



With the support of the
Erasmus+ Programme
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Development of a flexible, innovative and
practical framework for Work-based Learning
in higher education of Armenia and Russia



FlexWBL
Flexible
Work-Based
Learning

Manual for the FlexWBL Framework Development and Implementation

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Abstract	<p>The document describes a manual to the initial framework for Work-based Learning in higher education within the project “610072-EPP-1-2019-1-LV-EPPKA2-CBHE-JP FlexWBL: Development of a manual to the flexible, innovative and practical framework for Work-based Learning in higher education of Armenia and Russia”. Corresponding to the initial FlexWBL framework the manual basically provides three tools on implementing the framework in a WBL programme considering the different transdisciplinary approaches on placement of the programme, access to the programme, the development of curricula, the development of human, structural and organisational resources and a process-continuing-cycle-system to enable improvement of the programme while in progress. In accordance with the principles of partnership and cooperation the tools list important components of flexible WBL implementation plans, provide algorithms and materials</p>
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Abbreviation List

EQF = European Qualification Framework

EP = Educational Programme

WBL = Work-based Learning

HE = Higher Education

HEI = Higher Education Institution

Abstract

The document describes a manual to the initial framework for Work-based Learning in higher education within the project “610072-EPP-1-2019-1-LV-EPPKA2-CBHE-JP FlexWBL: Development of a manual to the flexible, innovative and practical framework for Work-based Learning in higher education of Armenia and Russia”. Corresponding to the initial FlexWBL framework the manual basically provides three tools on implementing the framework in a WBL programme considering the different transdisciplinary approaches on placement of the programme, access to the programme, the development of curricula, the development of human, structural and organisational resources, and a process-continuing-cycle-system to enable improvement of the programme while in progress. In accordance with the principles of partnership and cooperation the tools list important components of flexible WBL implementation plans, provide algorithms and materials for practical implementation and enclose guiding questions to the components that should be considered during implementation.

The 3 main tools for planning and implementing the FlexWBL framework into a programme

As the FlexWBL framework claims to be flexible in terms of time, place, and mode of learning (Linhan, 2016), this has to be taken into consideration when developing tools for a practical implementation. Consequently, the outcomes of the participating HEI – when working with such tools – will differ depending on national opportunities, boundary conditions, challenges, and obstacles on the one hand and the placement of the programme (BA, MA, PhD), the level of proficiency of its participants and achieved development of human, structural, organisational, and financial resources on the other hand.

The FlexWBL framework is not primarily designed for single cycle programmes simply because it seems to be nearly impossible to develop perfectly running programmes from the first start as many financial resources and requirements depend on external partners and human and structural resources need either long-term training or constantly improving practical interaction and change management operations for an effective development of the programme while running.

All tools are based on the FlexWBL framework (Nausner et al., 2021) and the WBL components defined in the Methodological Guideline on WBL in HE (Morevs et al., 2020, p. 47). Given that the framework is one dimensional in its *basic component* defined in the leading principles (partners, principles of partnership and cooperation, etc.) (see Fig.1) and 3-dimensional in its *process-continuing-cycle-system* (placement of the programme, individual and collective development) (see Fig.2) the WBL components must consequently be restructured within the tools to meet the demands resulting from the continuous cycle system concept of the framework. The key objectives of the tools are to give orientation, provide criteria and practical implementation steps and algorithms, in a structural basis, and reflective questions for an initial implementation and ensure there is an option of visions for a continuous development.

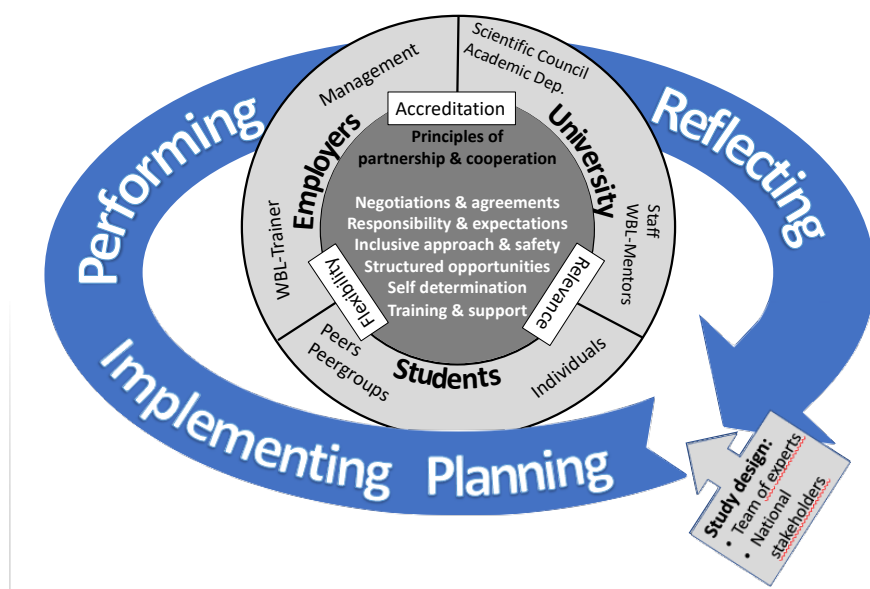


Fig. 1: FlexWBL Basic Components (Nausner et al., 2021)

The tools will therefore in a first step deal with basic components such as placement of the programme, a status quo analysis of the existing programmes, curricular design and analysis, building awareness for the needs of participating institutions and individuals, as well as seeing the benefits for all the participants, and the development of resources.

