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Pedagogic Strategy

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SYNERGY

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1 Introduction

'SYNERGY – Harnessing the Learning Assets within the SME Business Community' was launched under the Erasmus+ programme to face the challenges related to the Europe 2020 Strategy. The Europe 2020 Strategy, however, is Europe´s growth strategy for the current decade and shall help the Union to turn into a "smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion" (European Commission 2010: 5). Therefore, three priorities were set (cf. p. 5):

(1) An economy based on knowledge and innovation shall be developed.
(2) A resource efficient, greener and more competitive economy shall be promoted.
(3) A social and territorial cohesive economy with high-employment rates shall be fostered.

The consortium partners of the SYNERGY project aim to contribute to realise these priorities, as their common aim is to "improve the quality and relevance of VET provision to micro-enterprise owners to support the transformation of the European economy into a smart, sustainable and inclusive economy by developing and implementing bespoke learning environments for vocational education professionals and micro-enterprise owners to ensure the development of micro-enterprises and to enable this dynamic sector realise its true potential."

Based on the completed Summary Research Report and Summary Audit Report (available at www.projectsynergy.eu) and complemented by literature findings, the consortium partners lead by the University of Paderborn have developed the *SYNERGY Pedagogic Strategy* support the achievement of the aforementioned aims. The Summary Reports are based on the National Research Reports and the National Audit Reports, carried out by the partners from Ireland, Italy, Cyprus, Greece, Romania, and Germany. In the National Research Reports, project partners provided general recommendations for the SYNERGY project, conducting desk-based research for national or European best-practice examples and similar projects in the contexts of:

(a) In-service VET training to develop or enhance entrepreneurship or business training.
(b) Business-to-Business networking or training.
(c) Learning Partnerships between VET and Business Community.

Each of the partners described two best-practice examples.

In the National Audit Reports, the partners described and analysed the findings of a structured audit questionnaire conducted with national micro-enterprise owners. The questionnaire used consisted of 24 different questions which focused on four areas:

(1) Specific skill assets and knowledge existing within the micro-enterprises, that could be used to support other micro-enterprises, should be identified.
(2) Learning preferences of micro-enterprise owners and the most appropriate learning platforms and environments for them should be identified and outlined.
(3) Learning areas where gaps in VET provision exist should be pinpointed.
(4) Skill assets within the micro-enterprise community that could be used to validate the relevance of train-the-trainer courseware for businesses, and thus the skills developed in the VET sector should be identified.

The findings of the summary findings of the audit process are of great importance to the future developmental work within the project, including the Pedagogic Strategy. The findings are of high value, not only because they focused on different areas but because they bring together the learning needs and preferences of micro-enterprise owners from six different European countries, each of it with a different economic and social background.

Under consideration of the findings and recommendations carried out via the Summary Research Report and the Summary Audit Report, we will focus now on the development of the Pedagogic Strategy. Therefore, we will

(a) Define the Pedagogic Strategy and its purpose in the SYNERGY project,
(b) Develop the Pedagogic Strategy and its different parts,
(c) Give recommendations for the implementation.

2 The Pedagogic Strategy

Small and medium-sized enterprises (SMEs)[1], and particularly micro-enterprises as a part of this group, are the backbone of the European economic system. In Germany in 2012, 80.1% of the enterprises in the sector of “administrative and support service activities” and 90.2% in the sector of “Professional, scientific and technical activities” were micro-enterprises. When looking at SMEs in general, these numbers raise up to 98.6% respectively 99.8%. Small and micro-enterprise are accountable for 22.9% of the employment related to “administrative and support service activities”, and for 62.8% in the “professional, scientific and technical activities” (cf. Federal Statistical Office [2102a], [2012b]). This pretty much underlines the importance of these enterprises for wealth, economic growth, innovation and research and development.

