Glossary [second version for authors- Jan 25]

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This section contains an alphabetical overview of all relevant terms and abbreviations used in this handbook, their definitions, and where possible their source, explained within a European education context.

[All additions since last version are highlighted in yellow. Removed definition have been left in place for now but struck through. Please provide suggestions for any terms you feel must be included to Gillian (G.N.Saunders@tudelft.nl) for inclusion in the next version and where possible provide a reference in APA 7ed. Style]

ABET A non-profit USA-based organization that accredits college and university programs in applied science, computing, engineering, and engineering technology. Known under the full name of Accreditation Board for Engineering and Technology until 2005 (ABET, n.d.)

Academic Staff members of staff at an HEI that are primarily concerned with teaching and research and usually hold a degree themselves. In North America often referred to as faculty.

Accessibility The provision of flexibility to accommodate each user's needs and preferences; when used with reference to persons with disabilities, any place, space, item or service, whether physical or virtual, that is easily approached, reached, entered, exited, interacted with, understood or otherwise used by persons of varying disabilities, is determined to be accessible (United Nations, 2013).

Accreditation *"The process by which a (non-)governmental or private body evaluates the quality of a higher education institution as a whole or of a specific educational programme to formally recognise it as having met certain pre-determined minimal criteria or standards. The result of this process is usually the awarding of a status of recognition, and sometimes of a license to operate within a time-limited*

validity. The process can imply initial and periodic self-study and evaluation by external peers" (Vlăsceanu et al., 2007).

Action research (AR) to follow

Active Listening Empathic responding using both words and actions, based on understanding the speaker's idea, attitude, and point of view, so that the listener senses how it feels to the speaker and grasps the speaker's frame of reference about the subject (Novick et al., 2021).

Adaptability for change/Change Management A learner's adaptability involves identifying qualities which are critical for future performance and being both willing and able to make personal changes in order to meet those needs in a proactive way (Hall & Chandler, 2005).

AHSS Arts, Humanities, and Social Sciences.

Assessment Process used to evaluate the learner's progress and ascertain the achievement of the learning outcomes of an educational component (unit/module) using methods such as written, oral, and practical tests/examinations, projects, performances, presentations and portfolios (derived from European Commission. Directorate General for Education and Culture, 2015).

Autonomous Motivation Intrinsic motivation, doing something because it is inherently interesting or enjoyable or motivating oneself by focusing on positive external factors (Ryan & Deci, 2000).

Case study "Case is 'a thing, a single entity, a unit around which there are boundaries' (p. 27) and it can be a person, a program, a group, a specific policy and so on. Qualitative case study is 'an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit' (p. xiii). Defining characteristics: Particularistic (focusing on particular situation, event, program, or phenomenon); Descriptive (yielding a rich, thick description of the phenomenon under study); Heuristic (illuminating the reader's understanding of a phenomenon under study) (Merriam, 1998).

Chartered Engineer A professional status granted by a recognised engineering body indicating the highest level of competence and expertise. Chartered Engineers are formally registered engineers who develop solutions to engineering problems using new or existing technologies, through innovation, creativity and change and often take technical responsibility for complex systems (The Institution of Engineering and Technology (IET), n.d.).

Collaboration A joint effort – by multiple people - towards a group goal (Briggs et al., 2006).

Constructive Alignment An education design model based on a combination of constructivist theory and aligned instruction in which teaching and learning activities and assessment tasks are in correspondence (alignment) with the intended learning outcomes to allow for deep engagement(Biggs, 2011).

Continuous Professional Development refers to "*formal in-service training undertaken by teachers or higher education staff throughout their career that allows them to broaden, develop and update their knowledge, skills and attitudes. It includes*

both subject-based training and pedagogical training. Different formats are offered such as courses, seminars, peer observation and support from networks of practitioners. In certain cases, CPD activities may lead to supplementary qualifications" (European Commission / EACEA / Eurydice, 2024).

