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About the book

This book is a freely available resource for teachers interested in teaching students in the field of e-commerce. It was written during the Erasmus+ funded project "[Fit for E-Commerce](#)".

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About the project

Germany-based Handelsjournal estimated in 2015 that the market share of online shops in Germany will almost double from currently 8.5 % to about 15 % in the year 2025. This development makes it clear that companies are in need for specialists in the field of e-commerce. Up to now there are only very little training possibilities for young people in this field. The vocational schools Staatliche Berufsschule II Bayreuth, SPS el-it Dobruska and Landesberufsschule Tschuggmall Brixen (Scuola Professionale Provinciale Tschuggmall di Bressanone) have formed a strategic partnership in order to develop training concepts for this emerging sector and thus give students new employment and career opportunities.

The acclaimed objective of the project is to develop innovative, learner-centered, action-based materials which are designed to foster the digital competence of our students. This includes the following abilities:

- developing a spirit of entrepreneurship- setting up and administrating an online shop- processing orders and communicating with customers online- evaluating shop performance, calculating key figures (e.g. conversion rate)- monitoring and evaluating website traffic- planning and implementing (online) marketing for e-commerce including search engine optimisation- creating graphic designs and content for use in e-commerce- reading and interpreting HTML code of existing websites- coding a basic internet site in HTML and CSS- publishing HTML content to the web

The materials will be thoroughly tested in three learning activities which will be hosted by the participating schools and then openly published to the project website. Furthermore a platform will be implemented in order to make the setup of multiple onlineshops for in-classroom use easy for teachers.

The partners

Staatliche Berufsschule Bayreuth

Äußere Badstraße 32

D-95448 Bayreuth

Germany

[Website](#)

Landesberufsschule Tschuggmall Brixen

Fischzuchtweg 18

I-39042 Brixen

Italy

[Website](#)

SPSelit Dobruška - Střední průmyslová škola elektrotechniky a informačních technologií

Čs.odboje 670,

+518 01 Dobruška

Czech Republic

[Website](#)

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Staatliche Berufsschule II Bayreuth

How to write for this book

The structure of the book should be as follows:

Chapters

Chapters represent a unit for a specific topic. The original application stated the following topics/chapters:

- Setup of an online shop
- Facilitating online marketing
- Basics of Internet programming

Structure of a chapter

The sub-structure of a chapter should be as follows:

- Competences
 - Professional competences
 - Other competences
- Lesson plan
- Lesson materials - students
- Lesson materials - teachers

Here is some more info on what to write under these points:

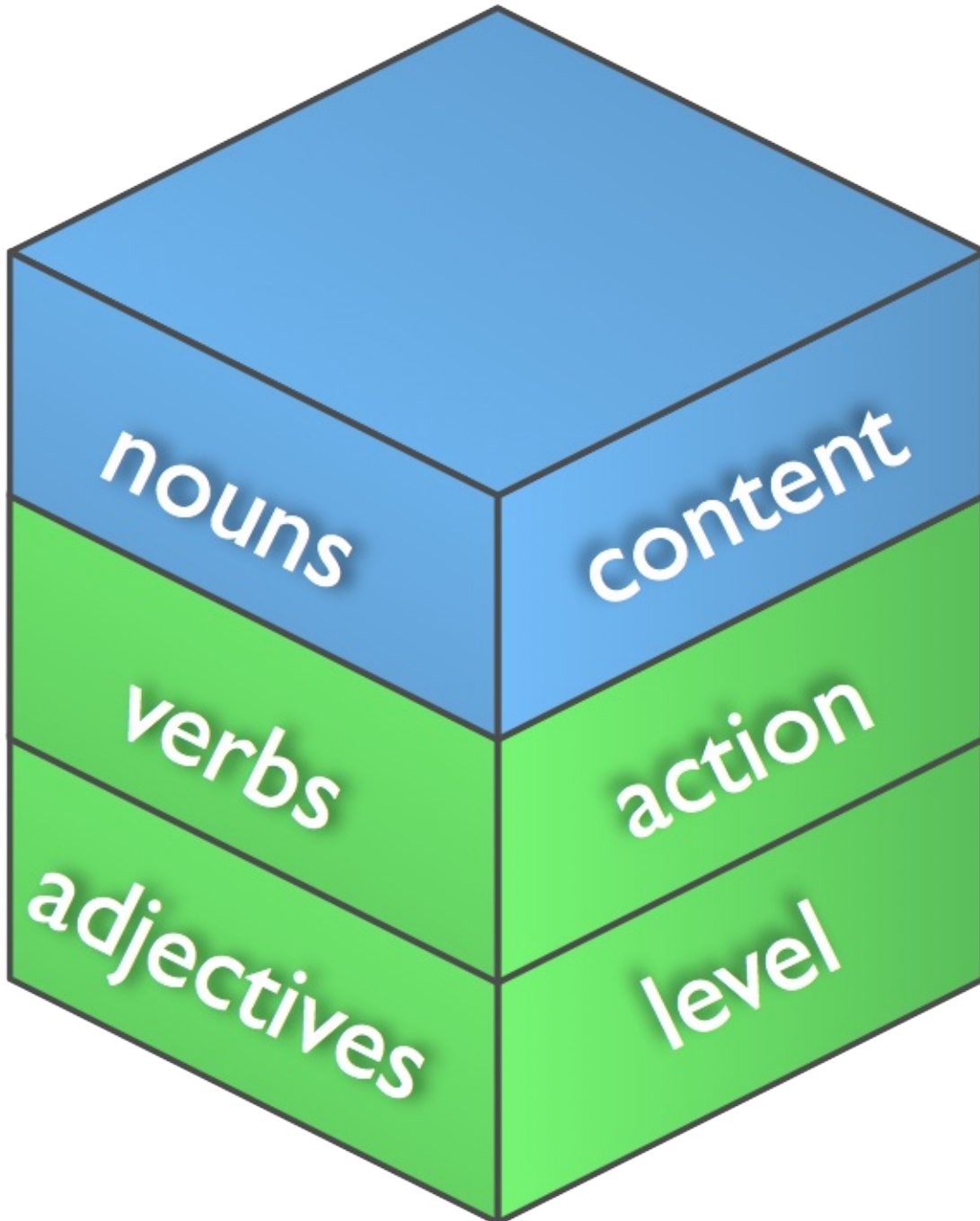
Competences

Competences should be written in the following syntax:

The student **administrates - an online shop - without assistance from their teacher.**

The competence is structured in three parts (bold):

Word type	Function
verb	States the action which will be done by the student or which the student is supposed to be able to do after the unit.
noun	States the object which is affected by the action of the student.
adjectives and adverbs	State on which level of difficulty the student will complete the action



Example competences: The student...