In a society with a more and more accelerating change and a knowledge-based, tertiary economy, such like the European Union, the continuous acquisition of knowledge and the exchange of experiences is the basis to build human capital, and thus it is a lynchpin for

[1] Small and medium-sized enterprises are defined by the European Commission as enterprises with not more than 250 respectively 50 employees. Micro-enterprises are those with not more than ten employees (cf. European Commission 2003: 39).

entrepreneurial success (cf. Hohenstein, A. 2006: 39). As the societal and economic change is accelerating, the inevitable need for continuing vocational training will raise. Otherwise, the enterprises will not be able to stay innovative, and thus, competitive (cf. Döring, O./ Turnwald, S. 2007: 1, 6). Based on the findings of the Summary Audit Report it can be said, that the businesses seem to be conscious about the importance of such training activities. 82.61% of the survey participants answered, that they participated in continuing training activities (cf. Teine, M./ Rohde, S./ Beutner, M. 2014: 9). This is, compared with the findings of DOBISCHAT/ DÜSSELDORF (2013), a considerably high amount. They found, that only 36% of the enterprises with less than ten employees are active in continuous vocational training, based on the findings of the Adult Education Survey 2012 conducted on behalf of the Federal Ministry of Education and Research (p. 248). Anyway, SEYDA/ WERNER (2012), in contrast, found that 82.7% of the businesses with less than 50 employees offered training activities (p. 2012). In both cases, the definition of continuous vocational training was similar to ours mediated in the survey.

In general it can be said, that the bigger a company is, the more probable it is that continuing vocational training is offered. Nevertheless, when SMEs offer such training, relatively more of the employees are engaged in these activities than in large companies. Furthermore, the training expenditure in SMEs is, in average, higher than in companies with more than 500 employees. Thus, however, the intensity of the continuing vocational training is comparatively higher in SMEs than in large-sized companies (cf. p. 2).

Nevertheless, when it comes to continuing vocational training, particularly small and micro-enterprises often have to face different obstacles. Besides a lack of relevance of the courses and activities offered, the lack of resources seems to be the most important criterion here - as the literature but also the German National Audit Report show (cf. Döring, O./ Turnwald, S. 2007: 2; Dobischat, R./ Düsseldorff, K. 2013: 248; Teine, M./ Rohde, S./ Beutner, M. 2015: 22).

However, particularly for the SMEs it is necessary, to focus on cooperative measures of continuing vocational education which are integrated into the workplace and based on a self-organised approach. Such measures are primarily based on the employee´s expertise, their knowledge, and their experiences (cf. Döring, O./ Turnwald, S. 2007: 9). Harnessing these mentioned learning assets and developing a learning culture among micro-enterprises is one of SYNERGYs major objectives. In this context, the consortium partners aim to

(1) Create a sense of community animating micro-enterprise owners and education service providers towards a common set of educational goals and objectives ensuring that service provision is tailored to address the needs of local businesses.

(2) Design and implement a series of cost-effective, flexible, bespoke peer-to-peer learning micro-social networks to considerably increase the range and accessibility of educational services and supports.
(3) To provide a suite of bespoke media-rich learning resources that address specific skill needs within the micro-enterprise sector identified through research with the target group.
(4) To promote inter-cultural awareness and grow the potential for international business development for micro-enterprises by linking the on-line learning communities created in the different Member States.

What is common to these objectives is, that they are based on the idea of peer-to-peer learning complemented by the consideration of the specific SMEs needs, as outlined by, e.g., DÖRING/ TURNWALD 2007.

BOUD, states that "the term of 'peer learning', however, remains abstract. The sense in which we use it here suggests a two-way, **reciprocal** learning activity. Peer learning should be **mutually beneficial** and involve the **sharing of knowledge, ideas and experience between the participants**. It can be described as a way of moving beyond independent to ***interdependent*** or mutual learning" (Boud, D. et al. 2001: 3; accentuation by the author). Thereby, peer learning is based on the rationale that "we **continually learn from each other**. For most of the things we need in our working and personal lives we find enough information and guidance from friends and colleagues." (Boud, D. et al. 2001: 1; accentuation by the author).

Peers, however, "are other people in a similar situation to each other who do not have a role in that situation as teacher or expert practitioner. They may have considerable experience and expertise or they may have relatively little. They share the status as fellow learners and they are accepted as such." (Boud, D. et al. 2001: 4).

In the context of the SYNERGY project, the different enterprise owners, their employees, and also vocational education practitioners are their peers, and they will be brought together on a regional, national, and international level via an online learning-community platform (micro-social networks). This platform aims to enable the participants to exchange their knowledge, experiences and information (through media-rich learning resources), and is based on the *quid pro quo-principle* on an international level. However, when talking about such approach one needs to be aware of its advantages and disadvantages.