Course A course may be a self-contained, formally structured learning experience with learning outcomes but is used interchangeably with *seminar*, *lecture*, *classroom activity*, *MOOC*, *subject*, *module* or even *programme* (European Commission, 2015). As the word course is ill-defined, we will not use it in this handbook and use the word *module* for a self-contained, formally structured, credit-giving component of a programme, usually covering a specific topic or theme and the word *programme* to refer to a degree programme.

Curriculum refers to the design, organisation and planning of programme activities, content and teaching of the elements that make up a programme, including the content to be covered, intended learning outcomes, and the teaching and assessment methods. Derived from the European Centre for the Development of Vocational Training (2024) and the European University Association (2020).

Design research (DR) to follow

Disability An umbrella term for physical, mental, or sensory impairments that, in interaction with environmental or societal barriers, limit a person's ability to participate fully in activities. In other words, disability arises from the mismatch between individual functional impairments and inaccessible environments, and thus is "not just one health problem" but a complex phenomenon reflecting the interplay between a person's condition and society (World Health Organization, n.d.)

Diversity, Equality and Inclusion (DEI) Principles and practices ensuring that all individuals, especially those from historically underrepresented or marginalized groups, are valued and treated fairly. Diversity means the presence and representation of varied identities, perspectives, and backgrounds; Equality (or equity) means providing fair treatment and equal opportunity to achieve outcomes; and Inclusion means creating environments where everyone has a voice, feels respected, and can participate fully (Health Care Professions Council, 2020).

Dublin Descriptors The cycle descriptors (or 'level descriptors') presented in 2003 and adopted in 2005 as the Qualifications Framework of the European Higher Education Area. They offer generic statements of typical expectations of achievements and abilities associated with awards that represent the end of each of a (Bologna) cycle or level. The descriptors are phrased in terms of competence levels, not learning outcomes, and they enable to distinguish in a broad and general manner between the different cycles. A level descriptor includes the following five components: 1) knowledge and understanding, 2) applying knowledge and understanding, 3) making judgements, 4) communication, 5) lifelong learning skills (European Commission. Directorate General for Education and Culture, 2015).

EAFSG EUR-ACE® Framework Standards and Guidelines

ECTS - European Credit Transfer System is the European wide system to express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated

workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated. ECTS credits are generally expressed in whole numbers. (European Commission, 2015). *[For the handbook, please state the ECTS equivalent in brackets to explain non-European credits.]*

Educational Design Research (EDR) to follow

EHEA – European Higher Education Area, collaborative effort by 49 European nations, which building on the main objective of the Bologna Process to create a more comparable, compatible, coherent, higher education system in Europe (derived from European Commission. Directorate General for Education and Culture, 2015).

ENAEE - European Network for the Accreditation of Engineering Education. a non-profit network of agencies promoting quality engineering education, primarily by authorizing accreditation bodies to award the EUR-ACE® label (EANEE, n.d.).

Engineering Education Research (EER) to follow

EUR-ACE® is a European Quality Label authorised by ENAEE to Professional Engineering Institutions who accredit engineering programmes (ENAEE, n.d.).

External Examiner someone from outside a student's own school, college, or university who judges an exam (EXTERNAL EXAMINER | English meaning – Cambridge Dictionary, 2025).

Faculty In North America, this term is used to refer to "*the people who teach in a university, college, or US high school, or in one of its departments*" whereas in Europe the term is used to refer to: "a group of departments in a university or college that specialize in a particular subject or group of subjects." (Cambridge Online Dictionary) In this handbook, we will avoid the use of faculty to refer to people and use the term academic staff instead.

Facilitation The provision of opportunities, resources, encouragement and support for the group to succeed in achieving its objectives, and to do this through enabling the group to take control and responsibility for the way they proceed (Bentley, 1994).

Feedback – Giving Feedback Feedback is *"a process through which learners make sense of information from various sources and use it to enhance their work or learning strategies"* (Carless & Boud, 2018). Ability to give constructive feedback to improve team members' performance (Leandro Cruz & Saunders-Smits, 2019).

Feedback – Receiving Feedback The understandings, capacities and dispositions needed to make sense of feedback information and use it to enhance work or learning strategies (Carless & Boud, 2018).