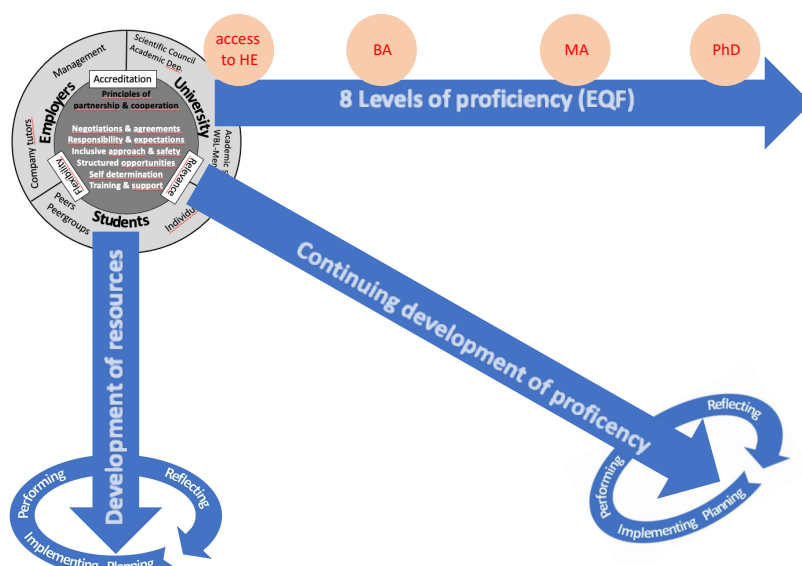


Fig. 2: FlexWBL 3-dimensional Development Model (Nausner et al., 2021)

The placement of the programme is represented in Figure 2 in the horizontal axis with the 8 levels of the EQF which is one of the starting points for all future steps to be taken to develop a programme namely the targeted persons (internal or external students) and the design of the curriculum with the definition of the learning outcomes, derived from the EQF and the FlexWBL framework (Morevs et al., 2020; Nausner et al., 2021). The diagonal axis represents the individual development of proficiency of the participating students which is integrated into the process-continuing-cycle-system of the FlexWBL framework. The learning outcomes of the participating students will depend on the placement and main goals of the programme, the gratification at the end of the programme as well as the status of development of resources. The vertical axis represents the development of human, structural, organisational and financial resources. This development is also integrated into the process-continuing-cycle-system which guarantees constant improvement of the quality of the programme.

In a second step the tools will provide help to develop a proficient foundation of a programme within the process-continuing-cycle-system with its 4 phases (planning, implementing, performing, and reflecting). In this context users of the tools should take into consideration, that to meet the needs of students at a higher individual development of proficiency adjustments in human,

structures, organisational and financial resources simultaneously need a certain range of adjustments.

The components of FlexWBL implementation

The components for implementation of FlexWBL as defined in Morevs et al. (2020, p. 47f) are integrated in the three tools in different places because they refer either to the one-dimensional basic components defined in the leading principles or to the 3-dimensional process components defined in the process-continuing-cycle-system.

The basic components contain information on the placement of the programme, a status quo analysis, the matters of building awareness, seeing the benefits of the programme, and describing visions for future development. Based on the integral AQAL model the leading principles of a FlexWBL programme must meet the different individual and collective needs. The model claims to describe human potential on the individual interior level (values, thoughts, feelings, self-concept) the potential becomes visible in the behaviour of the individuals, as in their appearance, body language and tone of voice in addition the model describes human potential on the collective level (shared values, culture, paradigms, ethics) which becomes visible in systems, structures, laws, norms and social interactions (Wilber, 2006). Consequently, effective components of collaboration enable individuals to develop their potential and are expected to imply systems, structures, guidelines and rules that promote positive social interactions.

The components of FlexWBL curriculum design and analysis

The manual tools also contain a series of components concerning the curriculum design and analysis. The curricular components refer to criteria of placement of the programme, qualification for students to access the programme, leading principles (see above), gratification and recognition, contents and learning outcomes of HE-courses and WP-learning, assessment, and various criteria for a flexible approach to studying. Besides the practical implementation tasks and algorithms, the tools also provide guiding questions which help to analyse the quality of prior existing curricula and the curriculum to develop during the design activity.

The components of FlexWBL development resources

The components of FlexWBL development of resources refer to the vertical axis of the *FlexWBL 3-dimensional Development Model* in Fig. 2 (p.X) The axis describes the potential of development of resources which can be human, structural, organisational or financial. A first component of possible development describes external resources like a team of experts or national stakeholders and policy makers. Especially the latter play a large part when it comes to financial resources. The more financial resources the more potential WBL programmes have for the development of human, structural and organisational resources.

Sufficient organisational resources just like service centres for all participants, and administrative or ICT support are crucial. They facilitate launching and maintaining programmes. And support students when joining an existing programme.

The components of FlexWBL continuing process

Effectively running processes need different structures, guidelines, and rules in their distinct phases. The continuing process of FlexWBL can be characterised as a four-phase process consisting of a planning, an implementing, a performing and a reflecting phase, which is the link to the next cycle which means the results of the reflecting phase are an essential change management resource for a consecutive planning phase.

As mentioned above the FlexWBL framework is not primarily designed for single cycle programmes simply because it seems to be nearly impossible to develop perfectly running programmes from the first start as there might be financial and consequently organisational and human limitations or a need to develop a well-functioning network of the partners involved. Many trainings and practical interactions require a process of continuing development, reflection and improving until the run efficiently.

	Planning	Implementing	Performing	Reflecting
Foundation	<ul style="list-style-type: none"> WBL Advisory Committee meeting workshops (project plans, agreements, etc. = foundation toolkit) WBL-accompanying courses change management (improving/changing of courses) 	<ul style="list-style-type: none"> WBL-curriculum (prior learning assessment/recognition) service support department (support for students, tutors, administration) WBL-university courses & programmes change management committee 	<ul style="list-style-type: none"> regular meetings provide information packet on WP (safety, guidelines etc.) communication & contact high level of guidance/support (frequent progress checks) support of peer group feedback on/during work 	<ul style="list-style-type: none"> reflecting&analysing process with focus on support, implementation, performing in HEI and WP feedback (WP-team = students, WP&HEI-supporters) define subjective relevant conditions, processes etc. to reflect on
Intermediate	<ul style="list-style-type: none"> feedback of reflecting process (intermediate toolkit) qualification trainings for WP-tutors and HEI-supervisors meeting workshops (joint plannings) effective use of ICT (blended learning, etc.) meet for joint plannings (WP-tutors, HEI-supervisors and – instructors, students) 	<ul style="list-style-type: none"> qualification trainings for WP-tutors and HEI-supervisors (focus: from supervisor to facilitator of learning) adopted learning courses (integrated model) provide a variety of approaches to WBL self-assessment guidelines 	<ul style="list-style-type: none"> WP-challenges for WP-teams (problems, success & mistakes) independent work of students (focus: responsibility) = self directing learning integrate theory in problem solving, process improvement, etc. = experimental learning 	<ul style="list-style-type: none"> reflect on curriculum, assessment and recognition complete WBL Activity Evaluation reflect on WBL project if it fulfils the measurement criteria of validity and reliability identify, utilise and measure the performative value of knowledge
Advanced	<ul style="list-style-type: none"> (advanced toolkit) inquiry learning self determination of students personalization team processes 	<ul style="list-style-type: none"> coaches/teams for inquiry learning and self determination structures for inquiry learning 	<ul style="list-style-type: none"> independent work of students (focus: self determination) = inquiry learning control/design team processes entrepreneurship/leadership 	<ul style="list-style-type: none"> develop a written improvement plan in WP-team modify improvement plans lay down visions of future WBL-projects in writing

Fig. 3: FlexWBL 3-level development model (Nausner et al., 2021)

For this reason, the process components of FlexWBL are grouped in three consecutive levels of programme maturity (foundation, intermediate, advanced) each more comprehensive than the last (see Fig.3). The three levels are not to be mixed up with the 8 levels of the EQF which refer to the proficiency of the participating students and its central level indicators of responsibility and autonomy (EQF; Europass, 2005), but describe which organisational, structural and human resources are put to efficient use in the programme (see Tab. 1).

