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List of abbreviations

CEFR.....	Common European Framework of Reference for Languages
CLT.....	Communicative Language Teaching
EIFEL.....	European Institute for eLearning
ELP.....	European Language Portfolio
ICT.....	Information and Communications Technology
LMS.....	Learning Management System
L2.....	Second or Foreign Language
SRD.....	Standardisierte kompetenzorientierte Reifeprüfung
TBLT.....	Task-Based Language Teaching

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1. Introduction

The 21st century has witnessed rapid technological advancements. Today's learners and the generations entering universities or schools have grown up in a digital environment. They are accustomed to using computers and other electronic devices for communication, entertainment or research and in doing so continually surpass cultural and geographic borders. Despite frequently sharing information and experiences online, the mere participation in a range of online activities does not automatically lead to sustained learning experiences. It will be argued in this paper that the electronic portfolio is an effective tool for using these prerequisites and taking learners' everyday networking activities to a more professional, educational level. The electronic portfolio, or e-portfolio, is considered a means of collecting, connecting and reflecting work, raising the users' awareness for the learning processes they are going through. Or, as Gibson (2006: 144) optimistically states "[...] electronic portfolios will cause new types of thinking, reflection and expression."

The e-portfolio enables learners to understand and actively participate in society and technology, whilst taking advantage of the inherent connectivity of the medium. This is especially relevant in language learning, where using the foreign language for meaningful communicative purposes is considered a central aspect. This paper will explore the potential of e-portfolios for English language instruction.

Davies and le Mahieu (2003: 158) demand that "a quality high school education must equip the learner to continuously grow, develop and learn throughout his or her lifetime." It will be argued that the e-portfolio can be a valuable tool used to fulfil these aspirations. Following theoretical considerations to this purpose, the empirical research presents concrete examples of e-portfolio tasks. The central research aim was to design a e-portfolio project that could be employed at an Upper Secondary High School in Austria to assist English language learning and ultimately support the preparation for final examinations.

Chapter 2 explores the development of portfolios from paper-based folders to their present day electronic counterparts. Different types of and objectives for e-portfolios will be introduced as well as the implications for instructional settings. In chapter 3, the learning theories underlying e-portfolios will be examined. The e-portfolio, not following one learning theory per se, can be linked to self-directed, reflective and autonomous learning. For the language classroom, connections to Communicative Language Learning can be drawn.

Chapter 4 then explores the manifestations of the learning theories in the e-portfolio. This in turn leads to contemplations about life-long learning and technologically supported learning in the knowledge society which will be analysed in chapter 5.

Returning to classroom applications of the e-portfolio, chapter 6 examines questions pertaining to assessment. It explores how assessment can be used for learning and how the e-portfolio can play an important role in formative assessment.

Chapter 7 examines the technical foundations of e-portfolios. It seeks to establish how much familiarity with technology is required from the teacher's side to conduct a successful e-portfolio project. It further offers some practical guidelines for e-portfolio development and selection. In chapter 8, challenges and potential problems pertaining to e-portfolio use are addressed. It analyses the different dimensions and stakeholders involved in e-portfolio implementation and seeks to offer advice on how pitfalls can be avoided.

Chapter 9 outlines the research project of this paper and defines the research questions. These pertained to possible software solutions, suitable for a High School English setting and how reflection, self-regulation and communication can be scaffolded through tasks. Chapter 10 reiterates the technical considerations and research on different software solutions that were necessary for this e-portfolio project. The resulting findings and implications are then discussed. Chapter 11 is concerned with setting up the e-portfolios for the research project, taking into consideration privacy and ownership issues. In chapter 12, examples of the e-portfolio tools and tasks are presented and explained in detail.

The concluding chapter offers a synopsis of the research project, a discussion on the research questions and directions for future research. Overall, this paper and research project seek to illustrate the potential of e-portfolio implementation for English language learning in a High School setting. The tasks and examples of portfolio work presented in this project are intended to be used in the classroom. Resources can be accessed via the example e-portfolio and applied in the language classroom.

2. What is a portfolio?

The word portfolio refers to the Italian *portafogli* which is a compound of the verb *portare* ‘to carry’, and the noun *foglio* ‘page, leaf’ (Collins Dictionaries 2013). Portfolios have been in use as early as the Renaissance time, when artists and architects used them for work applications. Still today, this usage for exhibiting previous work and giving an overview about achievements, products and developments is widespread, owing to the fact that products tell their own stories where written descriptions might fall short of expressivity. Although portfolios have traditionally strong connections to the arts and design, this form of presentation should not be limited to artistic professions. A portfolio can provide valuable insights into the competences of a person of any profession (Häcker 2008b; Hornung-Prähauser et al. 2007). The following sections briefly reiterate the development of portfolio work and its inclusion in educational settings. Differences between paper-based and e-portfolios will be explored as well as e-portfolio opportunities in education.

2.1 History of portfolios and development

The educational use of portfolios was initiated in the United States in the 1980s, when a call for educational reforms was proliferated (Hornung-Prähauser et al. 2007: 114ff). The criticism of the status quo was manifold; on the one hand it was feared that the quality of education was diminishing with students only being taught to pass standardised tests. On the other hand, employers were not seeing their needs in the workforce fulfilled, with employees having failed to acquire integral competencies and abilities. When in 1983 the *A nation at risk* report was released, it brought to light the shortcomings of the American school system. The need for more comprehensive and integrative didactical formats was acknowledged then, since the means of assessment not only influence teaching but in consequence also the pupils’ learning via a hidden curriculum. In the 1990s, the portfolio represented one of the three major curricular trends in the USA. As a result of this development, the portfolio became the most widely distributed alternative assessment method within a short time (Häcker 2008b; Hebert 2001; Ballweg and Bräuer 2011; Cummins and Davesne 2009: 849).

In German-speaking countries, the portfolio emerged at the beginning of the 1990s, when experiences from the United States were reported and a study for the German Ministry for Education and Science was conducted in order to establish the possible applications of the portfolio in teacher education. This first discovery of portfolios, however, was largely without

impact on the educational world. Only between 2000 and 2003, the portfolio began to receive recognition in the German-speaking countries. The first publications here were predominantly concerned with the alternative means of assessment a portfolio offers, whereas the entailed modifications of the roles of teachers and pupils came into focus later on (Häcker 2008b; Ballweg and Bräuer 2011).

2.1.1 The European Language Portfolio ELP

The European Language Portfolio (ELP) originated in the mid-1990s and is probably the most well-known type of portfolio in Europe. The ELP consists of three main parts, the language biography, language passport and dossier. The language biography represents the learners goals, reflections on and encounters with a foreign language. Since the learner is invited to reflect on any instances of language learning, non-formal and informal learning can be included as well. The language passport contains formal assessment and self-assessment, using the Common European Framework of Reference for Languages (CEFR) levels. It both provides information of language proficiency at a given point in time and chronologically records progress. Finally, in the dossier, the users are invited to collect and archive previous work, illustrating the claims they make about their language proficiency in the biography and passport sections (Ballweg and Bräuer 2011: 6; Little 2003: 1; Schneider and Lenz 2000).

Being used for all official languages of the European Union, the ELP and associated CEFR levels do not refer to grammatical items or vocabulary, but rather which communicative acts can be accomplished in any given language. The focus of language learning thus shifts from the traditional structure-oriented approach to a constructivist and communicative approach. This reflects the aim of the Council of Europe to consider languages as bridges in a multilingual and multicultural European Union (Fehse, Friedrich, and Kühn 2011: 2ff).

The central elements of the ELP are templates, questionnaires and rubrics for self-evaluation. This somewhat closed structure systematically guides the learner towards reflection on learning and the envisaged language goals. However, it also predetermines a linear learning path and limits the learner in choice and creativity.

The main means of adapting the ELP to personal needs and ideas is by inserting or rejecting specific pages. Various templates for different age groups, educational sectors and geographical contexts have been developed by European institutions. In order to carry the official title European Language Portfolio and logo, materials have to be submitted to the European Language Portfolio Validation Committee. Until 2010, this process has led to 118

ELPs being accredited and since 2011 an additional 23 registered (Council of Europe 2018). The ELP is issued in hard-copy and digital versions, however with the digital version being very standardised and offering little room for individual adaptations, it does not fully embrace the potentials of an e-portfolio.

2.1.2 The European e-portfolio initiative

Conceived partly as an extension of the ELP strategy, and partly as the realisation of the Lisbon Strategy, the European Union introduced the *ePortfolio for all* initiative in 2003. Supported by the European Institute for eLearning (EiFEL), the initiative's aim was for all European Union citizens to have an e-portfolio by the year 2010 (Tolley 2011; Lorenzo and Ittelson 2005: 26; Fehse, Friedrich, and Kühn 2011). Despite its considerable motivation and benefits, the initiative did not lead to substantial changes. Although traces can be found in the literature, the EiFEL homepage is no longer available, and strategy papers are hard to come by. Likewise, the *E-Portfolio initiative Austria*, which was linked to *ePortfolio for all* and aimed at implementing e-portfolios in Austrian schools, is no longer accessible.

2.2 Definition

Various definitions of educational portfolios can be found, yet the summary of Paulson, Paulson, and Meyer (1991: 60) synthesises the central aspects of portfolio work and offers an excellent starting point for analysis.

A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress, and achievement in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection.

It is worthwhile to take a closer look at the individual constituents of this definition. In order to be considered a portfolio, the final product has to be "more than a collection of artifacts haphazardly connected together in a multimedia program or document", Carmean and Christie (2006: 34) state. Individual contributions need to illustrate the purpose and goals underlying the portfolio. Likewise, Hornung-Prähauser et al. (2007: 16) point out that the selection and compilation procedures take on a prominent role.

Exhibiting achievements generally refers to best works, grades or prizes won. The portfolio, however, seeks to not only include these results of learning, but also growth and individual steps leading to these achievements. This entails the inclusion of work-in-progress, attempts or drafts, which not only illustrate the learning process but enable the reader and

learner to reiterate progress over time. According to Campbell et al. (2000: 151), the reader is thus presented with an “organized collection of complex, performance-based evidence that indicates one’s growth, goals, and current knowledge and skills needed to be competent in a role or area of expertise.”

When compiling a portfolio, the learner takes on a central role in the selection process. Ideally, this means that teachers offer little more than guidelines, whilst the learners choose which pieces of work best represent their learning. “Reflection upon self-selected samples of learning encourages the development of the metacognitive skills required for the children to understand themselves as learner” states Hebert (2001: 123).

Assessment, finally, can be approached through a different angle as well. Having the learners reflect on merit engages them in the analysis of strengths and weaknesses of their work. This may lead to further goal setting and planning of new learning processes.

All of these aspects taken together define the portfolio and distinguish it from a haphazard collection.

A portfolio, then, is a portfolio when it provides a complex and comprehensive view of student performance in context. It is a portfolio, when the student is a participant in, rather than the object of, assessment. Above all, a portfolio is a portfolio when it provides a forum that encourages students to develop the abilities needed to become independent, self-directed learners. (Paulson, Paulson, and Meyer 1991: 63)

2.3 From traditional portfolio to electronic portfolio

Traditional portfolios had to rely largely on the medium of paper and were compilations of work, collected in a folder, binder, box or similar containers. The advent of the electronic portfolio, or e-portfolio, can be observed from the early 1990s. It is, at the very basis, characterised by the shift from a physical format to being digitalised and, later on, web-enabled. Overcoming the physical restraints has diversified the nature of the portfolio. Whilst it adopts the concept of a traditional portfolio, the e-portfolio offers new opportunities for storage, filing, sharing, publication, presentation and collaboration. Pallister (2008: 103) summarises as follows:

Although there are many different definitions of an ‘ePortfolio’, there appear to be some common elements. These include something about digital evidence owned by a learner, structured and stored in some way that enables the evidence to be found, presented and shared with others [...]. The digital evidence being stored is likely to include a learner’s plans, achievements, aspirations, reflections and thinking.

2.3.1 Artifacts and multimodal texts

The Latin term artefact is a compound of *arte*, 'by skill' and *factum* 'thing made' (Collins Dictionaries 2018) and thus refers to 'work done skilfully'. The alternative – and original - spelling 'artefact' is less frequently used in portfolio literature, thus 'artifact' will be used throughout this paper. According to Campbell et al. (1997: 5)

[a]n artefact is tangible evidence of knowledge that is gained, skills that are mastered, values that are clarified, or dispositions and attitudes that are characteristic of you. Artifacts cannot conclusively prove the attainment of knowledge, skills, or dispositions but they provide indicators of achieved competence.

Artifacts in e-portfolios can take on a multitude of formats: written work, audio files, video, photos, blogs, links, basically anything the learner deems suitable for illustrating learning. Whereas an artifact standing alone, may indicate what has been achieved, an artifact enriched with a rationale represents a window to the past and the future (Delandshere and Arens 2003: 64). Reflecting the learning path, learners become aware of how they have learned and which strategies were valuable to them. In positioning the artifact on a learning continuum, the learner can further point out paths into the future, potential challenges and how to overcome these.

The diversification of artifacts corresponds with the concept of multimodal composition (Clark and Eynon 2009: 21) or multimodal literacy (Müller-: 83, a phenomenon that can be observed in contemporary interactions. Text no longer refers to written accounts exclusively but encompasses a variety of media – letters, images, sounds, music. Modern publications and especially websites embrace the potential multimodality of texts, catering to the tastes and habits of consumers. Not only does the multimodality support understanding from a theoretical learning point of view, it also caters for a wide range of learning types and balances verbal, visual and aural literacy (Bräuer: 38).

Multimodality is nothing new, however technological developments have proliferated its progress and distribution. Never before has it been easier and less cost intensive to enhance written text with visual supplements. Most learners who are currently at school are considered digital natives and likely to be accustomed to multimodality. Learners will therefore perform tasks and assignments that appear natural to them.

2.3.2 Advantages of the e-portfolio

Many are beginning to see value in the ePortfolio's ability to create and deliver information. For the owner and the viewer, it presents an intuitive and easy-to-access umbrella of services. The conceptual framework, levels of permission, and integrated tools provide a narrower, but more functional interface than previous uses of online Web pages, databanks, or résumés [...]. (Carmean and Christie 2006: 39)

The main advantages of the electronic portfolio over the traditional portfolio as identified in the literature (Heath 2002: 20; Challis 2005: 3; Wade, Abrami, and Sclater 2005) can be summarised as follows and will be analysed subsequently:

- Paperless format enhances flexibility
- Diversification of artifacts
- Cyclic instead of linear production
- Catering to different purposes
- Facilitating collaboration
- First-hand account of competencies and Information Communications Technology (ICT) skills

Storage, filing and organisation of work has become significantly easier with electronic portfolios. What used to be boxes or folders of paper, now is a neat digital file that can be shifted within the e-portfolio to illustrate competence at the place appropriate to the internal structure of the portfolio. In the same way, the entire portfolio can be moved without effort from one educational institution to the next.

Although the traditional portfolio included the option of adding printed photos or audio and video material on a CD or DVD, the consumption of these entailed having to use the respective technical equipment. In electronic portfolios, the access of an artifact is just a click away, irrespective of its format. Artifacts can take on a variety of formats, inviting the application of multiple intelligences. It is preferable to keep a learning experience as immediate as possible, without changing formats, as meaning gets lost in the translation process from one medium to another. Whereas the traditional portfolio is bound by its paper nature to overemphasise text and written products, the e-portfolio caters to a variety of learning preferences and styles. Shifting the focus from writing thus empowers learners who are disadvantaged by an emphasis on written assignments.

The e-portfolio compilation process is not linear with a clear starting and end point, but ideally leads to cyclic learning and reading (Yancey 2004: 743ff). E-portfolios can be arranged chronologically or thematically, according to needs and purposes such as collecting work, illustrating a learning process, reflection or presentation. When a specific purpose is

envisioned for an e-portfolio or when it changes purpose, artifacts can be moved without effort.

The digital format of an e-portfolio facilitates sharing work with others, and thus invites collaborative learning. Peers or teachers can view, review and comment on work, not only in the presence of the author, but surpassing local and temporal restraints. When used for presentation purposes, the e-portfolio can be readily shared with parents, administrators or potential employers.

ICT (Information and Communications Technology) literacy is being demonstrated, as the e-portfolio as a whole is the result of multimedia skills in action (Attwell et al. 2007: 48ff). The sharing of an e-portfolio thus creates a whole new dynamics in self-representation: The skills and competencies a learners claims to have are no longer just described but delivered with the material to illustrate achievements.

2.3.3 More than just digitalisation

Seely Brown (2000: 11ff) compares the introduction of electricity, photography and film to the development of the internet. He argues that each of these inventions have fundamentally changed the shape of our everyday lives. Furthermore, at the advent of these technical developments, the scope was not to be expected and neither were the possibilities that were only explored with growing familiarity with the medium. Seely Brown's deliberations draw on the premise that a new medium is at first explored in reference to older, familiar types of media. Only over time, when this re-mediation process, as Yancey (2004: 748) calls it, has concluded, can the e-portfolio expand its full potential as a stand-alone media.

When exploring the potentials of the e-portfolio, it is vital to look at lessons learned from other applications of technology in the field of pedagogy. As could be observed in the early stages of Power Point or eLearning programmes, the mere introduction of technology in the classroom is not enough for improving learning. Ehrmann (2006: 181) warns against the "'rapture of the technology' – the mindless assumption that the technology itself would lead to improved outcomes." Teaching styles and exercises have to be adapted and developed in order to make the use of technology viable.

The potential danger is that e-portfolio content merely imitates the original printed form and in doing so fails to fulfil expectations and potentials. For Yancey (2004: 745ff), this means making a distinction between "print uploaded" and "Web-sensible" content. Whereas

the former is the mere digitalisation of traditionally printed material, the latter makes use of the array of e-portfolio features.

The findings from the BECTA report (Hartnell-Young 2007: 17f) confirm that the electronic portfolio needs to be more than just another computer enhanced system: “[R]esults are influenced by the activities and software used. Where students see a connection with their current and future lives, motivation will be relatively high.” The electronic portfolio offers many advantages over the traditional paper based portfolios. For it to be successful, these new opportunities need to be approached with a new pedagogy, an open mind and creativity.

2.4 Types of portfolios and their functions

Portfolios can be used for different purposes and will accordingly change in content, layout and intended audience. Baumgartner (2009: 31ff) in his *Taxonomy for electronic portfolios* identifies different categories of portfolios, including learning, assessment, development and presentation portfolios, each consisting of further sub-types. For the purposes of this paper, the learning portfolio is the most relevant, since portfolios of this category cater to pedagogic functions. Within the learning portfolio, a further distinction can be made between process - or working, learning portfolio - and the product, or presentation, portfolio.

As the name suggests, the process portfolio aims at illustrating and supporting the learning process. This type of portfolio traditionally includes drafts, works-in-progress or reflections and is thus a very personal and subjective portfolio. According to Meyer et al. (2010: 85) process portfolios “are meant to encourage individual improvement, personal growth and development, and a commitment to life-long learning.” The process portfolio aims at reflection, however, “the reflection is not oriented towards a single product, but compares different working examples to get a picture of the development of the learning process. It therefore does not foster learning directly, but on a higher level: learn to learn.” (Baumgartner 2009: 34)

Tosh and Werdmuller (2004a) consider the process portfolio a constructivist portfolio, as opposed to the presentation portfolio which follows a positivist philosophy. The presentation portfolio characteristically exhibits instances of best work and seeks to represent the owner in a positive light. The presentation portfolio can therefore also be considered a dynamic CV, to which new items can be added with the evidence to support competencies.

Although institutions may seek for their students to have both types of portfolios, or even rather use one portfolio for different purposes, there is strong support for separation of the process and presentation portfolio (Campbell et al. 1997: 9ff; Barrett 2007: 442). Barrett and Wilkerson (2004: 9) list several aspects in favour of maintaining different portfolios for different purposes. The personal reasons involve students' need to use their own voice for authentic communication within the portfolio and with the reader. If this voice is taken away from them, and substituted by institutional requirements, the learner ownership and emotional connection will fade, learners are no longer able to tell their story – they are no longer in the process of deep learning and reflection but merely adhering to outside standards. On a more theoretical basis this means according to Barret and Wilkerson (ibid), that without the constructivist model, deep learning and the connected self-directed planning cannot take place.

Whilst Barrett (2007), Tosh and Werdmuller (2004a) advocate for the separation of the process and presentation portfolio, they also point out one of the technical advantages of e-portfolios: The simple data transfer from one e-portfolio to another, or from the private section to the public section within an e-portfolio. Purposes can easily merge and adjusting the focus of an e-portfolio has become an operation of a few clicks.

2.5 E-Portfolios for learning

Originally, portfolios were employed for self-representation of presentation of work. In teaching, they were introduced in order to modernise and modify assessment. Although each of these purposes are still valid today, the focus of interest has shifted towards the processes involved when compiling an e-portfolio. As opposed to more conventional forms of learning documentation, the compilation of a portfolio is process-oriented. According to Häcker (2008a: 35; my translation), portfolios constitute a link between the process and the product.

They allow the authors and audience to view and simultaneously assess learning products and processes. This combination of representing product and process requires a maximum of reflection and opens up the opportunity to make assessment an integral part of a comprehensive, ongoing learning process [...].

Barrett and Carney (2005: 10ff) identify six elements for successful e-portfolios which can be summarised as follows:

- Learner ownership and engagement with portfolio: If the learner has a sense of ownership and command over the portfolio, engagement tends to be higher. This

leads to questions about how the portfolio is institutionally embedded and who has how much access to the work.

- Emotional connection: There is an affective component when the learner is able to represent him/herself. Again, this aspect is closely linked to ownership and who decides which pieces of work are included in the portfolio.
- Learner's authentic voice: The portfolio gives the reader the impression of grasping the author of the work. Rather than reproducing standard content, the learner should be able to express themselves creatively and authentically.
- Portfolio as a story: Storytelling here takes on the function of reiterating the learning path and reflecting on it. The reader should be able to detect progress over time, as well as gaining a better understanding of the learner.
- Portfolio as a lifelong learning/ professional development tool: If the e-portfolio is implemented thoroughly, the learner should realise its advantages and benefits for the learning process. This, in turn, will be the incentive to maintain portfolio work and learning after formal education has ended and throughout life.
- Constructivist model supports deep learning: The skills used in compiling an e-portfolio enhance the learning process and link in with constructivist learning theories, which in turn assist deep learning. The learner selects and connects work, rendering individual artifacts more meaningful.

3. Underlying principles: Learning theory

The 20th century has seen an increased interest in learning and comprehensive learning theories. These have developed from stimulus-response behaviourist models to more complex cognitive theories involving insights from neuroscience and psychology. (Mitchell, Myles, and Marsden 2013: 47ff; M. Randall 2007: 2f) These cognitive models aim at establishing how information is structured, stored, retrieved and applied (Pellegrino, Chudowsky, and Glaser 2001: 59ff; Hartung et al. 2010: 50) and focus on the role of the learner being a self-regulated agent in the learning process. Hornung-Prähauser, Luckmann, and Kalz (2008: 19) characterise self-regulated learning as an active, interactive, situated and individual process. The learner is thus actively involved in acquiring content or by closely examining, appropriating and interacting with it. Not only interaction with language is encouraged but

also its application for cooperative learning and meaningful exchange with others. Learning therefore becomes embedded in a social environment.

According to Häcker (2008a: 33ff), portfolios were implemented in teaching as solutions to practical problems faced in real life situations. This setting was always at the centre of attention and a theoretical learning background was added only later on. Portfolios are thus solutions to problems but cannot be ascribed to one learning theory specifically. Portfolio work is compatible with didactic requirements put forward by different theoretical foundations. Connections can be made to the more recent generation of constructivist learning theories, promoting independence, responsibility for one's own learning process, contextualisation of contents, social learning, reflection and learning to learn (Scully, O'Leary, and Brown 2018: 3). These theoretical considerations informing portfolio work will be examined in the following sections.

