Implementing Blended Learning

Using a Virtual Learning Environment

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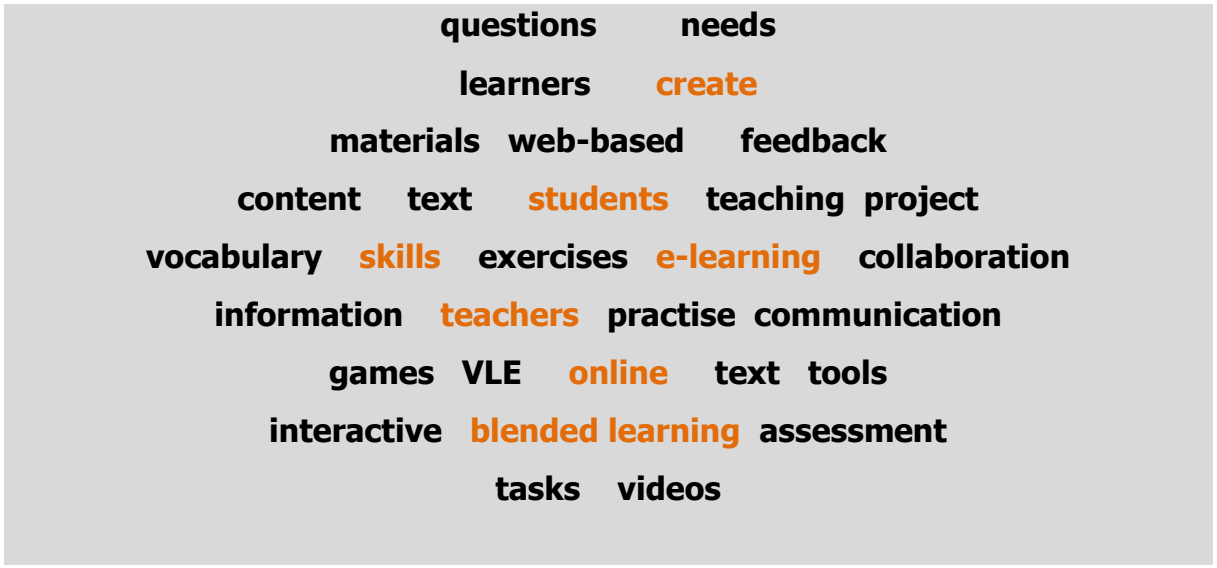


The following article outlines the advantages of using virtual learning environments to facilitate blended learning (autonomous learning in combination with classroom instruction) and describes different e-learning materials and media.

Introduction

E-learning has been in use since the 1990s. The term refers to learning with the aid of some form of computer technology and nowadays it often involves online learning. Initially, it was believed that conventional language teaching could be completely substituted by more flexible forms of instruction based on information and communication technology and students could learn independently without the need for a teacher or the constraints of regular class attendance. But teaching centres and learners soon realised that replacing contact classes by e-learning did not usually live up to expectations. It lacked the human element which is particularly important in language teaching. A promising solution to overcome this problem is blended learning – combining contact classes with e-learning. Blended learning formats range from classroom instruction supplemented by online resources for students to study online (web-enhanced subjects) to high e-learning content with some face-to-face sessions. Virtual learning environments (VLEs) provide integrated tools that allow teachers to create virtual courses and classrooms, use communication tools like email and forums and make online materials and assessment available to their students. In addition, they allow for the tracking of learners regarding the tasks they have completed and how well they have done. These web-based platforms are being used by an increasing number of teaching institutions to create e-learning content and store it in a dedicated space that is accessible via the internet. It is intuitive and similar to using a word processing program. VLEs come in two basic types: proprietary systems, for example, Blackboard, provide support service but are subject to a licence fee, while the software of open-source systems such as Moodle and Ilias is free but specialists are required to manage these systems. Teachers whose organisation does not provide a VLE have the option of using Edmodo (https://www.edmodo.com), a social learning network and microblogging platform that is similar to Facebook but more secure because it is a closed network. A VLE course can be created in two formats: either as a kind of virtual class where the course is organised according to a schedule and material is made available for each lesson or it is also possible to create a virtual course structured around content and to re-use this for different groups.

What are the benefits of blended learning for students?