On the disadvantage side, it needs to be mentioned, that peer learning is not necessarily the most efficient way of learning and the shared knowledge and information might lack accuracy (cf. Boud, D. et al. 2001: 1).

When taking a look to the various advantages it needs to be stressed, that the peers "are, or have been, in a similar position to ourselves. They have faced the same challenges as we have in the same context, they talk to us in our own language and we can ask them what may appear, in other situation, to be silly questions." (Boud, D. et al. 2001: 1). Furthermore, the learning in an informal context will make it "less burdensome and more enjoyable." (Boud, D. et al. 2001: 1). However, formalizing such informal learning process can help to foster the learning efficiency (cf. p. 3).

There should be no need to stress it anymore: Peer learning, as an approach, provides enterprise owners with the opportunity to engage in continuing vocational training bespoke to their own and their business needs. But, as mentioned, peer learning is not beneficial by nature due it is based on the *do ut des-principle* and there are also disadvantages that needs to be faced. The SYNERGY consortium partners are conscious about this, and thus we have identified the need for a *Pedagogic Strategy* as a part of the SYNERGY project, and particularly the peer learning activities. Following, a definition of what the Pedagogic Strategy is will be given, and the concrete Strategy will be outlined.

2.1 Definition of the Pedagogic Strategy

The SYNERGY project proposes to turn micro-enterprise owners into producers of educational content and services. Thereby, there is the need to ensure that the developed resources and the learning activities are based on correct pedagogic approaches and safeguards, to achieve high-quality peer-to-peer learning. Therefore, it is our idea to build the Pedagogic Strategy on the findings of the consortium partners' Audit and Research Reports.

The purpose of the Pedagogic Strategy is

(1) To ensure, that quality assurance issues related to the peer-to-peer learning environments are highlighted, and
(2) That the performance of the members in the peer-to-peer learning environments can be evaluated.

Therefore, the Pedagogic Strategy consists of

(1) A *Framework* that identifies the specific issues and approaches to be used in the Induction to Pedagogy Programme, and
(2) A *Learning Outcomes Matrix* that identifies the key learning outcomes of the Induction to Pedagogy programme.

The *Induction to Pedagogy* (Intellectual Output 8) is a programme that aims to support the role of micro-enterprise owners in the peer-to-peer learning environments and is designed as a curriculum, based on media-rich mini-learning-format resources. These mini-learning-format resources are developed in accordance with the structures and criteria set out in the Pedagogic Strategy, and they will be validated by VET professionals and micro-enterprise owners within local sub-groups in each partner country.

Thus, the Induction to Pedagogy is to understand as a curriculum that should be run by the micro-enterprise owners when they are going to participate in the peer-to-peer learning environments. Therefore, the modules within the curriculum aim to qualify the micro-enterprise owners to become content providers and participants within such environments. These modules will be designed in accordance with the structure and criteria set out in the Pedagogic Strategy. The learning contents that comprise the Induction to Pedagogy, will be provided by the consortium partners.

Based on this framework, the concrete contents of the Induction to Pedagogy curriculum will be set out as modules. The framework, however, will be complemented by a Learning Outcomes Matrix. The Learning Outcomes Matrix defines the key learning outcomes for each of the curriculum modules, an appropriate methodology to deliver the modules content and assessment forms. Thus, it can be evaluated if the micro-enterprise owners processing the Induction to Pedagogy are qualified to participate in the peer-to-peer learning environments. The methodology chosen to deliver the contents set in the curriculum will be designed under consideration of the approach of media-rich mini-learning-format resources. Here, the already qualified micro-enterprise owners are addressed in the role of a teacher.

Following, the Framework and the structure of the Learning Outcomes Matrix will be carried out.

2.2 Framework

The following Framework is, as already mentioned above, concerned with

(a) the quality issues that need to be safeguarded in the development of the peer-to-peer learning environments, and
(b) the key learning outcomes to be attained by the micro-enterprise owners before they engage in the peer-to-peer exchanges.

Therefore, the construction of the Framework will combine both: on the one hand, we will conduct desk-based research for quality criteria of peer learning and peer-to-peer learning environments. On the other hand, we will focus on pedagogical and didactical criteria and approaches necessary for a high-quality participation in the learning environments. Here, particularly the preparation of learning resources for peers will be focused.