3.1 Inductive learning

Inductive learning is an approach that has prevailed over time, beginning with Dewey (1910: 207ff) who suggests a method based on naturally occurring curiosity. "When the feeling of a genuine perplexity lays hold on any mind (no matter how the feeling arises), that mind is alert and inquiring, because stimulated from within." (ibid: 207). Thus presenting learners with something puzzling is the first step towards learning. Dewey suggests an approach in which pieces of information are presented, followed by the learners attempt to formulate hypotheses to solve the problem, which are then applied to other instances of the same problems and then tested. Dewey (ibid.) is careful to point out, that these instances of application should not be too devised or artificially crafted. Therein also lies a pitfall in language teaching – once a new item of grammar has been acquired, it is all too easy to resort to meaningless fill-in exercises, undermining curiosity and authentic usage.

In first language acquisition, rules for grammar structures and word collocations will often be established inductively and implicitly "through repeated exposure to the language and the connections between the words." (M. Randall 2007: 105) Although second language (L2) learners will most often be exposed to far less language input, attempts can be made to mimic first language acquisition. As a result, learners will be presented with a broad variety of meaningful and targeted input in the foreign language to work with. (ibid: 126f, 132f)

As opposed to deductive learning, where the teacher presents a new topic to the learners, inductive learning theories puts the student at the centre. Learners do not passively

digest new information but are asked to participate in the acquisition process. These approaches “with mental effort and processing required of learners, are thought to more accurately reflect the way the mind learns [...]” and “may develop *learner independence* and *autonomy* [...]” (Hall 2018: 78)

3.2 Constructivism and self-directed learning: the self-regulated and independent learner

Constructivism postulates that “knowledge is a function of how the individual creates meaning from his/her experiences [...]” (Borges and Baranauskas 2003: 64) Learning theories distinguish between three different types of knowledge involved in a learning process. (Zimmerman 1990: 192; Boekaerts 1997): Declarative Knowledge, or explicit knowledge, is concerned with the content area and information to be learned. In language learning, declarative knowledge would include individual pieces of vocabulary or grammar rules. Procedural Knowledge is implicit and refers to knowing how things are done, or how processes are structured and applied in real-life situations. As Mitchell, Myles, and Marsden (2013: 131f) point out, this would apply to a native speaker being able to produce correct language without being aware of the underlying formal rules. Meta-cognitive Knowledge is concerned with learning how to learn, largely independent of content area. It is meta-cognition that has been receiving increased attention in learning research.

The rapid pace of technological change and accelerated growth of knowledge are placing a premium on capability for self-directed learning. [...] Training in metacognitive skills involves selecting appropriate strategies, testing one’s comprehension and state of knowledge, correcting one’s deficiencies, and recognizing the utility of cognitive strategies. (Bandura 2005: 10)

Meta-cognition can thus be defined as awareness, knowledge and control of cognition (Meyer et al. 2010: 85). This is, however, not an automatic process. Learners need to be made aware of advantages, strategies, goals and purposes in order to adopt the techniques and accustom them to their own needs (Goldsmith 2007: 38; Kauffman 2004: 139). “Metacognitive skills can also be taught. For example, people can learn mental devices that help them stay on task, monitor their own progress, reflect on their strengths and weaknesses, and self-correct errors.” (Pellegrino, Chudowsky, and Glaser 2001: 78f) Also in language learning, appropriate tasks to reveal these underlying strategies need to be developed and applied.

3.2.1 Self-regulation

Self-regulated learning stems from a constructivist approach towards learning. “Self-regulation refers to self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals.” (Zimmerman 2000: 14) Klug et al. (2016: 1) consider self-regulation a key factor in lifelong learning, sustaining ongoing development and learning. It describes the most basic principles at work, when undergoing personal or social development. These phases of change are not confined to the personal sphere but are inevitably connected to behavioural, environmental factors and sociocultural contexts (Zimmerman 2000, 1990; Bandura 2005; Oxford 2017). “Self-regulated learners”, state Wade, Abrami, and Sclater (2005: 2), “are individuals who are metacognitively, motivationally, and behaviourally active participants in their own learning.”

Zimmerman (1990: 185) mentions the following strategies for self-regulated learning: Organising and transforming information, sub-goal setting and planning, seeking information, keeping records and self-monitoring, environmental structuring, creating self-consequences, rehearsing and memorizing, seeking peer, teacher, or adult assistance, reviewing notes, tests, or textbooks. Both Zimmerman (ibid) and Bandura (2005) emphasise that the mere knowledge of these strategies is not enough to be an independent learner – students need to be presented with appropriate opportunities to implement their self-regulating strategies. “Students must monitor their response outcomes and attribute them to strategy use in order for their learning to become fully self-regulated.” (Zimmerman 1990: 189)

Oxford (2017: 86ff) elaborates on (Zimmerman’s (2000: 16ff) cyclical self-regulation model of Forethought – Performance – Reflection and ties it to language learning processes. In the forethought stage, processes are planned, methods activated and necessary preconditions are set in place. During the analysis of the task, goal setting takes place, splitting the process into smaller constituents that make learning more manageable. This will involve activating language skills, as well assessing which communicative and strategic approaches the learner has at their disposal. In the performance stage, learners focus on the task and execute their chosen strategies in order to accomplish their goals. At the same time, self-observation processes are taking place which can lead to a change of strategy or self-correction. The reflection stage analyses and reiterates the process by evaluating individual components, estimating their usefulness for future application and ascribing causality. In

language learning, the attribution of (un)successful speech acts to internal or external sources will influence future behaviour in similar situations.

Ascribing success and positive learning effects to their strategies and their own capability to learn will in turn enhance feelings of self-efficacy, which is a major factor for successful learning biographies (Bandura 2005). In language learning, especially sociolinguistic research has investigated aspects pertaining to agency, motivation and self-esteem (Mitchell, Myles, and Marsden 2013: 283ff; Oxford 2017: 66ff)

3.2.2 Reflection

Reflection, from the Latin *re-flectere* ‘to bend back’ (Collins Dictionaries 2018) refers to the act of stepping back from a process and observing the situation from a different perspective. The individual enters a form of dialectic relation with themselves. For learning, this means activating meta-cognitive capacities and observing the learning process as such, rather than just the content to be learned. “In language learning, we can reflect on facts about the target language, the processes by which we seek to learn it, and the processes involved in using it.” (Little and Perclová 2001: 45)

At the core of reflection probably lies the desire to understand ourselves and the world around us. As inherently curious beings, we try to make sense of our experiences and the laws governing the surroundings we inhabit. Learning theories are trying to exploit this natural curiosity. To get to the basis of reflection, it is worthwhile to refer back to Dewey (1910: 2) who states that “[r]eflection involves not simply a sequence of ideas, but a consequence – a consecutive ordering in such a way that each determines the next as its proper outcome, while each in turn leans back on its predecessors.” He further clarifies that the succession of thoughts is neither random nor in isolation, but a chain of dependency.

Dewey (1910: 11) suggests that “[d]emand for the solution of a perplexity is the steadying and guiding factor in the entire process of reflection.” Which – for teaching and learning purposes – means that there has to be a perplexity, a problem, a task first, which is deemed relevant enough to be solved in order to initiate the reflection process. Thus, if learning is to be based on reflective thinking and thorough consideration of the material, the material at hand needs to be relevant to the learner. Or, as Dewey notes (ibid.) “Where there is no question of a problem to be solved or a difficulty to be surmounted, the course of suggestions flows on at random[.]”

In Bloom's Taxonomy (Bloom et al. 1956), learning without reflection is situated at the bottom of the system. Likewise, reflection is seen as a central aspect in the learning process throughout literature (Hebert 2001: 123; Colomer et al. 2013; Brown 2002: 238ff). Whereas recollection and application of any given input can all be performed without any deeper understanding of the material, these operations do not invite further involvement with the topic. By providing reflective insights into their work, students become translators of their achievements, highlighting skills rather than raw knowledge. They therefore relate their learning to a wider context and surpass the borders of the classroom. "Reflection can be an awakening for students and serves to distil meaning from experience." (Miller and Morgaine 2009: 10)

Reflection in the language classroom involves making language learning experiences explicit. Strategies from the mother tongue or different subject areas can be investigated in order to identify personal learning patterns. This ranges from eliciting one's own learning style and preferences or acknowledging strengths and weaknesses.

However, using reflection in order to become an active agent in the learning process is not an intuitive capacity but needs to be taught (Schneider and Lenz 2000: 37; Riedinger 2006: 94; Driessen et al. 2005: 1233). "As teachers we need to understand the paradoxical nature of the task we ask our students to undertake. They need a great deal of specific help, guidance and support to cope with it gradually." (Kohonen 1999: 22) When assisting reflection, there is the further risk of enticing insincere reflections - a "good reflection for the teacher", rather than sincere reflection on strengths and weaknesses (Hornung-Prähauser et al. 2007: 156).

3.2.3 Scaffolding through prompts and rubrics

Scaffolding is closely linked to Vygotsky's Zone of Proximal Development (Oxford 2017: 67; Bräuer 2016: 22), a theory that focusses on the current learning stage and what could be achieved through assistance. Boekaerts (1997: 171) defines scaffolding as "an adaptable and temporary support system that helps an individual during the initial period of gaining expertise". She continues to explain that too much external regulation of the learning process by teachers will hamper the acquisition of a self-regulated learning style. Scaffolding, however, can be seen as just enough guidance to support development and indicate the desired direction. In L2 learning, scaffolding can encompass assisting learners with strategy

use, vocabulary or grammatical structures that “enables them to communicate successfully at a level beyond their current competence.” (Hall 2018: 274) Mitchell, Myles, and Marsden (2013: 223) add that scaffolding in language learning does not necessarily have to be linguistic but can also be delivered in different formats.

Prompts can be introduced to foster reflective activity. “Prompts are hints or questions that induce productive learning processes. Prompting procedures presuppose that learners already hold certain strategies, but that they do not show them spontaneously.” (Gloger et al. 2009: 96) The learner’s attention is thus directed towards their learning strategies, making underlying foundations visible and more usable. “Ideally, elaboration, organization and metacognition (i.e. monitoring and planning for remedial strategies) should be prompted.” (ibid: 97)

In the language classroom, prompts can be employed to activate contextual and schematic knowledge. M. Randall (2007: 95) emphasises the relevance of employing prior topical or cultural knowledge when processing spoken or written language. This activation of existing knowledge about a topic can be achieved through prompts, such a few guiding questions. Not only can those prompts familiarise learners with the context, but the activation of prior experience and expectations will enhance the processing of the task.

Also productive skills in the language classroom can be scaffolded through prompts. The desired learning outcomes should be closely defined and focus on one area of improvement. For writing, Kuo (2008: 287) suggests that “the use of prompts and guidelines highlighting the linguistic features and information structure of the target genre can serve as enhanced input to raise student writers’ consciousness of genre-specific conventions.”

Scaffolding can also be achieved through rubrics, which are traditionally employed for assessment. For assessment of any form – self, peer or teacher – the design of assessment rubrics can clarify learning goals and define expectations (Geeslin 2003). Apart from the practical use to the learner, the compilation of rubrics holds the advantage, that also teachers have to make explicit their objectives and assessment criteria. The first step in compiling an assessment rubric is therefore to define the scope and focus of any given task and the expectations associated with it. Since assessment rubrics are not confined to alpha/numerical grades but can produce any format of statement desired, these elaborations that can assist learners with identifying learning opportunities.

3.3 Social learning

The 1990s and 2000s mark a *social turn* in language learning theories (Mitchell, Myles, and Marsden 2013: 247) during which learning, and especially language learning was perceived as a process embedded in a social context (Hirtz and Kelly 2011: 6; Abrami and Barrett 2005: 6). Despite learning being a highly personal and individual process, which is what behaviourist and cognitive learning theories focussed on (Hall 2018: 74), it “[...] is not a solitary pursuit; the value of connection and interaction greatly enhances both the experience and outcomes.” (Tosh and Werdmuller 2004a) Communicative (CLT) and Task-Based Language Teaching (TBLT) apply this focus on interaction, and advocate for the provision of group work and discussion opportunities in the language classroom (M. Randall 2007: 155). “Learners need to be given the chance to experiment with language while interacting with their peers or their teacher on topics they find interesting as this is more motivating and will trigger more involvement and interaction.” (Müller-Hartmann and Schocker- von Dittfurth 2011: 48) When employing the L2 to improve skills and convey meaning, language becomes a tool and the object of study at the same time.

In Communicative Language Teaching, Hall (2018: 55) points out, learners are likely to encounter topics that give rise to discussion and surpass their immediate social realm. Language learning not only involves exposure to new vocabulary and syntax but also a potentially different set of values, morals or cultural practices (Oxford 2017: 197ff). When talking about social learning, it is thus not only the immediate surroundings that shape the process but also stimuli from the target language and connected social norms (Hall 2018: 187). Technology can help import the target culture into language learning and lead to a more intensive exchange with it.

The reflective learner is central to the establishment of learning communities by sharing learning stages and products in a public space. This public space may only consist of the teacher or a small number of fellow pupils, yet the act of sharing something very personal remains. Making a learning process public involves sharing subjective purposes, interests, and preferences and allowing insights into the learner’s thought process (Rihm 2008: 56). “It is believed that students can participate in permanent learning by means of social learning platforms. Social learning platforms reshape individuals’ communication, interaction, cooperation and even the learning process.” (Hursen and Gezer Fasli 2017: 22)

3.4 Intrinsic and extrinsic motivation

The basic distinction between intrinsic and extrinsic motivation refers to the source of motivation present when engaging in activity (Hall 2018: 152). Intrinsic motivation arises from the desire to achieve or learn something, such as understanding a book in the L2 or being able to discuss a topic. Extrinsic motivation stems from without. It may not be directly linked to the activity or be employed to avoid negative consequences. Extrinsic motivation in L2 learning can further refer to seeking praise or averting negative test results. In the language classroom, the challenge is to engage learners in meaningful tasks and create links to intrinsic goals. According to Hall (2018: 152), “[m]otivation is necessary to sustain both short-term and long-term goals [.]” Especially short-term goals should be formulated precisely in order to be effective and achievable.

Unless people believe they can produce desired effects by their actions, they have little incentive to act or persevere in the face of difficulties. Whatever other factors serve as guides and motivators, they are rooted in the core self-belief that one has the power to effect changes by one’s actions. (Bandura 2005: 3)

This general social cognitive principle also holds true for language learning environments – unless learners consider goals to be reachable through effort, they will not attempt it, or worse self-ascribe insufficiency and resort to defensive learning attitudes. Having arrived at a stage where learners are able to accurately assess their progress and competence also means that they have something to be proud of – learners have achieved a goal themselves, realise what they are capable of, which then functions as a source of intrinsic motivation.

In relation to e-portfolio use and acceptance, extrinsic motivation stems from an e-portfolio being used for assessment. The teacher or institution therefore imposes the e-portfolio as an additional requirement, without learners recognising the value or relevance for their studies. Intrinsic learner motivation can only be developed if “they acknowledge its relevance for their own professional and personal development.” (Kift et al. 2007: 4)

4. Learning theories in action: e-portfolios

A portfolio can enable learners to draw connections where otherwise only isolated elements exist. The aims and potentials behind an activity or task might not be apparent from the outset, but can be acknowledged in retrospect, as it becomes part of the bigger picture.

Portfolios provide an important opportunity for students to express their individual voice and to give evidence of their metacognitive understanding about learning. (...) Reflective conversation takes on added significance when connected to the ongoing activity required to create a useful portfolio. (Hebert 2001: 55)

Hebert (2001) reiterates 20 years of experience with portfolio work in an American primary school. Whereas the initial intention was to enrich standardised testing or even “proving test scores wrong”, teachers soon realised that the portfolio is a “tool for children to learn how to tell their unique story of learning, [...] gain insight into their own abilities and interests [and thus] inject meaning into their own learning experience.” (ibid: 8) Far from imposing a curriculum, tasks or tests on learners, this is what an enjoyable learning experience is all about: the ability to recognise oneself as a learner, as a person in the ongoing process, shaping it and adapting it in order to grow. This section will explore the potential of e-portfolios to foster self-directed, reflective and social learning as defined in chapter 3.

4.1 Portfolio creation: A lesson in cyclic learning

Chapter 3.2.1 described Zimmerman’s cyclical model for self-regulated learning. In the portfolio literature reviewed, the process of portfolio creation is based on similarly cyclic models. Kolb’s classic model of the Experiential Learning Cycle, first published in 1984 (Peterson and Kolb 2017: 18ff) consists of four phases: The ‘concrete experience’, during which a problem or learning opportunity is encountered. This is followed by the ‘reflective observation’, when the individual replays and analyses the situation and compares it against past instances and future implications. These contemplations are generalised and lead to more global hypotheses and goal setting in the ‘abstract thinking phase’. The experiential learning cycle culminates in the ‘active experimentation’ phase, when hypotheses are being tested in situations, making way for new experiences.

This model corresponds to the working process in e-portfolios – and, according to Peterson and Kolb (2017: 20) also to the structure of our brains. Using a cyclical model for portfolio work therefore not only overcomes the linear mode of simple information transfer from the teacher to the learner, it renders the learning process more brain-friendly. The cyclical model views the learner as constructing knowledge instead of passively receiving information, in order to use and manipulate this information to create meaningful representations. This not only involves documenting classroom learning, but broadening the

scope to the private sphere and taking into account all instances of learning, formal, informal and non-formal.

For the practical compilation of a portfolio, Danielson and Abrutyn (1997) suggest a 5-stage process consisting of conception, collection, selection, reflection and connection. A portfolio is therefore at first planned and envisioned, and potential artifacts are being collected for it. The learner then selects the artifacts best representing the desired learning outcomes and enhances this step with a reflection. In the final step, the entire process is meant to connect to other learning experiences. The resulting mnemonic 'collect-select-reflect' is frequently used by contributors throughout e-portfolio literature (Sherman 2006: 2; Cummins and Davesne 2009: 849; Kimball 2005: 450).

In any cyclic model, the artifacts in a portfolio do not represent the last instance of the learning process. Rather, they are meant to initiate new learning processes, since artifacts should be used to determine new goals and projects stemming from prior experiences. If a completed project is sufficiently reflected, insights into new working methods, interests, capabilities and challenges emerge. Likewise, learning inevitably involves making mistakes which should be re-cycled and considered a valuable learning opportunity.

4.2 Reflection

[A]n educational portfolio contains work that a learner has collected, reflected, selected and presented to show growth and change over time, representing an individual or organization's human capital. A critical component of an educational portfolio is the learner's reflection on the individual pieces of work (often called "artifacts") as well as an overall reflection on the story that the portfolio tells." (Barrett and Carney 2005: 1)

Reflection turns a portfolio from a mere storage device into a "[...] story – a narrative of exploration and learning that ideally would build recursively throughout the author's lifetime." (Riedinger 2006: 91) The concept of a narrative is an especially captivating image in the context of L2 learning, drawing connections to social learning and identity formation. Riedinger (ibid) maintains this metaphor and speaks of chapters, and like chapters in a book, they delineate individual stages. Through the recursive nature of the narrative they can be revisited and reflected, thus putting them into a different context and perspective every time, drawing a variety of conclusions from them. The relation between reflection and an e-portfolio is therefore mutually beneficial: Reflection turns the e-portfolio into more than a

collection of documents, whereas the e-portfolio supports the development of reflective ability (Kelly and Cox 2011: 328; Heath 2002: 19; Barrett 2007: 463).

Barrett (2011: 295ff) identify three kinds of reflection – the very raw reflection when an artifact is chosen for the e-portfolio, generally just after the production of it. This means that reflection is taking place *in the present tense*, on an item that is very recent. For a presentation portfolio, these artifacts are compared and then work exhibiting best practice is chosen – reflection *in the past tense*, retrospective reflection, about one's learning journey and achievements is taking place. This is considered reflection on action. The third category refers to setting goals *in the future*, prospective reflection, during which new learning goals and strategies are formulated. This is learning in the future tense, or reflection for action. "To be complete [...]," Heath (2002: 19) states, "[a portfolio] must also indicate areas of proposed future growth based upon assessments of past performance and current strengths."

Writing learning journals can be seen as one means of reflection. "The importance of writing as a tool for learning cannot be overestimated. We make sense of ideas and experiences in a more profound way by writing about them." (Brown 2002: 240) This can be considered an extension of inner speech, "a tool of thought." (Mitchell, Myles, and Marsden 2013: 226) The process of writing a journal or log therefore has the dual function of slowing down thoughts and presenting them in a coherent format. Writing down reflective thoughts enables the learner to "classify and clarify information, concepts, and theories." (Haapaniemi and Karvonen 2006: 306) It enables the learner to assume a reflective position, consider how new information relates to what is already known and identify strengths and gaps. All of these activities foster a deeper learning and active interaction with new subject matter (Glogger et al. 2009: 96; Bräuer 2016: 19ff).

Reflection is not limited to written text, however. Wiske (2005: 104) explores other potential formats: "Usually, reflection requires representing experience in some way, often with language but perhaps nonlinguistically, with images or video, or in music or dance, or with gesture." Not restricting reflection to written accounts offers a more inclusive approach to learners who might be disadvantaged by text centeredness. It may also present an more immediate account of experience, as Wiske (ibid) continues to explain. "Representing experience entails selecting aspects of experience, relating them, and expressing them in some form that communicates one's memory and interpretation of experience."

4.3 Acquiring information vs. acquiring competencies

According to the reviewed literature, e-portfolios are predominantly applied in professions, where skills and competencies need to be expressed rather than factual knowledge. The same can be argued for language learning – the mere declarative knowledge of vocabulary or grammar rules does not result in a competent language user.

Increasing complexities in technologies, social systems, and the international economy present different realities demanding new types of competencies. These evolving new realities ushered in by the transition to the information era are placing a premium on the role of personal efficacy in educational self-development. (Bandura 2005: 9f)

In response to a changing social environment, the OECD (2005) has defined a set of key competencies which hold relevance for both individuals and societies, and assist individuals in meeting the demands of contemporary life. “Key competencies involve a mobilisation of cognitive and practical skills, creative abilities and other psychosocial resources such as attitudes, motivation and values.” (ibid: 8) They encompass the three broad categories of using tools interactively, interacting in heterogeneous groups and acting autonomously.

Key competencies are aspects learners are expected to have mastered before entering the workplace or further education. However, since they are broadly defined categories, they are difficult to measure, quantify or exhibit using traditional methods. Attwell et al. (2007: 19f) and Hornung-Prähauser et al. (2007: 24) agree that portfolio work can support the development of key competences. E-Portfolios aim at emphasising competence instead of deficits and artifacts are selected to illustrate competencies. Since the manifestation of these will differ greatly depending on aims and personal preferences, learners are enabled to express learning outcomes in a variety of forms, becoming curators of their knowledge and progress. The following sections will exemplify connections between key competencies as suggested by the OECD and e-portfolio work.

4.3.1 Using tools interactively

This first category of key competencies refers to the appropriate usage of tools such as language, symbols, information and technology. The effective use of communication tools spans from traditional notions of literacy to a new literacy – the ability to research, search, evaluate and organise information. Seely Brown (2000: 14) argues, that this 21st century literacy is one in which different media types overlap and need to be analysed simultaneously. Furthermore, he highlights the capacity to navigate as central. This entails not only the

navigation through content but also knowing where to find and store information. For all of these communication competencies, the e-portfolio provides instances of purposeful practice (Sherman 2006: 2ff). Text and audio-visual material can be included, expressing understanding of the intended audience and context. The ability to work effectively with information is exhibited by the structure, content and linking within and beyond the e-portfolio.

Barrett (2011: 295ff) further links the portfolio-process to distinctive technical skills. In the collection phase, the learner shows their ability to archive relevant information. This means not only providing space for the artifacts but also introducing a system on how and where to structure information. The selecting phase expresses the learner's ability to link artifacts to the chosen outcomes, using hyperlinks or embedding. The reflection is expressed through digital storytelling, uniting the ideas behind an e-portfolio and rendering them understandable to the audience. The presenting stage is linked to (online) publishing, not only making content available, but also inviting discussion and exchange on the e-portfolio.