Foundational Maturity Level	basics to run a FlexWBL programme that meet the leading principles defined
Intermediate Maturity Level	<ul style="list-style-type: none"> • focus on higher responsibility by students and problem solving • focus on increase of self-planning, -directing, -assessment • workshops and training courses for all participant • focus on joint planning and performing
Advanced Maturity Level	<ul style="list-style-type: none"> • focus on self-determination and inquiry learning • focus on team processes and leadership • joint visions, and developing and improving processes • (joint) scientific research projects (economy-based, applicability)

Tab. 1: The Three Maturity Levels of FlexWBL Programmes (Nausner et al., 2021)

And the three levels for programme maturity are not meant to (1) classify or (2) restrict FlexWBL programmes.

(1) Programmes on foundational level can be excellent in performance and perfectly meet the needs of students and the other WBL partners, and, in addition, installing structures, guidelines and rules of the advanced level does not necessarily guarantee a perfectly running programme. It is the motivation and team quality of the participating partners that often make the difference.

(2) Some programmes on foundational level might even integrate single components of a higher level (intermediate or advanced) into distinct process phases which is entirely coherent with the idea of the flexible approach for FlexWBL programmes.

The levels of maturity are no rigid construction, but an instrument for designing and analysing of programmes and source of inspiration for a continuing future development and improvement.

Working with the FlexWBL Tools

All three tools are not to be seen separately, but as a combination to work with simultaneously or consecutively. Especially *The FlexWBL Outline Tool* (see Table 2) and the *Guiding Question Tool* (see Table 4) complement each other in the process of implementation as they have the same structure for the listing of components. *The sample FlexWBL Implementation Tool* (see Table 5) represents rather a result of the development with the two other tools.

When working with the FlexWBL tools they give orientation during the planning and developing phase of the programme within the Design Cycle (see Fig. 3). They provide criteria during the planning and evaluating phase and practical implementation steps and algorithms in the planning, developing and delivering phase. The guiding questions (2) for the initial implementation can also function as reflective questions in the evaluating phase. This phase is the link to another cycle of development and improvement.

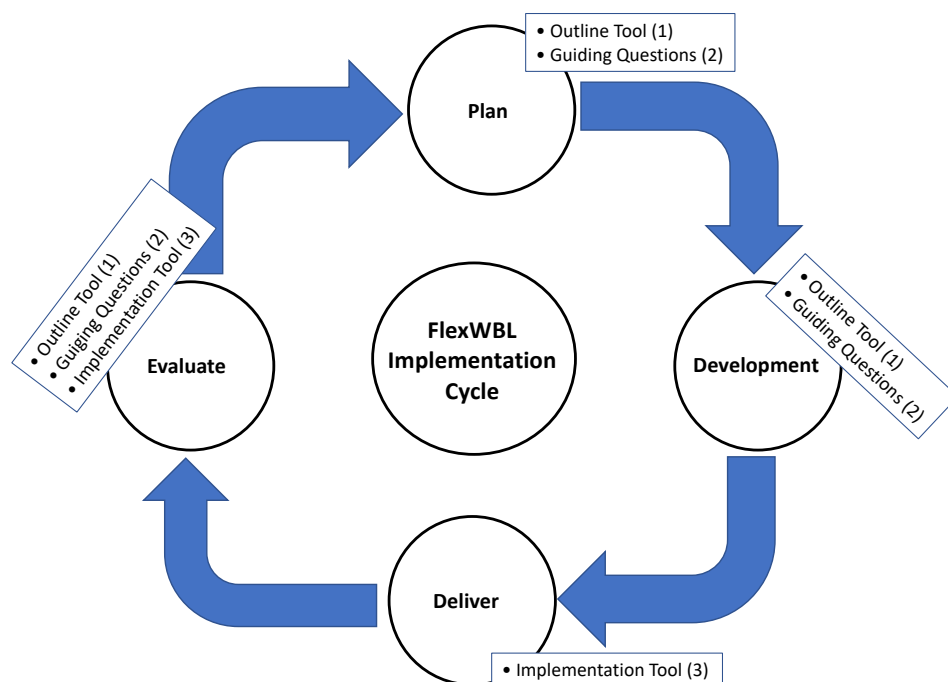


Fig. 3: Design Cycle and Use of FlexWBL Tools

The FlexWBL Outline Tool (1)

The *FlexWBL Outline* is the first of the three main tools in this manual. The structure of the FlexWBL Outline Tool is derived from the basic components (part one) and the process components (part two) mentioned above. Its three one-dimensional subcategories can be found in part one of the tool:

- Basic WBL Components
- Curricular Components
- Components for the development of Resources

And in part two of the tool the components are allocated to the four process phases of the FlexWBL framework with its three levels of maturity:

- Planning
- Implementing
- Performing
- Reflecting

Part One – one-dimensional subcategories

The FlexWBL Outline Tool provides helpful instructions and algorithms for the practical implementation as well as materials and literature (see Tab. 2) for the theoretical embedding of the programme.