Blended learning combines the human element of contact classes with the advantages of e-learning to support classroom instruction. A VLE course allows students to take control of their learning outside the classroom as they can access it from their home or anywhere else with an internet connection. Unlike in a physical self-study centre, the materials stored on a VLE are available around the clock, meaning that access is not limited by opening hours. Learners do not have to study simultaneously but can choose where and when they wish to study and select the materials according to their needs: they can refer back to lecture notes and summaries or replay a video (for example, when they want to verify something or have missed a class), access background information, do online tests and obtain automatic feedback. E-learning can help reduce heterogeneity among students when learners who lack sufficient knowledge have the opportunity to study according to their needs to catch up with their peers. The chance to revise materials at their own pace is particularly helpful for

students with learning difficulties such dyslexia or with a disability, for instance, low vision or a hearing impairment.

E-learning is particularly suitable for training the receptive language skills of reading and listening as learners can self-pace their studies when completing a reading task or when pausing or replaying a recording as often as they like. It is also very useful for implementing expanded learning, which means that learners review new material after their first introduction to the concept in question and then at gradually increasing intervals, such as one day later, one week later, one month later and finally six months later. Various exercises can be made available so that students can revise vocabulary and structural grammar skills during these intervals with exercises and tests that provide automatic feedback. With the aid of the tests, teachers can also assess and monitor their students' progress. Obviously, autonomous e-learning is less suited for training the productive skills of speaking and writing because the output normally requires human assessment. The same applies to pronunciation exercises – it can be difficult for students to self-correct their pronunciation.

Areas in which language classroom instruction can be supplemented are, for example, the revision of grammar and vocabulary, consolidation exercises for academic English or ESP (English for specific purposes) including Business English, for instance or content-based learning (language acquisition combined with the study of a subject matter). A blog – a web-based journal where students recount their experiences – can also be added. Online communication tools such as chats and forums can be used for cooperative assignments and student project work or for exchanging information with students at other educational institutions.

But an online course can not only be used to supplement classroom materials. Class time can be used more effectively to explore topics more thoroughly and apply the knowledge in meaningful tasks that involve judging, analysing and creating if students complete language practice assignments outside the classroom or when traditional learning is reversed and instructional content is delivered through e-learning (flipped classroom). In Spotlight, a magazine for English learners, the concept is described as follows: "With content such as videos provided by the teacher, you will be asked to study a topic by yourself and then apply the knowledge by completing tasks and solving problems in class. Flipping the classroom means that you come to class prepared to contribute. Class time is spent doing group work, allowing learners to help each other, from which both advanced and less advanced students benefit. Rather than teaching from the front, teachers spend time focusing on the needs of their students by guiding and helping individuals and small groups"[1].

What are the elements of an e-learning course?

Tests with automatic feedback are an integral part of e-learning. They can be devised as placement tests or diagnostic tests that assess students' linguistic knowledge before a course, as progress tests during the course that allow students to assess themselves and summative tests at the end of a course that measure how much a student has learned. Platform or online tools allow teachers to create various types of tests and

[1] Taylor, D.: "A happening classroom". Spotlight 1/2018, pp. 40-43

exercises like gapped texts, multiple choice or matching exercises. For instance, quizlet (http://quizlet.com) is an online tool that creates flashcards and automatically generates a number of other exercises, which can be linked to a website. Exercises include translating words, matching them with their translation and writing down the spoken words. Using flashcards is believed to help "to acquire and retain large amounts of vocabulary, especially when these words are visited over time"[2]. Instead of teachers creating their own exercises and tests, a time-saving option is to link to materials already available on the internet. The following areas of lexical competence can be practised and tested with online tools:

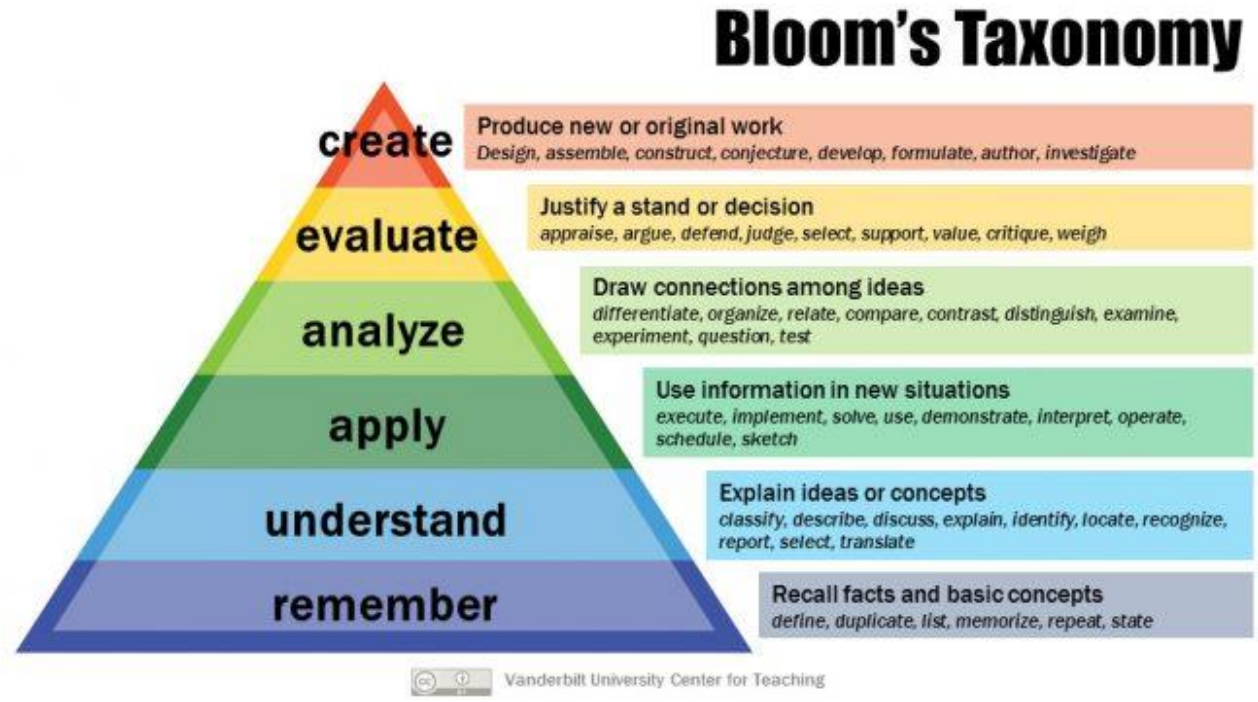
Table 1: Examples of online assessment of lexical competence

Lexical Competence	**Examples**
Meaning	Match a word with its translation, definition or picture; insert the correct words in a gapped text
Pronunciation	Listen to a recording and repeat the word (usually without assessment)
Spelling	Listen to recorded words and type the words you hear into the computer or system
Reading/Listening comprehension	Identify words in a text or a recording (multiple choice questions)
Morphology	Identify the correct word forms in multiple choice questions or insert them in a gapped text
Syntax	Put the words into the correct order; identify the sentence with the correct word order (multiple choice questions)
Collocations and idioms	Match an idiom with the correct definition or translation; insert the correct idioms in a gapped text

Bloom's Taxonomy of Educational Objectives describes different levels of human cognition. His framework consists of six main categories: The lower-order thinking skills include remembering, understanding and applying. "High Order Thinking Skills are what we use when we do more than simply memorise the facts that are presented to us. HOTS require us to do something with the information, to apply the knowledge and skills we have learned to new situations. They include the ability to analyse

[2] Dellar, H. and Walkley A. 2017: Teaching Lexically. Stuttgart: Klett. p. 14

situations critically, evaluate possibilities and come up with appropriate solutions. It is much easier to remember things we have processed more deeply."[3] In the context of language learning, particularly the lower-level skills can be developed using online tools. The higher-order thinking skills usually also require some form of human assessment because justifying a standpoint or creative assignments are not suitable for automatic assessment. Please see below for Bloom's taxonomy of skills[4]:



When applied to language learning, the following skills can be trained with e-learning tools:

[3] Taylor, D.: "A happening classroom". Spotlight 1/2018, pp. 40-43

[4] cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

Table 2: Examples of training and testing cognitive language skills in e-learning

Cognitive Skills	**Examples of online language tests and exercises**
Remember	Complete grammar rules; match verb forms or words with their definition or translation; match spoken words with written words; match synonyms or antonyms; match pictures with words; match the parts of collocations or set phrases
Understand	Identify verb forms, adverbs, passive voice, etc.; classify or categorise vocabulary (for instance, according to semantic fields)
Apply	Choose the correct verb forms or words to complete a gapped text; translate simple sentences
Analyse	Match a text with a title, a statement or an illustration; reorder jumbled sentences or paragraphs; identify mistakes
Evaluate	Evaluate information (multiple choice questions); state and justify your opinion (in a forum)
Create	Complete collaborative online writing assignments; create a cartoon or animation using online software