First Cycle Degree refers to the first step in the Higher Education Degree Cycle under the standardized European Higher Education Area framework for learners who have completed upper secondary education or equivalent. This is typically a bachelor's level programme, lasting 3-4 years, requires 180-240 ECTS to complete (derived from EHEA, European Higher Education Area, 2018 and European Commission. Directorate General for Education and Culture, 2015).

Graduate A learner who has completed all programme deliverables and has been awarded a degree.

Graduate Student A learner who already holds a First and/or Second Cycle or Single Cycle Degree and is enrolled in a Second or Third Cycle Degree programme.

Graduate Attributes synonym for Programme Outcomes. In this handbook, we will use the term Programme Outcomes.

Higher Education Institution (HEI) Any institution providing services in the field of higher and/or tertiary education, as defined by national law. (European Commission / EACEA / Eurydice, 2024).

IAE - International Engineering Alliance A global collective of like-minded organisations focused on quality assurance in engineering education and professional competence. The organisation sets benchmark standards for engineering education and helps support engineers to work across borders and support sustainable communities (International Engineering Alliance, n.d.)

Information Literacy Skills Information Literacy empowers people in all walks of life to seek, evaluate, use, and create information effectively to achieve their personal, social, occupational and educational goal (UNESCO, 2023).

Initiative A new plan or process to achieve something or solve a problem (*INITIATIVE | English Meaning - Cambridge Dictionary*, 2023).

Interpersonal communication skills - Adaptive Communication Style Ability to communicate properly, adapting style and language to the purpose, context, and environment (Leandro Cruz & Saunders-Smits, 2019).

Interpersonal communication skills - Interconnection/interrelation ability Ability to build and retain formal and informal relationships or networks (Leandro Cruz & Saunders-Smits, 2019).

Interpersonal communication skills - Listening skills Ability to listen and understand verbal messages, and consequently act on what someone says or does (Leandro Cruz & Saunders-Smits, 2019).

Intervention A manipulation implemented by an external agent (i.e., teacher, researcher) that was intended to change students' cognitions, emotions, and/or behaviours. (Lazowski & Hulleman, 2016).

Leadership Skills Ability to create the environmental conditions conducive to good performance: support of shared understanding, innovation, problem-solving, resilience and learning (*Technical Leadership in Systems Engineering - SEBoK*, 2024).

Learning Beliefs A person's subjective judgments about a relation between learning and his or her values or attributes (Fishbein & Ajzen, 1977).

Learning outcome Statements of what a learner knows, understands and is able to do on completion of a learning process. The achievement of learning outcomes has to be assessed through procedures based on clear and transparent criteria. Learning outcomes are attributed to individual educational components and to programmes as a whole. They are also used in European and national qualifications frameworks to describe the level of the individual qualification (European Commission, 2015).

Learning Strategies An individual's way of organizing and using a particular set of skills in order to learn content or accomplish other tasks more effectively and efficiently in school as well as in non-academic settings (Schumaker & Deshler, 1992).

Lifelong learning Lifelong Learning encompasses all learning activities undertaken throughout life with the aim of improving knowledge, skills, and competences, within personal, civic, social, or employment-related perspectives (Commission of the European Communities, 2001).

Meeting Skills Ability to plan and run effective meetings by setting the agenda and appropriate audience ahead of time. Facilitating discussion, making decisions and setting actions during the meeting. Circulating minutes and following up on progress after the meeting (Institution of Engineering and Technology, 2015).

Module refers to a self-contained, formally structured, credit-giving educational component of a degree programme, usually covering a specific topic or theme. Derived from European Commission (2015).

MOOC MOOCs or Massive Open Online Courses allow open entry and are delivered online usually with peer or automated support. They often have large enrolment numbers (European Commission, 2015).

Open Educational Resources (OER) Digitised materials offered freely and openly for educators, students and self- learners to use and reuse for teaching, learning and research; it includes learning content, software tools to develop, use and distribute content, and implementation resources such as open licenses; OER also refers to accumulated digital assets that can be adjusted and which provide benefits without restricting the possibilities for others to enjoy them (European Commission 2015).