4.3.2 Interacting in heterogeneous groups

In our globalised world, societies have become more diverse and fragmented. This has increased the need to establish one's own connections within various groups, surpassing the immediate personal sphere. This category includes social and intercultural skills and the ability to relate with others. Being digitally connected to the world via an e-portfolio can express these competencies (Karsenti and Collin 2010: 71). Students can learn how to effectively relate acquired content to real-life situations. Learning is taken out of the traditional classroom contexts and projected into a wider community of practice.

Furthermore, the e-portfolio also connects learners within their surroundings, fostering cooperation. Tools for group-work or peer-reviews can be employed, integrating valuable lessons on leadership, support and negotiation. Or, as Borges and Baranauskas (2003: 65) summarise "They pick up ideas from one another, going from different explanations to a high level shared meaning. The process of discussing ideas and constructing arguments can shape learning."

4.3.3 Acting autonomously

"Acting autonomously does not mean functioning in social isolation." (OECD 2005: 14) It rather means being ready to take responsibility for one's life and intended trajectory, yet taking into consideration the cultural, political and societal environment. In order to achieve

this, goals have to be set and personal values have to be formed. These basic definitions of autonomy also hold true for language learning, where learner autonomy has become more associated with planning one's own learning, choosing strategies and thus individualising the process (Benson 2016). The advance of online tools have supported this development. "There is an increasingly close relationship between autonomy and *new technologies* [...]" (Hall 2018: 177) The e-portfolio can assist the process of establishing a learner identity by offering the opportunity for digital self-representation. "ePortfolios are essential for 21st Century Literacy because they give students the opportunity to build a positive digital identity and establish their online brand." (Barrett 2011: 305)

5. Lifelong learning – the mature learner in the knowledge society

Our society is now facing much debated changes and challenges, which are seem to be taking place faster than ever before. Within a century, we have progressed from post-industrial to post-modern, capitalist, post-capitalist to an information, or knowledge society – What these designations delineate is debated by sociologists and political scientists and will inevitably have effects on the educational system and practice (Kübler 2009: 59ff). As a result of societal and vocational change, "where there are fewer stable, lifelong occupations working for a single employer" (OECD 2005: 14), the concept of lifelong learning has entered the discourse. Lifelong learning is defined as any form of formal, non-formal and informal learning, taking place at different learning locations, starting in early childhood and continuing well into retirement age.

The *Austrian research and development report* (2019: 15) places a premium on digitalisation to support lifelong learning and prepare workers for future demands in the workplace. It is considered vital to support schools with ICT equipment and the respective digital infrastructure, "providing the basis for lifelong learning, social inclusion and employment in a digitalised society." (ibid: 15)

5.1 The Knowledge Society

Knowledge has become a strategic resource that is connected, decentralised and interdisciplinary, thus creating new challenges to the educational sector and industry. Whilst information has become widely available, the focus of education has shifted to questions

about how individuals can turn information into knowledge, and therefore gain decisive advantages in global economic competition (Schüßler 2008: 1; Siemens 2005; Attwell et al. 2007: 6). Gonzalez (2004: 7) outlines the development of the information age and implications for educational institutions by referring to “the shrinking half-life of knowledge. The ‘half-life of knowledge’ is the time span from when knowledge is gained to when it becomes obsolete.” This process, she asserts, is accelerating and “[t]o combat the shrinking half-life of knowledge, organizations have been forced to develop new methods of deploying instruction.”

Hornung-Prähauser et al. (2007: 23) point out that in order to channel the mass of information prevailing in our digitalised world, it is vital to have the competencies to filter out information and to know how to apply them in reality. These practical operations constitute the change from an information society towards a knowledge society. “When knowledge is abundant, the rapid evaluation of knowledge is important”. (Siemens 2005: 5) E-portfolios can support the process of coordinating and filtering information and turning it into personally relevant knowledge.

5.2 Formal, non-formal and informal learning

The vast availability of information also challenges the educational prerogative of the traditional school system. Schools and teachers forfeit their monopoly for the transfer of knowledge, whilst informal learning processes gain strength. Learning experiences made outside the classroom, however, may not readily be recognised by the students themselves as learning as such. Useful and valuable skills and contents that are acquired in everyday life will not be understood by them as having an impact on the school curriculum and are therefore not considered relevant to education (Ballweg and Bräuer 2011: 5). “[A]n ePortfolio must have the capacity to include and place value on all forms of learning: formal, informal, non-formal, accidental, and incidental.” (Chang Barker 2006: xxvi)

Accountability plays an increasing role in lifelong learning, since learning and work trajectories are no longer straight and cannot be easily reiterated. Plater (2006: 62) argues for the usage of electronic portfolios for lifelong learning, since e-portfolios

[...] enable each student to have a personally managed, meaningful, coherent, integrated lifelong record of learning that demonstrates competence, transcends educational levels, and is portable across institutions of learning – formal and informal.

The e-portfolio therefore fulfils the dual purpose of mapping the learning process while inviting the learner to reflect on formal, non-formal and informal learning. Learners are

confronted with an abundance of English language resources in their daily lives, however, they need to develop awareness for this being an instance of their L2 learning.

5.3 Learning in the Web 2.0

Web 2.0 generally refers to the shift in authorship of online resources. During the early days of the Internet, Web 1.0, the production process of radio, television or newspapers was largely imitated. This meant internet users were predominantly consuming information. (Gee and Hayes 2011: 3ff) Web 2.0 has enabled anyone to also produce content (Hirtz and Kelly 2011: 6).

In retrospect, this shift changed everything. Web 2.0 moved the internet from our traditional one-way information flow, to a two-way “conversation” in which the Three R’s [reading, receiving, researching] have been supplanted by the Three C’s: Contributing, Collaborating, Creating [...]”. (Hargadon 2011: 23f)

Analogous to this changed authorship in the web, teaching and learning has changed. Teachers are no longer considered transmitters of knowledge, with learners passively receiving content (Boekaerts 1997: 162; Hilzensauer and Buchberger 2009; Koistinen 2002). With a constructivist learning model and more self-regulated learning, the learner has moved to the centre of attention and has become responsible for constructing content and learning. “This shift in locus of initiative involves a major reorientation in students’ conception of education. They are agents of their own learning, not just recipients of information.” (Bandura 2005: 10)

Today’s teenagers “are players in an electronic era of rapid social and technological change that is transforming how people communicate, educate, work, relate to each other, and conduct their business and daily affairs.” (Bandura 2005: 2) The young engage in a variety of technologized means of communication, developing their own standards and languages. “In these disembodied communications,” Bandura (ibid.: 2) continues to explain, “the participants can control their self-representation and shape their personal identities.” It is therefore only logical to use these strategies and competencies of self-representation not only for social but also educational purposes, for which e-portfolios are a suitable medium.

5.4 Lifelong and lifewide

Tolley (2011: 361) not only explores the lifelong capacities of e-portfolios but also requires them to be lifewide. So far, the focus in e-Portfolio practice has been on secondary or tertiary

education. For an e-portfolio to be truly embraced by a large percentage of the population, special needs have to be taken into consideration. Lifewide thus refers to an e-portfolio with very low thresholds, making it accessible for young learners, learners with special needs, learners with little digital literacy – or people who do not consider themselves learners at all. Tolley demands that all these requirements are taken into consideration when designing e-portfolio systems, opening them to the broadest possible audience (JISC 2008: 12).

6. Assessment

Learning and the assessment of it are two logically intertwined concepts. Most formal learning experiences will culminate in assessment. Whereas assessment has traditionally been used to “hold students accountable for learning” (Stiggins 2008: 1f), more recent approaches towards assessment emphasise its potential to aid learning.

Most assessments provide ‘snapshots’ of achievement at particular points in time, but do not capture the progression of students’ conceptual understanding over time, which is at the heart of learning. This limitation exists largely because most current modes of assessment lack an underlying theoretical framework of how student understanding in a content domain develops over the course of instruction, and predominant measurement methods are not designed to capture such growth. (Pellegrino, Chudowsky, and Glaser 2001: 27)

One aspect of documenting language learning as intended by an e-portfolio is the representation of personal growth. In it, not only the best pieces of work are worth retaining and presenting. Whereas learners are reluctant to review a less than ideal piece of work, the artifacts that do not meet the intended quality criteria may offer the room for development. Likewise, in-between stages of work may in retrospect feel immature and insufficient.

In the language classroom, however, different stages of *interlanguage* play an important role. Interlanguage is defined as the vocabulary, structures and strategies learners employ while fulfilling communicative purposes and progressing to higher levels of language competence. (Müller-Hartmann and Schocker- von Ditfurth 2011: 41ff). These language productions will invariably fall short of formal criteria, however, they can inform teachers as well as learners themselves about prior or current stages of learning. In this way, the documentation of learning processes offers an opportunity for reflection.

The following sections will explore the potential of assessment for language learning and illustrate how e-portfolios can be employed to support this process.

6.1 Testing and assessment: Re-thinking goals and processes

Baartman et al. (2007: 116ff) explore the differences between testing and assessment. Testing generally represents an older concept of simplistic exercises that lead to numeric results, can easily be compared and present a straightforward picture of the examinee. Due to its behaviouristic approach, testing is exclusively interested in results and not how these results were achieved.

The newer assessment approach arose from criticism of testing as representing the learning process too simplistically, failing to grasp the social and cognitive skills required by the new work place and knowledge society. Assessment is based on cognitive and constructivist learning models, in which the learner actively constructs knowledge and understanding. The focus has somewhat shifted from the quantitative results to the process. This means taking into consideration how knowledge is applied and how learners arrive at their conclusions (Pellegrino, Chudowsky, and Glaser 2001: 62ff). "Assessment of knowledge and skill in any given academic domain should therefore attempt to determine whether an individual has good metacognitive skills." (ibid: 79)

Arter and Spandel (1992: 36) describe the aspirations for new assessment to

go beyond knowledge of facts and include such things as problem solving, critical thinking, lifelong learning of new information, and thinking independently. Goals also include dispositions such as persistence, flexibility, motivation, and self-confidence.

Assessment items should be designed to be authentic and interesting, inviting the learner to engage with the matter in a meaningful way. Tasks have thus increased in complexity in order to reveal the complexity of learning itself.

6.2 Summative or formative? Assessment of learning or assessment for learning

When talking about assessment, there is a basic dichotomy between summative and formative assessment. The former refers to the traditional, institution-centred form of assessment, where objective criteria is applied in order to quantify learning (Sadler 1989: 120). One of the major points of criticism regarding assessment of learning is that it is deficit-oriented. Gaps and shortcomings are highlighted, points added and grades are calculated in relation to the total.

Formative assessment, in contrast, focusses on the learner, their needs and individual learning paths. Assessment often takes the format of communication, encouraging reflection.

It views the assessment stage as a chance to plan further learning goals and envision future learning strategies (Hornung-Prähauser et al. 2007: 19ff). "Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how to best get there." (Assessment Reform Group 2002: 2) Assessment for learning therefore also means inclusive assessment that uses a variety of tasks and methods to ensure different learning types are addressed and can express themselves. "[W]hen applied effectively, the principles of assessment FOR learning help students feel like capable learners, feel in control of their own success. They enhance students' confidence and desire to learn." (Stiggins 2008: 219)

Overall, proponents of assessment for learning call for more learner involvement, authenticity, continuous feedback and continuous assessment, rather than concentrated high-stakes testing (DeLuca et al. 2018). These aspects will be discussed in detail in the following sections.

6.2.1 Learner Involvement

Students should be taught to ask questions about their own work and revise their learning as a result of reflection - in effect, to conduct their own formative assessment. When students who are motivated to improve have opportunities to assess their own and others' learning, they become more capable of managing their own educational progress, and there is a transfer of power from teacher to learner. (Pellegrino, Chudowsky, and Glaser 2001: 236)

In their literature review, Alderson and Banerjee (2001: 227ff) consider self-assessment as not solely clarifying one's language proficiency but also opening future pathways to language learning and mistake prevention. In this sense, self-assessment plays a vital role in learner autonomy and uses some of the tools independent learning is promoting, including diaries, notebooks, scales and questionnaires.

[S]elf assessment is thought to contribute to autonomous language learning, by giving learners more control over their language learning, by enhancing their self-awareness and their awareness of the language learning process, and by giving them a realistic idea of their own abilities, since this is believed to lead to more successful language learning in the long term. (Alderson 2005: 209)

Boud and Falchikov (1989: 529) point out that the two central aspects of self-assessment are that learners are familiar with the criteria applied to their work and that they are able to judge to which degree these criteria have been met. This manifests the difference between teaching to the test and informing students about their intended goals. Whereas the former only rote

trains specific aspects, the latter provides learners with the necessary information to judge their performance. In this sense, it is essential to let learners know what is expected from them and to clearly state the standards and objectives by which they will be judged. In the same way, the features distinguishing good work from bad may be clear to the teacher, but they are not self-evident to the learner.

Judging whether or not criteria has been met is a challenging task for learners and needs to be taught (DeLuca et al. 2018: 91) In the course of his study on e-portfolios in German High Schools, Fink (2010: 170ff) conducted interviews with pupils regarding their ability and approaches to reflect their own learning. On the topic of self-assessment, he found that a large number of his interviewees sees a direct link between their ability and the marks given by teachers. Learners stated that they had learned something or improved over the course of a term and justified this assertion by the fact that their marks had improved (ibid: 176ff). It is significant to recognise how deeply rooted the pupils' thinking is in the structure of a grading scale. Fink (ibid: 178) concludes that reflection is taking place but only on the basis of the marks. Not only does this kind of thinking inhibit the learner's ability to arrive at a grounded self-assessment, but also prevents the development of a meta-level of critical thinking about one's own learning.

Harris (1997: 12f) argues that self-assessment might not be easy to implement in the language classroom due to time constraints, formal assessment orientation or larger groups of learners. However "it is perhaps in these settings that self-assessment is most needed to focus learners' perceptions of progress." (ibid: 12) Harris thus advocates for short, yet regular instances of self-assessment of formal language learning.

6.2.2 Authenticity

Wiggins (1990: 1) states that "[a]ssessment is authentic when we directly examine student performance on worthy intellectual tasks." This involves problem solving and creating situations in which language competency can not only be exhibited but applied as a means to an legitimate and engaging end. Decontextualised assessment is to be avoided.

Geoffrion-Vinci, Lamb-Faffelberger, and Toulouse (2013: 38) point out that the nature of language learning lends itself to alternative, integrated assessment. Languages cannot be seen as a compilation of vocabulary and grammar items, since learning a language always operates along and connects communication, culture, and the linguistic system, enabling the learner to participate in new communities.

Such activities must be based on real-life or authentic contexts and content, and the degree to which students can negotiate meaning in such settings can only be effectively measured across a chronological continuum by something more viable than the traditional achievement test. (ibid: 38)

6.2.3 Feedback

“One of the most important roles for assessment is the timely and informative feedback to students during instruction and learning so that their practice of a skill and its subsequent acquisition will be effective and efficient.” (Pellegrino, Chudowsky, and Glaser 2001: 91)

Feedback generally aims at enabling the learner to position themselves in reference to learning goals, their present position and a strategy to arrive at the desired outcome. Kauffman (2004: 144), referencing several studies, considers feedback a central aspect in the development of self-regulation and self-efficacy. According to the findings of the Assessment Reform Group (Black et al. 2002: 5) self-efficacy, i.e. feeling capable of passing a test, is closely linked to the experiences from previous tests. This in turn means that feedback from tests and test-like situations can enhance student attitude towards testing.

Sadler (1989) identifies the three interrelated aspects of good feedback as informing students what good performance is, relating their current performance to good performance and providing them with strategies to close the gap between current and good performance. Extending on these suppositions, Nicol and Macfarlane-Dick (2006: 205ff) add the aspects of motivation and enhanced self-esteem as well as communication amongst teachers and peers as being central to good feedback.

Peer feedback thus enables learners to develop valuable teamwork, communicative and social skills (Topping 1998: 256). “While peer feedback might not be of the high quality expected from a professional staff member, its greater immediacy, frequency, and volume compensate for this.” (ibid: 255) DeLuca et al. (2018: 89) add that peer feedback needs to be precise and Stiggins (2008: 136) points out that giving feedback can be beneficial:

This becomes a factor in assessment FOR learning contexts [...]. Of course, they must be trained to score accurately, but this is no problem if that training helps them center on your valued achievement targets. Their involvement represents excellent instruction.”

The results of studies conducted by Li, Liu, and Steckelberg (2010: 532ff) and Pearce, Mulder, and Baik (2009: 4ff) support this supposition. When learners are sufficiently trained in applying a rubric grading system, they develop awareness for high-quality work. Learners are able to

apply these standards not only to the feedback they give but also to their own work (Kuo 2008: 287; Davies and le Mahieu 2003: 154).

6.2.4 Continuous assessment

One of the benefits of assessment for learning is that it considers test results as a starting point on how to improve learning or teaching. It aims at identifying the individual's weaknesses for remedial purposes, since learning needs may stem from different sources, such as a lack of fundamental understanding, challenges to transform knowledge into practice or poor problem-solving strategies (J. Randall 1999). This stands in stark contrast to considering the assessment process concluded with handing out marks, grades or points. J. Randall (1999: 1) states that "concentration upon modular assessment can encourage a learn-it-and-forget-it culture. We should allow more time for reflection upon learning, encourage synoptic analysis and design assessment to look at performance as a whole."

6.3 Portfolio assessment

As noted earlier, "[t]he portfolio movement arose as a method of authentic assessment" (Kimball 2005: 435) in the United States, seeking to add another layer to the traditional standardised testing. One of the main arguments for including portfolios for assessment purposes is their focus on competencies rather than deficits. Likewise, Kimball (2005: 437) points out that in portfolio assessment, the focus shifts from the individual objects towards "the web created between artifacts – the connections, arrangements, arguments, and narratives that make a single text out of disparate ones and thereby chronicle a learner's learning."

When it comes to overall portfolio assessment, Barrett and Carney (2005: 8ff) and Paulson and Paulson (1994: 8ff) identify a conflict of interest. Whereas a learner-centred portfolio can enable the learner to reach deep-learning through reflection, goal setting and honest representation of skills and shortcomings, there is the prevailing fear of failing summative assessment. The honesty in reflection that leads the learner to a more mature status, may be counterproductive when met by objective, institutional assessment rubrics and requirements. The choice of portfolio type and underlying purpose is crucial for acceptance and success of portfolios. "[I]f the only valid portfolio entries are those that support the attainment of externally imposed objectives, the eportfolio is not pedagogically neutral, neither do learners own their learning." (Attwell 2005: 37) Barret and Carney (2005) argue,

that this dilemma can be solved by adequate e-portfolio software that allows learners to keep expanding on their personal learning e-portfolio, whilst creating a different layer for assessment purposes.

6.4 Standardisation and Zentralmatura – Assessment quo vadis?

Assessment does not exist in isolation. There are always interconnections between the individual, the curriculum, the institution, even the legal foundations of a country. Therefore, assessment of learning has and will always have its place in the school environment.

Educational assessment seeks to determine how well students are learning and is an integrated part of the quest for improved education. It provides feedback to students, educators, parents, policy makers, and the public about the effectiveness of educational services. (Pellegrino, Chudowsky, and Glaser 2001: 1)

In the school year 2014/2015, Austria first introduced its standardised and centralised secondary school exit examination, the *Standardisierte kompetenzorientierte Reifeprüfung* (SRDP), commonly known as *Zentralmatura*. The aim was to create a more objective means of testing that would yield comparable results for both Austrian and international use (Bifie 2013: 2). Pupils of Secondary High Schools with general orientation (AHS) need to complete written examinations in German, mathematics and one foreign language in order to complete High School. According to Statistic Austria (Radinger and Sommer-Binder 2019: 124), roughly 90% of the pupils chose to sit the English examination in the school year 2017/18, with a failure rate of 8.1%. This puts it in between mathematics (22.4%) and German (5.2%). Additionally, English can be elected for the oral examinations and/or *Vorwissenschaftliche Arbeit*, a first attempt at academic writing (Bifie 2013: 2ff).

The guidelines for the SRDP require a B2 level for the English examination, if English is the first foreign language of the pupil, otherwise a B1 level will be tested (Bifie 2013: 23ff). This application of the Common European Framework of Reference for Languages further emphasises the desired standardisation and comparability. Additionally, recommendations for both competency-oriented teaching and assessment are made (ibid: 6ff).

Despite these commendations, large-scale testing and especially high-stakes testing is a straightforward way of delivering data, that does not itself improve student performance. Whilst being a tool for assessing the performance of schools and comparing results, large-scale assessment falls short of providing learners with learning opportunities, feedback or motivation (Black et al. 2002; Stiggins 2002, 2004: 23). Pellegrino, Chudowsky, and Glaser

(2001: 23) emphasise that “[i]mportant decisions about individuals should not be based on a single test score” since numerical grades and statistics will always be secondary information. It is a representation of reality that has been collected and enriched according to designated standards. Reality, however escapes this quantification process as individual development or growth cannot be represented in statistics.

What can be aimed at with the help of an e-portfolio, however, is the idea of making assessment throughout a high school career efficient and rewarding enough to assist learning. “Whereas teaching directly to the items on a test is not desirable, teaching to the theory of cognition and learning that underlies an assessment can provide positive direction for instruction.” (Pellegrino, Chudowsky, and Glaser 2001: 258) The e-portfolio is an attempt to use ongoing assessment as a means to instil confidence in learners, so they approach the *Zentralmatura* with the knowledge that the work completed so far enables them to pass this test, without having gone through a teaching-to-the-test regiment. Formative and summative assessment can thus co-exist in a meaningful way.

7. Technical background, software

A thorough understanding of the technical foundations underlying e-portfolios undoubtedly is desirable, however even basic knowledge can create comfort and ease and facilitate e-portfolio usage. What matters is to find a personal balance between understanding how the program works and thus how it can assist learning, whilst not getting caught up in technical intricacies. The (language) teacher does not need to know all the available features of the different portfolio systems, but should be able to make an informed decision on which software to use in order to meet needs of their learners.

7.1 Function and pedagogical goals

The most basic principle in e-portfolio selection is that technology has to meet pedagogical requirements (Goldsmith 2007: 39; Challis 2005: 3; Wilhelm et al. 2006: 63; JISC 2008: 17). This entails not using “technology for technology sake” (Wheeler 2007: 22), but creating technological solutions for classroom situations. “In any portfolio system development case, curriculum standards must drive the design of a portfolio system with necessary features and capabilities.” (Kim 2006: 51)

Kim (2006: 49ff) identifies 12 technical prerequisites for the development and design of a system. These aspects can also be used for e-portfolio software selection and are summarised and explained in the following list:

- *Accessibility* – The e-portfolio should be accessible through a standard web-browser without the need for an additionally downloaded programme.
- *Collaborability* – The creation and organisation of a portfolio can be achieved with others. The e-portfolio offers functions to review, exchange and comment on the work of others. This may include chat- or wiki-features.
- *Exportability* - Through a unique URL for the portfolio or components, the e-portfolio can be e-mailed to others. Additionally, the complete or partial portfolio can be downloaded, screenshots can be made.
- *Flexibility* – Presentation and organisation are not necessarily linear or hierarchical but can be influenced and changed by the user in order to resemble personal preferences.
- *Interoperability* – For the institution, interoperability with Course Management Systems, databases and other systems is desirable.
- *Maintainability* – The e-portfolio does not require great technical effort to sustain
- *Reliability* – The system used functions consistently.
- *Retrievability* – It is easy to find part or the full portfolio by using the corresponding URL, keyword, owner info, portfolio name or attachment name. At the same time, the owner is able to decide which parts are to be public.
- *Reusability* – The e-portfolio can be maintained throughout different institutions and stages of personal development.
- *Scalability* – Storage units can be expanded as the portfolio grows
- *Trainability* – It is easy to train users how to access and use the system. It is intuitive with an interface that may follow the design of other common interfaces.
- *Usability* – The e-portfolios provides for intuitive and efficient operation when creating, collecting, organising, distributing, sharing, and archiving content.