Videos are another useful medium for e-learning as they simultaneously address the visual and verbal codes. They should be short – not normally more than five minutes – in order not to overtax the learners' attention span and to keep loading times short. Teachers can produce their own video clips or animations, possibly with the collaboration of other staff and/or students. Although frequently time-consuming, a video project can be a highly motivating and rewarding experience for students and form part of the task-based approach. For an interesting example of teaching content with the aid of short videos, see AsapSCIENCE (http://www.youtube.com/user/AsapSCIENCE) where a whiteboard and stop-motion animation are used to explain a variety of subjects. The internet also offers a wide selection of ready-made videos on various topics such as vocabulary and grammar, Business English, instructions for or descriptions of technical processes, for example, on YouTube. Another option is to create cartoons or animations; for example,

GoAnimate (subject to a licence fee) is an easy-to-use program to create animations and add sound, which can be used to explain grammar, idioms, the language used in specific situations, etc. Videos that have been created using GoAnimate can be accessed on the YouTube channel of the Language Centre of the University of Applied Sciences in Nordhausen (https://www.youtube.com/channel/UClFXIlQFyZYoHiTu-7oOqag) and Animated English (https://www.youtube.com/channel/UCneJ64DqPjL7kWW5V0WUyhg).

Furthermore, a VLE provides asynchronous communication tools such as email and community forums or synchronous communication tools where interaction happens simultaneously in real-time such as chats. When working with online communication tools in their studies, learners can practise their oral and written communication skills in a more formal situation than when using social media in their private lives, for example, by contributing to a forum on a certain topic or completing a project using these tools. Another collaborative tool is a wiki, which allows several users to draft and edit an online document simultaneously.

Computer-based games and simulations that can be played by a single user or strategically with others can be a powerful medium to develop various skills in an entertaining and often realistic way. Simple games to practise vocabulary and grammar can be developed with the aid of the templates provided by many authoring tools. See http://gamestolearnenglish.com for examples of this type of games. More complex games require knowledge about designing effective games as well as programming skills.

What are the advantages and disadvantages of different types of e-learning media?

The following table lists the advantages and disadvantages of common types of e-learning materials used in language teaching:

Table 3: Advantages and disadvantages of different e-learning materials and media

Materials and Media	Advantages	Disadvantages
Exercises and tests created with platform tools or authoring tools such as gap-filling, single and multiple choice, matching exercises and tests, e.g. Hot Potatoes: www.halfbakedsoftware.com/hot_pot.php Web-based tools such as http://quizlet.com/	Interactive; learners obtain feedback; particularly attractive to the digital native generation. Materials can be adapted to students' needs. Scoring is quick and easy. Suitable for practising structures and receptive skills.	Computer-based assessment formats are generally only suitable for testing receptive skills. It takes time to create exercises. Not all authoring tools are free (costs are incurred).

	If they use platform-created tests, teachers can access their students' test results.	Web-based tools are subject to the operator's policy changes.
Internet links	Plethora of excellent and authentic materials available, i.e. instructional materials and interactive exercises, games, videos and songs, for example, provided by the BBC (http://www.bbc.co.uk/learningenglish/), British Council (http://learnenglish.britishcouncil.org/en) or https://www.englisch-hilfen.de/	Materials should suit learners and fit the general course concept. Materials have to be assessed for general suitability and the feedback they provide. Too many hyperlinks are demotivating and may confuse learners. Website addresses may change or a website may no longer be available so links have to be checked regularly. Students may be distracted and start surfing the internet. Teachers cannot access test results that have not been created with platform tools.
Short videos or **hypervideos** (hyperlinked videos) such as sketches, interviews or short lectures	Audiovisual material promotes effective learning. Customised and personalised audiovisual materials can be created, for instance, to explain procedures, processes and descriptions or to teach grammar and vocabulary. Students can be involved in the production of the films. Students can replay the video or certain sequences.	Risk of cognitive overload. Often time-consuming to produce. Technical equipment and media expertise are needed. Length is an issue.