No 1	Basic WBL Components	Practical implementation & algorithms	Materials & Literature
1.1	Placement of the Programme	Defining the level of proficiency (BA,MA,...) Tasks: Define the level of proficiency for the programmes of your university	FlexWBL_Framework (Nausner et al., 2021) WP 2.2 Implementation of the WBL Framework - Knowledge and Competence.docx
1.2	Status Quo Analysis	Defining the financial resources Defining the structural resources Defining the human resources	WBL_grid_for_EU_Universities
1.3	Building Awareness	Awareness for standards (values, culture, relationships, market-needs, personal needs) Awareness for resulting changes (structures, processes, products, development of proficiency) Awareness for Process-Continuing-Circle-System	Introduction AQAL (Wilber, 2006) FlexWBL_Framework (Nausner et al., 2021) WP1.1_FlexWBL_Methodology_En (p.10ff)
1.4	Seeing the Benefits of WBL	Gathering benefits from previous programmes Sorting out benefits Tasks: <ul style="list-style-type: none"> Group activity - working out benefits for participants (stakeholders, employers, students, university) 	EFT-WBL Benefits and Obstacles (p.18ff) Quality WBL Toolkit – Kansas (p.4f) WP1.1_FlexWBL_Methodology_En (p.21)
1.5	Describing Visions	What is our vision of future WBL teaching? (principles, partnership, cooperation)	FlexWBL_Framework (Nausner et al., 2021) 7 core competencies

Tab. 2: The FlexWBL Outline (Nausner et al., 2021)

In addition to (1) the basic WBL components (see Tab. 2) part one provides (2) curricular components concerning the placement, qualification for access, the leading principles, the content and formulation of learning outcomes for HEI-courses and WP learning, and the assessment and recognition of the programme. The third subcategory of part one deals with (3) the components of development of resources.

The development work on basic and curricular components often lead to long-lasting achievements simply because they follow prior decisions on the placement of the programme and principles on the educational process, and principles of partnership and cooperation. Furthermore, the process of curriculum approval turns sometimes out to be a rather time-consuming process. Whereas many components that deal with the development of resources can be developed and improved within existing curricula.

Part Two – components allocated to the three levels of maturity of the process phases

The structure of the 3-level process components within the FlexWBL Outline Tool does not provide any formulated tasks or algorithms, but represents a tool for a status quo analysis, and a development and improvement tool for future planning (see Tab. 3).

No 4	Planning Components	Define the level and elements of the planning at _____	Future plannings
4.1	Level 1 (foundation) <ul style="list-style-type: none"> • WBL Advisory Committee • meeting workshops (project plans, agreements etc.) • flexible study timetable (programme plans) • effective use of ICT and distance learning technologies 		
4.2	Level 2 (intermediate) <ul style="list-style-type: none"> • integration of feedback and reflecting process into planning • qualification trainings for HEI-mentors and/or WP-tutors • meeting workshops for joint plannings to improve WBL in the context of WP and University courses (WP-tutors, HEI-mentors and instructors, students) 		
4.3	Level 3 (advanced) <ul style="list-style-type: none"> • implementing inquiry learning in the WP and University courses • high degree of self determination of students in the WP • possibility for students to take part/lead team processes in the WP 		

Tab. 3: The FlexWBL Outline Tool – 3-level process components (Nausner et al., 2021)

The tasks and algorithms depend on the selected components and elements from the three levels of maturity in the left column of Table 4. The foundational level describes the minimal components for running a FlexWBL programme. There must be a curriculum with a proper placement for the programmes and the definitions of the qualification for access to HE, and a. definition of learning principles and learning outcomes. You will also find internal and external support teams, a commitment of collaboration and the installation of a change management team in programmes on foundational level.

The three levels are described by numerous examples which can be characterised by an increase of joint planning and joint workshops for all participating partners from level to level and an increase of taking over responsibility, self-reflecting and a growth of self-determination, and an increasing amount of steering of teamwork and team processes. Higher levels of maturity also require better trained and qualified human resources, which again require organisational resources such as qualification trainings for HEI-supervisors and WP-tutors. Another focus of the higher levels of maturity is set on inquiry learning, enhancing transdisciplinary approaches in the scientific research and using the contents of other universities as well as the collaboration with them in the FlexWBL educational process.

Guiding questions to the implementation of FlexWBL components (2)

As mentioned above the guiding questions are grouped in an equivalent superstructure as the other tools and therefore complement each other perfectly.

No 1	Basic WBL Components	✓
1.1	Placement of the programmes Guiding questions: What is the level of proficiency for the programme (BE, MA,...)? Which running mode of WBL is selected for the programme (internships/apprenticeship – traineeship – entrepreneurship)? What is the duration of the programme? What is the workload for the students during the programme and how many credits/hours are assigned for it (ECTS)? Which qualification/degree will be awarded to the students at the end of the programme?	
1.2	Status Quo Analysis Guiding questions: Do our students earn any money during the programme? How many students can study in our programme? How many people are engaged in the process of curriculum development? Which people are engaged in the process of curriculum development	

Tab. 4: Guiding questions to the implementation of FlexWBL components (Nausner et al., 2021)

The issues of the *Guiding Question Tool* are mostly derived from the FlexWBL framework (Nausner et al., 2021) and the WBL components defined in the Methodological Guideline on WBL in HE (Morevs et al., 2020, p. 47f). They represent a compilation of questions to adjust and enhance WBL programmes according to the criteria laid down in the documents mentioned.

The Guiding Question Tool is meant to be used together with the FlexWBL Outline Tool simultaneously or consecutively (see Fig. 3) as they refer to the corresponding section in the equivalent superstructure. Dealing with the questions during the planning and implementing process may clarify the issues and may facilitate the process.

As the designing process is characterised as a series of continuous cycles, the guiding questions can function as reflective questions in the evaluation phase (see Fig. 3) before starting another consecutive cycle.

The sample FlexWBL implementation plan for participating universities (3)

The sample FlexWBL implementation plan for participating universities mainly represents the result from the prior work with the FlexWBL Outline Tool (1) and the Guiding Question Tool (2).

Implementation of the FlexWBL Framework at _____

No 1	Basic WBL Components	Features of Flex WBL at	Planned updates
1.1	Placement of the programmes		
1.2	Status Quo Analysis (financial, structural and human resources)		
1.3	Building awareness standards: <ul style="list-style-type: none"> • values and culture • partnership and cooperation • market needs • personal needs Building awareness for resulting changes: <ul style="list-style-type: none"> • structures and processes • products • development of proficiency Building awareness for Process-Continuing-Circle-System (planning-implementing-performing-reflecting)		
1.4	Seeing the Benefits of WBL <ul style="list-style-type: none"> • students • HEI • employers • stakeholders 		
1.5	Describing visions		

Tab. 5: The Implementation of the FlexWBL Framework at ... (Nausner et al., 2021)

In the design cycle (see Figure 3) this tool is primarily implemented in the phase of delivering. Again, it is not meant to be used just once. If so, the two columns dealing with the FlexWBL components and the features of the designed programme in Table 4 would be sufficient.