7.2 Possible software solutions

The three basic types of e-portfolios are *open-source*, *off-the-shelf* and *custom-made* software (Hartnell-Young 2007: 154). Open-source solutions generally refer to a software that is developed and improved by users. This entails fast and flexible solutions for technical

problems and individual requirements. Yet, it also may presuppose more sound technical understanding than off-the-shelf or custom-made software. Off-the-self e-portfolios are developed by companies and sold to institutions. Whilst offering customer support and a generally reliable software, financial aspects, flexibility and sustainability may be poorer than with other solutions. Custom-made e-portfolios are commissioned or developed by the institution. Whilst offering a tailored solution to specific requirements, this e-portfolio system may be more cost-intensive and inhibit sustainability and reusability.

Tosh and Werdmuller (2004b) point out three major aspects when it comes to technical foundations of an e-portfolio system: First, the system should be self-contained, enabling links and files to be opened from anywhere. Secondly, transferability between different systems needs to be ensured. And finally, the system has to provide security for the data stored. Baumgartner (2009: 28ff) expands on these three aspects and suggests a list of criteria for developing a taxonomy of e-portfolios. These individual criteria are not only relevant for the formal categorisation of portfolios, but can also be used for the planning stage of e-portfolio implementation. The seven questions he asks refer to

- *Ownership*: Who owns the e-portfolio? The learner, teacher, group or faculty?
- *Access*: Who can access what?
- *Item*: What materials or artefacts are included?
- *Activities*: Which activities and competencies are necessary to work on the portfolio?
- *Process*: Should the portfolio support development processes? If yes which kind?
- *Period*: Which time frame is envisioned for the e-portfolio project?
- *View*: Is the e-portfolio compiled with retrospective or prospective view in mind?

The software employed for an e-portfolio influences the compilation process as well as the resulting portfolio. The features learners have at their disposal will therefore enable them to express themselves and create, or inhibiting their means of expression. Since a large proportion of the younger cohort is familiar with technology and web 2.0 applications, such as blogs and social media platforms, these set standards for usability and ease of use (Clark and Eynon 2009: 18; Barrett 2011: 294; Hursen and Gezer Fasli 2017: 22f). A software that imitates the programmes learners use in everyday life offers the chance to be embraced as a learning software. Users furthermore demand intuitive interfaces and appealing layouts that are versatile enough to enable personality and identity representation (Clark and Eynon 2009: 22; Attwell et al. 2007: 23ff; Hartnell-Young 2007: 25f).

8. Challenges and considerations

Despite the manifold potentials and advantages assigned to e-portfolios, their application in learning settings has not yet fulfilled theorists' expectations. The educational system, being traditionally slow to change and adapt new working techniques, is reluctant to adjust.

It is reassuring to realise that any major change in life is usually a complex process for human learners. It poses an element of threat to our need for emotional security, implying that part of our knowledge or skills are becoming obsolete and need to be replaced by new ones. (Kohonen 1999: 27)

There are still various challenges and considerations to be overcome for successful e-portfolio implementation. The e-portfolio study by Hornung-Prähauser et al. (2007: 153ff) has identified a set of challenges in Tertiary Education. These can be categorised into strategic, didactic, technological and institutional challenges, which offer an excellent starting point for further analysis.

8.1 Strategic challenges

Strategic challenges comprise considerations regarding the purpose of e-portfolios at any given institution and tailoring the e-portfolio to the needs of the institution. Questions about when, who, why and how need to be addressed. At the very basis of it lies the consideration of a top-down versus bottom-up process, i.e. whether the e-portfolio system is imposed by decision makers or whether the target group of teachers and students express their interest in working with this tool. One of the greatest pitfalls for buy-in is an e-portfolio project that was imposed on learners and teachers in a top-down strategy, rather than a bottom-up process (Hornung-Prähauser et al. 2007: 154). Faculty buy-in is considered a main factor for e-portfolio success.

As valuable as the evidence may be for the use of ePortfolios in authentic teaching, learning, and assessment, the adoption of a new pedagogical tool in a meaningful way is a transformational change. Institutional commitment must be in place, understanding of the value must be clear, and the faculty rewards for undertaking difficult change must be rewarded. (Carmean and Christie 2006: 40)

Likewise, learner buy-in is central to the success of any portfolio project (Tosh et al. 2005: 5; JISC 2008: 26; Attwell et al. 2007: 24). If the learner does not consider the e-portfolio a valuable tool to assist learning, but rather "another hoop to jump through" (Tosh et al. 2005: 10), learning objectives cannot be met.

Enhancing learner buy-in hinges on promotion and creating believable role models. When teachers or faculty are on board, using the e-portfolio themselves and ideally feel enthusiastic about the possibilities of the e-portfolio, learners will be inspired to acknowledge the benefits as well (Scully, O'Leary, and Brown 2018: 20). Additionally, instructors who have actively compiled an e-portfolio themselves are more likely to foresee, understand and solve problems (Hilzensauer and Buchberger 2009: 6).

8.2 Didactic challenges

Didactic challenges from e-portfolio implementation are to be considered within the wider framework of changing landscapes in learning culture and learning objectives. The e-portfolio can be seen as a means of adapting to the new requirements.

In order to deepen our analysis on the impact of ICTs on education we need to shift our attention from technology per se to the processes and skills of teachers and learners in using it to identify and explore conditions and factors that may be shaping the ways ICTs are used in education. (Scheuermann and Villalba 2009: 57)

Changing landscapes entail a shift for students, teachers as well as the contents of the course. The position of the learner and means of motivating them, reluctance and fears of teachers, as well as appropriate contents need to be taken into consideration. “(L)earners and practitioners lose confidence and motivation if the system is not a fully operational and natural part of curricular activities.” (JISC 2008: 26)

8.2.1 Teacher skills and competencies

Technology does not evolve in a vacuum, it changes society and by doing so creates new needs, desires and requirements. Changing attitudes towards teaching and learning are therefore necessary in order to keep up with where society is developing. For teachers not having grown up surrounded by digital devices, employing e-portfolios in their teaching might seem risky. “[T]raining of faculty must have both technical and pedagogical components.” (Goldsmith 2007: 38) Being under the impression that learners know computers better and their fluency in technical matters might deter teachers from employing a wide range of technological applications in their classroom.

Technology has changed education, instruction and learning (Pellegrino, Chudowsky, and Glaser 2001: 216ff). Working with an e-portfolio means for the teacher to switch from a omni-knowledgeable instructor to a position which allows for searching and re-orientation

within the classroom. It is a situation, in which the teacher “[...] loses the monopoly of authority. The teacher becomes leader, helper, partner and evaluator, combining the traditional role of subject expert with that of a manager.” (Jenkins 1999: 2)

[A] number of teachers have used the messaging system to ask their pupils for help when stuck using an application at home. It appears that pupils can be teachers too. [...] [I]t is interesting to see how actual usage does not follow pre-conceived boundaries of differences between one role and another. (Wharfe and Derrick 2006: 385)

Acosta and Liu (2006: 15ff) argue that e-portfolios assist shifting the locus of control within the classroom away from a teacher-centric setting. In accordance with recent methodological research and learning theory, the establishment of a learner-centric classroom is encouraged. Pellegrino, Chudowsky, and Glaser (2001: 302) address the reversal of roles in learning.

To take advantage of the new tools, many teachers will have to change their conception of their role in the classroom. They will have to shift toward placing much greater emphasis on exploring students’ understanding with the new tools. [...] In the process, teachers must guide their students to be more engaged actively in monitoring and managing their own learning – to assume the role of student as self-directed learner.

The implementation of a learner-centric classroom also facilitates collaborative learning. If the teacher is no longer the sole centre of attention but functions as coach and scaffolder, learners will need to adopt new modes of working and apply their skills and knowledge in order to arrive at their own conclusions.

8.2.2 Learner challenges

As explored above, e-portfolios can constitute a democratisation of the learning process. One of the underlying principles is that the learners are apt to structure their own learning processes, thus relegating responsibility away from the teacher, back to the learner. Häcker (2008a) considers portfolios to be more or less autonomous representations of one’s expertise and development, since selected achievements are employed.

According to Hornung-Prähauser et al. (2007), the e-portfolio is most successful, if learners

- see the value of the portfolio (cost-benefit calculation)
- are rewarded for their work with ECTS points or other credits
- are guided by teachers who are also using it and are a positive role model
- can make the work available to an audience
- perceive the e-portfolio as helping them to make decisions about further education or career
- can transfer content to other institutions or systems

Kimball (2005: 442) cautions against degrading e-portfolio users “to the level of content providers”. When the compilation of a portfolio is restricted to ticking boxes and mechanically providing the content required from superiors, engagement with the portfolio process is lost. “Failure to get students enthused and engaged with their e-portfolio will result in the e-portfolio becoming another hoop to jump through, something that will be left at the campus gates upon graduation.” (Tosh et al. 2005: 10) Education has to create authentic opportunities for exploiting the desire for online communication and find ways for learners to accurately present their achievements.

8.2.3 Course design

Wade, Abrami, and Sclater (2005: 4ff) caution against combining traditional teaching methods with e-portfolio work. In their study, they conclude that merely blending these two instruction types may lead to learner confusion. They ascribe this confusion partly to a lack of understanding regarding the portfolio purpose and partly to a defensive attitude towards self-regulated learning. For an e-portfolio initiative to be successful methods need to be included in regular classroom practice gradually and consistently.

8.3 Technological challenges

Technological challenges refer to the e-portfolio software employed, accessibility of hardware, as well as considerations pertaining to privacy and online security. According to the *Austrian research and development report* (2019: 35ff), “Austria’s use and availability of information and communication technologies is comparatively greater than the EU-28 average [.]” However, “[t]he digital divide is not just about hardware. It’s also about network access and technology skills; without all three, participants will be handicapped in the new learning environments.” (Hirtz and Kelly 2011: 8). This notion of a *new* digital divide also takes into consideration what the technology is employed for. The underlying question is whether users gain knowledge from ICT or solely follow a consumerist approach. (Austrian research and development report 2019: 201)

8.3.1 Choice of technology

The very basic of technical challenges are clearly questions about hardware and software access. The technology that makes up the e-portfolio should enhance and not hinder the learning process (Scully, O’Leary, and Brown 2018: 14). This means, that the system used

needs to be easy, intuitive and functional but at the same time customisable. Learners will soon lose interest, if the technical foundations do not work or take up too much time to understand (Tosh et al. 2005: 6). The tools and programmes available cater to different needs and goals and need to be examined prior to implementation since there cannot be one solution to fit all portfolio requirements.

8.3.2 Privacy

Online security and privacy issues are central considerations not only in one's private life but also with regards to online learning. Since a vast amount of information is shared, accumulated, distributed and stored on technical devices today, internet users are no longer able to keep track of which personal information is used by whom.

Portfolios contain private and sensitive information. Especially self-assessment statements, personal reflections but also the choice of documents that prove specific characteristics and competences allow for retrieving information about the person itself." (Class 2009: 73)

The study conducted by Ritzhaupt and Singh (2006) with students in a computer science programme reveals that although overall acceptance of the e-portfolio was high and participants viewed it as a valuable tool, concerns regarding privacy are high. Confidentiality issues were identified as one of the most severe doubts about using e-portfolios. It is therefore essential to have a reliable password protection system in place and draw attention to privacy issues.

One objection frequently uttered against extensive self-representation and the exposition of one's personal realm are unexpected personal and vocational consequences. Whereas risks are often elaborated in detail, significantly less advice is provided on how to present oneself positively in the digital world. In this context, e-portfolios provide a chance to establish an online presence that focuses on skills and strengths. At the point where privacy, reflection and purpose intersect, learners need to consider what to put into their portfolios according to who will be able to view it. Or, as the MOSEP study (Attwell et al. 2007: 42) points out, "E-Portfolios may be a useful medium for learning how to take decisions over access, data security and sharing."

8.3.3 Digital natives

The generations attending school at present are often referred to as *digital natives*, having grown up with technology. The JISC (2008: 14) report *Effective Practice with e-portfolios: Supporting 21st Century Learning* however cautions against “simplistic assumptions of digital natives and digital immigrants”, warning of the pitfalls of ascribing too much or little familiarity with technology.

The term ‘native’ may invoke subconscious knowledge, the easy knowing how to do something without ever having learned or having had to study it. However – and this is especially true when talking about the term ‘native’ in connection with languages – the reflection on ‘why’ and ‘how’ cannot be avoided or eliminated. Digital natives do not automatically possess literacy. Literacy here refers to a reflective and conscious process, or, as the *Austrian research and development report* (2019: 201) puts it, there is a difference “between those who use the internet and ICT deliberately to obtain information and use that information systematically, and those who act as mere consumers.” In times of *fake news*, facts are becoming increasingly fluid, apt to distortion and subjective interpretation. Calls of judgements are more than ever needed when encountering information and learners need guidance as how to discriminate and build a strong theoretical base for their intuitions.

8.4 Institutional challenges

It is not only the introduction of new technology that challenges all parties involved but the necessary changes in the curriculum and courses. The BECTA study (Hartnell-Young 2007) identifies disconnectedness as one of the main obstacles for successful e-portfolio implementation. Usage is often restricted to only one course and “[..] take place as isolated scenarios with little connection to institutional or personal policies. [...] Further, they are usually attached to specific learning setting, and do not provide sufficient connection between formal, non-formal and informal types of learning.” (Scheuermann and Villalba 2009: 51) Unless the use and significance of an e-portfolio is transferred to the wider context of the learner’s world, most of its advantages will be nullified.

An e-portfolio project might also entail a shift in institutional culture. If credit points are to be awarded for e-portfolio, assessment modalities need to be adjusted. Additionally, this raises questions about the legal propriety of the portfolio Institutions and colleges that are using e-portfolios as part of their coursework, assessment or showcasing, are generally reacting to ownership issues by introducing “an upfront policy that requests that students

sign-off” (Acker 2005: 2), therefore allowing the institution further use of anonymised portfolio products. This enables the institution to assess and improve their portfolio strategy, however it also means using the portfolio in a way that has no direct advantages to the learner and might entail diminished feelings of ownership. Acker (ibid: 2) calls it a “balancing act”.

8.5 Implications

The implications of challenges and considerations explored above are manifold. They should, however not deter teachers and learner from experimenting with the e-portfolio but rather act as guidelines for potentially successful e-portfolio implementation. The empirical research as outlined in the following sections has tried to take these aspects into consideration, developing a practical e-portfolio strategy for a Secondary Education setting.

9. Introducing the research project

The original intention for this project was to design an e-portfolio that could be used at an Austrian High School as preparation for the Matura examination. The introduction of this standardised test caused some media attention , the results and test items of which are published every year. Knowing the test design and which items potentially cause problems for learners, it seemed a worthwhile undertaking to design exercises within an e-portfolio that would assist test preparation. Shortly after having begun the background reading, however, it became increasingly clear that using an e-portfolio solely for teaching to the test would not do this tool justice. On the contrary, it meant reassigning a limited purpose to the e-portfolio and ignoring its full potential. Rather than being an e-portfolio showing growth, reflection and learner achievements, an e-portfolio claiming to prepare learners for a high-stakes examination would be nothing more than a digital repository.

The findings of Roberts, Maor, and Herrington (2016: 30f) support this assertion. In their study, an e-portfolio was introduced in the last year of a university programme and was met with mixed responses. Learners reported a strong reluctance towards learning and applying a new technology shortly prior to graduation and failed to acknowledge its beneficial effect on learning. Roberts, Maor, and Herrington (ibid: 30) therefore urge to “[i]mplement the ePortfolio with a strong pedagogical focus from the commencement of student degrees.” When introduced early on, “individual ePortfolios can grow and develop alongside the students who create them [...]” (ibid: 31)

The focus of the e-portfolio therefore was shifted from test preparation to learning supplement. In accordance with Meyer et al. (2010: 90) who conclude after their empirical study “[t]he use of portfolios should begin early in students’ educational experience and not be short-lived“, it was attempted to design the scaffolding of an e-portfolio that could be started in Upper Secondary High School and accompany the learner over four years towards the Matura examination. In the Austrian school system, the change from Lower to Upper Secondary High School at the age of 15 is often accompanied by a change of school. At this stage, learners have completed eight years of schooling and most will have undergone at least four years of English language instruction. According to Horak et al. (2010: 20), learners should at this stage possess A2-B1 English language skills according to the CEFR, mastering the B1 level during the first two years of Upper Secondary High School and completing their schooling with the Matura examination at a B2 level. The Matura examination still plays a role, not in the sense that teaching-to-the-test is attempted but to show learners what they know already – without having prepared explicitly for one test.

The background reading and e-portfolio literature featured a variety of reports on portfolio implementation at different institutions, educational stages and for different age groups (for a small selection see Fehse, Friedrich, and Kühn 2011; Miller and Morgaine 2009; Hebert 2001). Most reports emphasise the advantages of portfolio work and attest to improved learning, however as Scully, O’Leary, and Brown (2018) point out in their literature review, lack the respective quantitative data to support these claims. They further criticise that the positive learning effects are poorly defined and largely based on subjective records of participants in e-portfolio projects.

Likewise, a lack of concrete e-portfolio materials and task examples was encountered, with only few papers providing a more detailed description of the exercises employed (for exceptions see Geeslin 2003; Geoffrion-Vinci, Lamb-Faffelberger, and Toulouse 2013; Bräuer 2016; Brunner, Krimplstätter, and Kummer 2008) It is obvious that each initiative, institution or course will have their own specific requirements and intentions. These need to be taken into consideration and will be mirrored in the tasks set to modulate the outcomes. The question arising from reports attesting to learning progress is whether or not the improvement stems from e-portfolio use. It is therefore relevant to know how these outcomes were scaffolded, which tasks were employed and which role the e-portfolio played.

Meanwhile in conversations with fellow teachers outlining this paper, one aspect reoccurred consistently: E-portfolios seem to be a valuable tool for learning, however can we find time in our busy teaching schedules to explore the potentials of the e-portfolio and integrate them into the classroom? The answer is probably *no*. Without investing a large amount of time and energy, and without institutional backing, the workload involved in initiating an e-portfolio project is tedious. This paper and research project however presented itself as an opportunity to develop an e-portfolio strategy that could be easily adopted and applied in the language classroom.

9.1 Research questions and outline

Based on the background reading, it was clear that the underlying technology plays a vital role for the success of any e-portfolio initiative. For this research project, the questions pertaining to technology were:

- *Which e-portfolio tools are compatible with and suitable for a High School setting?*
- *How can an e-portfolio be structured to allow for extensive learner involvement but also the necessary teacher control?*

The tasks included in this project needed to exploit the possibilities of the medium while at the same time providing the necessary scaffolding for learning. The foremost research question was therefore

- *How can e-portfolio exercises be designed to support English language learning?*

In reference to the theoretical considerations in chapters 3-6, the learning principles applied centred around self-regulated, reflective and collaborative learning. This entailed the more detailed questions:

- *How can the e-portfolio support self-regulated and reflective learning?*
- *How can the e-portfolio support collaboration and peer-feedback?*

Concerning the products of language learning and their inclusion in the e-portfolio the following questions pertaining to e-portfolio contents needed to be considered:

- *Which exercise formats are possible and easy to implement?*
- *Which media types can be employed?*

Based on these research questions, the following chapters are structured as follows: Chapter 10 reiterates the author's research on different options and presents the findings and

reflections thereof. Chapter 11 is concerned with setting up the e-portfolio project, taking into consideration privacy and ownership aspects. In chapter 12, examples of the e-portfolio tools and activities will be presented and explained in detail. Chapter 13 discusses the findings with respect to the research questions and proposes directions for future applications. Chapter 14 offers concluding remarks.

10. Technical Considerations

When setting up an e-portfolio project, the decision on which software to use is crucial, yet not simple to answer. As Barrett (2001: 5) emphasises, “[t]he choice of software can either restrict or enhance the development process and the quality of the final product. Different software packages each have unique characteristics, which can limit or expand the electronic portfolio options.” In the course of the research for this paper, a number of e-portfolio tools were examined. The following tables, neither exhaustive nor fully objective, present reflections on the different options.

11.1 Choice of e-portfolio tool

Chapter 7.2 explored the three main software solutions for e-portfolios, namely open-source, off-the-shelf and custom-made e-portfolios. Table 1 below lists common e-portfolio software according to these categories. A fourth category was added to the three main categories: programmes designed and intended for other purposes. The reason being that these programmes were mentioned frequently in the course of the literature review as institutions or teachers are using them for e-portfolio purposes.

Table I - E-portfolio tools according to category

Name	Website	open-source
Mahara	https://mahara.org	
Drupal	https://www.drupal.org	
Elgg	https://elgg.org	
OSP	https://www.osportfolio.org	
Watermark	https://www.watermarkinsights.com	off-the shelf
Movable Type	https://movabletype.org	
Pebble Pad	https://www.pebblepad.co.uk	
Blackboard	https://www.blackboard.com/teaching-learning	
Kidblog	https://kidblog.org/home/	

Factline	http://www.factline.com/10328750.12/	custom - made
Keep Toolkit	https://most-keep.jp/keep25/index.php	
Scioware-Concorde	http://www.concord-usa.com/solutions.htm	
Brushd	https://www.brushd.com	other solutions, plugins
Edmodo	https://www.edmodo.com	
Exabis	https://www.exabis.at	
Google Sites	https://sites.google.com/new	
Portfoliopen	https://www.portfoliopen.com	
Weebly	https://www.weebly.com/at	
Wordpress	https://de.wordpress.com	

The e-portfolio tools presented in Table 1 will be further examined in Tables 2 and 3. Based on the technical guidelines as suggested by Kim (2006) and Baumgartner (2009) and discussed in Chapter 7, a set of criteria was established to compare the e-portfolio tools.

Table 2 lists the following objective criteria and basic facts: The category *Purpose/Orientation* refers to the question whether or not the software was developed for educational purposes. Tools developed for education can cater to more specific needs than general solutions. Additionally, this category identifies whether the e-portfolio is the main objective of the software. *Ownership* refers to the main proprietor of the e-portfolio and distinguishes between institution-driven, teacher- and learner centric. *Access/ Privacy* examines if the portfolio as a whole or parts of it can be password protected and who can access portfolio contents. *Costs* establishes whether or not the e-portfolio tool has to be purchased and if there are contracts or memberships involved.

Table II - E-portfolio tools in detail, basic facts

Name	Purpose/ Orientation	Ownership	Access/ Privacy	Costs
Drupal	general, not exclusively e-portfolio	learner	password	free
Elgg	educational but not exclusively e-portfolio	learner	password, easily adaptable	free
Mahara	educational	learner	password, customisable	free
OSP	educational	Institution/ learner	password, different roles are assigned	free as part of Sakai LMS

Blackboard	educational, e-portfolio add-on	institution	password, different roles are assigned	flexible licencing, 30-day free trial
Kidblog	educational, K-12	institution/teacher	password, customisable	yearly fee, 30-day free trial
Movable Type	general	institution	n.a.	yearly fee, 7-day free trial
Pebble Pad	educational, designated e-portfolio space	institution, can be maintained after graduation	password, customisable	flexible licencing, limited free trial version
Watermark	educational	institution	password provided by institution; large institutional access	flexible licencing
Factline	general, e-portfolio focus	institution	n.a.	flexible
Keep Toolkit	educational	institution	by invitation	flexible
Scioware-Concorde	educational, e-portfolio focus	institution	password	flexible
Brushd	general, e-portfolio option	learner	password	limited free trial version
Edmodo	educational	teacher	password, access code	free
Exabis	Moodle e-portfolio plugin	institution	password, customisable	free
Google Sites	general	learner	password	free
Portfoliopen	general	learner	password	limited free trial version
Weebly	general, e-portfolio option	learner	password, customisable	free basic account
Wordpress	general, e-portfolio option	learner	password	free basic account

The categories in Table 3 are more subjective and are based on the author's experience with and exploration of the software: The category of *ICT skills/ Functionality/ Trainability* comprises all questions pertaining to technical skills. It centres around the ease of setup, how long it potentially takes for learners to become familiar with the tool and how easy it is to operate it on a regular basis. *Artifact variability/ Flexibility* concerns the potential to include different media types. Furthermore, it is analysed whether or not the e-portfolio can be personalised and adapted to individual needs and aesthetic preferences. The *Community/ Collaborability* category explores the communication functions within the tools. It pertains to

the offer of chat, wiki, messaging or comment functions, as well as analysing if learners are given the chance to join larger communities of learning through the tool.