Podcasts (digital audiofiles)	Can be used for content that does not need visual support so that students can listen and learn without having to focus on anything visual Students can work at their own pace and stop and replay the podcast as often as they like Useful for students with dyslexia or a visual impairment. Easy to produce.	Need to be short in order not to overtax students' attention spans. Not suitable for subjects that require visual support.
Games e.g. http://gamestolearnenglish.com	Interactive features facilitate experiential learning.	If self-produced, special software and experts are needed for the game design and/or programming. Software technology becomes outdated fast and may no longer work.
Simulations	Facilitate experiential learning.	
Cartoons and animations Cartoon makers (some are subject to a license fee) http://www.toondoo.com/ http://www.makebeliefscomix.com http://www.readwritethink.org/files/resources/interactives/comic/ https://www.pixton.com/de**/** Animation programs (subject to a license fee): http://goanimate4schools.com/ https://www.animaker.com https://www.powtoon.com/	Visual or audiovisual Effective medium to explain and visualise content. Can be used as infotainment. Students can be involved in the creation. Students can replay the animation.	Risk of cognitive overload. If self-produced, time is needed. Not all programs are free. Free web-based tools are subject to the operator's policy changes.
Hypertexts	Interactive Different media formats can be incorporated.	Students may be distracted. Risk of cognitive overload

PDF files	Easy to produce Students can download them and print them for reference.	Do not contain any interactive or multimedia elements. Texts have to be adapted for e-learning.
Synchronous communication tools such as chats	Allow students to practise spontaneous writing. Appealing to the digital native generation. Team-centred learning: Can be used for virtual project work with participants in other locations.	Students have to be available simultaneously and in real-time. Teacher is needed for facilitation and feedback.
Asynchronous communication tools such as email and online forums	Allow students to practise writing skills, sometimes in realistic situations. In contrast to a classroom situation, all students are involved. Students can post questions and opinions which are visible to all learners. Can be used for virtual project work.	
Wiki (a website that allows users to cooperatively create and edit online content)	Team-centred learning: Students can collaborate on an online task and pool their knowledge. Results are visible to all learners of the group.	
Blog (a web-based diary or journal) about a topic related to students interests or experiences	Motivating because it provides a writing task for a real audience.	Teacher is needed for supervision and corrections. Blog writers are needed for regular contributions.
Online projects	Experiential and intercultural learning can be implemented by cooperating with other institutions.	Difficult to organise in a conventional teaching setting. A facilitator is needed to coordinate and

		monitor online projects.

What design aspects are important?

As far as the design of an online course is concerned, a clear structure and intuitive navigation help learners to find their away around it. Nevertheless, students have to be introduced to a course before actually using it. Furthermore, the content should not overwhelm the learner. As Mark Berthelemy comments in his blog "Characteristics of good elearning", an "information dump" confuses and frustrates learners and impedes learning while repetition is a key prerequisite to retain information. Consequently, good e-learning design builds in repetition as well as connections to previous ideas. In a grammar revision course, for example, content can be presented in different ways: students test their previous knowledge or they can watch a video that explains the simple present structures and usage, download a graphical organiser of the rules and complete different exercises.

Regardless of whether teachers use existing tests or create their own, the tasks need to be meaningful and relevant to the students and have to be contextualised. For instance, a grammar or vocabulary exercise should be based on a story rather than simply be a list of individual sentences taken out of context. The learning process is enhanced if students can explore concepts and when the focus is not only on form but on actual language use and relevant tasks, for example, material that allows students to relate to and reflect upon themselves. Another issue in language learning is addressing students' affective needs, by including some light-hearted or humorous materials such as cartoons and links to songs, for instance. The assessment needs to be fair and more than one solution such as short and long verb forms or different options need to be accepted in a test if the instructions and/or context are not explicit enough. In addition, teachers have to be aware of the fact that the more text students are required to enter to complete a test or exercise, the more likely it will deviate from the solution that has been put into the program and will consequently be marked as incorrect by it.

Conventional instructive content needs to be adapted for the e-learning environment, as materials designed for contact classes tend not to be suitable for this purpose. The media of delivery are different. For instance, simply uploading PowerPoint slides of a presentation to a VLE provides insufficient input, as the speaker is not available to comment on them. In the same way, showing a complete lecture does not foster effective learning. Lengthy videos, texts and articles have to be adapted for self-study purposes by breaking the content down into manageable chunks and by including comprehension questions and/or tests after each section. The website for language teachers *Foreign Language Teaching Methods* (http://coerll.utexas.edu/methods/) is an excellent example of a well-structured online course that alternates short multimedia input with tasks for the learners that come with feedback. For more information on creating e-learning content, see *E-learning methodologies: A guide for designing and developing e-learning courses* by the Food and Agriculture Organization of the United Nations (www.fao.org/docrep/015/i2516e/i2516e.pdf).