Additionally, the FlexWBL Implementation Tool plays a major role in the phase of evaluating and the planning phase of the consecutive cycle. To build awareness for continuous development and improvement of FlexWBL programmes the tool provides another column with space to put onto paper, what was not possible accomplish in the implementation of a first cycle. This can be a source of ideas and visions for latter improvement.

Part One – one-dimensional subcategories

As the FlexWBL Outline Tool (1) the FlexWBL Implementation Tool (3) is structured in two parts. The first dealing with the three subcategories which are (1) the basic WBL components (see Table 4), (2) curricular components concerning the placement, qualification for access, the leading principles, the content and formulation of learning outcomes for HEI-courses and WP learning, and the assessment and recognition of the programme. The third subcategory of part one deals with the (3) components of development of resources.

Part Two – components allocated to the three levels of maturity of the process phases

As in the FlexWBL Outline Tool the components and elements from the three levels of maturity in the left column of Table 4 are described by numerous examples which can be characterised by an

increase of joint planning from level to level and an increase of taking responsibility and a growth of self-determination, and an increasing amount of steering of teamwork and team processes. Higher levels of maturity also require better trained and qualified human resources, which again require organisational resources such as qualification trainings for HEI-supervisors and WP-tutors.

Unlike in the FlexWBL Outline Tool (1) part two in this tool is not newly structured but remains organised with the same columns as in part one. Planned updates in the left column will reasonably be filled with components and elements of a higher maturity level which can be the basis for future development and improving in the fields of collaboration, cooperation, taking over responsibility, working self-determined, realising projects at a workplace and enhancing economy-based scientific research.

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Appendix

FlexWBL Outline (1)

Part one

FlexWBL Outline (structure of the manual)

FlexWBL Basics

No 1	Basic WBL Components	Practical implementation & algorithms	Materials & Literature
1.1	Placement of the Programme	Defining the level of proficiency (BA,MA,...) Tasks: Define the level of proficiency for the programmes of your university	FlexWBL_Framework (Nausner et al., 2021) WP 2.2 Implementation of the WBL Framework - Knowledge and Competence.docx
1.2	Status Quo Analysis	Defining the financial resources Defining the structural resources Defining the human resources	WBL_grid_for_EU_Universities
1.3	Building Awareness	Awareness for standards (values, culture, relationships, market-needs, personal needs) Awareness for resulting changes (structures, processes, products, development of proficiency) Awareness for Process-Continuing-Circle-System	Introduction AQAL (Wilber, 2006) FlexWBL_Framework (Nausner et al., 2021) WP1.1_FlexWBL_Methodology_En (p.10ff)
1.4	Seeing the Benefits of WBL	Gathering benefits from previous programmes Sorting out benefits Tasks: <ul style="list-style-type: none"> Group activity - working out benefits for participants (stakeholders, employers, students, university) 	EFT-WBL Benefits and Obstacles (p.18ff) Quality WBL Toolkit – Kansas (p.4f) WP1.1_FlexWBL_Methodology_En (p.21)
1.5	Describing Visions	What is our vision of future WBL teaching? (principles, partnership, cooperation)	FlexWBL_Framework (Nausner et al., 2021) 7 core competencies

FlexWBL Curriculum design/analysis

No 2	Curricular Components	Practical implementation & algorithms	Materials
2.1	Placement of the Programme	Information needed: Code, title, qualification, duration, number of students, internal & external students, aim of WBL	FlexWBL_Framework (Nausner et al., 2021)
2.2	Qualification for Access	degrees, entrance tests, accreditation of prior learning (practical/theoretical), Define personal learning paths	FlexWBL_Framework (Nausner et al., 2021) WP1.1_FlexWBL_Methodology_En (p.28)
2.3	Leading Principles	Define the leading principles for the programme.	FlexWBL_Framework (Nausner et al., 2021)
2.4	University Courses Accompanying WBL	Define the titles, credits and workload of the accompanying university courses. Define possibilities for distance-learning courses	FlexWBL_Framework (Nausner et al., 2021)
2.5	Contents/Syllabus of University Courses	Define the contents/syllabus of the accompanying university courses.	
2.6	Learning Outcomes of University Courses	Define the learning outcomes considering the types, depth and fields of knowledge. Define competences students will gain through the courses.	FlexWBL_Framework (Nausner et al., 2021) Eraut, M. (2004). „Informal learning in the workplace“, Studies in Continuing Education, 26 (2): 173-247. 7 core competences Learning outcomes.docx
2.7	Contents of Workplace Learning	Define the contents/syllabus of the WP learning.	
2.8	Learning Outcomes of Workplace Learning	Define the learning outcomes considering the types, depth and fields of knowledge. Define competences students will gain through WP learning. Define learning agreements together with	FlexWBL_Framework (Nausner et al., 2021) Eraut, M. (2004). „Informal learning in the workplace“, Studies in Continuing Education, 26 (2): 173-247. WP1.1_FlexWBL_Methodology_En (p.29f)

		industry partners and learners.	7 core competences Learning outcomes.docx
2.9	Assessment and Recognition	Define appropriate forms of assessment for the university courses and WP learning. Define an appropriate overarching assessment for the WBL programme.	FlexWBL_Framework (Nausner et al., 2021) FlexWBL_Manual (Nausner et al., 2021)
	What Else is to be Considered?	Define the terms of approval Define the guidelines from external persons/organisations/stakeholders concerning the curriculum Define the margin of development within the existing curriculum Define the possibility/margin of flexible study timetable	

FlexWBL Development of Resources

No 3	Development of Resources	Practical implementation & algorithms	Materials (FlexWBL Curriculum 3)
3.1	External Resources	Team of experts National stakeholders & policy makers <i>Tasks:</i> <i>Checklist for interviews with stakeholders</i> <i>Checklist for interviews with employers</i> <i>Videos for both interviews</i>	FlexWBL Resources 1
3.2	Counselling and services provided by the HEI	WBL-Service Centre (Advisory Committee) <i>Tasks:</i> <i>What must a service centre/an advisory committee provide?</i> <i>What else do we need as support for the WBL-programme?</i>	FlexWBL Curriculum 3
3.3	Human & Structural Resources	academic staff (teaching, administrative & technical) mentors at workplace training courses for all WBL-partners development & change management teams	FlexWBL Curriculum 3 FlexWBL Resources 2 WP1.1_FlexWBL_Methodology_En (p.21ff)
3.4	Use of ICT and Distance Learning Technologies	regular video meetings learning platforms ePortfolios blended learning (course & WP) flipped classroom eTools	
	National challenges		Flex-challenges-GSU