Table III - E-portfolio tools in detail, functions

	ICT skills/ Functionality/ Trainability	Artifact variability/ Flexibility	Community/ Collaborability
Drupal	advanced	high, customisable	possible
Elgg	advanced	high, customisable, tags for connections within the portfolio	large online community
Mahara	advanced	high, customisable	encouraged; large online community; cooperation within groups
OSP	simple but needs link to Sakai LMS; nor more updates available	high, variety of additional resources	encouraged
Blackboard	n.a. needs to be part of larger Blackboard LMS strategy	medium	encouraged
Kidblog	simple, templates	limited, focus on blog	encouraged
Movable Type	simple, building blocks	high, customisable	possible
Pebble Pad	simple, building blocks	high, customisable, appealing templates	encouraged
Watermark	simple, highly scaffolded	high, appealing templates	encouraged
Factline	n.a. needs to be part of larger institutional strategy	tailored	tailored
Keep Toolkit	simple	high, templates	tailored
Scioware-Concorde	simple	high, templates	tailored
Brushd	simple, compatible with other websites	high, templates	medium
Edmodo	simple, highly scaffolded	low, highly scaffolded	encouraged, large online community
Exabis	simple	medium, templates	encouraged
Google Sites	simple, compatible with other websites	versatile depending on application used	customisable
Portfoliopen	simple	medium, templates includes advertisement	customisable
Weebly	simple	high, templates	encouraged, customisable

Wordpress	intermediate, good support	high, templates	encouraged
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10.2 Discussion: e-portfolio choice

The final choice of e-portfolio software employed for this project was based on following main aspects. The tool had to

- be easy to learn and operate in order to make economic use of learner and teacher time.
- provide templates and a scaffolded layout yet allow for individual and artistic adaptation
- be independent of the institution where it is used in order to remain functional after completion of a course level or graduation.

The following sections will briefly elaborate the considerations of the author concerning each of the e-portfolio options.

10.2.1 Open-source e-portfolio

Open-source solutions offer the best means of adapting an e-portfolio to exactly the functions and purposes needed. They are generally supported by a large online community who collaboratively work on improving and furthering the software. The open-source solutions Mahara, ELGG, Drupal and OSP would have allowed for a customised e-portfolio. For a classroom situation, however, open-source solutions cannot be easily introduced. Since open-source software requires the user to store data on a local server, i.e. one's own computer or external storage unit, the e-portfolios and content work of students will be stored individually and independently. This has strong advantages for learner ownership of the e-portfolio, however it also means that access from within the classroom cannot be granted at all times.

Additionally, setting up the e-portfolio through an open-source programme does take advanced ICT skills and familiarity with software code. At the very beginning, users need to acquire a domain and install the e-portfolio constituents on what is then basically their homepage. Especially younger learners will face problems organising a server and domain. From the teacher's perspective, an open-source e-portfolio also offers less control over the learners' portfolios and work on them.

10.2.2. Off-the-shelf e-portfolio

Off-the shelf tools offer excellent functionality and software such as Watermark or Peddle Pad are specifically designed for educational e-portfolios. All of the tools examined, however, are

intended as solutions to larger-scale portfolio projects. This means that generally the institution will acquire the rights to use the tool. The implications of this are twofold: On the one hand, the institution owns and manages the e-portfolio tool which may have a negative effect on learner involvement and a lack of perceived ownership. Only the Pebble Pad website states explicitly that after leaving an institution, the e-portfolio can be further accessed and used.

On the other hand, the tools are only offered in a trial version for a limited amount of time. This would have involved only having free access for 7-30 days, after which an account can be purchased. It is also not quite clear what happens to the content of the trial versions after expiration. The e-portfolio may or may not be accessible after the trial period.

10.2.3 Custom-made e-portfolio

Factline, Keep Toolkit and Scioware Concord are companies that offer tailor-made solutions to institutions. On their homepages, they explore the possibilities and options for an e-portfolio project with support throughout the entire process. These offers, however, are not feasible for individual use or for teachers wishing to experiment with e-portfolios. Furthermore, concrete examples of the e-portfolios designed by these companies were not accessible and neither are trial versions offered.

10.2.4 Other solutions and plugins

Other solutions comprise a variety of tools that are used for blogging, personal websites, educational networking or simply publishing. This means that all tools examined were not specifically designed as educational e-portfolios yet can be more or less easily adapted to fit the purpose.

10.2.5 e-portfolio selection

Having researched a variety of e-portfolio tools, several obstacles and considerations effected the final choice. The open-source tools seemed too cumbersome to introduce in a High School setting, requiring too extensive an ICT background knowledge. Off-the-shelf tools seemed to be the most plausible and suitable solution. Yet not having an institutional backing and access to the softwares beyond the limited trial versions meant that certain tools were not available or their functionality after the trial was uncertain. The situation with custom-made tools was

similarly unfeasible for this undertaking, therefore other solutions and plugins had to be considered in depth.

Exabis, an e-portfolio plugin for the Moodle platform would have been the first choice. However even with a teacher account, the plugin cannot be installed and administrator rights are necessary. Wanting to avoid a time-consuming process of acquiring administrator rights, the decision was made to use two different tools for this e-portfolio project: Edmodo and Weebly. This dual solution also had the advantage of predetermining purposes, ownership and access to the e-portfolios. The Edmodo portfolio would function as a teacher-directed process portfolio, whereas the Weebly version would be a learner-centric product e-portfolio. Using two tools from the start would therefore clarify their roles and responsibilities to learners.

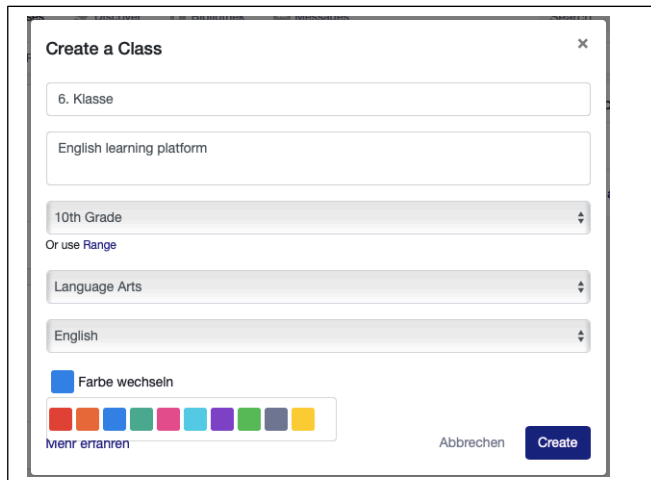
Edmodo is an educational networking site that allows teachers to set up classes and groups as well as design courses, assignments and activities. The building blocks for these are designed for educational purposes, offering simple, intuitive use. From the learner perspective, Edmodo presents itself with a Facebook-like interface, imitating a social networking site that a large proportion of the learners will at least have had some exposure to. Additionally, Edmodo has excellent communications tools, supporting exchange between teachers, learners, groups or a larger community of learners. One of the disadvantages is that Edmodo is teacher-centred, with the teacher deciding on much of the content and activities and also predetermining privacy settings. The learner interface is not very customisable and might therefore inhibit a sense of ownership and individuality. Still, the advantages and functionality were convincing and therefore it was decided to use Edmodo as a means of distributing resources, where tasks can be set and learners can be guided towards reflection and self-directed learning.

For the product e-portfolio, Weebly was chosen, a website that offers simple and functional tools for e-portfolio creation. The website was not originally intended for educational purposes, however it is recommended by several institutions and universities. Within the Weebly portfolio, learners are free to choose which artifacts to include as their best works or illustrating process over time. Several templates are offered to the e-portfolio owner and these can be easily adjusted and personalised. It is therefore the portfolio where learners can assume full ownership and responsibility for their work.

11. Setting up the example e-portfolios

11.1 Edmodo

With Edmodo being teacher-centred, the basic structure of the platform needs to be set up first, after which learners are invited via e-mail or access code to join the class.

The screenshot shows a 'Create a Class' modal window. It contains several input fields: a text field with '6. Klasse', a text field with 'English learning platform', a dropdown menu with '10th Grade', a link 'Or use Range', a dropdown menu with 'Language Arts', and a dropdown menu with 'English'. Below these is a 'Farbe wechseln' (Change Color) button and a row of color swatches. At the bottom right are 'Abbrechen' (Cancel) and 'Create' buttons.

After having registered on the Edmodo website, the first step is to create classes. As shown in Figure 1, each individual class needs to be named, then a short description can be added and the grade level and subject are assigned. For this project, a class for each school year, 5.- 8. Klasse, was created.

Figure 1 - Creating a class on Edmodo

All the classes created can be viewed in the teacher's account. Figure 2 presents this overview. Within the individual classes, there are two major interfaces: the *posts* section, where the group will receive information about the latest developments, assignments or discussions and the *folders* section where the teacher can upload exercises and resources. Additionally, there is a personalised calendar with upcoming assignments or tests. Learners can also contact each other or the teacher via a messaging function.

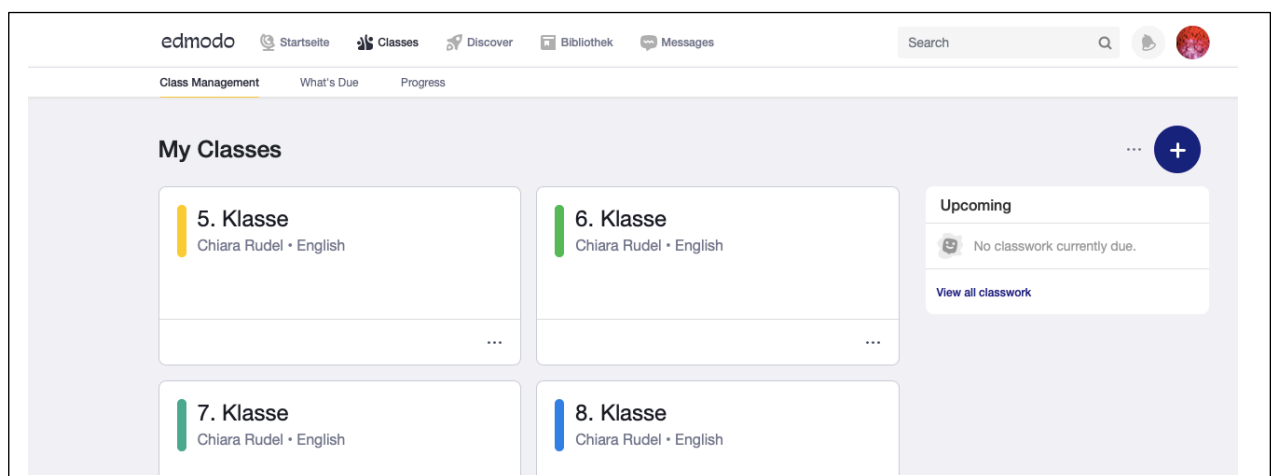


Figure 2 - Overview of classes on Edmodo

11.2 Weebly

With the Weebly website containing a designated portfolio section, the basic setup is quick and simple. Learners can choose from a variety of different templates and decide which best represents their personality. Since learners may not be familiar with creating a new digital identity, a powerpoint presentation to accompany the process was created. The presentation consists of screenshots taken when setting up the example portfolio and includes guidelines and instructions. The focus is on which personal information should and should not be shared online. It aims at protecting learners' privacy and creating awareness for privacy issues, as well as creating an understanding that digital identities need to be managed and responsibility for them has to be assumed.

The website then takes the user through the portfolio creation process as information, media and navigation are being added. Figure 3 shows the template chosen for this project and setup interface. The toolbar on the left lists different elements that can be inserted into

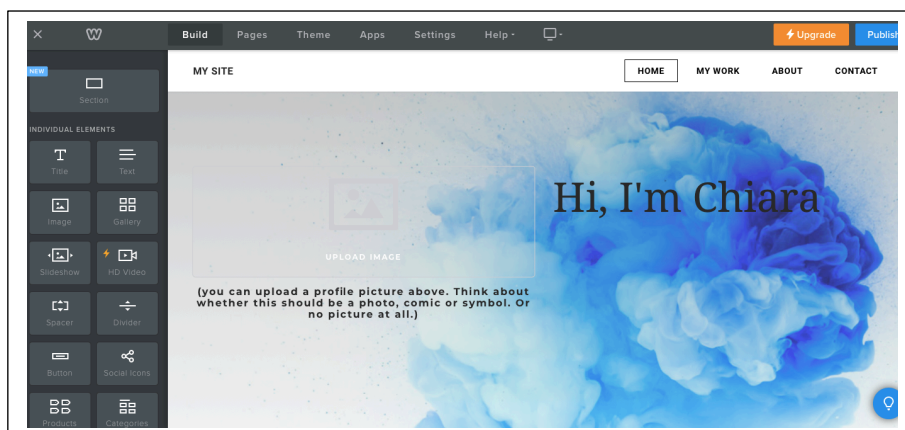


Figure 3 - Creating an e-portfolio on Weebly

the current page by drag-and-drop. These elements comprise a variety of media types and functions, and thus offer room for experimentation when developing the e-portfolio.

Additionally, a tutorial and FAQs section are provided by Weebly.

Learners will have to decide on the basic layout and structure of the e-portfolio. For the example e-portfolio, the headings *home*, *my work*, *blog*, *about* and *contact* were chosen and comprise further subsections. Any other sectioning or heading could be applied depending on learners' needs and preferences. Deciding on these basic navigational features might cause some confusion or problems for learners, being unfamiliar with portfolios at this stage of the process. All layout and navigation features, however, can be changed retrospectively and there are no wrong decisions pertaining to these choices.

Through the *settings* section of the navigation, privacy settings can be adjusted. The e-portfolio is initially not password protected. This can be changed by simply selecting a password and saving changes as shown in Figure 4. Alternatively, only specific sections such as *my work* or *about* can be password protected, sheltering more private and sensitive information from the public, whilst allowing access to more general information. Learners will have to make an informed decision about which settings to choose, however password protection of the entire e-portfolio is recommended.

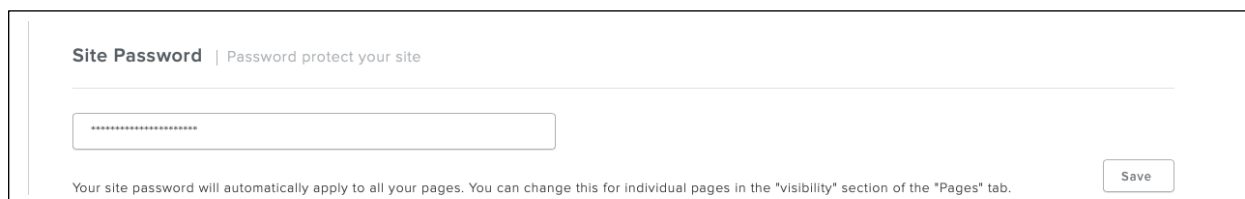


Figure 4 – Password creation on Weebly

12. The example e-portfolios in detail

In their guidelines for e-portfolio implementation, Rossi, Magnoler, and Giannandrea (2008: 221) point out the need for structured and voluntary tasks. Structured tasks are compulsory activities that are set by the teacher and refer to the curriculum or desired learning outcomes. These tasks mirror more traditional classroom activities using the digital environment. Voluntary tasks, on the other hand, are learner-centred, initiated by the student and offer more means of expression. Such tasks may include free writing, blogs or audio/ video recordings. The division between structured and voluntary tasks is echoed in the dual portfolio setup of this e- project.

The abilities to reflect, self-assess as well as giving and receiving feedback take on a central role in self-regulated learning and are the underlying principle of the e-portfolios. A substantial amount of the e-portfolio contents are checklists, scales or rubrics concerned with reflection, assessment and feedback of the tasks.

12.1 Edmodo

Edmodo was selected because it allows for teacher control and has several features that help guide learners through the compilation of an e-portfolio. It enables the easy distribution of materials to support scaffolding and reflective practices.



Figure 5 – Edmodo post

The main means of communication and sharing information on Edmodo is the *post* function shown in Figure 5. Mimicking the Facebook layout and functionality, teachers and learners can write posts, attach photos or resources, like and comment on contributions.

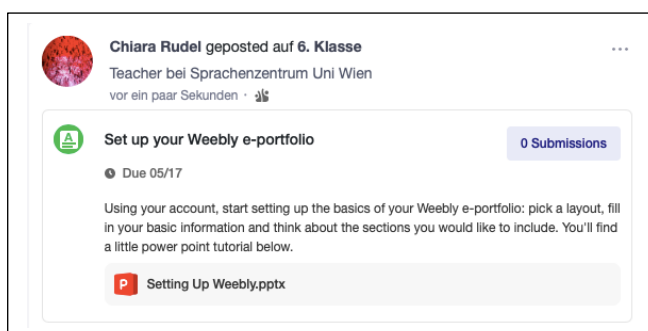


Figure 6 – Assignment on Edmodo

The *assignment* function enables the teacher to set and explain assignments. Figure 6 illustrates how an explanatory text can be written, files for the task can be attached and the due date is allocated by the teacher. Learners will receive a notification once a new assignment has

been created and can respond to the assignment via the contacts box. Additionally, the due date is automatically added to the learners' and teacher's calendar, respectively.

12.1.1 Reflection

As explored in Chapter 3.2.2, reflection is considered a central aspect in learning and e-portfolio compilation.

Any activity that requires students to reflect on what they are learning and to share their progress with an audience both reinforces the learning and helps them develop insights into themselves as learners. By reflecting on their learning, students are learning more deeply and will remember it longer. (Stiggins 2008: 186)

The ensuing question is how learning activities have to be designed in order to encourage reflection. Volkwein (2008: 151) suggests using direct questions and sentence starters as the simplest means of supporting reflective processes. Doig et al. (2006: 164) state that well-designed templates can improve the quality of reflective writing substantially. As learners are often not familiar with the format of reflective texts, a variety of templates that provide guidelines and represent the expectation of the instructor can be of great importance. All the tasks included in the e-portfolios involve some form of reflection and will be explained in the following examples.

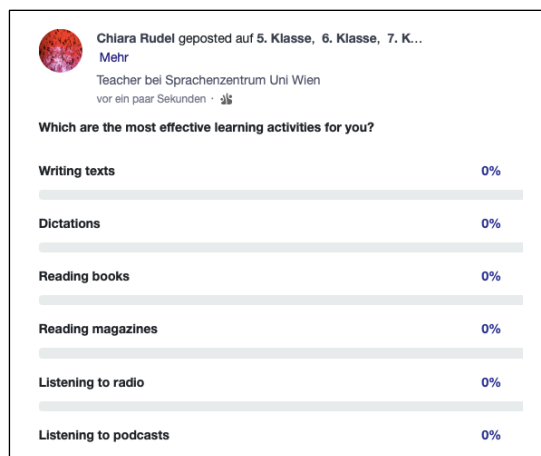


Figure 7 – Learning activities

Simple reflection tasks can be created on Edmodo via the *poll* function. Figure 7 shows a poll that was created to serve two purposes: Firstly, to initiate learners' reflection on their preferred learning style and strategies. Secondly, the poll may raise some awareness that learning can also take place in non-formal and informal settings. Learners are invited to experiment with different means of learning and recognise learning that happens outside the traditional classroom setting.

Alderson (2005: 264) and Oskarsson (1980: 20) report that learners frequently dislike the can-do/ cannot do-dichotomy, finding such statements too absolute. In agreement with that, it was attempted to phrase reflective statements, self-assessment and feedback on Likert scales, giving learners more opportunities to scale their responses. Not wanting to reproduce the Austrian school grading system 1-5, with 1 being the top mark and 5 being not sufficient to pass, the Likert scales encompass the values 10-0, with 10 designating strong agreement and 0 complete disagreement.

The Likert-scales and questionnaires created were uploaded to Edmodo as word files. The learners are presented with guiding questions and invited to engage in present, retrospective or prospective reflection. The word files can be downloaded, manipulated and uploaded again, giving the learners the opportunity to adapt the content. To create unity and stability throughout the e-portfolio, one underlying colour scheme and layout for all questionnaires was chosen. Since the templates are simple, there is little risk of learners making any unintended layout changes.

The example Likert scale presented in Figure 8 explores general attitudes towards writing and was adapted from Perry (1998: 179) and Abrami et al. (2008: 8ff). Apart from the format of reflective activities, wording was a major consideration. The ELP exclusively uses positively phrased 'Can-do' statements and the *ELP Guide for Developers* (Schneider and Lenz 2000: 48) remarks that scales should contain positive phrasing, since negatively worded scales may be demotivating. Alderson (2005: 264) explores the implications of negatively worded reflection and self-assessment. Whereas such statements might have demotivating effects on

learners, negatively worded phrases do present an opportunity to self-assess weaknesses and room for improvement. Oskarsson (1980: 17) supports the inclusion of negative descriptors as they increase readability and clarity. It was attempted to predominantly use positive statements in the questionnaires, yet some negatively worded reflection items were included where appropriate.

Writing: Reflection											
	Yes!				Maybe				Not really		
I like writing.	10					5					0
I think my texts are interesting and original.											
I like to be able to choose the topic I write about.											

Figure 8 - Reflection on writing

Think about learning											
When I think about my learning...	Absolutely										Not really
I am aware of what and how I learn.											
I can identify positive aspects of my knowledge and skills.											
I can identify positive aspects of my attitudes.											
I can identify negative aspects of my attitudes and areas for improvement											
What I learn and how I learn is meaningful to me											
It is easy for me to learn:											
This is what I need when I am trying to study:											
It is hard for me to learn:											
This keeps me from studying:											

Figure 9 – *Think about learning* questionnaire

One of the most basic reflection templates in the e-portfolio is *Think about learning*. The template shown in Figure 9 can be used independent of grade level and content area. The questions were inspired by and adapted from Colomer

et al. (2013: 367) and are intended to initiate meta-cognitive thinking. Statements are predominantly worded positively but two items also refer to shortcomings and room for improvement.

12.1.2 Self-regulated learning

At the beginning of a school year or term, it is useful to let learners identify room for improvement and envision learning aims. This is best done “by setting an achievable and concrete goal to be fulfilled during the term.” (Pospisilova 2016: 748) Learners should not only contemplate what they want to achieve but also identify the means by which they can

improve. This means rather than wanting to improve reading skills, a concrete goal would be to read one book in the L2 and note down progress in a reading log. Or instead of improving listening skills, set the goal of listening to one podcast episode per month and recording new vocabulary and phrases encountered. Pospisilova further points out (ibid: 747ff) that learners will need assistance articulating and narrowing down these goals. A simple means of goal setting is to create a post on Edmodo, inviting peer- or teacher feedback. The publication of learning aims also increases accountability since fellow learners might ask questions about each other's progress.