The Framework itself will bring together the findings to both of the mentioned research foci. The results will then be displayed as a *catalogue of topics* (domains) in which the micro-enterprise owners are required to acquire knowledge and competencies. This catalogue will give shorts description about this knowledge and the competencies, and will be furthermore the basis for the formulation of the modules of the Induction of Pedagogy.

2.2.1 Quality Criteria of peer learning

"Peers are indispensable for the learning processes", stressed EHLERS 2013 (p. 104). Particularly through the advancement of the technology and the rise of social networks and communities, peers can on the one hand stimulate ones learning process, and on the other hand they can help one to reflect this process. Here, especially self-generated materials are of importance (cf. Ehlers, U.-D. 2013: 104). However, taking a look back in the past it can be said, that peer learning may have implicitly always taken place as it can be defined as "the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions." (Topping, K. J. 2007: 631). These 'status equals or matched companions', however, are "people from similar social groupings who are, not professional teachers helping each other to learn" (Topping, K. J. 2007: 631). This pretty much stresses the fact, that the helpers and the helped should be similar, so that the activity is challenging all of the participating peers (cf. p. 632).

Peer learning offers a huge variety of types related to the concrete constellation of the peers, their interrelationships, etc. The differences can be, according to TOPPING, shaped by 13 *organisational dimensions*. With respect to our aim to create the Framework, we want to emphasise only the following organisational dimensions (cf. p. 633):

(1) The *curriculum content*, which is concerned with knowledge and skills to be covered.
(2) The *contact constellation*, which is about the group size and the roles of the peers.
(3) The *ability*, which is concerned with the question, if all peers have the same abilities working towards a common goal, or if there is a helper with superior mastery of certain parts of the curriculum.
(4) The *time*, however, is concerned with the regularity of the participation.
(5) The *place*, which gives information about the location where the exchange takes place.
(6) The *characteristics of the helped* are concerned with the concretisation of the target group respectively the peers.
(7) The *objectives* of the peers like, e.g., intellectual or social and emotional gains.
(8) The question for if the participation is *voluntary or compulsory* resp. takes place on a frequent base.

Additional to the mentioned 13 organisational dimensions, TOPPING mentions 12 more aspects that need to be taken into account when planning peer learning (Topping, K. J. 2007: 634f.):

(1) Context: Focuses on the problems and opportunities of the specific given context.

(2) Objectives: The planned achievements need to be clear.
(3) Curriculum area: What are the topics?
(4) Participants: Who are the peers and what are their roles?
(5) Helping technique: Which method will be used?
(6) Contact: Frequency, Duration, Place?
(7) Materials: What are the required resources?
(8) Training: Training for the staff of the environment creators and the peers in their role as helpers then.
(9) Process monitoring: There must be a quality assurance.
(10) Assessment of students: Self and/ or peer assessment of the product and the process.
(11) Evaluation: Does it work?
(12) Feedback: For future improvements.

These (partial overlapping) dimensions and aspects may help to create a learning environment that fits best to the target group and the purpose of exchange. For the concrete implementation and embedment of peer learning environments, TOPPING gave also recommendations based on literature findings (cf. pp. 642-643):

(1) The expectation of success is the driver of the participants. Therefore, the implementation needs to be supported and, when looking at one organisation, colleagues should participate, too.
(2) To reduce the asymmetry between helpers and helped, the helped should be prepared to become a helper, too.
(3) Everyone needs to be able to participate, to make the peers feel equal.

EHLERS, in contrast to TOPPING, focused more on the peers themselves and less on the organisation and characteristics of the environment. Here, he particularly focuses on their role within the community resp. the peer group. With respect to the huge diversity of contexts it is hardly possible to state concrete characteristics of what a peer should look like. General guidelines might be the following (cf. pp. 104-105, 107):

(1) Peers should be open-minded, perceptive, and aware of their competencies and responsibilities. They should have strong relational and auto-critical skills and a deep subject matter competence. This is particularly necessary because the peers need to act autonomously most of the time.
(2) Peers should be willing to share materials, create knowledge, and edit the materials of others.
(3) Peers have the objective to support other peers and they define themselves as a group that grow. Here it is also necessary to add, that there is no hierarchy within the group,

only roles (TOPPING 2007 referred to Helpers and Helped). These roles are naturally defined by the level of quality of contribution, the participation, etc.

(4) Peers need to be aware of their surrounding and the needs, interests and objectives of the other peers.