Part two

FlexWBL Process Implementation

No 4	Planning Components	Define the level and elements of the planning at _____	Future plannings
4.1	Level 1 (foundation) <ul style="list-style-type: none"> WBL Advisory Committee meeting workshops (project plans, agreements etc.) flexible study timetable (programme plans) effective use of ICT and distance learning technologies 		
4.2	Level 2 (intermediate) <ul style="list-style-type: none"> integration of feedback and reflecting process into planning qualification trainings for HEI-mentors and/or WP-tutors meeting workshops for joint plannings to improve WBL in the context of WP and University courses (WP-tutors, HEI-mentors and instructors, students) 		
4.3	Level 3 (advanced) <ul style="list-style-type: none"> implementing inquiry learning in the WP and University courses high degree of self determination of students in the WP possibility for students to take part/lead team processes in the WP 		

No 5	Implementing	Define the level and elements of the implementing at _____	Future plannings
5.1	Level 1 (foundation) <ul style="list-style-type: none"> WBL-curriculum (prior learning assessment/recognition) Service support department for students, HEI-tutors, WP-mentors & administration WBL university courses and WPs change management committee 		
5.2	Level 2 (advanced) <ul style="list-style-type: none"> qualification trainings for HEI-mentors and WP-tutors (focus: from supervisor to facilitator of learning) adopted learning courses (Integrated model) a variety of approaches to WBL is provided self-assessment guidelines 		
5.3	Level 3 (advanced) <ul style="list-style-type: none"> coaches/teams for inquiry learning and self determination structures for inquiry learning 		

No 6	Performing	Define the level and elements of the performing at _____	Future plannings
6.1	Level 1 <ul style="list-style-type: none"> regular meetings in the WP provide information package on WP (safety, guidelines etc.) communication & contact high level of guidance/support (frequent progress checks) support of peer groups feedback on/during work 		
6.2	Level 2 <ul style="list-style-type: none"> WP-challenges for WP-teams (problems, success & mistakes) independent work of students (focus: responsibility) = self directed learning integrated theory in problem solving, process improvement, etc. = experimental learning 		
6.3	Level 3 <ul style="list-style-type: none"> independent work of students (focus: self determination) = inquiry learning control/design team processes entrepreneurship/leadership 		

No 7	Reflecting (=> change management committee)	Define the level and elements of the reflecting at _____	Future plannings
7.1	Level 1 <ul style="list-style-type: none"> reflecting&analysing process with focus on support, implementation, performing in HEI and WP feedback (WP-team =students, WP-tutor, HEI-supporters) define subjective relevant conditions, processes etc. to reflect on 		
7.2	Level 2 <ul style="list-style-type: none"> reflect on curriculum, assessment and recognition complete WBL Activity Evaluation reflect on WBL project if it fulfils the measurement criteria of validity and reliability identify, utilise and measure the performative value of knowledge 		
7.3	Level 3 <ul style="list-style-type: none"> develop a written improvement plan in WP-team modify improvement plans lay down visions of future WBL-projects in writing 		

Guiding Questions

No 1	Basic WBL Components	
1.1	Placement of the programmes Guiding questions: What is the level of proficiency for the programme (BE, MA,...)? Which running mode of WBL is selected for the programme (internships/apprenticeship – traineeship – entrepreneurship)? What is the duration of the programme? What is the workload for the students during the programme and how many credits/hours are assigned for it (ECTS)? Which qualification/degree will be awarded to the students at the end of the programme?	
1.2	Status Quo Analysis Guiding questions: Do our students earn any money during the programme? How many students can study in our programme? How many people are engaged in the process of curriculum development? Which people are engaged in the process of curriculum development (employers, academic staff)? Who is responsible for curriculum approval? Of which people is the academic staff put together? (employers, teaching staff, etc.) Who is responsible for the continuing developing process of the programme? What is absolutely necessary to start a programme (financial, structural, human resources)?	
1.3	Building Awareness Guiding questions: Which individual values do we want to promote in our programme? Which collective values do we want to promote in our programme? Which depth of knowledge do we want to promote in our programme? How do we want to meet the historically grown challenges in our programme? Which competences, habits, soft skills help us to meet personal needs and market needs? Which principles of partnership and cooperation do we consider necessary? Which principles of partnership and cooperation promote personal development of proficiency?	

	Which principles of partnership and cooperation promote collaboration between HEI, students and employers? What has to be done on a curricular, structural and collaborational basis to meet these needs? Which are the theoretical, structural and organisational requirements to implement a continuing developing process for our programme?	
1.4	Seeing the Benefits of WBL Guiding questions: What are the benefits for the participating students? What are the benefits for the participating HE institutions? What are the benefits for the employers? What are the benefits for stakeholders?	
1.5	Describing Visions Guiding questions: What is our vision concerning principles of partnership and cooperation? What is our vision concerning personal development of proficiency of our students? What is our vision for a continuing developing process for our programme?	

No 2	Curriculum Components	
2.1	Placement of the Programme Guiding questions: What is the code of the study programme? What is the title of the study programme? Which qualification/degree will be awarded to the students at the end of the programme (BA, MA degree, PhD)? In which field can the students be employed after the programme? How does the curriculum correspond with the needs of the student and the organization in which he/she works?	
2.2	Qualification for Access Guiding questions: Which qualification do the students need to access the programme? How is prior informal and non-formal learning (if it is part of the qualification) officially recognised?	
2.3	Learning Principles Guiding questions:	