- uploads files to the website with guidance from the teacher.
- edit and create basic HTML tags autonomously.

- collect the different Internet protocol types from the Internet.

Lesson plan

Create a description for teachers on how the lesson should be used.

State technical requirements needed for the lesson (e.g. software which was used, possible alternatives for the software for Microsoft Windows, macOS and Linux). Also state the knowledge and skills required from the teachers.

The methodology of the project is:

1. Facilitating **learner-centered** learning experiences.
2. Facilitating **action-based** learning experiences.
3. Focusing on **fostering digital competence**.

Setting up an online shop

This chapter deals with teaching the topic "Setting up an online shop" in a student-centered, activity-based course.

Competences

Professional competences

The students:

1. develop an own business idea in a team
2. know which technical requirements are needed in order to start an online shop
3. administrate a webshop independently
4. understand the concept of frontend and backend of the shop
5. work confidently in the web browser using tabs to open the front- and backend and to test the effect of changes immediately
6. setup the basic configuration of the pre-installed webshop
7. add contact data and legal terms and conditions
8. add employees to the shop team with different roles
9. set up employee roles as a safety measure against unwanted changes to the shop, downtimes or other malfunction of the shop
10. add products to the shops's product portfolio
11. add attractive product images at a suitable resolution, basically edited and optimised
12. add prices and shipping rates depending on the kind of product
13. add available product variations like e.g. sizes, colours
14. add meaningful product descriptions considering the basics of search engine optimisation (SEO)
15. develop a logical, customer-friendly structure for the offerings in the shop by adding product categories
16. set up a logical navigation for the shop based on the categories
17. test the functionality of the shop especially regarding customer orders
18. process orders using the built-in functionality of the shop
19. create paper documentation of the order process
20. deal with customer requests regarding the orders in English using email
21. evaluate the shop's performance
22. calculate basic key figures (e.g. conversion rate) using the tools of the online shop software

Other competences

The students

1. make use of learning resources and documentation available online
2. learn independently from online resources as well as from other team members

3. collaborate in an [international] team [using the second language English]

Course plan

Prevailing conditions

Time planning

The course is planned for a **one week full-time** course with a preceding online phase (blended mobility) for students to get to know each other and share business ideas. However, the course can also be used in other course settings, e.g. two lessons weekly etc. If students can access and administrate the shops from home this makes the course concept even more flexible.

Technical setup

You will need one setup of the online shop software per group. See the [PrestaClassroom Project](#) for an easy way to set up multiple online shops at once. Here is the requirements for your web server in order to host PrestaShop 1.7.0.3 as stated on the PrestaShop website:

To install PrestaShop on the Internet:

- A domain name
- Web server: **Apache 1.3, Apache 2.x, Nginx or Microsoft IIS**
- **PHP 5.4+**
- **MySQL 5.0+** installed with a database created
- **SSH or FTP access** (ask your hosting service for your credentials)

OPTIONAL

- In the PHP configuration ask your provider to set **memory_limit** to "**128M**" and **upload_max_file_size** to "**16M**"
- **SSL certificate** if you plan to process payments internally (not using PayPal for instance)
- Optional PHP extensions: **GD, cURL, SimpleXML, SOAP**
- To improve performances: **MemCached, mcrypt PHP extension**

Shop Software

There is a wide range of online shop software available (see the following table). As in most educational settings money is scarce, the freely available softwares will probably be more interesting. In our project we have decided to use [PrestaShop](#). Coincidentally two of the

project partners LBS Tschuggmall Brixen and Staatliche Berufsschule Bayreuth have come to this decision independently. Both schools have used PrestaShop in projects before and have made good experiences with it. In our opinion the main advantages of PrestaShop are the following:

- PrestaShop comes pre-configured with a fully working setup so there is no additional setup before you can actually see and work with your shop
- Students can use the pre-installed data as a starting point for their own shop
- In general PrestaShop is easy to install on a standard [LAMP server](#) software package and also features
- PrestaShop is very motivating for students to be able to see a quick success of their work
- PrestaShop is used in professional environments and has 270,000 active merchants (according to their [website](#))
- PrestaShop is well documented and there are plenty tutorials and other learning materials available
- PrestaShop is freely available
- PrestaShop is open-source software

Here is a non-complete overview of other shop software which you might want to consider (latest update 10/2018):

Magento

Pricing

- [Free community edition](#) available

Requirements

- LAMP server setup

Pros

- professional-level shop software
- run by Adobe a major software company

Cons

- difficult and tedious setup which quite often fails during the installation process
- quite a few features are missing in the free community edition ([see](#))) for example management dashboards
- the initial installation leaves you with a completely empty shop

Sum-Up

Magento has a very long history as a professional-grade shop system. However, the complex installation process makes it less suitable for an educational environment where easy setup is a must.

Oxid e-Shop

Pricing

- [Free Open-Source Edition](#) available

Requirements

- LAMP server setup

Pros

- professional-level shop software
- freely available open-source software
- easy setup
- demo shop data available after clean install
- good performance

Cons

- no WYSIWYG HTML-editors in initial install available

Sum-Up

As of 2018 Oxid e-Shop can be really recommended for educational e-commerce setups. It is easy to install and open-source software. Furthermore, Oxid is also distributed for usage with [virtual machines \(VM\)](#) especially the availability as a [Docker](#) image might be a very interesting idea for educational setups.