Operational Awareness Knowledge and understanding of operational processes, with the ability to react accordingly whenever there are any unexpected changes. (Coates et al., 2004).

Oral Presentation and Reporting skills – Presentation Skills Ability to give a clear, organised and logical speech and answers questions adequately and with elaboration (Leandro Cruz & Saunders-Smits, 2019).

Oral Presentation and Reporting skills - Quality of Presentation Method Ability to develop presentation methods and mediums depending on the topic and target group (Leandro Cruz & Saunders-Smits, 2019).

Oral Presentation and Reporting skills - Pitching skills Ability to convey and persuade audiences within a short 1–3-minute speech (Leandro Cruz & Saunders-Smits, 2019).

Peer Assessment An arrangement in which individuals consider the amount, level, value, worth, quality, or success of the products or outcomes of learning of peers of similar status (Topping, 1998).

Perseverance The quality or state of maintaining a course of action or keeping at a task and finishing it despite the obstacles (such as opposition or discouragement) or the effort involved (American Psychological Association, 2023).

Problem Based Learning (PBL) "An instructional learner-centred approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem" (Savery, 2015).

Project Based Learning (PjBL) "*an inquiry-based instructional method that engages learners in knowledge construction by having them accomplish meaningful projects and develop real-world products*" (Guo et al., 2020).

Professional Engineering Institutions (PEI) collective term for professional bodies and trade unions for engineers established to advocate for the advancement of the profession and the development of its members (Carthy et al, 2026).

Programme Refers to the degree programme that a student follows, leading to a formal qualification, usually at the bachelor's or master's level. In some contexts, this term can also refer to a fixed set of courses/subjects/modules covering a single discipline, whereas it is a more flexible concept in other contexts. *In this handbook, we use programme in the context of degree programmes only.*

Project management (on process level) Ability to apply processes, methods, skills, knowledge and experience to achieve specific project objectives according to the project acceptance criteria within agreed parameters. (Association for Project Management, 2024).

Programme Outcomes (POs) The discrete, observable outcomes expected of *graduates* upon completion of an accredited engineering programme (Carthy et al, 2026).

Quality Assurance The process or sets of processes adopted nationally and institutionally to ensure the quality of educational programmes and qualifications awarded (European Commission. Directorate General for Education and Culture, 2015).

Resilience/Ability to cope with changes, failures and success The process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioural flexibility and adjustment to external and internal demands (American Psychological Association, 2018a).

Risk analysis and risk management skills Ability to carry out a risk analysis and manage and mitigate identified risks in engineering design and operations (NASA, 2007).

Scholarship of Teaching and Learning (SoTL) The systematic study of teaching and learning, using established or validated criteria of scholarship, to understand how teaching (beliefs, behaviours, attitudes, and values) can maximize learning, and/or develop a more accurate understanding of learning, resulting in products that are publicly shared for critique and use by an appropriate community.

Second Cycle Degree (SCD) Refers to the second step in the Higher Education Degree Cycle under the standardized European Higher Education Area framework. This is typically a master's level programme, lasting 1-2 years, requires 60-120 ECTS to complete. Entry requirement is usually a First Cycle Degree or equivalent (derived from EHEA, European Higher Education Area, 2018 and European Commission. Directorate General for Education and Culture, 2015).

Single Cycle Degree (SiCD) Refers to an integrated programme under the standardized European Higher Education Area framework. It combines both the first and second cycle into one 5–6-year degree, requiring 300-360 ECTS to complete and usually leads to the awarding of a master's degree. Entry requirement is usually completion of upper secondary education or equivalent (derived from EHEA, European Higher Education Area, 2018 and European Commission. Directorate General for Education and Culture, 2015).

SEFI Société Européenne pour la Formation des Ingénieurs - European Association for Engineering Education (www.sefi.be).

Self-direction An approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes (Garrison, 1997).