What steps are involved in creating an online course?

If you plan to design an online course from scratch, the following stages need to be passed through: conduct a needs analysis, create the actual material and implement it, test it during a pilot phase and evaluate it. In each stage, the following questions should be addressed:

Table 4: Steps involved in creating an online course based on DIN PAS 1032-1/2 (Publicly Available Specification) 1032-1 and 2[5].

1. Needs analysis
What are the objectives of the face-to-face course and how can the e-learning material contribute to achieving the objectives?
2. General conditions
Who is the target group? What previous knowledge do students need? How can the e-learning phases be integrated into the contact course? What human resources are needed to create the materials? What financial resources are necessary for creating the VLE?
3. Design
What methods will help learners recognise, understand and apply concepts (for example, a deductive or inductive grammar approach)? What materials will be used, i.e. audiovisual media, different test types, authoring software or PDF files? Do licenses for authoring programs have to be purchased? What will be the general structure, design features and sequence of the course? What collaborative activities for student-student and teacher-student interaction will form part of the course and what communication tools will be used? How will feedback be provided?
4. Production (material development)

[5] http://www.e-teaching.org/projekt/nachhaltigkeit/qualitaet/

What will be the actual content of the individual units and how will they be structured?

What graphical features will be used?

Is barrier-free access for people with disabilities and users of different types of technologies provided?

WebAIM (Web Accessibility in Mind) (http://webaim.org) proposes the following four accessibility criteria named by the acronym "POUR":

- Perceivable – people who are sight or hearing impaired can use the content with assistive technology
- Operable regarding keyboard accessibility, navigation and interaction methods
- Understandable regarding language and functionality
- Robust regarding compatibility with current and future technologies

Who will produce the materials and what is the time frame?

Who will be responsible for coordination during the production stage?

5. Introduction (pilot phase)

Who will test the materials, for example, teachers or students?

How do those conducting the tests feel about the instructive materials, exercises and tests:

- Is the material relevant and interesting and does it meet the needs of the target group?

- Is the design of all sections consistent in terms of layout and content, fonts and colours?

- Is there a clear course structure?

- Is the navigation intuitive?

- Are instructions easy to understand?

- Are exercises useful and tests valid?

- Do the technical features work properly?

- Are there any mistakes?

- What corrections and modifications need to be made?

6. Implementation Learners' feedback
7. Evaluation
How effective is the material (based on feedback and evaluation)? What further adjustments are needed?

What is the role of the e-learning instructor?

An important question that needs to be addressed is the role of the teacher in e-learning. Julie Taylor-Massey identifies the following five roles of an e-learning instructor: e-learning designer; technology specialist (who chooses the tools that are appropriate for online learning and who handles the technical maintenance of the course and monitors the links and tools); content coach; social director; and provider of written feedback on assignments and students' enquiries[6].

According to Professor Gilly Salmon's Five Stage Model[7], students need to be supported in e-learning through a structured process in which the tutor performs the following roles:

The e-moderator

1. welcomes and encourages participants to interact,
2. facilitates online socialisation and provides bridges between cultural, social and learning environments,
3. facilitates information exchange regarding the completion of tasks and supports the use of learning materials,
4. guides the participants, who increasingly take control of their learning
5. supports participants and responds to them.

This means that at the beginning of the course students need to be familiarised with the technical aspects and learning procedures before they are able to work autonomously. In this way, "the e-moderator progresses from being proactive and directive to being responsive and supportive, while the learner progresses from being dependent and reactive to independent and proactive."[8]

[6] Taylor-Massey, J.: Redefining Teaching: The Five Roles of the Online Instructor, January 27, 2015 http://blog.online.colostate.edu/blog/online-teaching/redefining-teaching-the-five-roles-of-the-online-instructor/

[7] http://www.gillysalmon.com/five-stage-model.html

[8] Wallace, S.: Oxford Dictionary of Education, Oxford, Oxford University Press, 2015, p. 94

How can an e-learning course be structured?