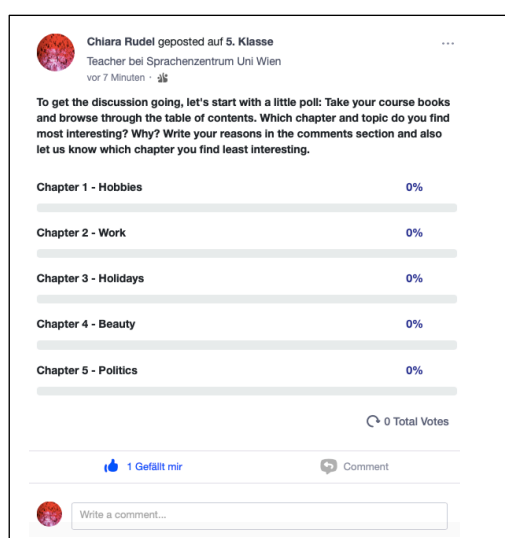


Figure 10 - Poll on preferred coursebook units

For more immediate goal setting, the poll function on Edmodo was employed. As shown in Figure 10, learners are first asked to state which unit in the coursebook they consider most interesting or relevant. Furthermore, the poll can be commented on, and be used for the elaboration on opinions. At the beginning of new coursebook units then, learners' expectations can be raised by asking additional guiding questions concerning the new topic: Do you find it interesting? What do you already know about this topic from other classes or your experiences? Do you have an opinion about this topic? Which vocabulary do you already know? What do you think you will be able to do after this unit? What would you like to be able to do after this unit? Formulate 3 learning goals!

Chapter 3.2 focused the significance of employing strategies for self-regulated learning. Information processing, goal setting, self-monitoring and collaboration were mentioned as objectives for self-regulated learners mentioned as objectives for self-regulated

I can identify who can help me with a task.				
When I work on an assignment...	Always			
I analyse the difficulties I have.				
I modify strategies when they do not help me achieve my goals.				
I solve the problems I find.				
When I finish an assignment...	Always			
I look at my work to see if it is good or needs improvement.				

Figure 11 - Planning learning

learners. The *Planning learning* Likert scale presented in Figure 11 is intended to render cognitive strategies explicit. It was adapted from Colomer et al. (2013: 367) and Abrami et al. (2008: 8ff) and helps learners to set goals and sub-goals.

By posing questions about working habits, an understanding of the strategies involved in assignment completion is created. Additionally, the items on the list and steps referred to can be used for a report in the Weebly portfolio.

12.1.3 Self-assessment

Self-assessment is a skill that needs training in order to be mastered by learners. “[T]he possession of evaluative expertise is a necessary (but not sufficient) condition for improvement.” (Sadler 1989: 138) This involves clear guidelines and instructions provided by the teacher as well as the chance to improve self-assessment skills through repetition. It is recommended to focus on one specific skill such as a designated genre of writing which will be needed and repeated throughout a learning experience. Once learners are familiar with self-assessment in one particular area, transferring this skill to other activities will be easier and come more naturally.

The writing self-assessment activities in the example e-portfolio revolve around the question “What is good writing?” Teachers, having been trained to assess, can answer this question more readily than learners, yet learners should also develop an understanding of what constitutes good writing and according to which criteria they are being assessed. “In this way, students are gradually exposed to the full set of criteria and the rules for using them, and so build up a body of evaluative knowledge”, Sadler (1989: 135) states. He further points out the advantage that “[i]t also makes them aware of the difficulties which even teachers face of making such assessments; they become insiders rather than consumers.”

For lower grade levels, a basic scoring rubric was established that helps learners relate to their texts and abilities. DeLuca et al. (2018: 87) found in their study that writing goals and criteria are perceived as useful when they are precise. The rubric in Figure 12 is based on a system suggested by Stiggins (2008: 148), and was adapted to match the foreign language classroom. It encompasses different dimensions of writing and describes which abilities are expected at different levels of expertise. The example rubric includes points, which do not necessarily have to be included.

Items	Beginning (1 Point)	Developing (2 Points)	Accomplished (3 Points)
Ideas and Content	It is difficult to follow the argument. The ideas are not really relevant for the topic.	The ideas can be identified but are sometimes completely clear. Not all ideas are relevant for the topic.	The ideas are clear, exact and easy to follow. Ideas are relevant for the topic.
Opinion/ Argumentation	Opinion and argumentation are not logical. No facts and experiences that support the opinion.	Most of the opinions and argumentation are logical. Limited facts and experiences to support the opinion.	Opinion and argumentation are logical. There are facts and experiences that support the opinion.
Insights	Connections are missing and no insights are included	Connections are not always clear and lead to few important insights	Connections between ideas show important insights
Grammar	Very simple and repetitive sentence structure. Frequent grammar mistakes that make it hard to understand the text	Sentences could be more complex and have more variety. Reasonable amount of grammar mistakes	Complex sentences, connections between sentences, few grammar mistakes
Vocabulary	Basic vocabulary, frequent repetition, frequent vocabulary from mother tongue.	Good basic vocabulary, some repetitions, some words do not fit or were simply taken from mother tongue	Varied, interesting and accurate vocabulary.

Figure 12 – Writing rubric

Older learners can also be asked to develop their own assessment rubrics. Stiggins (2008: 169ff) suggests a 5-step process learners can be taken through in order to understand, establish and apply assessment skills and rubrics.

Based on these suggestions, an activity for the e-portfolio was developed. The shortened instructions for it are shown in figure 13.

What is good writing? Short Instructions

The question is: "What is good writing?" We can't be 100% objective, some aspects we can analyse and get a little bit closer to an answer and together with one or more partners

- *Discover*: Analyse and order the texts from best to worst.
- *Condense*: Exchange ideas, discuss ratings and order the texts
- *Define*: State why the text is excellent/ very good/ ok/ acceptable
- *Apply*: Use the criteria your text.
- *Refine*: Improve your criteria where necessary.

Figure 13 – Good writing exercise, short instructions

The first step, *Discover*, involves reading and ordering 5 example texts of varying quality. The texts are ideally delivered through Edmodo to avoid extensive copying. The following *Condense* and *Define* stages have learners exchange

their ideas on the texts and identify why they liked or disliked certain texts. The results of the discussion are then used to define criteria for good writing. These will make up the basis for a scoring rubric. In order to render these more visually appealing and professional, the rubric tool ForAllRubrics that is linked to Edmodo can be employed. In the *Apply* phase, learners are then asked to compose a text of the same genre and apply the negotiated criteria to their own writing. In the concluding *Refine* step, the rubric can once more be adapted.

12.1.4 Collaboration and feedback

As explored in chapter 6.4, feedback can refer to either feedback provided by a superior, i.e. teachers, parents or outside persons, or peer-feedback from fellow students. In order to develop reflective abilities, learners need to compare their own strategies and progress with others. At the same time, the opportunity to access peer work enables learners to view themselves in a wider context.

Peer feedback of a very immediate kind is enabled through the Edmodo interface. When learners post or publish something, others can directly respond to the content. The most basic form would be to *like* a post, an activity learners are familiar with from Facebook and other social networking sites. Additionally, posts can be commented on, including feedback statements.

Several authors (Whitelock 2006; Sailer 2010: 116; D. Nicol 2007: 669) emphasise the importance of timely feedback. If feedback is to be considered assessment for learning, it needs to be delivered in a timely manner. Feedback otherwise loses impact and will not be perceived as valuable to the learner. Web applications do have the advantage of immediacy and content can be received with minimum delay. This holds true for the peer feedback exemplified above and also for teacher feedback. When an assignment is uploaded to Edmodo, a comment field automatically appears, supporting an exchange between teacher and learner.

A central aspect about good and valid feedback is that it evaluates learning achievements and not persons or character traits. In a classroom situation this might not be simple or intuitive for the learners. “When students have clear criteria, feedback can be more descriptive and portfolios can better support learning.” (Davies and le Mahieu 2003: 154) A series of peer-feedback Likert-scales was therefore created in order to facilitate feedback and guide learners towards objective and helpful responses.

Alderson (2005: 246) confirms that learners generally find the analysis of peer writing rewarding. A Likert-scale based on the suggestions from Stiggins (2008: 166ff) was developed for peer feedback. Rather than assigning numerical values, the Likert scale here offers a more personalised and intimate approach to the text. Furthermore, four open-ended statements are included at the end, enabling the peer reviewer to elaborate on their opinion. The questionnaire in Figure 14 is intended as a first, informal approach to peer assessment on writing and the wording is intentionally positive and motivating.

Writing: Peer-assessment												
Your writing...	Yes!			Maybe			Not really					
is very understandable. You know who your audience is.	10				5					0		
shows you know grammar and spelling.												
shows you read through your text and revised it.												
is interesting and creative.												
is original and includes your opinions and attitudes.												
I was surprised that....												

Figure 14 – Peer assessment Likert scale for writing

Wikis are a highly useful resource to foster collaborative learning. At its core, a wiki is an online document that can be edited simultaneously or consecutively by multiple users. With Wikipedia probably being the most famous and popular example, learners are generally familiar with the general form and function of a wiki. For educational purposes, wikis can be applied for a range of subjects and activities yet they are particularly useful for book projects. Especially in the more advanced levels of language learning, it is common to read at least one book a year. In order to render the reading experience more interactive, communicative and collaborative, a sample wiki was put together using Nuclino. Nuclino is a free website with easy navigation that enables users to set up a wiki within minutes and share it with collaborators.



Figure 15 – Nuclino wiki for book project

After the initial set-up, the link to the *Nuclino* wiki was posted to Edmodo. In a first step, learners are then asked to sign up for one of two assignments: either writing a chapter summary or choosing a character for analysis. Once the tasks are assigned,

learners can begin to fill the wiki with their own ideas or questions as shown in Figure 15. Contents of the wiki are not restricted to text, also images, videos, links or other media types can be added. Furthermore, all contributors can add new sections or pages, adjusting the wiki to their needs. It is therefore a page that grows as learners progress in their reading and offers

the chance to record reading and sustain discussion on a book, whilst supporting collaboration.

Apart from being an easy and functional accompaniment for a reading task, the wiki is intended to introduce learners to a different means of recording learning. They may be inspired to adapt the system for other learning processes, tasks or subjects.

12.1.5 The four skills on Edmodo

The list of potential e-portfolio artifacts (see chapter 12.2.1) suggests a variety of writing opportunities. The most traditional and most relevant of which is the essay, since it is also a requirement for the Matura examination in the form of a narrative or descriptive text. (Bifie 2013: 24ff) With writing taking up a reasonable amount of time, however, it is frequently relegated to homework. This makes it more difficult for learners to develop advanced writing skills in a foreign language. Often, homework texts will only serve the cause of completing an assignment: writing it, getting corrections from the teacher, (potentially) reviewing corrections and then moving on to the next task. This turns writing into a solitary task with little communicative function.

In order to turn the revision stage into a more rewarding and interactive learning experience, learners find the *Improve your writing* worksheet in their portfolio. In this exercise, learners write a text, have it corrected and then analyse their mistakes in detail. They are asked to identify 3 (grammar) mistakes and explain for each what kind of mistake it is and

why they think it occurred.

They are further invited to formulate a question or quiz for Edmodo as shown in Figure 16 and test their classmates' knowledge. The exercise is a slight variation of a list of frequent errors, often used in language classrooms. It has the advantage, however, that the teacher does not have to

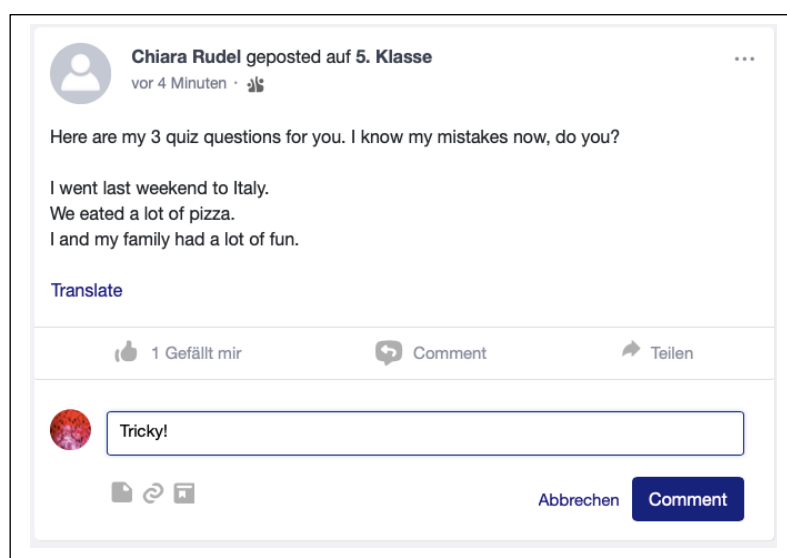
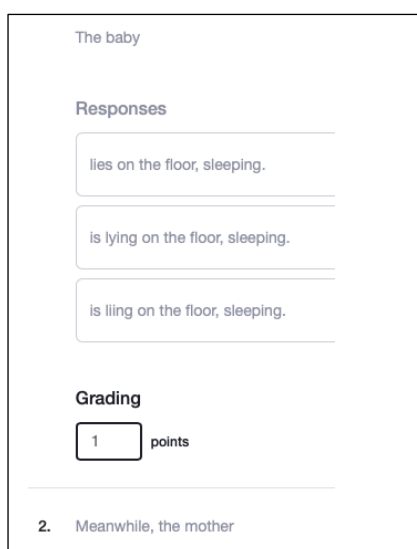


Figure 16 – 3 mistakes quiz on Edmodo

compile the erratic sentences, whilst at the same time giving the learners the chance to reflect on and improve their writing.

Not only can the e-portfolio support the development of writing skills but also provide a more authentic context for written work. Learners can read and review each other's work, comment on it, make suggestions or simply praise it – with each of these activities uncoupling the bilateral teacher-learner relation and making a text accessible to a peer audience.

Based on a video storytelling activity by Keddie (2017: 4ff), a writing task for a summary or description was created. Learners are told the synopsis of a Youtube video featuring a



sleeping baby, resting mother and an unexpected event that scares the mother and wakes the baby. Learners are then invited to make assumptions about the baby's dreams, mother's thoughts and father's whereabouts. This aims at activating schematic and procedural knowledge, and aids understanding by creating a rich context for the story. Then the 7-item multiple choice test shown in Figure 17 is delivered through Edmodo. It briefly revises the use of tenses in English and aims at eliciting the difference between the present progressive and present simple tense.

Figure 17 - Something unexpected quiz

After having taken the quiz, learners can revise their results and use the comment function to express grammar

insecurities. Apart from the grammar revision, the quiz also reiterates the video content. In the next step, the original video is posted to the platform and learners potentially experience a moment of surprise when they realise that mother and baby are not human but pandas.

This task sequence is intended to illustrate descriptive writing and how withholding information can create different expectations. Providing a synopsis of something we have seen or heard, is an authentic everyday activity and, as Keddie (2017: 165) states, "when we choose to retell and interpret, we have a good reason for doing so." The content presented to others invariably entails some emotional response and the desire to discuss it. Or, as Keddie (ibid.) continues to explain "there is no retelling without some level of comprehension, some personal response, and some interpretation." Learners are therefore asked to pick a short video of their own and write a synopsis. The correct employment of tenses, as exemplified in the model story, is emphasised however it is left to the learners to decide whether or not

they want to withhold vital information. In the final step, texts and videos are to be shared with the group.

The majority of these tasks could also be administered in a regular classroom setting and there is no need to apply the Edmodo platform consistently. The decision to do so was due to the ambition to explore the functions of the tool and experiment with different modes of delivery. The final step however, with learners writing their own summaries and sharing them along with the original videos, is greatly facilitated by the digital format.

Since the e-portfolio offers a simple way of uploading video and audio files, the improvement of speaking skills can be documented easily. Based on the assumption that the e-portfolio is introduced at the beginning of the school year, one of the first activities is for

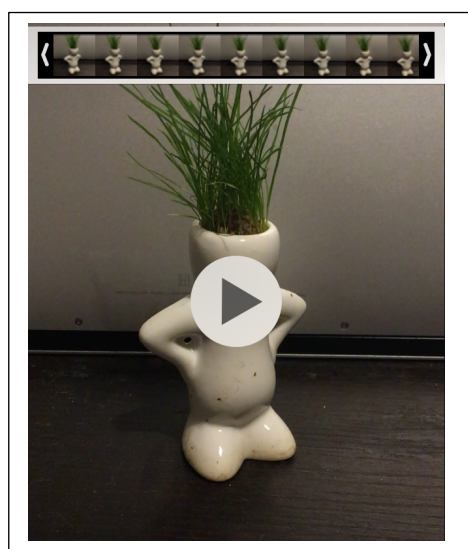


Figure 18 - Video task

learners to provide a short video, introducing themselves.

This video is intended to be as spontaneous and authentic as possible, and learners are urged not to read off a prepared text. The video can feature the learners themselves or objects standing in for the learner if they are uncomfortable presenting themselves on screen. Figure 18 exemplifies one solution for this situation. After recording, the result can be shared with classmates, uploaded to Weebly or remain unpublished on the platform.

It is vital to raise awareness for the risks involved in publication, since learners may or may not be familiar with publishing videos online. This is done through referring to the Youtube video *eHarmony video bio* as suggested by Kediie (p97ff). The video was immensely popular in 2011 and features a woman introducing herself on video for a dating website. When the topic turns towards cats, the woman bursts into tears and gives a very emotional account about how obsessed she is with cats. The video has been viewed more than 33 million times and can serve as an instructive example about how quickly videos can reach a large audience online. Learners are asked to consider the implications of publishing their videos as well as if and how they want to be perceived by a digital audience.

Towards the end of the school year, the learners are asked to produce a second version of the video. The instructions for the second video are essentially a condensed version of the original instructions, however a questionnaire reflecting the video project was added.

Compared to my first video, the second one...	Absolutely										Not really									
... is a lot better.																				
... shows I have learned new vocabulary.																				
... shows my grammar has improved.																				
... shows my pronunciation is better.																				
... was more fun to do.																				
... was easier to do.																				
... shows a more confident version of myself.																				

This is what I would like others to notice:

I am especially proud of:

I am especially happy about:

I enjoyed making the video because:

I would like to change:

I would like to improve:

I didn't enjoy making the video because:

Figure 19 - Video self-assessment questionnaire

Additionally, the self-assessment questionnaire shown in Figure 19 is provided with which learners can compare their performance and ideally identify progress and improvement.

The video task was slightly adapted for more advanced classes, inspired by Oskarsson (1980: 39ff). He suggests a simple situation to initiate a speaking activity: *Imagine you meet an English speaking person who does not know anything about Austria. How well can you provide information about food/ holidays/ celebrities / geography/ nature/ living conditions/ weather/ radio and TV/...* Depending on the topics and coursebook used in class, the video assignment can shift its focus to match the syllabus of the year.

Video exercises of this kind can be considered Digital Storytelling, which according to Barrett (2004: 7f) enhances learner motivation and the emotional connection to the e-portfolio by including the learner's authentic voice.

For listening tasks, the literature suggests a focus on either global listening for content or close listening for detailed information. Coursebooks often rely on scripted text for their listening activities, eliciting the intended information. In order to present learners with a different approach to listening, a task was designed for Edmodo based on an extract taken from a Radiolab podcast on zoos, as can be seen in Figure 20. This particular section was chosen because it involves different varieties of English and natural conversation including clarification questions and negation of meaning. The audio file was posted to Edmodo along with the instruction to simply listen to the text once and note down afterwards what the extract was about and what learners can remember. In the next step, learners are asked to listen to the text once more but this time taking notes while listening. They are cautioned to

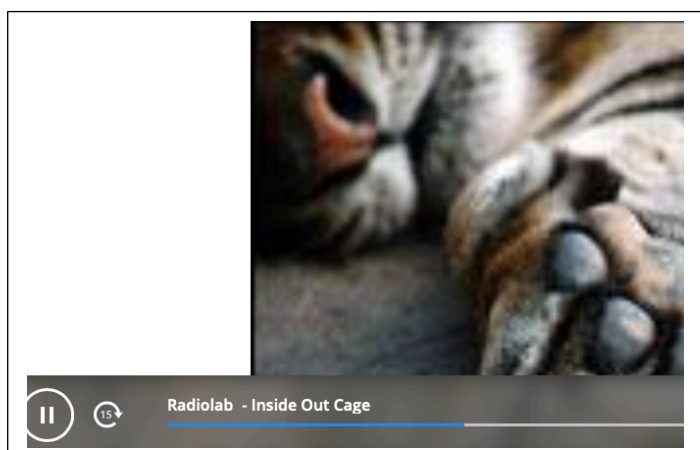


Figure 20 - Listening

focus on information that seems relevant to them. This second step along with note taking can be repeated as often as deemed necessary. Learners are then invited to share and compare their notes with fellow students. Only after the completion of these listening cycles and note taking, are the learners presented with the actual questions

for the listening task.

A listening task like this involving multiple listening cycles, can more easily be administered through the online environment than in the classroom. This activity aims at a more natural approach to listening. Rather than being able to respond to a set of questions, learners are asked to identify personally relevant information. It is intended to instil confidence in learners that they are able to filter out the relevant information from a longer narrative.

12.2 Weebly

The Weebly e-portfolio is to some extent a reply to Davies and le Mahieu's (2003: 158) fictional yet poignant job ad: "wanted: lifelong learners who have new skills basic to this knowledge age – readers, writers, thinkers, technologically literate, and able to work with others collaboratively to achieve success." In order to adequately respond to this ad, the Weebly portfolio cannot be merely equipped with artifacts and the work considered done. Learners are invited to include drafts and less than perfect versions of their work in order to show different stages of a process, progress or intended improvement. For the purposes of this project, an example e-portfolio was set up. It served as a means of exploring the different functionalities of Weebly, experimenting with the building blocks and acquiring first-hand experience with e-portfolio compilation. Additionally, it can be used in class as an example of what a language learning e-portfolio could look like.

12.2.1 Artifacts

Learners potentially need some assistance to explore the possibilities of their e-portfolio and the artifacts in it. The most obvious artifact will be a text, written as homework or in class. Video and audio files are equally apparent choices to include in an e-portfolio. In order to provide learners with more ideas and inspiration, a table of possible artifacts was compiled, comprising obvious and less obvious artifact possibilities. The list can also be used by teachers for quick portfolio task assignment. Items from the list were inspired by Campbell et al. (2000: 109ff) and Kelly and Cox (2011: 324ff) and adapted for the use in a High School English classroom. The full list is provided in the Appendix.

computers and the internet, an artifact can take any form from text to image to audio. Here is a little table, just to give you an idea what an artifact could be.

Artifact	What is it?	Which media?	Sounds good?	Done!
Anecdotal records	Tell us how you used English in real life.	text, video, audio, comic,...	☹️ 😐 😊	<input type="checkbox"/>
Articles	Share something you read in newspapers/magazines/online	text, comment, link, post,...	☹️ 😐 😊	<input type="checkbox"/>
Assessments/ tests in class	After a test, think about what went well and what didn't.	text, drawing, mind map,...	☹️ 😐 😊	<input type="checkbox"/>
Assessments/ tests outside of class	Results of online tests (e.g. DIALANG) or official language tests (e.g. TOEFL).	screenshot, comment,...	☹️ 😐 😊	<input type="checkbox"/>
Computer programmes/ apps	Tell us about any programmes or apps you are using to learn English.	screenshot, link to online review,...	☹️ 😐 😊	<input type="checkbox"/>
Feedback	Tell us what your teachers, friends, family members...	photo, audio, screenshot	☹️ 😐 😊	<input type="checkbox"/>

Figure 21 - List of possible artifacts

The table presented in Figure 21 explores a variety of language encounters that could be turned into an e-portfolio artifact. A brief description explains what constitutes the encounter, followed by ideas about which media types could be used to record the artifact. The final two

columns are intended for learner use: One column includes a simple scale to let the learner rate how appealing this artifact is and therefore how likely they are to include it in their portfolio. The last column can be ticked off once the artifact is included in the e-portfolio. The table is intended to inspire learners to think outside classic products of the language classroom and diversify their e-portfolio contents. Furthermore, it raises awareness for informal or non-formal L2 learning experiences.