Self-reflection Examination, contemplation, and analysis of one's thoughts, feelings, and actions (American Psychological Association, 2018b).

Self-regulation Learners being proactive in their efforts to learn because they are aware of their strengths and limitations with learning and because they are guided by personally set goals and task-related strategies involving self-motivation and behavioural skill development and involves the selective use of specific processes that they will personally adapt to the learning task (Zimmerman, 2002).

STEM Science, Technology, Engineering, and Mathematics.

STEAM Science, Technology, Engineering, Arts, and Mathematics.

Subject Can refer to a topic within a discipline, for instance, the subject of mathematics, but may also refer to a self-contained, credit-giving educational unit. in the latter meaning this handbook employs the term *module*.

Teamwork - Collaborative Goal Setting Demonstrates a collaborative working spirit towards common goals (Leandro Cruz & Saunders-Smits, 2019).

Teamwork - Diverse, intercultural, and inclusive teamwork *(including non-homogeneous, cross-cultural understanding and inclusive collaboration)* Ability to understand cultural differences, recognize their importance or benefit and stimulate cooperative teamwork among people of different cultures and the ability to work in teams with people of different abilities, gender, backgrounds, and across hierarchical frameworks (Leandro Cruz & Saunders-Smits, 2019).

Teamwork – Engagement Shares information and knowledge with team members and shows engagement with teamwork (Leandro Cruz & Saunders-Smits, 2019).

Teamwork - Goal Setting in Teams Ability to establish goals balancing self and team interests (Leandro Cruz & Saunders-Smits, 2019).

Teamwork - Multi-/Inter/Transdisciplinary teams (beyond STEM and including AHSS) Ability to collaborate with team members of engineering disciplines as well team members from other disciplines, including clients (Leandro Cruz & Saunders-Smits, 2019).

Technical Skills Skills and competencies ranging from the foundation and application of science to the applied mathematical and computational skills necessary to develop technical solutions in the sense of innovation and current demands (SEFI, 2025).

Transdisciplinary Skills Skills and competencies that afford an outward facing, broader appreciation and active engagement with traditional and non-traditional sources of knowledge from both academic and non-academic domains. These encompass skills related to ethical decision-making, sustainability and social responsibility (SEFI, 2025).

Third Cycle Degree Student Refers to the third step in the Higher Education Degree Cycle under the standardized European Higher Education Area framework. This is typically a PhD-level programme, lasting 3-4 years. Entry requirements are typically either a First and/or Second Cycle degree or equivalent. (EHEA, European Higher Education Area, 2018).

Transferable Skills and Competencies Skills and competencies that are needed to adapt to various life contexts and that people can potentially transfer to different social, cultural or work settings (UNICEF, 2022).

Visualisation Skills The ability to construct, interpret, and mentally manipulate ideas using drawings, diagrams, digital resources, and other visual media. These skills are anchored in the cognitive capacity known as spatial ability, which, while demonstrably trainable, hinges not only on curricular design but also on learners' cognitive flexibility (Al Kakoun et al, 2026).

Washington Accord An agreement, started in 1989, among signatory entities responsible for accrediting tertiary-level engineering qualifications from across the globe to mutually recognize each other's accredited engineering degrees to aid global mobility.

Written Presentation and Reporting skills Ability to develop a logical, accurate, detailed, and organised written product using the appropriate language and style without grammar mistakes and with accurate references (Leandro Cruz & Saunders-Smits, 2019).

Undergraduate Term used to refer to learners in First Cycle Degree Programmes.