Shopify.com

Pricing

- Provided as [SaaS](#)
- Shopify can be evaluated for a limited time - afterwards a monthly fee must be paid

Requirements

- none - just an internet connection and browser is needed

Pros

- professional-level shop cloud-software
- easy setup
- no manual updates of the software necessary
- good documentation
- good performance and feature-set

Cons

- pricing-model makes longer educational projects difficult

Sum-Up

Shopify is one of the leading providers of e-commerce software in Northern America. Their software is very professional. We did contact Shopify and they offer prolonged trials for educational institutions. So for a short-term school project Shopify might be a good option.

Wordpress - WooCommerce

Pricing

- [E-commerce plugin for Wordpress](#)
- [Plugin can be downloaded from Github](#)

Requirements

- LAMP server setup
- Wordpress installation

Pros

- professional-level shop-software/plugin
- good documentation
- good performance and feature-set

Cons

- setup a bit complicated as you need a working [Wordpress](#) installation
- downloading the software (Wordpress and WooCommerce) not directly possible on vendor's websites, but only from github.com

Sum-Up

Wordpress is the most often used content-management systems (CMS) for websites and blogs. WooCommerce as a plugin makes selling via your Wordpress site possible. Setup for this option seems a bit complicated.

Gambio

Pricing

- [Free open-source software](#)

Requirements

- LAMP server setup

Pros

- professional-level shop-software/plugin
- easy installation - documentation and FTP programme Filezilla included in the download
- good documentation
- good performance and feature-set

Cons

- no demo shop data available after clean install

Sum-Up

Gambio is also a good choice for educational setups. It is freely available, open-source software with a quick setup. However it lacks good demo data after the initial installation.

Actual Course Plan

1. **Self-Assessment:** Students fill in the self-assessment sheet in order to evaluate their competences and skills (ideally as an online questionnaire)
2. **Business idea:** Students create and decide which business model and idea they would like to realize in their shop.
3. **Work Phase:** In a self-organized setting students set up and administrate their online shop. During the work phase they will have regular meetings with teachers in which they will have to show the progress they made and during which they can also discuss technical, social or organisational issues. Towards the end of the work phase the shops will be tested by teachers or other students acting as customers. The groups will have to make sure that the orders are correctly processed and they will also have to stay in contact with customers and assist them with any problems that might occur.
4. **Presentation Phase:** At the end of the work phase the students will have to present

their business idea and the shop they created in front of the teachers and other students.

5. **Evaluation Phase:** At the end the outcome of the project will be evaluated. Once again students will have to self-assess their competences. Also teachers will assess the competences of the students. In a short oral feedback both assessments will be compared and discussed. Students can be marked based on the competence sheet.

Lesson materials - students

Questionnaire for students

At the beginning and at the end of the week abroad.

(Possible answers: “I totally disagree”, “I disagree”, “I agree”, “I totally agree”,)

Introductory sentence: “As you are involved in working on the project “Fit for E-commerce” during this week we would like you to answer some questions on your attitudes towards this subject before and after this week to see changes while being involved.”

Attitudes:

- I think e-commerce is important for my future work life
- I think this training course on e-commerce is important for my future work life
- I think this special subject of this week is important for my future work life.
- I see a benefit for me in working on this subject.
- I see a benefit for me in working on this subject in a team for my personal development
- I see a benefit for me in working on this subject in an international team for my personal development

Knowledge:

- I have enough knowledge in the field of E-commerce.
- I have enough knowledge in the field of setting up an online shop.
- I have enough knowledge in the field of basic HTML/CSS programming.
- I have enough knowledge in the field of internet marketing.

Skills:

- I enjoy working in a team.
- I enjoy working in international teams.
- I am confident in using English in international teams
- I personally enjoy dealing with this subject.

Additional questions for evaluation after the course week:

- The training material is well structured.
- The training material is useful.
- The training material is useful for working independently on the subject.

- I am satisfied with the outcome of this week.

“Thank you for answering the questions.”

Setting up an Onlineshop

Login - Frontend

1. Open the following link: <http://www.qqq.de/shops/shopX> (X = number of your group)
2. Authentication: To log in enter the following (the appearance of the window can be different depending on the browser used)

Login - Backend

Same steps as for Login - Frontend (see above)

Open the following link:: <http://www.qqq.de/shops/shopX/admin123> (X = number of your group)

1. Authentication: To log in enter the following:

Help

Find the official documentation of Prestashop here:

<http://doc.prestashop.com/display/PS17/User+Guide>

Youtube: Numerous video instructions can be found on Youtube: Search for „Prestashop 1.7“

Tasks

Change settings

(See e.g. „Shop Parameters -> Contact -> Stores“ or „Design -> Pages“ ...)

- Change contact information
- Change Banking information for your online shop
- Add new employees (one for every group member!) (See Advanced Parameters)
- Change the following settings: terms and conditions, delivery, About us, secure payment [Design -> Pages]

- Offer UPS und DHL as shipping options and change shipping rates accordingly

Change design of your shop

- redesign and restructure your home page
- create your own individual logo and use it in your online shop [Design -> Theme & Logo]

Categories and products

- Delete old products and categories.
- Add at least 10 products to your shop
- Note: a meaningful description of your products helps selling them (Remember: Search Engine Optimisation)

Operate the online shop

Test

- Visit the online shop of another group
- Place 3 orders in the online shop of the other group

Order

- Process the incoming orders in your own online shop:
- payment processing
- print delivery notes
- print invoices
- => until „processed successfully“

Statistics

Evaluation:

- How many female and male customers are registered?
- Who was the best customer in your shop?
- Which products are bestsellers?
- Which category was the most successful?

For the fast ones:

- Find a free of charge prestashop-theme und install it!

Lesson materials - teachers

Sample Email Requests

Send the following sample emails to the online shops and wait for an appropriate answer:

Asking for quantity discount

Ladies and Gentlemen:

We found your online shop while searching the internet and are very interested in your products. We are thinking about ordering a larger quantity of your products if the prices are reasonable. So could you please inform us about possible quantity discounts as well as introductory and cash discounts?