<p>Possible Artifacts – more detailed explanations</p> <p>Anecdotal records – Anecdotal records are real-life encounters with English. Maybe you talked to a native speaker or you heard, read, saw English being used in a real-life situation. Anecdotes are not necessarily outstanding language encounters, but rather document something surprising or new.</p> <p>Articles – choose articles from newspapers, magazine, journals or webpages on topics that interest you. Include a rationale why you chose this article, how hard it was to read it, which new words you came across and which new information you have learned from it. These articles are a great starting point for the summary artifact as well.</p> <p>Assessments/ tests in class – This artifact may consist of (high/ low) scores in a test or vocabulary quiz. It could also be that you realise you have made a silly or funny mistake in the test. Or maybe a mistake in a test that you will never make again.</p>

Figure 22 – Artifacts explained

In order to clarify the list of possible artifacts, a second explanatory document is provided. The excerpt in Figure 22 shows the detailed explanation of artifacts and includes examples. The documents with full artifact description can also be found in the Appendix. For the

Weebly example e-portfolio a number of these artifact ideas were realised and can be viewed in the following sections.

12.2.2 Reflection

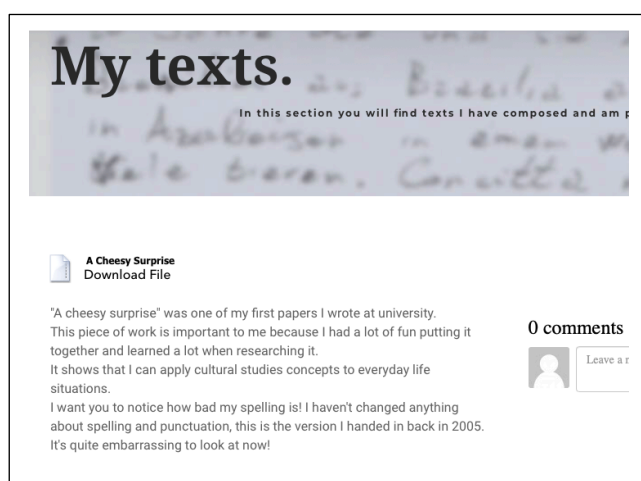
As Delandshere and Arens (2003) und Davies and le Mahieu (2003: 154f) emphasise, a mere collection of artifacts rarely speaks for itself – it is with rationales and reflections that a piece of work becomes as meaningful to the reader as it is to the learner.

By showing authentic work completed in courses or degree programs spanning several courses, students cannot only offer evidence of achievement, but provide a reflective context that is itself further evidence of understanding and critical thinking. (Plater 2006: 66)

Stiggins (2008: 321) recommends a simple structure for open-ended statements in order to reflect any type of artifact:

- This piece of work is...
- It shows...
- I want you to notice....

These guiding questions were used throughout the e-portfolio as illustrated in Figure 23 to initiate reflection and invite the learner to explain an artifact and how it fits into their overall learning process. Stiggins (ibid) further suggests to include the requests “Please give me one compliment!” and “Please ask me one question!”. In the e-portfolio, these requests can be



included when peer review or peer assessment are part of the activity. Responses can be delivered through the contact button, a survey or the comment function. For the example portfolio, the different options were explored and placed in suitable sections.

Figure 23 – Reflection questions after Stiggins

Alternatively, the simplified version of “What? So What? Now What?” (Campbell et al. 2000: 22) was employed. These questions refer to three different kinds of reflection (Barrett 2004: 7): The most basic question *What (is this artifact)*, refers to reflection in the past tense

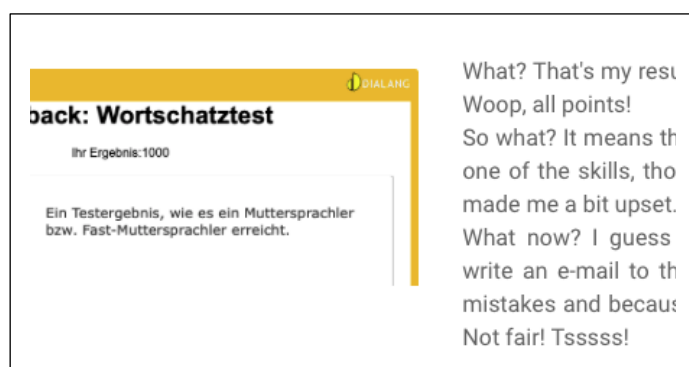


Figure 24 – What? So what? What now? In blog post

providing a brief overview and explanation of the artifact. *So what (does it mean)* situates the artifact in the broader learning process and explains how it links to progress and development. The final question *Now what (is going to happen)?* represents

reflection in the future tense,

identifying room for improvement and further steps to be taken. Figure 24 shows an example from a blog post on the Weebly example e-portfolio.

The blog section of the Weebly e-portfolio was discovered as a most useful tool for reflection and the documentation of learning over time. As Barrett (2004: Digital Stories: 10) explains “perhaps a blog is a good option, since it can be used as an online reflective journal and an environment that invites collaboration.” The blog a very immediate means of communication and can include a variety of media types. It has to be noted that the blog, like all Weebly e-portfolio constituents can be password protected. Furthermore, blog contents do not show up in a regular internet search unless intended, protecting learner privacy.

One opportunity to make use of the blog is as a learning journal. As explored in chapter 4.2 the act of writing down help assist reflection and processing of content. Figure 25 shows



Figure 25 – Blog post weekly reflection

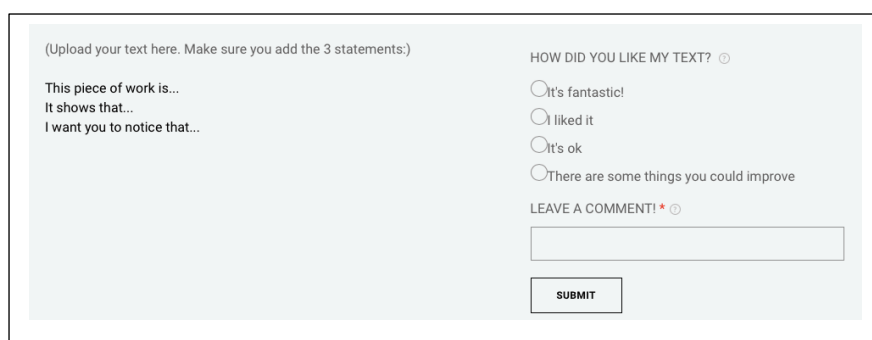
the scaffolding for a blog post used for reflection.

This type of weekly reflection is recommended by Müller-Hartmann and Schocker- von Dittfurth (2011: 245f) and Bräuer (2016: 19ff) and guiding questions were adapted from them.

It is suggested to let learners experiment with the blog as often as possible. Individual constituents of the blog can later also be moved to the more representative sections of the e-portfolio.

12.2.3 Feedback

The Weebly portfolio offers different functions to include feedback. As shown in Figure 26, learners can for example select the artifacts on which they would like to receive feedback and place a survey next to it. Survey contents and wording can be adapted to establish a direct connection with the artifact. In addition, comments can be enabled if this kind public feedback is desired. For more personal and private feedback, a contact button can be added to the



(Upload your text here. Make sure you add the 3 statements:)

This piece of work is...
It shows that...
I want you to notice that...

HOW DID YOU LIKE MY TEXT? ☺

☐ It's fantastic!
☐ I liked it
☐ It's ok
☐ There are some things you could improve

LEAVE A COMMENT! * ☺

respective portfolio sections. The portfolio owner will then receive an e-mail notification about incoming messages.

Figure 26 – Survey and comment on Weebly

12.2.4 The four skills – example tasks

The four skills in language learning – writing, speaking, reading and listening – cannot be considered discrete entities in the e-portfolio. The different artifacts are multimodal constructions and can further entail written rationales or audio files for explanation. As a consequence, the task overview below will not follow a strict categorisation.

The e-portfolio lends itself to including audio or video files. On Weebly, these can be uploaded easily and for Youtube videos, an element can be added to the page that automatically embeds the video in the selected place. Figure 27 shows a basic Youtube listening example was. The video is embedded in the e-portfolio, followed by a brief rationale why it was chosen and a column for new items of vocabulary. The reflective writing then follows the *What?/So what?/What now?* structure. The listening strategy for music suggested to learners here is listening over and over again to a song they like and trying to identify familiar words and phrases. After an unspecified amount of listening cycles, learners are asked to research the lyrics to the song and complete their understanding. New vocabulary and phrases can be noted down in the third column. In the *What now?* section, it is suggested to research more work by the musician and also listen to or watch interviews. Learners are thus invited to expand their knowledge of a particular topic and improve their listening skills.

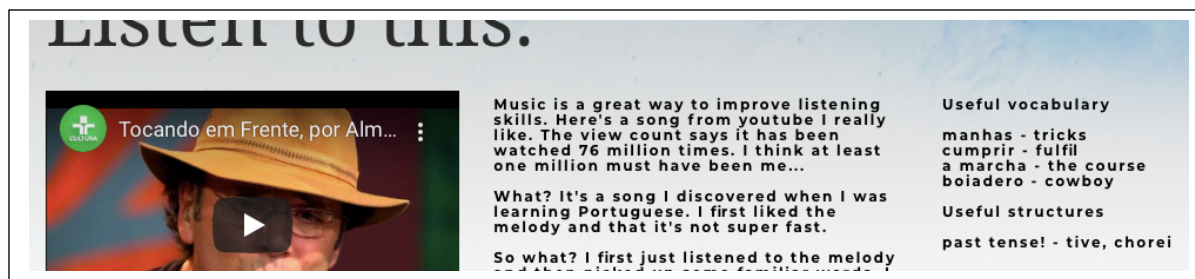


Figure 27 – Using music to improve L2 skills

Working with video has the advantage that learners can adopt the setting and outline of a story, and make it their own by adding dialogue. One of the speaking exercises in the Weebly portfolio involves a video suggested by Keddie (2017: 104). The video *Conversation piece* shown in Figure 28 depicts an argument between husband and wife, presumably. Since the

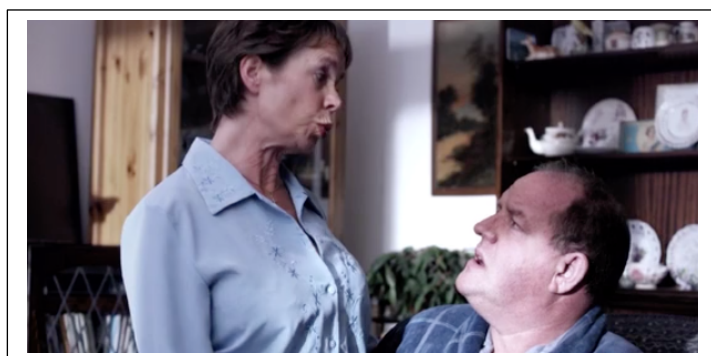


Figure 28 - *Conversation piece* dialogue activity

video is entirely without spoken words, assumptions have to be made concerning the relationship between the two protagonists, as well as the content of their dispute. The original video sequence has an instrumental Jazz piece playing, with the instruments representing the actors' voices. Learners are asked to provide the words to the exchange, paying attention to the lengths of interlocutions and interpreting plot turns. Furthermore, learners can be invited to create a story around the protagonists, inventing names and biographies.

The Weebly artifact shown in Figure 29 centres around using podcasts to improve listening skills. There is a vast variety of podcasts to be found on the internet, comprising any topic imaginable and catering to different tastes and language abilities. The Edmodo page features a post on podcasts in general and some suggestions which podcasts might be

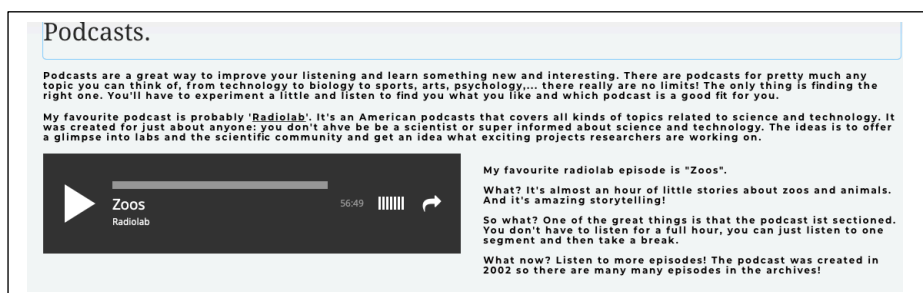


Figure 29 – Podcasts in the Weebly portfolio

interesting and appropriate to learners at their respective levels. To demonstrate how to use

podcasts for language learning, an example was posted to Weebly, including a rationale how it supported learning.

The list of possible e-portfolio artifacts also offers a variety of ideas how to include reading artifacts in an e-portfolio. For the example e-portfolio, the artifact shown in Figure 30 was created. It depicts the author's library and explains its significance and organisation. The rationale accompanying this artifact can also include a reflection on what learners like to read and how they arrange their books at home.

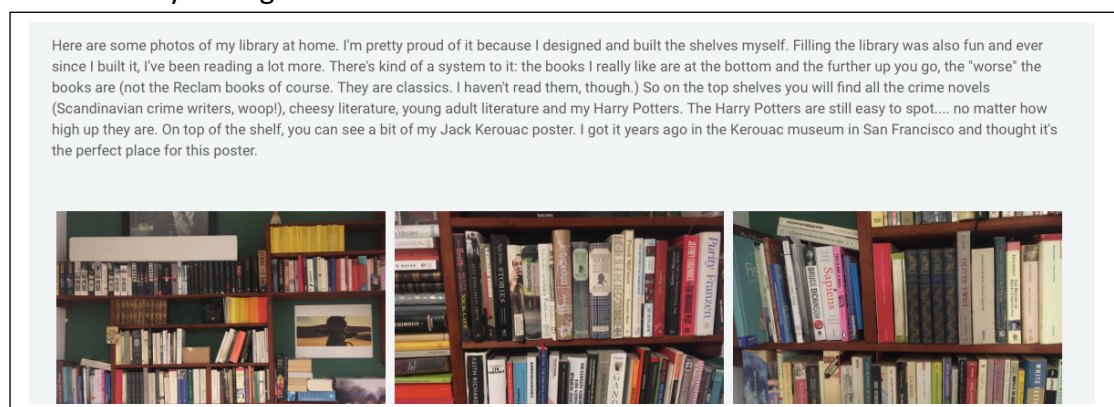


Figure 30 – Library task

For another reflective task, a short about text reading routines was written. Figure 31 shows the example artifact. In the accompanying portfolio task, learners are encouraged to follow

one "cheesy" book. By
identific or non-fiction.
e or something "light".
it anymore. Worst
and I really didn't enjoy

I REALLY LIKE TO READ...

☐ novels

☐ magazines

☐ blogs

☐ newspapers

☐ non-fiction books

IF OTHER PLEASE SPECIFY:

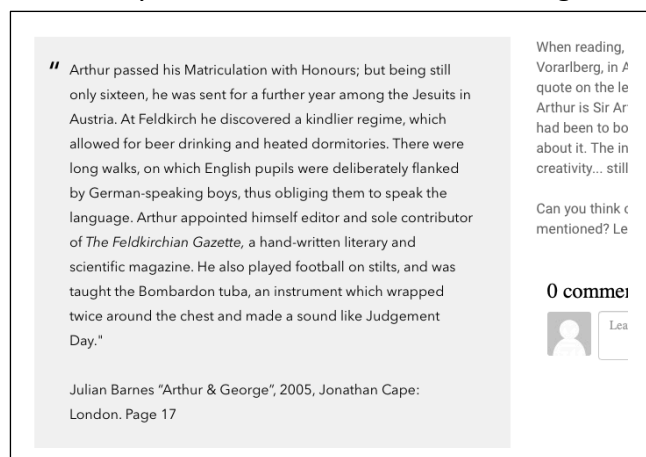
my survey!

SUBMIT

Figure 31 - Reading routines and survey

the example and reflect on their own reading routines: Do they have a routine? When do they like to read? What do they like to read? They are then asked to create a survey about reading preferences. For creating the survey, learners will have to think about different media types and therefore draw on and expand their knowledge of text types.

One layout template on Weebly enables the user to prominently place a quote on the e-portfolio. This function was employed in Figure 32 to quote a passage by Julian Barnes and is accompanied by a rationale why the quote was selected. For learners, this exercise explores their ability to isolate text from within a larger body and reflect why it was chosen. It presents



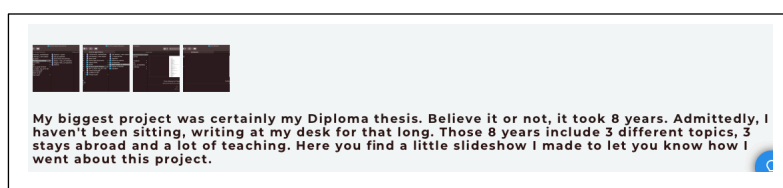
the opportunity to link one's own identity and experiences to the larger world of literature. On a more practical level, this exercise trains basic quotation skills. Learners can develop awareness for intellectual property and what using the work of others entails for their own production process.

Figure 32 - Quote function for reading reflection

12.2.5 Progress and process

With learning at school being traditionally product-oriented, the learning process is often neglected when it comes to assessment and evaluation. Throughout this paper, it has been stated that the artifacts and especially texts included in the e-portfolio do not have to be perfect. By including drafts, revisions and the final product, the processes of development and improvement can be made visible. It is thus a more cyclical writing model, where the first version does not constitute the end product. Yancey (2004: 741) points out that drafts and earlier versions of a text provide to context against which it can be judged. Without this context, the reader might lack a key to understanding the production.

The Weebly e-portfolio includes a function to create slideshows. These offer an easy way to illustrate progress over time. As shown in Figure 33, different documents, drafts or pictures can be presented in succession. Learners are thus given the opportunity to illustrate a learning process, presenting earlier versions and in-between stages leading up to the final



version. A rationale can be included to make explicit the considerations involved in artifact completion.

Figure 33 – Project slide

12.2.6 E-portfolio assessment

With the Weebly portfolio including representative sections, it could be used for assessment, evaluation or reflection of learning and progress at the end of a school year or term. Sherman (2006: 9) advocates for a “review or closure experience” to conclude an e-portfolio cycle and identify strengths and areas for improvement. On the basis of criteria by Campbell et al. (2000: 128ff) and Diller and Phelps (2008: 85), a basic scoring rubric for the Weebly e-portfolio was developed. The rubric presented in Figure 34 comprises the six dimensions of contents, artifacts, author, rationale, reflection, correctness and look/organisation. Using three levels of development – beginning, acceptable and accomplished – the rubric assigns either 0, 1 or 2 points for varying degrees of e-portfolio expertise. Each category and level contains a brief explanation of what is expected in order to earn the respective points. These points are of course only relevant if the e-portfolio contributes to learners’ overall grades. Irrespective of whether or not the e-portfolio can influence marks, the provision of the assessment can clarify expectations and purposes of the e-portfolio and guide learners towards meaningful portfolio compilation.

Items	Beginning (0 Points)	Acceptable (1 Point)	Accomplished (2 Points)
Categories			
Contents	Portfolio lacks required artifacts	Portfolio contains the required amount of artifacts	Portfolio contains the required artifacts, or more
Artifacts	Portfolio lacks variety in artifacts	Portfolio contains an average variety in artifacts	Portfolio contains wide variety in artifacts, unexpected solutions
Author	Artifacts were produced by persons other than the learner	Artifacts were produced by the learner, some do not show much processing	Artifacts were produced or processed by the learner
Rationale	Few artifacts include a rationale why they were chosen	Several artifacts include a rationale why they were chosen	Artifacts include a rationale why they were chosen
Reflection	Learner does not reflect their learning	Learner shows some instances of reflection	Learner shows the ability to reflect
Correctness	Frequent errors, little revision of artifacts, further revisions are necessary	Acceptable frequency of errors, some artifacts were not revised	Low frequency of errors
Look and Organisation	No personal touch in presentation, the portfolio looks disorganised and is difficult to navigate	Appealing presentation, portfolio is suitably organised and easy to navigate	Portfolio is visually appealing and was modified by the owner. It is well-organised and easy to navigate

Figure 34 - Weebly (self-)assessment rubric

In addition to the assessment rubric, the self-assessment Likert-scale for an e-portfolio shown in Figure 35 was compiled. Based on aspects suggested by Stiggins (2008: 319), the categories mirror the criteria of the e-portfolio rubric but include simplified language. Additionally, there is a section with open questions. In it, learners can state their personal highlights of the portfolio and potential for improvement. The self-assessment Likert-scale is intended to be

completed by the learner before a potential e-portfolio conference or presentation of the e-portfolio.

... includes artifacts that show my best English.																			
... includes artifacts that I corrected and revised.																			
... has a clear structure and is easy to navigate.																			
... shows who I am as a learner.																			
I am especially proud of:																			
I am especially happy about:																			
I would like to change:																			
I would like to improve:																			

Figure 35 - E-portfolio self-assessment Likert-scale

13. Discussion and findings

13.1 Choice of e-portfolio tool

With respect to the first research question *Which e-portfolio tools are compatible with and suitable for a High School setting?*, the findings are complex. Unless a school already has a digital strategy in place which can be expanded on, teachers are faced with a myriad of options. The final decision of e-portfolio tool will greatly influence the success of the project and should therefore not be taken lightly.

When researching and experimenting with the different options, ease of use and functionality should be the main focus. If the project initiator perceives the tool as counter-intuitive, complex or confusing, there is a great risk of exposing learners to the same experience. E-portfolio software that is too difficult to navigate will absorb valuable time and attention and therefore obstruct the intended (language) learning.

The second question pertaining to technical issues *How can an e-portfolio be structured to allow for extensive learner involvement but also the necessary teacher control?* was in this research project answered with the dual solution of Edmodo and Weebly. This had several practical advantages, yet it cannot be considered ideal. Whereas both, Edmodo and Weebly, were convincing in terms of ease of use and functionality, the switching between the tools could be confusing for learners. An e-portfolio software enabling learner-centredness yet allowing for teacher intervention at the same time would be desirable.

13.2 E-portfolio exercises

Due to time constraints in formal teaching environments, setting up an e-portfolio project and the corresponding tasks may not seem feasible, let alone when initiated by individual teachers. The central research question for this project was *How can e-portfolio exercises be designed to support English language learning?* In answer to this question, a list of potential e-portfolio artifacts was compiled. The accompanying document explaining the artifacts in detail helped clarify the intentions behind individual contents and can be developed into e-portfolio assignments.

The Weebly example e-portfolio served as a means of experimenting with selected tasks. Assembling the contents of this portfolio was a rewarding experience. Instead of simply following task instructions, the user is invited to find personalised solutions and express themselves. Furthermore, there is the constant opportunity to surpass the borders of the formal language classroom and consider non-formal and informal learning as well. This creates a complex representation of language skills and encounters that is truly unique. Whereas the resulting example e-portfolio can be further employed to exemplify portfolio work it presents only one possible solution to the individual tasks.

The tasks developed for and presented in this paper are intended as a starting point and offer to teachers in practice. The individual tasks are easily adaptable and the corresponding materials can be accessed online. It is highly desired for them to be applied in the language classroom.

13.3 Self-regulation and reflection

The research question *How can the e-portfolio support self-regulated and reflective learning?* is situated at the intersection of technology and task design. In the course of experimentation with the two e-portfolio tools, several functions were identified that can scaffold self-regulated and reflective learning:

- *Questionnaires* can easily be distributed on the Edmodo platform as word files. This allows for learner manipulation and engagement with the document. It can be argued that the questionnaires along with rubrics and Likert-scales uploaded to the e-portfolio tools could just as easily be handed out in a traditional classroom setting. However, the ease of distribution as well as the opportunity for learners to adapt the digital files pose a clear advantage over a paper version.