References

ABET. (2005). https://ABET.org

Al Kakoun, N., Shah, R., Sivagnanamoorthy, I. (2026). Embedding Visualisation and Spatial Ability Skills in Light of Cognitive Flexibility and Perfectionism SEFI Handbook on teaching transferable competencies and skills in engineering education. (In press)

American Psychological Association. (2018a). Resilience. In APA Dictionary of Psychology. https://dictionary.apa.org/resilience

American Psychological Association. (2018b). Self-reflection. In APA Dictionary of Psychology. https://dictionary.apa.org/self-reflection

American Psychological Association. (2023). Persistence. In APA Dictionary of Psychology. https://dictionary.apa.org/persistence

Association for Project Management. (2024). APM glossary of project management. https://www.apm.org.uk/resources/glossary/

Bentley, T. (1994). Facilitation: Providing opportunities for learning. Journal of European Industrial Training, 18(5), 8-22. https://doi.org/10.1108/03090599410058953

Biggs, J., & Tang, C. (2011). Teaching for Quality Learning at University. Maidenhead, UK: Open University Press.

Briggs, R., Kolfschoten, G., de Vreede, G. J., & Douglas, D. (2006). Defining Key Concepts for Collaboration Engineering. AMCIS 2006 Proceedings. 17. https://aisel-aisnet-org.tudelft.idm.oclc.org/amcis2006/17

Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. Assessment and Evaluation in Higher Education, 43(8), 1315–1325. Scopus. https://doi.org/10.1080/02602938.2018.1463354

Carthy D., Lillington, L., and Quadrado, J.C. (2026). Quality by Design: The Role of Accreditation in skill & competence development, SEFI Handbook on teaching transferable competencies and skills in engineering education. (In press)

Commission of the European Communities. (2001, November 21). Communication from the Commission (COM 2001 678) of 21 November 2001: Making a European Area of Lifelong Learning a Reality. https://www.europarl.europa.eu/meetdocs/committees/cult/20020122/com(2001)678_en.pdf

EHEA, European Higher Education Area. (2018). Appendix III Overarching Framework of Qualifications for the European Higher Education Area to the Paris Communique. https://ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_AppendixIII_952778.pdf

ENAEE. (n.d.) European Network for the Accreditation of Engineering Education. https://www.enaee.eu

European Commission / EACEA / Eurydice. (2024). The European Higher Education Area in 2024: Bologna Process Implementation Report. Luxembourg: Publications Office of the European Union. https://doi.org/10.2797/483185

European Commission. Directorate General for Education and Culture. (2015). ECTS users' guide 2015. Publications Office. https://data.europa.eu/doi/10.2766/87192

European University Association. (2020). curriculum design—Thematic Peer Group Report (Learning & Teaching Paper, p. 13). European University Association. https://www.eua.eu/downloads/publications/eua%20report%20curriculum%20design_web.pdf

EXTERNAL EXAMINER | English meaning – Cambridge Dictionary (2025). https://dictionary.cambridge.org/dictionary/english/external-examiner

Fishbein, M., & Ajzen, I. (1977). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Philosophy and Rhetoric, 10(2), 130–132.

FACULTY | English meaning - Cambridge Dictionary. (2025). https://dictionary.cambridge.org/dictionary/english/faculty

Garrison, D. R. (1997). Self-Directed Learning: Toward a Comprehensive Model—D. R. Garrison, 1997. Adult Education Quarterly, 48(1), 18–33. https://doi.org/10.1177/074171369704800103

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. International Journal of Educational Research, 102, 101586. https://doi.org/10.1016/j.ijer.2020.101586

Health and Care Professions Council. (2020). What equality, diversity and inclusion means to us. https://www.hcpc-uk.org/about-us/equality-diversity-and-inclusion/what-equality-diversity-and-inclusion-means-to-us/

Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. Journal of Organizational Behavior, 26(2), 155–176. https://doi.org/10.1002/job.301

INITIATIVE | English meaning - Cambridge Dictionary. (2023). https://dictionary.cambridge.org/dictionary/english/initiative

International Engineering Alliance. (n.d.) IAE - International Engineering Alliance. https://www.internationalengineeringalliance.org/

Leandro Cruz, M., & Saunders-Smits, G. N. (2019, June 15). Transversal Competency Level of Engineering Graduates Dictated by European Industry. 2019 ASEE Annual Conference & Exposition. https://peer.asee.org/transversal-competency-level-of-engineering-graduates-dictated-by-european-industry