Sincerely

John Metzler

Asking for delivery of ordered goods

Ladies and Gentlemen:

We found your online shop while searching the internet and were very interested in your products. Unfortunately we have to inform you that the goods we ordered exactly 3 weeks ago haven't been delivered yet. So we tried to find an order confirmation which we could not find. Something must have gone wrong. Could you please have a look into this matter.

We look forward to an early reply.

Sincerely

John Metzler

Asking for help with cancelling an order

Dear Sir or Madam

Yesterday, I ordered 91 items of your product. Unfortunately, I made a typing mistake and instead of 91 items I initially wanted to purchase 19 items. Would it be possible to cancel the order for 72 items?

I apologise for any inconvenience that may cause.

Thank you in advance.

Kind regards

Britta Meier

Asking for help with a return delivery

Dear Sir or Madam

Thank you very much for your delivery which arrived promptly. However, after inspecting the goods I found that two of the items no. ... are damaged. Could you take them back and send a replacement at your expense?

I look forward to hearing from you soon.

Thank you for your trouble.

Kind regards

Jenny Smith

Evaluation of results and conclusion

General information:

At the beginning and at the end of the week the students had to answer a questionnaire with the same questions so that the evaluation of the questionnaire afterwards would show developments and changes in attitudes, knowledges and skills gained by the students during the week.

As the students from Germany and the Czech Republic had to apply for taking part in the project the interpretation of the figures should be seen under the light that motivated students had been chosen for taking part in the project.

Every question had to be answered by choosing "I totally disagree" (value 1), "I disagree" (value 2), "I agree"(value 3), "I totally agree"(value 4).

In the following questionnaire you can find the average value of answers at the beginning and at the end of the week:

The questionnaire

Attitudes:

1.1. "I think e-commerce is important for my future work life"

average mark at the beginning of the week: 3,2; average mark at the end of the week: 3,3

1.2. "I think this training course on e-commerce is important for my future work life"

average mark at the beginning of the week: 3,3; average mark at the end of the week: 3,4

1.3. "I think this special subject of this week is important for my future work life."

average mark at the beginning of the week: 3,3; average mark at the end of the week: 3,3

1.4. "I see a benefit for me in working on this subject."

average mark at the beginning of the week: 3,4; average mark at the end of the week: 3,7

1.5. "I see a benefit for me in working on this subject in a team for my personal development"

average mark at the beginning of the week: 3,4; average mark at the end of the week: 3,5

1.6. "I see a benefit for me in working on this subject in an international team for my personal development"

average mark at the beginning of the week: 3,4; average mark at the end of the week: 3,6

Interpretation of results:

The students started the week with a very high awareness of the importance of e-commerce and gaining skills in this field. These figures remained on a high level and could eventually even be increased slightly (Average values above 3.2, increase by 0.1-0.3 points.)

Knowledge:

2.1. "I have enough knowledge in the field of E-commerce."

average mark at the beginning of the week: 2,2; average mark at the end of the week: 2,8

2.2 "I have enough knowledge in the field of setting up an online shop."

average mark at the beginning of the week: 2,3; average mark at the end of the week: 2,9

2.3. "I have enough knowledge in the field of basic HTML/CSS programming."

average mark at the beginning of the week: 2,1; average mark at the end of the week: 2,4

2.4. "I have enough knowledge in the field of internet marketing."

average mark at the beginning of the week: 2,4; average mark at the end of the week: 2,9

Interpretation of results:

The students started the week with identifying a lack of knowledge in the field of e-commerce and the related competencies. In their perception the students were able to enhance their knowledge during the week by 0.3 - 0.6 points which is a satisfying result for working on this subject for only one week.

Skills:

3.1. "I enjoy working in a team."

average mark at the beginning of the week: 3,5; average mark at the end of the week: 3,8

3.2. "I enjoy working in international teams."

average mark at the beginning of the week: 3,5; average mark at the end of the week: 3,8

3.3. "I am confident in using English in international teams"

average mark at the beginning of the week: 3,4; average mark at the end of the week: 3,5

3.4. "I personally enjoy dealing with this subject."

average mark at the beginning of the week: 3,3; average mark at the end of the week: 3,4

Interpretation of results:

The students displayed a very positive attitude towards soft skills like working in international teams and saw an importance and benefits in gaining skills in these fields, (Average values above 3.2) which could be increased during working on this subject for one week slightly by 0.1-0.3 points.

Additional questions for evaluation after the course week:

4.1. "The training material is well structured."

average mark at the end of the week: 3,1

4.2. "The training material is useful."

average mark at the end of the week: 3,4

4.3. "The training material is useful for working independently on the subject."

average mark at the end of the week: 3,2

Interpretation of results:

After having attended the training course the students assessed the value of the training material as being very useful and well structured for working independently on this subject.

5. "I am satisfied with the outcome of this week."

average mark at the end of the week: 3,5

Interpretation of results:

In conclusion the students assessed the overall outcome of this week with an average value of 3.5 with 58 % of students awarding the project with highest possible grade.

Facilitating Online Marketing

This chapter will cover:

- Search Engine Optimization (SEO)
 - analyzing keywords and optimising text content of an online-shop
- Marketing with Google tools
 - facilitating a Google adwords campaign for an existing online-shop
 - interpreting Google analytics
- Monitoring
 - monitoring and evaluating website traffic and key figures (e.g. conversion rate)
- product photography
 - shooting product photography
 - editing and optimising product photography for e-commerce

Competences

Professional competences

The students:

1. Understand how clients search the Net
2. Distinguish between an organic and a generic search
3. Understand how adwords work and know about their effects on the rank in search engines
4. Know the most important rank factors at Google
5. Know various analysis tools and perform a website analysis
6. Conduct a keyword analysis and develop a keyword strategy
7. Perform a Snippet optimization
8. Adapt the URL of a website
9. Optimize the content of the online shop
10. Know how Google indexes web pages
11. Are able to distinguish between On-Page and Off-Page optimization
12. Make and edit product photos

Other competences

The students

1. make use of learning resources and documentation available online
2. learn independently from online resources as well as from other team members
3. collaborate in an [international] team [using the second language English]

Course plan

Prevailing conditions

Time planning

The course is planned for a **one week full-time** course with a preceding online phase (blended mobility) for students to get to know each other and share business ideas. However, the course can also be used in other course settings, e.g. two lessons weekly etc. If students can access and administrate the shops from home this makes the course concept even more flexible.