- The *poll* function not only helps learners identify learning strategies, but also initiates thinking about non-formal and informal learning.
- A *post* can be created stating learning goals. The publication of achievement targets has the added benefit of inviting peer commenting and observation.
- The *blog* on the Weebly portfolio was identified as having large potential to foster self-regulation and reflection. If used on a regular basis, the blog can serve as a learning journal or log, documenting progress, thoughts or questions. Since blog entries are not confined to text, learners can express their reflections in different formats.
- The *quote* function on Weebly presented itself as an appealing means of including passages from reading experiences.
- Rationales manifested as texts or images can accompany individual artifacts. These items of reflective practice help clarify artifacts for the readers and learners themselves.

13.4 Collaboration and feedback

The research question *How can the e-portfolio support collaboration and peer-feedback?* focused on fostering learner interaction and communication. The following means of achieving this were discovered:

- The simplest function to support exchange between learners on Edmodo is a *post*. Questions, opinions or resources can be shared within the group. The immediacy of the medium provides for potentially timely answers and feedback and can therefore be considered more frequent than classroom interaction only.
- Both Edmodo and Weebly contain a *comment* function. Whereas the comments on Edmodo are generally attached to a post, the owner of the Weebly e-portfolio chooses themselves where comments are welcome and deemed suitable. When provided with the appropriate guidelines, the comments can lead to valuable peer-feedback.
- Learners can create *polls* and *surveys*, inviting opinions and feedback.

13.5 E-portfolio contents

The final research questions *Which exercise formats are possible and easy to implement?*, and *Which media types can be employed?* pertained to the contents of the e-portfolio.

Within the Edmodo tool, learner self-expression is limited by functionality. Edmodo being teacher-centred, most tasks will be structured and predetermined by the teacher. Exercise formats include quizzes, multiple-choice questions or open-ended statements that aim at eliciting information from learners.

The Weebly e-portfolio exhibits an larger degree of versatility. Due to the offer of building blocks within the portfolio template, tasks can be realised in multiple ways. This, however, assigns more responsibility to the learner. Rather than completing exercises, learners have to be actively involved in task completion. This also presupposes a certain amount of willingness to experiment with the different functions.

Both on Weebly and Edmodo, different media types can be employed. This includes text, tables and graphs, pictures and photos as well as audio and video files. Embedding in the portfolio is an easy and intuitive process. Additionally, resources from and links to other websites can be included. This enables users to quickly access external sources if need be. For this project, the links to a learner wiki on Nuclino and the AllForRubrics page were especially useful.

14. Concluding remarks

Technological advancement has significantly increased the amount of knowledge available to anyone who has access to the internet. Whereas the accessibility of information certainly is a welcome development, the persisting question is how to best make use of the new possibilities and how the educational system can react to these developments. E-portfolios are only one option for merging formal, non-formal and informal learning and providing learners with the opportunity to become more self-regulated and autonomous.

It has been shown how an e-portfolio can be employed to expand on classroom language learning to include a variety of learning opportunities. Apart from initiating reflection on individual learning and thus rendering underlying attitudes explicit, the e-portfolio was also be used to illustrate competencies that cannot be easily described. In this way, the language learner is enabled establishes a comprehensive digital representation of strengths and development.

Networking online for educational purposes corresponds to everyday life. Whether the online feature indeed renders learning deeper is to be shown. Yet our constant use of computers means they need to be incorporated into education, in order not to lose traction

with reality - especially at a time when the real and the digital world are constantly overlapping and merging into one another. "Thus, ICT [...] is both a cause of change and a means of achieving it." (Jenkins 1999: 1) By embracing technology for education, we have the chance to shape a new generation of learners. It means that education returns to its very core purpose, namely to enable the individual to participate in, co-construct and act in society.

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16. Appendix

- All links last accessed: 2.2.2020

Links to e-portfolio software used

Edmodo: <https://new.edmodo.com>

To join the Edmodo class use the following code: 6bvq23

Weebly: <https://www.weebly.com/at>

For direct access to the example e-portfolio use: <https://chiarae-portfolio.weebly.com/>

Password: DiplomarbeitChiaraRudel2020

Links to e-portfolio software discussed

Mahara: <https://mahara.org>

Drupal: <https://www.drupal.org>

Elgg: <https://elgg.org>

OSP: <https://www.osportfolio.org>

Watermark: <https://www.watermarkinsights.com>

Movable Type: <https://movabletype.org>

Pebble Pad: <https://www.pebblepad.co.uk>

Blackboard: <https://www.blackboard.com/teaching-learning>

Kidblog: <https://kidblog.org/home/>

Factline: <http://www.factline.com/10328750.12/>

Keep Toolkit: <https://most-keep.jp/keep25/index.php>

Sciware-Concorde: <http://www.concord-usa.com/solutions.htm>

Wordpress: <https://de.wordpress.com>

Brushd: <https://www.brushd.com>

Portfoliopen: <http://www.portfoliopen.com>

Exabis: <https://www.exabis.at>

Google Sites: <https://sites.google.com/new>

Links to videos:

“Conversation piece”: <https://vimeo.com/18453886>

“eHarmony Video Bio”: <https://www.youtube.com/watch?v=mTTwcCVajAc>

“Something Unexpected – Sneezing Baby Panda”:

<https://www.youtube.com/watch?v=O4rfQSgkZOE>

Link to listening activities:

<https://www.wnycstudios.org/podcasts/radiolab/episodes/91552-zoos>

Other websites mentioned

















Rubric creation: <https://www.forallrubrics.com/login/>

Nuclino: <https://www.nuclino.com>

The following pages contain the worksheets for selected tasks.

Possible Artifacts – checklist

In your e-portfolio, you will be working on and collecting “artifacts”. “What are artifacts?” you may wonder? Artifacts are pieces of work created by you. The simplest form of an artifact is a homework text but that is really only the beginning! Because we are using computers and the internet, an artifact can take any form from text to image to audio. Here is a little table, just to give you an idea what an artifact could be.

Artifact	What is it?	Which media?	Sounds good?	Done!
Anecdotal records	Tell us how you used English in real life.	text, video, audio, comic,...	☹ ☹ ☹	
Articles	Share something you read in newspapers/magazines/online	text, comment, link, post,...	☹ ☹ ☹	
Assessments/ tests in class	After a test, think about what went well and what didn't.	text, drawing, mind map,...	☹ ☹ ☹	
Assessments/ tests outside of class	Results of online tests (e.g. DIALANG) or official language tests (e.g. TOEFL).	screenshot, comment,...	☹ ☹ ☹	
Computer programmes/ apps	Tell us about any programmes or apps you are using to learn English.	screenshot, link to online review,...	☹ ☹ ☹	
Feedback	Tell us what your teachers, friends, family members or others think about your work	photo, audio, screenshot, mind map,...	☹ ☹ ☹	
Essays	Share a text you have written	text, audio,...	☹ ☹ ☹	
Field trips	Tell us about your adventures (e.g. museum, theatre,...).	audio, video, text, brochure,...	☹ ☹ ☹	
Goal statements	Tell us what you would like to learn or improve.	audio, video, text, check list,...	☹ ☹ ☹	
Interviews	Make an interview with a friend/family member or interesting person.	text, video, audio, comic,...	☹ ☹ ☹	
(Personal) journal	Keep a little journal of thoughts and ideas	drawing, audio, mind map,...	☹ ☹ ☹	
Letters	Write a letter to someone you know or don't know	text, photo, screenshot,...	☹ ☹ ☹	
Learning/ time management	Show us how you organise your studies	table, checklist, excel sheet, mind map,...	☹ ☹ ☹	
Peer critiques	Show us what your friends had to say about your work	screenshot, text, photo,...	☹ ☹ ☹	
Pictures/ Photos	Share pictures and photos (e.g. English in real life)	photo, drawing, power point,...	☹ ☹ ☹	
Problem-solving logs	Share tips how to get exercises done	check list, comic, text,...	☹ ☹ ☹	

Reading list	Share your library with us	list, photo, video,...	☹️ 😐 😊	
Projects	Tell us more about a larger project you completed at school or out of school	text, drawing, photos, power point, video,..	☹️ 😐 😊	
Research papers	Tell us about a research project (e.g. VWA)	text, check list, power point,...	☹️ 😐 😊	
Self-assessment	Think about what you are good at and what is still a bit difficult	list, screen shot, drawing, mind map,...	☹️ 😐 😊	
Summaries	Tell us a short version of something you read or heard.	mind map, text, video, audio,...	☹️ 😐 😊	
Videos	Share videos you made or watched	link, video file,..	☹️ 😐 😊	

Seems like a long list of activities? Don't worry,

- you don't have to do this right now! You will have months and years to work on your artifacts.
- you do not have to do all of this! The list is meant as inspiration. There might be things you didn't think about. (There might also be things you thought about and I didn't).

The "Sounds good?"-section is there to help you decide what you would like to try. You are free to experiment with the different artifacts and of course to change the media type.

This list of possible e-portfolio artifacts is adapted from the books

"Portfolio and performance assessment in teacher education" by Dorothy Campbell, Beverly Melenzyer, Diane Nettles and Richard Wyman. Allyn&Bacon, Boston, 2000. Page 109ff.

and

„Establishing a sustainable ePorticulture: How to prepare, plant, grow, and harvest student ePortfolios“ by Kevin Kelly and Ruth Cox. In „Education for a digital world 2.0: Innovations in education Vol. 2“ Open School BC, Vancouver 2011. Page 321-346

Possible Artifacts – more detailed explanations

Anecdotal records – Anecdotal records are real-life encounters with English. Maybe you talked to a native speaker or you heard, read, saw English being used in a real-life situation. Anecdotes are not necessarily outstanding language encounters, but rather document something surprising or new.

Articles – choose articles from newspapers, magazine, journals or webpages on topics that interest you. Include a rationale why you chose this article, how hard it was to read it, which new words you came across and which new information you have learned from it. These articles are a great starting point for the summary artefact as well.

Assessments/ tests in class – This artefact may consist of (high/ low) scores in a test or vocabulary quiz. It could also be that you realise you have made a silly or funny mistake in the test. Or maybe a mistake in a test that you will never make again.

Assessments/ tests outside of class – With a wide variety of online assessment tools, this item may comprise scores from an online language assessment tool, such as DIALANG, or an app such as Duolingo. The artefact may consist of a screenshot or reflection on the tool itself. Also, results and feedback from standardised language tests such as TOEFL fall into this category

Computer programmes/ Apps – Mention and/or screenshot computer programmes, apps or websites that have helped you develop your language skills. Include a rationale of why you like the programme and if and where you see room for improvement.

Feedback - This item shows your ability to learn cooperatively with your fellow students. Statements from friends, teachers, family members or other persons can be included. Artifacts may be the results from group- or team work, a rationale on giving and receiving feedback and a general statement on the advantages and disadvantages of cooperative learning and feedback. Furthermore, unofficial feedback could be included, like being understood by people, being misunderstood or having to clarify statements.

Essays – This artefact comprises your more freely produced written assignments: stories, stream of consciousness compositions. It shows how well you are able to express original ideas in a different language.

Field trips – Include information on your adventures here: Did you go to the English cinema, museum or theatre? You may even have spent some time abroad in a country where English is spoken. Add comments, photos, videos in this artefact of your experiences at home and abroad and how it has helped your language learning.

Goal statements - Academic, intellectual development are always connected to having a clear vision of where you would like to end up. Other than passing the next test, try and identify areas for improvement for yourself. This might mean little steps like mastering an item in pronunciation, or more broader concepts like improving your vocabulary. No matter how narrow or wide the concept, try to envision and express concrete goals. As you progress in your learning, revise and update your goals and feel free to list your accomplishments.

Interviews - Interviews may be conducted with other learners, friends or family, native speakers or even hypothetical interviews with a famous person you admire. Just try and think of interesting questions and record the (potential) answers.

(Personal) Journals – A personal journal will include your thought, ideas and insights into your own learning – what you find hard at one specific point, what you aspire to, what annoys you. The journal entry is a highly subjective artefact and can take on whatever form you like.

Letters – Letters can range from personal correspondence to more formal letters, as in requesting information, making a booking, ordering something or making a complaint. You can write a letter to someone you know or don't know.

Learning/ time management– Show how you organise your learning. You may have experimented with charts or learning plans, mapping out how you prepare for a test.

Peer critiques – This includes written and verbal feedback you have received from classmates. You may receive feedback on written assignments, presentations or, out of the classroom setting, in private conversations. Record what your peers think about your language skills and where they see room for improvement.

Pictures/ Photos – Include visual material of posters you have designed, learning charts you have drawn up, language encounters you have made, or even simply pictures you came across when surfing the web.

Problem-solving logs – As you progress in your language learning, you will encounter problems and challenges. Set targets for yourself. Document what you find hard and how you are planning to overcome obstacles. Make sure you are precise in explaining your challenge. Think about how you have tried to overcome the problem in the past and try to find alternative ways of solving the problem. Write about solutions that worked particularly well or strategies you would like to experiment with. Note down questions that have come up and that you would like to discuss with others/the teacher.

Reading list – Keep a list of your readings in-class and privately. Write a short rationale why you chose a book, whether or not you enjoyed the book and if you can recommend it to your peers. This is also a great starting point for the summary artifact.

Projects - List and describe projects you have completed for language learning. This may of course also include group assignments. Make sure you point out your role in the group and how the project was completed. Try and be aware of the timeline of the project, in order to have a realistic timeline for future projects.

Research Papers - In case you are planning to write your Vorwissenschaftliche Arbeit (VWA) in English, try and compile the appropriate documents here. This may include background reading, interesting websites, plans and timelines, advice for academic writing or just useful words and phrases.

Self-assessment – Note down which strategies you use to supervise and evaluate your learning. Apart from test scores, how do you make sure, you are learning well? This may also include online assessment tools, lists, questionnaires, graphs or rating scales. It may also be an evaluation of a homework, or written comments on work you have done.

Summaries – This may be a summary of an article, movie or book. It should show your ability to identify the gist of a longer story and present it in a concise form in your own words.

Videos - Videos can include footage from websites, but will ideally include videos made by you – a segment of spoken language, interaction with others, or even a little sketch. Videos are a great way of improving your language skills as you have multiple chances of improving your performance and track your development over time.

This list and explanations of possible e-portfolio artifacts were adapted from the books
“Portfolio and performance assessment in teacher education” by Dorothy Campbell, Beverly Melenzyer, Diane Nettles and Richard Wyman. Allyn&Bacon, Boston, 2000. Page 109ff.
and

„Establishing a sustainable ePorticulture: How to prepare, plant, grow, and harvest student ePortfolios“ by Kevin Kelly and Ruth Cox. In „Education for a digital world 2.0: Innovations in education Vol. 2“ Open School BC, Vancouver 2011. Page 321-346

Reflection on writing

	Yes!				Maybe				Not really			
I like writing.												
I think my texts are interesting and original.												
I like to be able to choose the topic I write about.												
I can improve my writing if I work hard.												
I revise my work to correct mistakes.												
I revise my work to improve it												
I can write an essay												

Adapted from:

“Young children's self-regulated learning and contexts that support it” by Nancy E. Perry. In “Journal of Educational Psychology” 1998: 90 (4). Page 179

“Encouraging self-regulated learning through electronic portfolios” by Philipp C. Abrami et al. In: “Canadian Journal of Learning and Technology” 2008: 34 (3). Page 8ff

Think about learning

When I think about my learning...	Absolutely								Not really			
I am aware of what and how I learn.												
I can identify positive aspects of my knowledge and skills.												
I can identify positive aspects of my attitudes.												
I can identify negative aspects of my attitudes and areas for improvement												
What I learn and how I learn is meaningful to me												

It is easy for me to learn:

This is what I need when I am trying to study:

It is hard for me to learn:

This keeps me from studying:

Adapted from:

“Reflective learning in higher education :a comparative analysis” by Jordi Colomer et al. In: “Procedia – Social and Behavioural Sciences” 2013: 93. Page 367

What is good writing?

Sometimes, we might have a feeling if a text is really good or just good or not so good. Sometimes, we might think a text was really brilliant and then a friend or teacher does not like it at all. So the question is: "What is good writing?" We can't be 100% objective here, but there are some aspects we can analyse and get a little bit closer to an answer. You will get 5 short texts. Please read them and then

- *Discover*: Think about which text you liked best. Which one did you like least? Order the texts from best to worst. Think about why you liked one text best. Why did you not like the other one? Think about vocabulary, length of sentences, excitement, grammar, spelling,....Try and have as many ideas as possible.
- *Condense*: Get together with one or more partners. Discuss your rating of the texts and your reasons. Try to agree and order the texts again.
- *Define*: State what makes a text excellent or very good or ok or acceptable or unacceptable. Try and write statements for these categories
- *Apply*: Use your categories and criteria your text – do all members of your team agree with your opinion?
- *Refine*: If your opinions do not match 100% that's normal. If your opinions are totally different, however, you might want to look at your categories and criteria again and make some adjustments.

What is good writing? Short Instructions

The question is: "What is good writing?" We can't be 100% objective here, but there are some aspects we can analyse and get a little bit closer to an answer. Please read the 5 texts and together with one or more partners

- *Discover*: Analyse and order the texts from best to worst.
- *Condense*: Exchange ideas, discuss ratings and order the texts again.
- *Define*: State why the text is excellent/ very good/ ok/ acceptable/ unacceptable.
- *Apply*: Use the criteria your text.
- *Refine*: Improve your criteria where necessary.

Adapted from:

"Student-involved assessment for learning" by Richard J. Stiggins, Prentice Hall, New Jersey, 2008. Page 169ff

1st Video Assignment - Basic

For your first video assignment, you will have to use the camera on your computer, laptop or phone. Record a short sequence (1-3 minutes) and introduce yourself. You can but don't have to talk about the following aspects

- Name, age, where you live
- Family, friends, pets
- Hobbies, interests and activities
- Your favourite food/ place/ book/ movie/ computer game/...
- or anything else you would like to share

If you don't want to be seen on the video, that's completely fine. Just use a doll, plant or any other object that you feel represents you. Do make sure however that we can hear you. If you enjoy being on video, you are of course free to dress up, choose a funky background and use prompts. But be aware that the speaking bit is the central aspect of your video.

You don't have to post the first version of your video. However, do not write down what you are going to say. Try and speak as freely as possible using the best English you have. Watch your video after recording it. If you are happy with it, great! Post it on Edmodo. If you don't quite like the outcome, give it another try.

After posting your video, it is up to you if you want to share it with your classmates or not. You are free to invite others to watch it and comment on it or just keep it to yourself. Be aware what could happen, if you openly publish your video:

"eHarmony Video Bio – Can't hug every cat":

<https://www.youtube.com/watch?v=mTTwcCVajAc>

1st Video Assignment - Advanced

For your first video assignment, you will have to use the camera on your computer, laptop or phone. Record a short sequence (2-4 minutes).

For part one, introduce yourself briefly (30 seconds to one minute).

For part two, imagine you meet an English speaking person who does not know anything about Austria. Try to provide them with information about

- Food, leisure
- Geography, nature, weather
- Radio, TV, celebrities
- Living conditions, political situation

If you don't want to be seen on the video, that's completely fine. Just use a doll, plant or any other object that you feel represents you. Do make sure however that we can hear you. If you enjoy being on video, you are of course free to dress up, choose a funky background and use prompts. But be aware that the speaking bit is the central aspect of your video.

You don't have to post the first version of your video. However, do not write down what you are going to say. Try and speak as freely as possible using the best English you have. Watch your video after recording it. If you are happy with it, great! Post it on Edmodo. If you don't quite like the outcome, give it another try.

After posting your video, it is up to you if you want to share it with your classmates or not. You are free to invite others to watch it and comment on it or just keep it to yourself. If you choose to publish it, be aware what could happen:

"eHarmony Video Bio – Can't hug every cat":
<https://www.youtube.com/watch?v=mTTwcCVajAc>

2nd Video Assignment

At the beginning of the school year, you made a short video introducing yourself. I would like to come back to that video now and do a follow-up video. The rules and topics are the same

- Talk about yourself
- Do not write down the text, speak freely. Record multiple versions if you feel it is necessary.
- You do not have to be seen on the video.
- You are free to use prompts and backgrounds. But stay focused on your speaking.

After having finished recording, upload the video to Edmodo. This time, please also include the following questionnaire. It is designed to help you compare the two versions of your video and understand what you have learned in the course of the school year.

Compared to my first video, the second one...	Absolutely										Not really	
... is a lot better.												
... shows I have learned new vocabulary.												
... shows my grammar has improved.												
... shows my pronunciation is better.												
... was more fun to do.												
... was easier to do.												
... shows a more confident version of myself.												

This is what I would like others to notice:

I am especially proud of:
 I am especially happy about:
 I enjoyed making the video because:

I would like to change:
 I would like to improve:
 I didn't enjoy making the video because:

Listening Task: Zoos

Using your notes, try and answer the following questions.

Which zoo is at the centre of this episode?

What did the cages look like in the beginning?

Who is Diane Fossey?

What were the concerns some people had?

When did this change happen?

What happened to the piece of concrete?

How did the animal react to the new cage?

How did the people react?

The rapid technological advancement of the past decades has led to a shift in the perception of the educational setting. Laptops, the internet, wikis and blogs are slowly making their way into the classroom and, in this context, electronic portfolios (or e-portfolios) offer a powerful tool for reshaping learning, teaching, assessing and personal development.

The e-portfolio is more a digital container for storing artifacts in the shape of text, photos, audio and video files – it includes communication functions such as wikis, blogs and feedback tools. It thus enables learners to observe and reflect on their learning progress and also receive feedback from their peers. For language learning and teaching, the e-portfolio can be linked to learning theories of self-directed, reflective, autonomous learning. Furthermore, a well-executed e-portfolio can be used for future personal and professional development planning or job applications, thus fostering life-long learning.

This paper illustrates how e-portfolios can be used in the English classroom at a Upper Secondary High School in Austria. For this purpose, an e-portfolio strategy was developed, including a series of tasks and example e-portfolio. The materials developed for this research project are intended to support teachers in practice wanting to work with e-portfolios. It is therefore desired for the resources to be used in a language classroom.

Die rasante technologische Entwicklung der vergangenen Jahrzehnte hat zu einem veränderten Blick auf das Bildungssystem geführt. Laptops, das Internet, Wikis und Blogs finden langsam ihren Weg in die Klassenzimmer und in diesem Zusammenhang bieten sich elektronische Portfolios (oder e-portfolios) als ein Mittel an, Lernen, Unterrichten, Prüfen und persönliche Weiterentwicklung nachhaltig zu verändern.

Das e-portfolio ist mehr als ein digitaler Behälter für die Aufbewahrung von Artefakten wie Texten, Fotos, Audio- oder Videodateien – es umfasst Möglichkeiten zum persönlichen Austausch via Wikis, Blogs, und Feedbackfunktionen. Es ermöglicht es so den Lernenden, ihren Lernprozess zu dokumentieren und reflektieren während sie im Austausch mit anderen stehen. Für das Sprachenlernen und -unterrichten kann hier eine Verbindung zum selbstgesteuerten, reflektierten und autonomen Lernen hergestellt werden. Weiters kann ein sorgfältig erstelltes e-portfolio auch für die persönliche und professionelle Weiterentwicklung, sowie Bewerbungen verwendet werden. Es kann daher als Mittel zum lebenslangen Lernen erachtet werden.

Die vorliegende Arbeit zeigt auf, wie ein e-portfolio für den Englischunterricht in einer Oberstufe eingesetzt werden kann. Zu diesem Zweck wurde eine e-portfolio Strategie entwickelt, die durch gezielt eingesetzte Übungen den Sprachlernprozess unterstützen soll. Beispiele hierfür werden in einem für dieses Projekt erstellten Beispielportfolio angeführt. Die für diese Arbeit entwickelten Materialien sind dazu gedacht, Lehrer zu unterstützen, die gerne in ihrem Unterricht mit einem e-portfolio experimentieren möchten. Die Aufgaben und das Beispielportfolio sind daher online zugänglich und sollen im Englischunterricht eingesetzt werden.