An aspect that needs to be stressed is, that it is not only inevitable to share learning resources, but to focus on the communication also to exploit it efficiently (cf. p. 105). Furthermore, it must be stressed that the peers need to be prepared for the exchange of materials and the participation in a peer group (cf. p. 107). Therefore, “the focus needs to be on creating tools, **guidelines**, and policies that enable and drive peers to produce **preferable small, structured, and standardised learning objects that are easy to assess and cope with for potential future reuse** and transparent in terms of their creation process.” (Ehlers, U.-D. 2013: 107, accentuation by the author) This is particularly the reason why we are creating this Framework of topics that should be taught through the Induction to Pedagogy. Furthermore, this quote also refers to how the *media-rich mini-format learning resources* that will be shared within our peer groups could look like.

At least, before outlining the concrete topics for the Framework, we will have a look to HOY/ TSCHANNEN-MORAN 1999. The specialty of their approach is to switch the perspective to “how teacher education can prepare beginning teachers so that they develop expertise in cooperative methods, particularly cognitive approaches to peer learning” (p. 257). Even if we are not directly focusing on teachers, the approach described is similar to ours with the Induction to Pedagogy. HOY/ TSCHANNEN-MORAN developed a five-part framework that shall help to plan, implement and assess peer learning; or in the authors words: “to help teachers design peer learning situations in which the quality of communication and interaction supports learning” (p. 259). The five parts, described as *stages*, are the following (cf. pp. 260f.):

(1) Group characteristics: Here the focus is on the achievement level of the participants and their readiness for new challenges. It is also about safeguarding a skill-standard and shared attitudes within the peers.

(2) Goals and tasks: Goals for the development of skills (and also the cognitive development) need to be set appropriate to the target group. The interrelation between these two processes need to be considers as they may build up one on another.

(3) Getting there: When the peer groups are designed, aspects like e.g., status, achievement level, and special needs need to be considered. Here, a focus lays also on the awareness of “the potential for unanticipated consequences such as goal displacement (focusing on rewards rather than learning) or negative impact on the motivation” (p. 260).

(4) Guiding the process: Focuses on the awareness about the typical problems in peer learning situations/ environments and the need for strategies, appropriate to address such problems. It is furthermore about the adjustment and reflection of the environment if necessary.
(5) Gazing backwards and glimpsing ahead: The creators of peer learning situations should have a structure to efficiently and effectively reflect the situations and the processes that took place. A quote that shall be mentioned here is: “The evaluation of one peer learning activity begins the process of setting goals and planning for the next.” (p. 261). This quote stresses also, that the peer need to understand themselves as a coherent group with shared objectives and attitudes.

It can clearly be seen, that the five stages are designed for the implementation of peer learning in class by teachers, but, because they are designed in a comparatively generic way, we can derive pointers from them for the project’s Pedagogic Strategy. This will be done now. Therefore, we will bring the approaches from TOPPING, EHLERS, and HOY/ TSCHANNEN together. As seen, each of the approaches has its own specialities but they do also have a common denominator. Furthermore, as an outlook to the following subchapter, the mentioned approaches do also consider pedagogical aspects and criteria for the design of the learning resources that are shared within the group. Hence, they will be part of the following mentioned domains for the Framework as a part of the Pedagogic Strategy also. Anyway, bringing the different approaches and their perspectives together, we want to set out the following domains to be considered within the Induction to Pedagogy respectively as a part of the Pedagogic Strategies’ Framework.

(1) Criteria of Peer learning:
The peers should be familiar with the definitions and criteria of peer learning, they should understand how groups work and should be built in peer-environments and they must be informed about the attitudes and mind-sets that go hand in hand with peer learning – particularly working towards a common goal. This knowledge is inevitable for further evaluation and feedback processes.

(2) Training of Peers:
As the peer groups should grow by time, helped will become helpers at a certain time. Then, it will be their task to introduce others into what they had to learn before they started to participate in the peer group/ peer-to-peer environment. Therefore, even at this early stage, the new peers should be made familiar with strategies and approaches of how they can teach a curriculum like the Induction to Pedagogy to others and how they can act as a helper. Hence, the new peer will acquire knowledge about instructional and pedagogical approaches for how they can introduce others, but they

will also learn what a curriculum is and how they can use it for their learning and teaching processes.