Technical setup

The technical setup for this course is that you will need a pre-installed instance of the Prestashop shop-software on a web server (see chapter 1 for more details and a comparison of different shop software).

The shops were filled with product data of typical regional delicatessen from South Tyrol. However, the data quality was deliberately at a very low level. The product descriptions were too short and did not make use of typical keywords. The meta tags on the product pages were not filled. In general the shops were only poorly optimised for search engines. In reality these shops would fail to achieve good search index listings with search engines thus harming the commercial success of the shops.

The students were now faced with a question-based task in which they had to define certain fundamental technical terms related to SEO, e.g. customer journey On- and OffPage optimisation etc. They also needed to find tools for page optimisation, keyword analysis and snippet optimisation (see course materials).

After this more theoretical input, students needed to optimise their shop according to their findings. This involved the development of an action plan before actually implementing the changes in their shop.

In the last step students needed to prepare a presentation on their findings and their practical implementation in their shop.

Actual Course Plan

1. **Self-Assessment:** Students fill in the self-assessment sheet in order to evaluate their

competences and skills (ideally as an online questionnaire)

2. **Work Phase:** In a self-organized setting students optimize an existing online shop and create product photography. During the work phase they will have regular meetings with teachers in which they will have to show the progress they made and during which they can also discuss technical, social or organisational issues.
3. **Presentation Phase:** At the end of the work phase the students will have to present the optimizations of their shop and the product photography they created in front of the teachers and other students.
4. **Evaluation Phase:** At the end the outcome of the project will be evaluated. Once again students will have to self-assess their competences. Also teachers will assess the competences of the students. In a short oral feedback both assessments will be compared and discussed. Students can be marked based on the competence sheet.

Lesson materials - students

Situation at work

The online shop “1000 shapes of southtyrol” has been online for half a year now. Unfortunately, it hasn’t been able to come further to the front in the Google ranking, there were not enough hits and accordingly the expected number of sales hasn’t been reached.

In order to change that the website should be optimized and several SEO actions should be taken.

Task 1 (for the group)

Get well informed about how to optimize search engines and make a handout answering the following questions:

1. How does my client search the Net?
2. What is the difference between an organic and a generic search?
3. What are adwords, how do they work and where are they displayed?
4. What do we understand by OnPage and Offpage optimization?
5. Which Google ranking factors are the most important?
6. Which analysis tools are available that might be interesting for a search engine optimization?
7. How can you make a keyword analysis and what do you have to consider concerning a keyword strategy?
8. Which aspects do you have to consider when performing a Snippet optimization?
9. How should a search engine optimized URL be structured?
10. Which points are important concerning an optimized content
11. How can a Google indexation be done?

Task 2 (for the group)

Now your task is to optimize your online shop appropriately. Before getting started, you should plan thoroughly which methods you are going to use. Elaborate an action plan in which you list who of you will be responsible for which jobs and with which tools you will be able to reach your goals. Obviously, you will have to conduct various analyses right at the beginning.

- **What?** For example: conducting a keyword analysis
- **Who?** For example: Anna and Maria...
- **How?** With which tools? For example: google analytics

Task 3 (for the group)

Your website has been optimized appropriately, your handout is ready. Now prepare yourselves for a presentation of your results in front of your classmates and your teachers.

Keep in mind: Everyone has to contribute to the presentation!

Good work!

Lesson materials - teachers

Situation at work

The online shop “ 1000 shapes of southtyrol” has been online for half a year now. Unfortunately, it hasn't been able to come further to the front in the Google ranking, there were not enough hits and accordingly the expected number of sales hasn't been reached.

In order to change that the website should be optimized and several SEO actions should be taken.

Task 1 (for the group)

Get well informed about how to optimize search engines and make a handout answering the following questions:

1. How does my client search the Net?
 - this is known as customer journey mapping
 - [read an interesting article on customer journey mapping here](#)
2. What is the difference between an organic and a generic search?
 - **organic search**: the part of search engine results which are displayed as unpaid results in a list of relevant search results (in contrast to paid search-engine advertising); as a shop owner your search engine placement is improved by **unpaid organic** measures on your site including e.g. use of keywords, backlinking and high-quality content (aka content marketing)
 - **generic search**: in this case customers search for a general term which does not lead to a specific product of one manufacturer or brand; e.g. a when a user searches for the term "book" or "mobile phone"
3. What are adwords, how do they work and where are they displayed?
 - adwords is Google's advertising service for placing ads on the search results page depending on the search terms entered
4. What do we understand by OnPage and Offpage optimization?
 - **On-page SEO** all measures optimising your website and all of its parts in order to improve your search engine ranking, e.g. high-quality content, correct semantic html structure of the page, page speed, responsive design
 - **Off-page SEO** focuses on how "relevant" your page is on the Internet; this mainly

comes down to how often your website is linked by other sites; the more links you get from other (quality) sites the more authoritative your site is