When devising the structure of an online course, it is useful to refer to Robert Gagné's Nine Events of Instruction that provide a framework for an effective learning process[9]:

- **Table 5: Gagné's Nine Events of Instruction**

1. Gain attention
2. Inform learners about objectives
3. Stimulate recall of prior learning
4. Present the content
5. Provide "learning guidance"
6. Elicit performance (practice)
7. Provide feedback
8. Assess performance
9. Enhance retention and transfer

The following example shows how these levels can be implemented in an online grammar course to revise grammar in an intermediate course (level B2). With the aid of this, students practise grammar aspects (tenses, passive, modal verbs, adverbs and adjectives, etc.) based on a study schedule according to their needs before they use them in the classroom. During the introductory class, students are shown how to access the course and receive information on technical requirements, how to contact their teacher and how to organise their self-study phases.

[9] See also: Robert Gagné's Nine Steps of Instruction, http://www.nwlink.com/~donclark/hrd/learning/id/nine_step_id.html

1) **Interest is raised:** An e-tutor welcomes students in a short video.

2) **The topics and objectives of the course are presented** in an advance organiser.

3) **Recall of prior learning is stimulated:** Students complete an online test on important grammar topics and are given detailed feedback by the system so that they know which areas need revision.

4) **The topics of the course are presented** in structured learning units that learners select based on the test result and according to their needs. The units contain videos that explain grammar items, and online exercises as well as optional materials such as songs or videos. Handouts with detailed explanations can be downloaded for further reference. Learners can also watch short videos that give examples of actual language use, for example, biographical talks or content related to historical events.

5) **The teacher provides guidance for the learners** before the self-study phases by introducing them to the content and handling of the course and by advising them about the units to study and revise based on their needs and is available for questions. Students also need to feel an instructor presence during the e-learning phases. Homework tasks are assigned that can only be completed with the help of the self-study material.

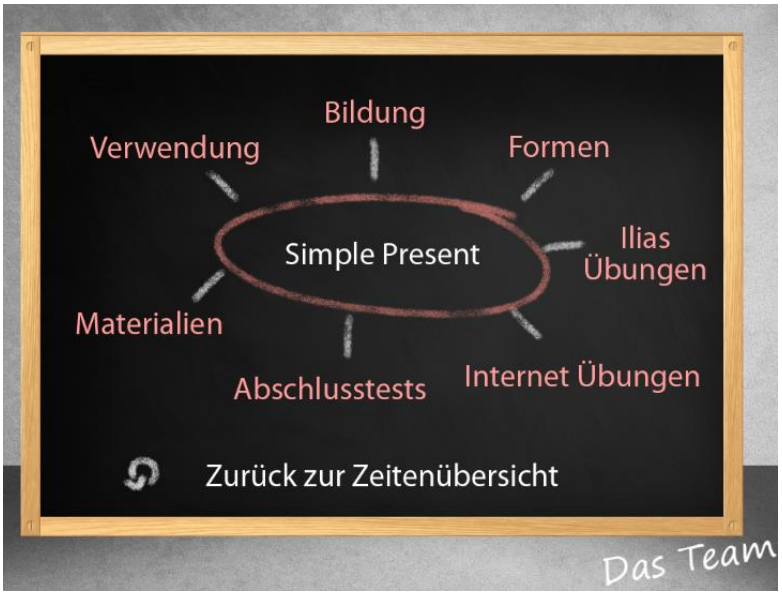
6) **Performance is elicited** and

7) students **receive detailed feedback** in the collaborative phases by completing small tasks, for example, commenting on an article or a video or preparing a report. Students should also have the chance to self-assess their learning process and progress and note down possible questions for the teacher. Self-assessment can be carried out in the form of "can do" self-reflection forms, a learner's journal or an e-portfolio (a collection of students' notes, texts, videos or other material).

8) The teacher **assesses the students' performance** during semi-controlled and free classroom activities and tasks.

9) The learners' **retention is enhanced and transfer is ensured** by applying the skills in task-based and communicative oral and writing activities involving case studies and project work.

Study unit of the simple present tense



Conclusion

A VLE offers language teachers various options for creating and making available online materials as a resource that can be used in combination with classroom instruction. Students can autonomously study, revise and practise relevant content according to their individual needs and more classroom time can be spent on communicative activities. Apart from instruction and training, online communication tools can be used to practise virtual communication in authentic situations. Blended learning breaks with the traditional roles of teacher and learner, as students are expected to take on more responsibility during their learning process and teachers act more like a coach or facilitator during the autonomous study phases. Learners therefore need to be carefully introduced to the new concept and require teacher guidance, particularly when flipped classroom instruction or communication tools are used. But blended learning can also help make learning more effective and rewarding for students and implement learner-centred approaches.

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http://www.blackboard.com/

https://www.edmodo.com