(3) Evaluation of the Environment:

Safeguarding a high standard within the learning environment and resources must be one of the peer's major objectives. Therefore, evaluations of the environment are necessary and each of the peers will contribute. Hence, the peers must be aware of typical problems and quality criteria of peer learning, so that they can face the identified problems by using approaches and implementing routines. Besides this, the peers should be able to evaluate their own learning processes respectively how they are progressing towards their individual aims.

(4) Learning materials and objectives

As the peers, who are, in this context, typically not the providers but consumers of pedagogical services, are going to design and create learning resources which will then be exchanged, they need to acquire a sound pedagogical and didactical knowledge. This is necessary, to safeguard a certain level of quality and appropriateness within the resources. Therefore, the developer of these resources have to be aware of the thematic and methodological needs and preferences of their peers, they have to deal with learning aims, and they need to have an understanding of the criteria of learning resources with a particular focus on the specific context of an online environment.

As nearly every model or approach that aims to describe educational processes focusses on the necessity of the relevance of the content provided resp. providing content based on the needs of the target group (cf. Arnold, P. 2013: 302; Tramm, T. 2004: 2; Riedl, A. 2004: 58), we will have a short insight into the results of the survey conducted with the target group focused on thematic learning needs.

Here, the partners found, that micro-enterprise owners are already skilled in

(1) Communications
(2) Management, and
(3) Teamwork.

Furthermore, the micro-enterprise owners seem to have a good knowledge in Marketing and Negotiation skills. Anyway, what is even more important is to be informed about where gaps exist and particularly where skills are needed. Here, the partners have identified that gaps exists in the following themes:

(1) Business Law,
(2) Logistics, and
(3) Supply Chain Management.

But, and this needs to be considered, this does not say anything about the relevance of the content. Thereby, we want to have a look on a list about the areas where knowledge and skills are absolutely inevitable to run a business successfully:

(1) Strategy and Business Growth
(2) Marketing, and
(3) Communications and Networking.

In the following chapter we want to have a closer look on the design criteria for learning resources, and also on pedagogical and didactical approaches necessary to know to create high-standard resources.

2.2.2 Pedagogical and didactical criteria

The peer-to-peer learning approach aims to be mutually beneficial when it comes to the exchange and sharing of knowledge, experiences and ideas, and the peers shall learn from each other. In SYNERGY, however, it is planned that this exchange will take place (primarily) on an online platform where different, small networks of micro-enterprise owners are connected. Within these networks, we named them *micro-social networks*, the micro-enterprise owners will create *mini-format-learning resources* which can then be shared and used for training purposes by the peers – the learning assets within the community are harnessed. As already mentioned, this participation in form of exchanging learning resources shall adhere to different quality criteria. Some of these criteria were already mentioned in the previous chapter about peer learning in general, as they were a part of the description of peer learning situations (see Learning materials and objectives). Anyway, when the peers are going to harness their learning assets by preparing and creating learning resources, they need to consider various aspects to safeguard a certain level of quality. They need to be aware about pedagogical approaches that will enable them to create such resources, about preferred resource formats (e.g., case studies, podcasts, or videos), and also about how the characteristics of the learning environment (here: the online platform) may influence the shape of an "optimal resource".

Following, we will have a look on theoretical pedagogical and didactical approaches but also the findings of the SYNERGY Audit Reports to answer the following questions:

(1) What are the quality criteria for learning resources used by micro-enterprise owners for the purpose of continuing vocational training?
(2) What competencies should micro-enterprise owners have to create such high quality-resources?

Our approach here is not only to focus on literature specifically designed to give information about the ideal preparation of learning resources, but also to review literature concerned with the didactical design of learning situations in vocational education in school or other educational institutions. Hence, we combine very specific with more generic approaches which seem to be appropriate for the projects respectively Pedagogic Strategies' approach. We will have a look on an approach that will help us to answer the first question:

In 2009, the *Schweizerische Fachstelle für Informationstechnologien im Bildungswesen* (Swiss Department for Information Technologies in Educational Contexts), outlined quality criteria for electronic learning and teaching resources (eLLr) for different context, but with a focus on teaching resources. The criteria were developed within the project *Digitale Schulbibliothek*, which aimed to simplify the exchange of high-quality learning and teaching resources (cf. SFIB 2009: 2). eLLr´s, however, are defined as "any online accessible content, which can be used by teachers, learners, or pedagogues, to prepare, organise, execute or evaluate educational and training processes" (p. 3, translation from German into English by the author). The resources, however, are not categorised or classified, which leaves us the space for interpretation and to adapt this comparatively generic approach to the mini-format learning resources. To describe eLLr´s, the SFIB focused on a **bibliographic** and a **pedagogical-didactical description** (cf. p. 5).

