically reviewed and adjusted. Hereto, Davies (2000) offers research methods to evaluate and review policies. Building upon level 2, key actors at different levels of the institution are involved in the process of reviewing, adjusting and developing policies. This necessitates the involvement of, among others, policy officers, students, instructors, management. Finally, the institution provides standardized models for the development of blended education.

References

- Davies, P. (2000). The Relevance of Systematic Reviews to Educational Policy and Practice. *Oxford Review of Education*, 26(3–4), 365–378. Retrieved from https://www.tandfonline.com/doi/pdf/10.1080/713688543?casa_token=QOkdf3za0BMAAAA:dkBrlaP2wXy_QsQ9VHm8dkzjWoaDq6ha06DPZit3eldeoV1cgs_ElhS4GbxZlktjef6H7k4oy4
- Dobbins, M., Knill, C., & Vögtle, E. M. (2011). An analytical framework for the cross-country comparison of higher education governance. *Higher Education*, 62(5), 665–683. Retrieved from https://www.researchgate.net/publication/226613113_An_analytical_framework_for_the_cross-country_comparison_of_higher_education_governance
- Hopster-den Otter, D., Ter Beek, M., Nouta, J., Alvarez, C., & Kuypers, M-J. (2020). *The integral IT motion sensor: A guide to accelerate educational innovation with IT*. Utrecht, the Netherlands: Acceleration Plan Educational Innovation with IT. Retrieved from <https://versnellingsplan.nl/english/publication/integral-it-motion-sensor/>
- Killen, C., Beetham, H., & Knight, S. (2017). *Developing organisational approaches to digital capability*. Jisc. Retrieved from <https://www.jisc.ac.uk/guides/developing-organisational-approaches-to-digital-capability>
- Mader, C., Scott, G., & Abdul Razak, D. (2013). Effective change management, governance and policy for sustainability transformation in higher education. *Sustainability Accounting, Management and Policy Journal*, 4(3), 264–284. Retrieved from https://www.researchgate.net/publication/257611941_Effective_Change_Management_Governance_Policy_for_Sustainability_Transformation_in_Higher_Education
- Mirriahi, N., Dawson, S., & Hoven, D. (2012, November). Identifying key actors for technology adoption in higher education: A social network approach. In M. Brown, M. Hartnett, & T. Stewartd (Eds.), *Ascilite2012 Conference Proceedings* (pp. 664–673). Ascilite2012. Retrieved from https://www.ascilite.org/conferences/Wellington12/2012/images/custom/mirriahi._negi_n_-_identifying_key.pdf

FINANCES

The extent to which financial resources are allocated to develop, support, and stimulate blended learning

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
No allocation of financial resources specifically for blended learning purposes.	Financial resources are incidentally allocated (e.g., projects, pilots) to develop, support, stimulate and improve blended learning and teaching. The allocation of the resources is evaluated.	Financial resources are structurally allocated to develop, support, stimulate and improve blended learning, teaching and blended education. The allocation of the resources is systematically evaluated and adjusted, based on clear criteria and qualitative and quantitative data.

Implementation Guidelines

In order to reach maturity level 2 (Consolidated), financial resources are allocated ad hoc to develop, support, stimulate and improve blended learning and teaching. Besides external funds (e.g., from government), it is important to allocate internal budgets to innovation. As Schopenhuizen and Kaltz (2020) indicate, when experimentation is not only dependent on external funds, it will contribute to the increase of the adoption, implementation and long-term sustainability of initiatives. Budgets can be used for hiring (more) staff, student assistants, for conducting experiments and pilots, for engaging an innovation team, for procuring new educational tools, to award grants, prizes, and so on. A study with five HE institutions in the Netherlands shows that funds are mostly used to employ people. Approximately half of a regular innovation budget (40 to 70%) goes to providing various types of support. Depending on the institution, between 15 and 40 percent are invested in facilities, licenses and tools (SURF, 2018). Also, some Dutch institutions have ‘education fellows’ who experiment with innovative methodologies and technologies. They receive a budget for this purpose and become a ‘champion of innovation’ (Centre for academic teaching, 2020; TU Delft Teaching Academy, 2020). This approach accelerates innovation.

Maturity level 3 (Strategic) entails that financial resources are structurally allocated. Besides occasional funds, a structural budget is allocated to innovation and blended education. However, it may be difficult to distinguish between structural and incidental funds. SURF (2018) describes that ‘when it comes to distributing the budget, it turns out to be difficult to distinguish between the innovation budget and money for ongoing affairs.’. Therefore, it is crucial to systematically evaluate and finetune the financial resources of an institution. This is done by using clear criteria for projects (e.g., project plans, including clear criteria, results, budgets and deadlines), support staff (e.g., write personal development plans, with criteria and deadlines), pilots (e.g., pilot plan, including criteria, results, budgets, timelines), and so forth. Qualitative and quantitative data are needed to evaluate the allocation of resources.

References:

- Centre for Academic Teaching. (2019). Teaching fellows. Universiteit Utrecht. Retrieved from <https://www.uu.nl/en/education/top-lecturers-and-top-students/teaching-fellows>
- Schophuizen, M., & Kalz, M. (2020). Educational innovation projects in Dutch higher education: bottom-up contextual coping to deal with organisational challenges. *International Journal of Educational Technology in Higher Education*, 17(1), 17–36. Retrieved from <https://doi.org/10.1186/s41239-020-00197-z>
- SURF. (2018). Decision aid: realising support structures for IT-driven educational innovation. Retrieved from <https://www.surf.nl/en/decision-aid-realising-support-structures-for-it-driven-educational-innovation>
- TU Delft Teaching Academy. (2020). Education Fellows. TU Delft. Retrieved from <https://www.tudelft.nl/tu-delft-teaching-academy/get-inspired/education-fellows/>

FACILITIES

The extent to which institutions are equipped to facilitate blended learning and teaching.