5. Which Google ranking factors are the most important?
 - this question cannot be answered correctly as the ranking factors used by Google are not officially published; however there are reasoned guesses on which factors Google uses as were [published in this paper by searchmetrics](#)
6. Which analysis tools are available that might be interesting for a search engine optimization?
 - Potential tools include: keyword tools, tools for creations of robot.txt files, meta tag generators, link suggestion tools, etc - concrete tools can be found by searching the web, listing them here would make no sense as the list would be very soon be outdated...
7. How can you make a keyword analysis and what do you have to consider concerning a keyword strategy?
 - first think like your customer: what would a customer searching for your product enter into a search engine - also think of potential other uses of your product
 - identify how high the interest of search engine users is in the keywords you identified; using tools like Google Keyword Planer can help you with this task
 - try to optimise your keywords as specifically as possible; optimising for generic search terms like e.g. "book" will not lead you anywhere as the competition for these terms is huge
 - check your competition for the keywords you used - which other keywords do they mention on their website; also consider if it really makes sense to compete with these companies
8. Which aspects do you have to consider when performing a Snippet optimisation?
 - Snippet optimisation is a technique to optimise the headlines and short description texts which will be shown in the search results lists you should consider:
 - which intentions does your potential customer have with the product he is searching for? Try to optimise the snippets accordingly and highlight how you can fulfil these intentions
 - use online tools for snippet optimisation to get support with this task
9. How should a search engine optimized URL be structured?
 - ideally the URL should contain keywords
 - the structure of the URL should follow a systematic and logical approach and be human-readable, e.g. <https://myshop.com/drinks/wine/cabernet.html> instead of <https://myshop.com/article/x85kldf>
 - avoid superfluous parts and information in the URL
 - create an xml sitemap which helps search engines read the structure of your

website and delivers more relevant results to customers

10. Which points are important concerning an optimized content?

- the content of your site needs to use your customer's language (e.g. if you have a shop for skaters - rather use slang terms and everyday language); make use of relevant keywords in the text
- make the content relevant to your users, i.e. show them how to solve the problem or need they have
- if the content of your site is relevant to your target group they will stay on your website longer, click more links and will probably also buy on your site
- the content of your site must be correct as incorrect content will turn users away from your site
- also optimise the technical aspects of content like: page loading time, responsive design, use XML sitemaps, etc.

11. How can a Google indexation be done?

- submit your website at the [Google Search Console](#) in order to be indexed

Task 2 (for the group)

Now your task is to optimize your online shop appropriately. Before getting started, you should plan thoroughly which methods you are going to use. Elaborate an action plan in which you list who of you will be responsible for which jobs and with which tools you will be able to reach your goals. Obviously, you will have to conduct various analyses right at the beginning.

What? For example: conducting a keyword analysis

Who? For example: Anna and Maria...

How? With which tools? For example: google analytics

Task 3 (for the group)

Your website has been optimized appropriately, your handout is ready. Now prepare yourselves for a presentation of your results in front of your classmates and your teachers.

Keep in mind: Everyone has to contribute to the presentation!

Good work!

Example result

[Download one of the student presentations](#) to see potential solution to the task.

Basics of Internet Programming

This chapter will cover:

- HTML programming
 - reading and interpreting the HTML code of an existing website
 - creating an internet site in HTML
- Styling HTML with CSS
 - styling an internet site with inline-style tags and inline CSS code
 - style existing HTML by making use of cascading style sheets (CSS)
 - realise why use of CSS is superior to inline-styles (maintainability, consistency)
- Publishing a website
 - making a website available on the Internet
- Online collaboration
 - make use of online collaboration tools like Slack, Github, etc.

Competences

Professional competences

The students:

1. learn about history of internet programming
2. know basic Internet technologies and concepts (e.g. client-server-principle, HTML, CSS)
3. read and interpret HTML code of existing websites
4. copy and adapt HTML code from existing websites
5. add links and images to HTML pages
6. use basic HTML tags like e.g. <p>, <div>, , <a>, etc.
7. validate HTML source code using the W3C HTML validator
8. format websites and content using CSS
9. understand and apply basic web design principles (e.g. responsive web design)
10. code a basic internet site in HTML and CSS
11. publish HTML content to the web
12. try to apply JavaScript into their websites
13. are able to add the webform in their websites
14. are able to apply all received information into their website
15. use their creativity while programming download and edit relevant pictures from the Internet.

Other competences

The students:

1. learn independently using online resources
2. learn from instructions of other team members
3. learn from their own notes and from the more experienced Czech students from higher classes who sometimes play the role of professional supervisors
4. collaborate in an international team using English as the second language make use of learning resources and documentation available online and on hard disks.

Course plan

Prevailing conditions

Time planning

The course I planned for a **one-week full-time** course with a preceding online phase (blended mobility) for students to get to know each other and share ideas about good or bad websites of their local entrepreneurs. Nevertheless, the course can be also used in other course setting, e.g. within lessons of marketing and entrepreneurship, because students will be able to create and administrate their own website on a basic level and offer the products they want to sell.

Technical setup

It is necessary to set up a unique authorized access to log on to a workstation and the Internet network using standard Wi-Fi connection. To verify we have to use the Active Directory domain which allows the central administration of users and definition of rules for networking as we do it at our school on regular basis. Each user will be able to save their work in-process on their own private drive, so it enables to get to user's work on any computer connected to the local network after logging on. To share work among the members of one team, it is also possible to use the collective drive.

To see encrypted static web content, a regular web browser (Google Chrome, Internet Explorer, etc.) can be used. For the purpose of possibility to see the content outside the school network, we have found out a virtual web space using the school domain addressed as <http://fec.spselitdobruska.cz>. Every team is allowed to save and share their work using FTP protocol. To work in such a great amount of web space including participants' individual accounts we use a new web server which has been set up.

You will need to install the source code editor called Visual Studio Code into a PC for every person, or at least for each group. It is available on the Internet to download for free.

To edit photographs you will need Adobe Photoshop, which our school uses frequently within multimedia lectures, so it is available on every PC already. To use it at home, you must buy it at www.adobe.com/products. But if the potential customer provides you with a good-quality photos or other pictures with a proper size and resolution, then it is not necessary to use any editors of photography.

Software Visual Studio Code (VSC)

You may use any editors to create a website, like Vim, Brackets or Atom and each editor has its pros and cons. For our project we have chosen Visual Studio Code for several reasons:

Pros and cons: *'VSC combines the simplicity of a source code editor with powerful developer tooling. It offers less time spent on with fiddling with your PC environment and more time executing on your ideas. It is available for macOS, Linux and Windows ...'*

(source: <https://code.visualstudio.com/docs/editor/whyvsc>). It also supports the latest standards for creating websites and supports the latest programming languages. It is one of few types of software which 'goes with times' and developers upgrade it consequently. One of the biggest advantages is that it is for free.