The bibliographic description is concerned with the **bibliographic information** about the learning resources, which will allow the users of, e.g., peer-to-peer learning environments to search for and find such resources effectively, to identify the resources, and to have information about the author/ creator of the resource. This data also includes information about the subject/ topic, the concrete target group/ addressee, and the level of complexity (cf. p. 4).

The pedagogical-didactical description focuses directly on **quality indicators** of the resources and is designed as a cumulative catalogue. Thereby it is meant, that the SFIB distinguished four categories of learning and teaching resources: 1 – general resources to 4 – official resources for use in schools. As the fourth category is less generic and focuses on the certification of the resource, we will exclude it from our criteria list. Anyway, a category four resource has to fulfil the quality criteria of category one, two, and three in a cumulative way and also some more. The quality criteria from category one to three can be mentioned as follows (cf. p. 4):

(1) The correctness of the content delivered through the learning materials must be safeguarded.
(2) The resource must include a concrete learning goal and considers a pedagogical-didactical context. Furthermore, the resource is linked to other resources.
(3) The resource is peer-reviewed by experts. Here, it must be mentioned who validated the content of the resource through review.

It can be seen, that this approach is particularly concerned with the appropriateness of the learning resource for the target group and the validity of the content communicated. Unfortunately, the SFIB gave no recommendations regarding pedagogical or didactical approaches preferably used to communicate the resources content or resource formats. Therefore, we will have a closer look to the research findings of the SYNERGY consortium, carried out within the Summary Audit Report and particularly the German National Audit Report.

The Audit Reports set out the findings of surveys that were conducted with micro-enterprise owners in Ireland, Cyprus, Germany, Greece, Italy, and Romania. Within these surveys, we focused on the methodological preferences of the micro-enterprise owners. Related to this aspect, we explored data regarding the preferences for the following criteria:

(1) Guided learning vs. self-guided learning
(2) Traditional vs. more modern resource designs
(3) Interactive and exercise based design vs. teacher centred and theoretical design

Generally speaking it can be said, that guided learning (particularly mentoring) seems to be a desired way of learning. Unfortunately, peer-to-peer learning cannot be validated as one of the preferred learning methods, as the survey respondents have ranked it as their third preference in Ireland, Cyprus and Italy, and their fourth in Germany out of six possible opportunities. In Greece and Romania, however, peer-to-peer learning was not present in the top answers. Anyway, as the consortium has already decided to focus on a peer learning environment, we need to focus more on the two following questions.

Regarding the debate about traditional or modern resource designs, we found that the respondents prefer more traditional learning formats and resources over modern ones. We found a preference for seminars/ webinars, case studies/ worksheets, and online courses also. This shows also, that the respondents are more likely to engage with interactive and exercise based resources than with non-interactive resources or teacher centred designs. But, and this needs to be stressed, these preferences vary strongly by the different partner countries which is why the peers need to focus on their specific, local context.

To answer the second question with a focus on pedagogical and didactical approaches, we need to focus on how learning resources should be designed in general. Therefore, we want to focus on an approach presented by TRAMM 2004. He focuses on design-criteria for learning situations within the curricula of vocational schools. Due some of his criteria are generic, they might lead to an answer to the focused question. However, the criteria seem as well appropriate for SYNERGY respectively the design of learning resources are the following:

(1) Problem-oriented learning:

Theoretic models and contents should be carved out of a corresponding practical context. This practical example will help the resource users to understand the learning content and to reflect it.

(2) Competency-Dimensions:

When designing learning resources, the developer should differentiate between the *ability*, the *understanding*, and the *will*. The ability is process-specific, the understanding and will is not.

(3) Learning goal:

The resource designer should be able to describe, which facts, concepts, procedures, or knowledge in general he is willing to present resp. teach. Thus, he must be able to give something like a learning goal for a specific resource.

(4) Complement:

It is necessary that acquired knowledge is not only reflected, but that it will be complemented, extended and deepened. In our context this could mean, that the designer links the created resource with similar ones.