Level 1 Ad Hoc	Level 2 Consolidated	Level 3 Strategic
Limited availability of blended learning and teaching facilities.	A wide variety of facilities is available. This includes both digital (e.g., digital learning environment, educational tools) and physical (e.g., video recording studios, the availability of different classroom set-ups) facilities.	A wide variety of facilities is available. This includes both digital (e.g., digital learning environment, educational tools) and physical (e.g., the availability of different classroom set-ups, video recording studios) facilities. Teachers have influence on the scheduling of the facilities. The development of facilities is aligned with the institutional strategy. The quality, quantity and assortment of facilities is systematically evaluated and adjusted, based on clear criteria and multiple data sources.

Implementation Guidelines

The dimension ‘Facilities’ describes the extent to which institutions are equipped with physical and digital facilities to enable blended learning and teaching. Physical facilities include equipment and spaces to create media for educational purposes. For example, a video recording studio, hardware like a lightboard (Peshkin, 2020), or a virtual reality studio. It is important that these media facilities are also manned and financially supported (see also the dimension of [Institutional Support](#)). Another aspect belonging to physical facilities is the opportunity to have different classroom setups. The e-book ‘Learning Spaces’ (Oblinger, 2006), the ‘Cookbook Education spaces’ (Van der Zande & Bogerd, 2018), as well as the ‘UK higher education Learning Spaces’ (JISC, 2018) provide readers with inspiring ideas and guidelines on in this regard. Choosing consciously between these different classroom setups can be challenging for instructors. Tools like the Education Spaces Viewer (TU Delft, 2020) can aid them in this process.

Digital facilities include the virtual learning environment (VLE) and other instructional tools for information processing, communication and interaction purposes. A VLE is an indispensable tool for blended teaching and education. All tools offered by a HE institution should align with those used in courses and programs. Alhogail and Mirza (2011) describe the implementation of a VLE from a change management perspective. They provide a framework with different aspects for its successful implementation.

Maturity level 2 (Consolidated) states that a wide variety of both types of facilities is available. At maturity level 3 (Strategic), instructors have an influence on scheduling (room) facilities. For example, instructors may choose the classroom set-up for their face-to-face sessions. This prevents, for example, that a project-based course is scheduled in a lecture theatre. Level 3 also indicates that the range of teaching facilities, both physical and digital, is evaluated and adjusted systematically, based on clear criteria and multiple data sources. Contributions such as 'A Rubric for Evaluating E-Learning Tools in Higher Education' (Anstey & Watson, 2018) and 'Evaluating Virtual Learning Environments: what are we measuring' (Dyson & Campello, 2003) provide adequate frameworks for the evaluation of digital facilities. The chapter 'Assessing Learning Spaces' from Hunley and Schaller (2006), is helpful in assessing physical facilities and deciding upon the specific data sources (e.g., interviews, focus groups, surveys, and photographic studies).

References

- Alhogail, A., & Mirza, A. A. (2011). Implementing a virtual learning environment (VLE) in a higher education institution: A change management approach. *Journal of Theoretical and Applied Information Technology*, 31(1), 42–52. Retrieved from https://www.researchgate.net/publication/289791828_Implementing_a_virtual_learning_environment_VLE_in_a_higher_education_institution_A_change_management_approach
- Anstey, L. M., & Watson, G. P. L. (2018). Rubric for eLearning Tool Evaluation. Centre for Teaching and Learning, Western University. Retrieved from <https://teaching.uwo.ca/pdf/elearning/Rubric-for-eLearning-Tool-Evaluation.pdf>
- Dyson, M. C., & Campello, S. B. (2003). Evaluating Virtual Learning Environments: what are we measuring. *Electronic Journal of E-Learning*, 1(1), 11–19. Retrieved from https://www.researchgate.net/publication/228496948_Evaluating_Virtual_Learning_Environments_what_are_we_measuring
- Hunley, S., & Schaller, M. (2006). Assessing Learning Spaces [E-book]. In D. G. Oblinger (Ed.), *Learning Spaces* (p. 13.1-13.11). Educause. Retrieved from <https://www.educause.edu/research-and-publications/books/learning-spaces/chapter-13-assessing-learning-spaces>
- JISC. (2018). *UK Higher Education Learning Space Toolkit: case studies*. Retrieved from <https://www.jisc.ac.uk/full-guide/learning-space-toolkit-case-studies>
- Oblinger, D. G. (Ed.). (2006). *Learning Spaces*. EDUCAUSE. Retrieved from <https://www.educause.edu/research-and-publications/books/learning-spaces>
- Peshkin, L. (2020). *Lightboard.info*. Lightboard. Retrieved from <https://lightboard.info/>
- TU Delft. (2020). *Education Spaces Viewer*. TU Delft Education Spaces Viewer. Retrieved from <https://esviewer.tudelft.nl/#>
- Van der Zanden, P., Bogerd, T., & Van Loon, I. (2018). *Cookbook Education Spaces: requirements for Education Spaces TU Delft campus (No. 2)*. TU Delft. Retrieved from http://homepage.tudelft.nl/9c41c/Cookbook_Education_Spaces_v2_0.pdf