Actual Course Plan

Self-Assessment: Students fill in the self-assessment sheet in order to evaluate their competences, skills and abilities (ideally as an online questionnaire).

Business idea: Students create a website for a local entrepreneur using not only the input from the lecture, or information provided by the entrepreneurs, but also using their own creativity based on teams' cooperation.

Work Phase: Students create a website in HTML language following the steps of an input given by a professional lecturer and using her presentations. Students have a chance to test all gained information in a practical lesson led by the lecturer. The self-learning phase is guaranteed by provided online sources which offer a wide range of technical terms used while programming. They are supposed to cooperate in teams and decide what web features they are going to use and in what way to use the CSS. The teachers may play the role of customers and students have to give them a brief summary of what they have done so far.

Presentation Phase: At the end of the work phase the students will have to present their website they created in front of the teachers and other students.

Evaluation Phase: At the end the outcome of the project will be evaluated. Once again students will have to self-assess their competences. Also teachers will assess the competences of the students. In a short oral feedback both assessments will be compared and discussed. Students can be marked based on the competence sheet. The website will be presented to the entrepreneurs and their feedback will be sent to the teachers in order to discuss it with the students participating in the meeting.

Lesson Materials – for students

Theme: **BASICS OF INTERNET PROGRAMMING**

TASK 1

As you are involved in working on the project “Fit for E-commerce” during this week we would like you to answer some questions on your attitudes towards this subject before and after this week to see changes while being involved. Thank you for answering all the questions in advance.

TASK 2

Paste the following info into the web page of your pre-chosen entrepreneur:

- Logo, an image, you can also add the heading into the header page
- Basic information about the entrepreneur
- Profile photo
- What is the field of his/her business
- Some pictures of their work
- Contact
- Contact form
- Information about the authors of the page and copyrights - write into the footer page

(If there is not enough of photos, you can use some illustrative photos from the Internet)

TASK 3

Design and **edit** the followings in your web page using **CSS**:

- Headings
- Paragraphs
- Ordered and unordered lists
- Images
- Form

Recommended program for your work:

VISUAL STUDIO CODE

Study sources:

Presentation of Ing. Martina Husáková, PhD

<https://www.w3schools.com>

<http://the-echoplex.net/flexyboxes/>

Lesson Materials – for teachers

Theme: **BASICS OF INTERNET PROGRAMMING**

TASKS

- You are playing the role of the entrepreneur and your task is to provide a feedback to the groups.
- You may comment fonts and colours, etc. used within creating the websites.
- Be honest but tolerant. Be supportive but also critical enough. Remember, students are not professional web designers, anyway, they want to learn the basics properly as much as possible.
- Do that in the middle of their working plan, not at the end, so they will have time to discuss and make possible changes.
- Check their work in progress on <http://fec.spselitdobruska.cz/>

Recommended program for students' work:

VISUAL STUDIO CODE

Study sources:

Presentation of Ing. Martina Husáková, PhD

<https://www.w3schools.com>

<http://the-echoplex.net/flexyboxes/>

Evaluation of results and conclusion

General information:

At the beginning and at the end of the week the students had to answer a questionnaire with the same questions so that the evaluation of the questionnaire afterwards would show developments and changes attitudes, knowledges and skills gained by the students during the week.

Students from Germany and Italy did not have any basics of Internet programming as you can see from the results of the questionnaire, so we based the whole week on a basic level, so everyone could learn something from this field. The students from the Czech Republic mostly played the role of more skilled members of the teams (However, there were some Czech students with just some basic knowledge of programming, not so advanced, so they learnt a lot of technical features as well.), so they could help with any trouble concerning coding. However, in teams the strategy was divided as well as subtasks, so everyone could find some interest, mostly in the area of design which could foster anyone to join other fields of programming.

There are values of each questions had to be answered:

Answer	Value
"I totally disagree."	Value 1
"I disagree."	Value 2
"I agree."	Value 3
"I totally agree."	Value 4

In the following questionnaire you can find the average value of answers at the beginning and at the end of the week:

The questionnaire

Attitudes:

1.1. "I think e-commerce is important for my future work life."

average mark at the beginning of the week: 3,3; average mark at the end of the week: 3,5

1.2. "I think this training course on e-commerce is important for my future work life."

average mark at the beginning of the week: 3,1; average mark at the end of the week: 3,3

1.3. "I think this special subject of this week is important for my future work life."

average mark at the beginning of the week: 3,0; average mark at the end of the week: 3,3

1.4. "I see a benefit for me in working on this subject in a team for my personal development."

average mark at the beginning of the week: 3,3; average mark at the end of the week: 3,7

1.5. "I see a benefit for me in working on this subject."

average mark at the beginning of the week: 3,2; average mark at the end of the week: 3,6

1.6. "I see a benefit for me in working on this subject in an international team for my personal development."

average mark at the beginning of the week: 3,4; average mark at the end of the week: 3,8

Interpretation of results:

The students have quite a high awareness of the importance of the theme of the project as well as possibility of skills they can gain. These figures eventually even increased slightly by 0,2 – 0,4 points.

Knowledge:

2.1. "I have basic knowledge in the field of HTML programming."

average mark at the beginning of the week: 2,1; average mark at the end of the week: 3,1

2.2. "I have basic knowledge in the field of CSS programming."

average mark at the beginning of the week: 1,9; average mark at the end of the week: 2,9

2.3. "I have basic knowledge in the field of web design."

average mark at the beginning of the week: 2,2; average mark at the end of the week: 3,4

Interpretation of results:

The students started the week with identifying a lack of knowledge in the field of HTML and CSS. Cooperating on different and (in a certain way) same tasks the students were able to increase their knowledge during the week by 1,0 – 1,2 points which is more than satisfying result working on this subject for just one week.