(5) Practicing:

To sustainably acquire competencies, these need to be practiced. Therefore, exercises should be given too, or embedded into the resource. Here, it is good to focus on many but not only one context where the competency is important.

(6) Assessment:

The resource designers should give recommendations on the planned assessment. This will furthermore help the designer to operationalise the competencies he or she wants to teach.

Here, we can see that many of the criterions are overlapping with the ones mentioned in the approaches before. We consider this as good, as it allows us to have a multi-perspective view on these criteria. Anyway, the three criteria of problem-orientation, thinking about different competency dimensions, and practicing are pedagogic and didactical approaches that can easily be integrated and respected when designing learning resources for the exchange in peer environments.

It can be seen, that the criteria of the SFIB are, in contrast to the criteria outlined according to TRAMM, particularly focusing on the appropriateness of the content for the target group and the validity of the content. TRAMM, however, focuses more on the learning process itself. Thereby, we considered different perspectives, which will lead us to the following domain catalogue:

(1) **Design of Learning Resources**

When creating a learning resource, the peer should on the one hand know about bibliographic information that can be used to describe his resource to make it easier to access, and on the other hand, he should know about quality indicators of learning resources, different methodological and didactical designs but also assessment routines to safeguard a certain level of quality.

(2) **Evaluation of the Learning Resources:**

With a focus on the evaluation of the circulated learning resources, the peers should be able to measure the quality of the resources and know about how to use the evaluation results to feed it back to the creator or platform provider to help to safeguard quality.

Summarised it can be said, that the different guidelines within the framework are not clearly distinguishable, as they refer one to another. Therefore, it is our suggestion to build the Induction to Pedagogy not as a linear curriculum, but as a curriculum where the peers will get in contact with different topics at the same time, and where the completion of a single module might take a bit longer. It is not to understand as a sequence where the peer got introduced in Module 1 first and Module x least. Module 1 might start early in the learning process, and Module 6 might be parallel to the whole learning process.

2.3 Comprised Framework

In the following chapters we have created domain catalogues for both peer learning in general and pedagogical approaches necessary to create high-quality learning resources in particular. Following we will bring these catalogues together and merge them. Therefore, this chapter will be concerned with the Framework itself, which will be together with the Learning Outcome Matrix the Pedagogic Strategy and the basis for the Induction to Pedagogic Curriculum-Modules at the same time.

(1) General Knowledge:

This module aims to set the basis for the work within the peer-to-peer learning environments and for being a learning resource creator, as it aims to teach the learner about peer learning and criteria for learning resources in general.

  a. Criteria of Peer Learning
  b. Design of Learning Resources
  c. Learning Materials and Objectives

(2) Quality Assurance:

These modules focus on the evaluation of diverse aspects and components of the peer-to-peer learning environment and the shared resources. The evaluation shall uncover potentials for improvement and is a lynchpin to the environments quality assurance.

a. Evaluation of the Environment
b. Evaluation of the Learning Resources
c. Training of the Peers

2.4 Learning Outcomes Matrix

The Learning Outcomes Matrix is an integral part of the Pedagogic Strategy and the Induction to Pedagogy, as it is complementary to the curriculum developed on the basis of the Framework. In general it can be said, that the idea behind the Learning Outcomes Matrix is

(1) To describe the *learning goals/ outcomes* of a micro-enterprise owner that took the induction to a specific part of the curriculum respectively Induction to Pedagogy.
(2) To describe the *teaching and learning activities* that will be undertaken to teach/ introduce the micro-enterprise owners. Here, the idea of the media-rich mini-learning format resources needs to be considered.
(3) To describe how the micro-enterprise owners can be assessed on their achievement of a specific outcome.

Hence, the Learning Outcomes Matrix needs to be created and filled for each of the modules of the Induction to Pedagogy respectively the curriculum that aims to qualify the micro-enterprise owners.

Name of the Curriculum Module:		
Outcome	Teaching and Learning Activities	Assessment
Please describe the skills and competencies, the micro-enterprise owners need to be acquired when they have taken this induction.	Please describe how the micro-enterprise owners will be provided with the contents and how you aim to achieve a specific learning outcome.	Please describe how you plan to assess the achievement of the specific outcome.
-	-	-

Table 1: Learning Outcomes Matrix

This Learning Outcome Matrix can also be adapted by the peer themselves, when they are creating learning resources.

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