Lazowski, R. A., & Hulleman, C. S. (2016). Motivation Interventions in Education: A Meta-Analytic Review. Review of Educational Research, 86(2), 602-640. https://doi.org/10.3102/0034654315617832

Merriam, S. B. (1998). Qualitative research and case study applications in education. San Francisco, CA: Jossey-Bass, as cited in Yazan, B. (2015). Three Approaches to Case Study Methods in Education: Yin, Merriam, and Stake. The Qualitative Report, 20(2), 134-152. https://doi.org/10.46743/2160-3715/2015.2102

NASA. (2007). 6.4 Technical Risk Management—NASA. In NASA Systems Engineering Handbook. https://www.nasa.gov/reference/6-4-technical-risk-management/

Novick, D., Realyvasquez, M., & Ramirez, N. A. (2021). Active Listening for Engineering Students. In 2021 IEEE Frontiers in Education Conference (FIE) (pp. 1-4). IEEE. https://doi.org/10.1109/FIE49875.2021.9637050

Potter, M. K., & Kustra, E. D. H. (2011). The relationship between scholarly teaching and SoTL: Models, distinctions, and clarifications. *International Journal for the Scholarship of Teaching and Learning*, *5*(1), Article 23. https://doi.org/10.20429/ijsotl.2011.050123

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

Savery, J.R. (2015). Overview of problem-based learning: Definitions and distinctions, Essential readings in problem-based learning: Exploring and extending the legacy of Howard S. Barrows, 9(2), pp. 5–15. https://doi.org/10.2307/j.ctt6wq6fh.6

SEFI - European Society for Engineering Education. (2025). Complementing the Conventional: Engineering Competencies and Skills for an Uncertain Future. SEFI. https://doi.org/10.5281/zenodo.15113120

Schumaker, J. B., & Deshler, D. D. (1992). Validation of Learning Strategy Interventions for Students with Learning Disabilities: Results of a Programmatic Research Effort. In B. Y. L. Wong (Ed.), Contemporary Intervention Research in Learning Disabilities: An International Perspective (pp. 22–46). Springer New York. https://doi.org/10.1007/978-1-4612-2786-1_2

Technical Leadership in Systems Engineering - SEBoK. (2024). https://sebokwiki.org/w/index.php?title=Technical_Leadership_in_Systems_Engineering&oldid=71703

The Institution of Engineering and Technology (IET). (n.d.). Becoming a Chartered Engineer (CEng). https://www.theiet.org/career/professional-registration/chartered-engineer

Topping, K. (1998). Peer assessment between students in colleges and universities. Review of educational Research, 68(3), 249-276. https://doi.org/10.3102/00346543068003249

UNESCO. (2023, April 20). Information Literacy. https://www.unesco.org/en/ifap/information-literacy

United Nations. (2013). Accessibility and Development: Mainstreaming disability in the post-2015 development agenda. https://www.un.org/disabilities/documents/accessibility_and_development.pdf

UNICEF LACRO. (2022). The 12 Transferable skills. UNICEF, Panama. https://www.unicef.org/lac/media/32441/file/The%2012%20Transferable%20Skills.pdf

Visual communication. (2024). In Wikipedia. https://en.wikipedia.org/w/index.php?title=Visual_communication&oldid=1255857275

Vlăsceanu L., Grünberg, L. Pârlea D. (2007). Quality Assurance and Accreditation: A Glossary of Basic Terms and Definitions, Papers on Higher Education, UNESCO-CEPES. https://unesdoc.unesco.org/ark:/48223/pf0000134621

World Health Organization. (n.d.). Disabilities. https://www.afro.who.int/health-topics/disabilities

Zimmerman, B. J. (2002). Becoming a Self-Regulated Learner: An Overview. Theory Into Practice, 41(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2

Contributor Statement

Table G.1 CrediT Contributor Statement [Delete all unused rows in final version]

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Methodology	N/A to be deleted
Project administration	N/A to be deleted
Resources	N/A to be deleted
Software	N/A to be deleted
Supervision	N/A to be deleted
Validation	N/A to be deleted
Visualization	N/A to be deleted
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