	<p>What is the main goal for the study programme?</p> <p>For which level of proficiency is our programme meant and which leading principles can help to meet the targets?</p> <p>Is the principle of taking over responsibility by the students for their own lifelong learning and professional development integrated in the curriculum?</p> <p>Does the curriculum provide the possibility for a personal learning path for students?</p> <p>Does the curriculum support reflective practices and introspection as well as innovative pedagogical theories and practice?</p> <p>Does the curriculum support innovative trainings through the active involvement of employers and innovations in production?</p> <p>Is the curriculum based on the concept of value added to all interested parties (real work at the enterprise, relevance of acquired knowledge and skills for professional development and career growth)?</p>	
2.4	<p>University Courses Accompanying WBL</p> <p>Guiding questions:</p> <p>How is the curriculum structured (in-class lectures, workplace learning)?</p> <p>How are the credits specified (ECTS - total number of academic hours/practical and theoretical work/hours assigned for individual work of students outside university and workplace)?</p> <p>How is the workload of the students assigned the time structure (weekly, monthly, single days or period of days at the workplace)?</p> <p>How is the study programme designed (mandatory courses, students presence at university, blended learning, flipped learning courses)?</p> <p>Are flexible study timetables for participating students possible?</p>	
2.5	<p>Contents/Syllabus of University Courses</p> <p>Guiding questions:</p> <p>What are the main contents for the (mandatory) university courses?</p> <p>How do the contents correspond with the contents of workplace learning opportunities?</p> <p>Are reflective learning techniques and autonomous learning integrated in the interplay of the integrated learning environment?</p> <p>Is the flexible approach of transdisciplinary learning taken care of?</p>	
2.6	<p>Learning Outcomes of University Courses</p> <p>Guiding questions:</p> <p>What are the learning outcomes for the (mandatory) university courses?</p> <p>Do the learning outcomes also meet the leading principles mentioned above?</p> <p>Is the flexible approach of transdisciplinary learning taken care of?</p>	

2.7	Contents of Workplace Learning Guiding questions: What are the main contents for the workplace learning structures? Is the flexible approach of transdisciplinary learning taken care of?	
2.8	Learning Outcomes of Workplace Learning Guiding questions: What are the learning outcomes for workplace learning opportunities? Do the learning outcomes also meet the leading principles mentioned above? Is the flexible approach of transdisciplinary learning taken care of?	
2.9	Assessment and Recognition Guiding questions: What kind of assessment is highly appropriate to go with integrated learning opportunities (workplace and university courses)? What kind of assessment is highly appropriate at the end of the programme? Does the assessment of learning outcomes in credits and their accumulation allow a transferring from a study programme to another one? Is the curriculum flexible in terms of time, including the possibility of reducing or prolonging education? Do students have the possibility of being on campus depending on their visiting opportunities with the maximum number of consultations and the availability of training with full-time students? Does the assessment include those that have been obtained previously, which allows a recount through validation and shortens the learning period and makes the EP more flexible and convenient for both the student and the employer? Does self-assessment play a role in the education in university and in the workplace? Does reflecting play any role in the assessment process? Which elements of reflecting is the focus on?	

No 3	Development of Resources	
3.1	External Resources Guiding questions: Which external teams are installed, and which functions do they have? Which functions would be helpful to support the programme?	

3.2	Counselling and Services Provided by the HEI Guiding questions: Which organisational & structural resources are/are to be installed? Is there an Advisory Committee and who is part of it? Are there any WBL-Service Centres and for which persons do they provide support (students, academic staff, employers)? What kind of information/adverts is provided for students and where/how (websites, folders, information events ...)?	
3.3	Human & Structural Resources <i>Human Resources</i> Guiding questions: Which persons are involved in the programme (academic staff, teaching staff, administrative and technical support)? Which development teams are engaged in the process (curriculum, advising support, programme developing, change management, ...)? Can the HEI provide mentors for workplace learning? Can the HEI provide training/qualification courses for WP-tutors (train the trainer)? What can be done within the current resources? What do we need for ...? (visions of workshop 1) What is necessary Is there a team of experts to gather feedback and review reflections/assessment data in order to use the contents for future planning? <i>Structural & Organisational Resources</i> Guiding questions: What does the commitment on the role of the WP-tutor look like (supervisor, facilitator, supporter for individual learning path)? Is there any possibility for HEI-mentors to plan and support the workplace learning in the workplace? Are there any (joint) workshops for students, WP-tutors and HEI-staff in the programme? Are there any training/qualification courses for HEI-mentors and/or WP-tutors? Are study projects implemented directly at the workplace which integrate knowledge from different disciplines and focus on improving the business processes of the organizations where the students work?	
3.4	Use of ICT and Distance Learning Technologies Guiding questions: To what extent are ICT and distance learning technologies integrated in the	

	<p>programme?</p> <p>Which learning platforms and content management tools are available (Moodle, Teams, ...)?</p> <p>Which personal learning environment platforms and ePortfolios are in use/provided (Mahara, Karuta,...)?</p> <p>Which video conference tools are provided (Zoom, Google meet, Teams, ...)?</p> <p>Are there any workshops/training courses for students, employers, HEI-staff?</p> <p>Is there the possibility of network learning based on active involvement in the EP of the resources of other universities and external educational platforms?</p>	
	Gather questions, obstacles and challenges from participating universities.	
No 4	<p>Planning (referring to the FlexWBL Outline No 4)</p> <p>Guiding questions:</p> <p>Which stage of development will the selected programme reach in the process of planning?</p> <p>What can be done to reach the next stage of development?</p> <p>What will be the next steps during the programme?</p>	
No 5	<p>Implementing (referring to the FlexWBL Outline No 5)</p> <p>Guiding questions:</p> <p>Which stage of development will the selected programme reach in the process of implementing?</p> <p>What can be done to reach the next stage of development?</p> <p>What will be the next steps during the programme?</p>	
No 6	<p>Performing (referring to the FlexWBL Outline No 6)</p> <p>Guiding questions:</p> <p>Which stage of development will the selected programme reach in the process of performing?</p> <p>What can be done to reach the next development?</p> <p>What will be the next steps during the programme?</p>	
No 7	<p>Reflecting & Change Management (referring to the FlexWBL Outline No 6)</p> <p>Guiding questions:</p> <p>Which stage of development will the selected programme reach in the process of reflecting?</p> <p>What can be done to reach the next stage of development?</p> <p>What will be the next steps during the programme?</p> <p>Does the FlexWBL programme enhance the scientific research to be more</p>	