Skills:

3.1. "I enjoy working in a team."

average mark at the beginning of the week: 3,7; average mark at the end of the week: 3,9

3.2. "I enjoy working in international teams."

average mark at the beginning of the week: 3,6; average mark at the end of the week: 3,7

3.3. "I am confident in using English in international teams."

average mark at the beginning of the week: 3,5; average mark at the end of the week: 3,7

3.4. "I personally enjoy dealing with this subject."

average mark at the beginning of the week: 3,1; average mark at the end of the week: 3,5

Interpretation of results:

The students expressed a positive attitude towards soft skills like working in teams and using English language to deal with set tasks which increased slightly during working on the subject by 0,1 – 0,4 points.

Additional questions for evaluation after the course week:

4.1. "The training material was well structured."

average mark at the end of the week: 3,5

4.2. "The training material was useful."

average mark at the end of the week: 3,6

4.3. "The training material was useful for working independently on the subject."

average mark at the end of the week: 3,5

Interpretation of results:

After having attended the training course the students assessed the value of the training material as being very useful and well structured for working independently on this subject.

Final result

5. "I am satisfied with the outcome of this week."

average mark at the end of the week: 3,7

Interpretation of results:

In conclusion the students assessed the overall outcome of this week with an average value of 3,7 with 77% of students awarding the project with the highest possible grade.

Evaluation of entrepreneurs

We have gained a very welcomed evaluation by the entrepreneurs who displayed the interest to pass students some subjective feedback which can help them to work even more on their skills and professional approach in general which could be useful for their future career.

Group 1

—

I would appreciate a bigger gallery. A better logo which would express a bit more the connection with my work.

+

Text alignment, well-arranged text, a good choice of fonts. Overall, I like the website very much.

Group 2

—

Errors in the text. The products I offer, I would highlight somehow, not just listing. Maybe, I would change the text alignment. The contact form is too huge for me, at least I would make the letters smaller. The text 'Write something..' sounds strange to me and its font is different from others.

+

A great range of pink, a beautiful background which goes with my work, the shape of the pictures in the gallery is perfect. Contrary to the errors and the changes I would make, I really love it and admire your work.

Group 3

—

If I should point something out, it might be the text alignment on the first page. I do not quite like the big letters on the page 'My work', it scares me off a bit and the allocation of the fields of art using so called hyphen. I do not understand why there is a different font on the page 'Contact' in the field 'Text...'.
+

Colours and their shades, you have chosen my profile photo very well, the headline on the left with another colour of the first letters is an amazing idea, it looks fabulous. The best web about me, I think. The charming background goes totally with my personality and my profile photo. The colour of the text, well-chosen gallery, perfect font of the motto. Even though I have mentioned some points I do not totally like, it's just wonderful, thank you. I want to use this website. 😊

Group 4

—

The shaded font bothers me, because I can read it with a difficulty. Grammar mistakes in the text. On the page 'My work' there are suddenly bullets, I would rather have the same style of the text on every page.
+

Perfect background, I love the green grass, because it expresses what I do. Simplicity is the best. Finally, the widest range of my products in the gallery. I like the icons, surprisingly. Out of spite the minuses, I am fond of this website.

Group 5

—

Grammar mistakes in the text. I do not like different fonts and the error with capital letters on the page 'Contact', that would be probably the weakest point of the whole page.
+

The page 'Products' is absolutely stunning. The choice of colours is perfect. The thing that the upper part with my name and motto is visible on every page is the best. Despite of the negative points, the page is totally wonderful.

Group 6

—

My first name on the main page is hidden because of the colours. I am not fond of the huge letters of the text, it's too much, I think. At the bottom of the page there should be, as it says, the logo of Erasmus+, but it is not readable. In the field of 'Subject' the phrase 'Write something..' sounds strange to me. I would rather change the font of the text.

+

Amazing colours, the logo – the leaf in the logo, which represents the nature, is a great idea that expresses my passion. I really like the font of the headlines/ categories. I would use the exact same if I wanted to create my own website. The charming background goes perfectly with my profile photo. I love the way the website looks overall. It's marvellous.

Group 7

—

I strongly do not like changing of fonts, even some capital letters are misused. The buttons like 'Back' or 'Route' are too dark because of the colours, I would change them, f.e. the letters could be white and then the frame would be red. There is a perfect idea to put there the route which refers to google maps, but not with my place of living. Instead of Kostelec nad Orlici, there is Dobruska. Too big mistakes; it's a shame because in other ways it's a cool work.

+

You have a perfect idea of combination of the colours – red, white and black. The layout of the website is great, how it is divided into categories. You have made up some facts about me, but actually, you have captured my true essence. What looks really cool, is the layout of two - three columns. The website looks very sophisticated, it has impressed me a lot, how much effort you have put into your work. You have done a great job!

Group 8

—

There are some sentences which sounds a little strange to me. If we should stick to the tasks, it also says, there should be 'Copyright' or 'All rights reserved' with authors' names, which I miss there. What I would definitely change is the text alignment.

+

I love the pictures, the colours, the fonts. It looks unbelievable, in the positive way, of course. The perfect thing you have done is the 'picture – text'/ 'text – picture' layout, it is stunning. You made an excellent collage of my work which you put as the background to the motto. I

just love it, especially the simplicity, despite any negative remarks.

Group 9

—

Offered changes: the text alignment and a better choice of font and the size of letters, even pictures. The gallery looks a bit poor using the size of the pictures. I would not like people creating any 'Accounts' on my page and write there any information about themselves. Even though I like simplicity, this website is too simple for me.

+

I like the colours and the layout is not bad – it's fine that it's somehow tabular. I would put a bigger effort into creating a website next time. Anyway, this is a good start and thank you for that.

Group 10

—

Not visible authors of the website. Changing fonts which is alogical, and also the colours of the text and headlines, I do not quite like. I would definitely change the text alignment.

+

Thank you for such a wide gallery of my work. I absolutely love the idea when you click on my piece of work and it opens with others separately, not on the webpage. I like grey and white layout. You have chosen a great profile photo of me. After some technical changes, I would totally like to use this website officially.