	economy-based, as well as the topics, spheres, and outcomes of the research to be more applicable?	
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No 4	Outline-Implementation & Algorithms	
4.1	Basic WBL Components (referring to FlexWBL Outline No 1) Guiding questions: Which components must be put in a methodological framework draft of our university? Which information is still missing/should be added?	
4.2	Curricular Components (referring to FlexWBL Outline No 2) Guiding questions: Does our curriculum meet the criteria of the FlexWBL framework? Which components in our curriculum must be modified? Does our curriculum allow a development throughout the programme?	
4.3	Development of Resources (referring to FlexWBL Outline No 3) Guiding questions: Which level of maturity will be best to start our programme? Which level can realistically be reached throughout the duration of the programme? Which forms of ICT use and distance learning are appropriate within the programme considering the equipment and qualification of the participating persons?	
4.4	Planning (referring to FlexWBL Outline No 4) Guiding questions: Do we meet the planning level 1 (foundation) requirements? Which elements of level 2 (intermediate) and level 3 (advanced) can be realistically integrated in our programme?	
4.5	Implementing (referring to FlexWBL Outline No 5) Guiding questions: Do we meet the implementing level 1 (foundation) requirements? Which elements of level 2 (intermediate) and level 3 (advanced) can be realistically integrated in our programme?	
4.6	Performing (referring to FlexWBL Outline No 6) Guiding questions: Do we meet the performing level 1 (foundation) requirements? Which elements of level 2 (intermediate) and level 3 (advanced) can be	

	realistically integrated in our programme?	
4.7	Reflecting (referring to FlexWBL Outline No 7) Guiding questions: Do we meet the reflecting level 1 (foundation) requirements? Which elements of level 2 (intermediate) and level 3 (advanced) can be realistically integrated in our programme?	

Part One

Implementation of the FlexWBL Framework at _____

No 1	Basic WBL Components	Features of Flex WBL at	Planned updates
1.1	Placement of the programmes		
1.2	Status Quo Analysis (financial, structural and human resources)		
1.3	Building awareness standards: <ul style="list-style-type: none"> values and culture partnership and cooperation market needs personal needs Building awareness for resulting changes: <ul style="list-style-type: none"> structures and processes products development of proficiency Building awareness for Process-Continuing-Circle-System (planning-implementing-performing-reflecting)		
1.4	Seeing the Benefits of WBL <ul style="list-style-type: none"> students HEI employers stakeholders 		
1.5	Describing visions		

(Flexible framework parts have a yellow background)

No 2	Curricular Components	Features of Flex WBL at	Planned updates
2.1	Placement of the programme <ul style="list-style-type: none"> BA, MA, PhD modes of WBL (internship...) definition of semesters possibility of flexible study timetables 		
2.2	Qualification for Access (prior learning assessment/recognition)		
2.3	Leading Principles		
2.4	University Courses Accompanying WBL		
2.5	Contents/Syllabus of University Courses		
2.6	Learning Outcomes of University Courses		
2.7	Contents of Workplace Learning		
2.8	Learning Outcomes of Workplace Learning		
2.9	Assessment and Recognition		
	What Else is to be Considered?		

No 3	Development of Resources	Features of Flex WBL at	Planned updates
3.1	External Resources: Team of experts National stakeholders		
3.2	Counselling and Services Provided by the HEI: <ul style="list-style-type: none"> • Advisory Committee (consisting of HEI, students and employers) • WBL-Service Centre (for all partners) • Information WBL-Website (for students) • Active support of the student by the employer 		
3.3	Human & Structural Resources <ul style="list-style-type: none"> • WP-tutor (from supervisor to responsible person for supporting individual learning path) • HEI-teachers improve their skills in pedagogical theories and practice, especially using ICT • workshops for students, employers and HEI-staff • training courses for HEI-mentors and WP-tutors • team for development and change management 		
3.4	Use of ICT and Distance Learning Technologies <ul style="list-style-type: none"> • regular video meetings • learning platforms • ePortfolios • blended learning (course & WP) • flipped classroom • eTools 		

Part Two

FlexWBL Process Implementation

No 4	Planning	Features of Flex WBL at	Planned updates
4.1	Level 1 (foundation) <ul style="list-style-type: none"> • WBL Advisory Committee • meeting workshops (project plans, agreements etc.) • flexible study timetable (programme plans) • effective use of ICT and distance learning technologies 		
4.2	Level 2 (intermediate) <ul style="list-style-type: none"> • integration of feedback and reflecting process into planning • qualification trainings for HEI-mentors and/or WP-tutors • meeting workshops for joint plannings to improve WBL in the context of WP and University courses (WP-tutors, HEI-mentors and instructors, students) 		
4.3	Level 3 (advanced) <ul style="list-style-type: none"> • implementing inquiry learning in the WP and University courses • high degree of self determination of students in the WP • possibility for students to take part/lead team processes in the WP 		

No 5	Implementing	Features of Flex WBL at	Planned updates
5.1	Level 1 (foundation) <ul style="list-style-type: none"> WBL-curriculum (prior learning assessment/recognition) Service support department for students, HEI-tutors, WP-mentors & administration WBL university courses and WPs change management committee 		
5.2	Level 2 (advanced) <ul style="list-style-type: none"> qualification trainings for HEI-mentors and WP-tutors (focus: from supervisor to facilitator of learning) adopted learning courses (Integrated model) a variety of approaches to WBL is provided self-assessment guidelines 		
5.3	Level 3 (advanced) <ul style="list-style-type: none"> coaches/teams for inquiry learning and self determination structures for inquiry learning 		

No 6	Performing	Features of Flex WBL at	Planned updates
6.1	Level 1 <ul style="list-style-type: none"> regular meetings in the WP provide information packages on WP (safety, guidelines etc.) communication & contact high level of guidance/support (frequent progress checks) support of peergroups feedback on/during work 		
6.2	Level 2 <ul style="list-style-type: none"> WP-challenges for WP-teams (problems, success & mistakes) independent work of students (focus: responsibility) = self directed learning integrated theory in problem solving, process improvement, ect. = experimental learning 		
6.3	Level 3 <ul style="list-style-type: none"> independent work of students (focus: self determination) = inquiry learning control/design team processes entrepreneurship/leadership 		



No 7	Reflecting (=> change management committee)	Features of Flex WBL at	Planned updates
7.1	Level 1 <ul style="list-style-type: none"> reflecting&analysing process with focus on support, implementation, performing in HEI and WP feedback (WP-team =students, WP-tutor, HEI-supporters) define subjective relevant conditions, processes etc. to reflect on 		
7.2	Level 2 <ul style="list-style-type: none"> reflect on curriculum, assessment and recognition complete WBL Activity Evaluation reflect on WBL project if it fulfils the measurement criteria of validity and reliability identify, utilise and measure the performative value of knowledge 		
7.3	Level 3 <ul style="list-style-type: none"> develop a written improvement plan in WP-team modify improvement plans lay down visions of future WBL-projects in writing 		