

Measure concept for vocational orientation



**in the craft field
with a focus on digitisation
in the work / professional world**

Occupation puzzle: I puzzle my dream occupation

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Content

Introduction.....	3
1. Initial situation and background of the measure.....	3
2. Objective of the measure	4
3. Starting position	5
3.1 Target group	5
3.2 Implementing institutions and responsibilities.....	5
3.3 Fields of action.....	6
3.4 Regional reach.....	6
4. Framework conditions	6
4.1 Participating actors – internal.....	6
4.2 Involved partners and institutions - external	7
4.3 Description of a required infrastructure	7
4.4 Time frame (-point)	7
4.5 Structure of the measure	8
5. Implementation of the measure concept.....	8
5.1 General principles of the action	8
5.2 Preparation	8
5.3 Implementation	10
5.4 Follow-up	15
5.5 Expected results	15
6. Resources and funding	16
6.1 Personnel requirement and their use	16
6.2 Room and technical equipment	16
6.3 Costs and possible financing of the measure	17
6.4 Required contacts and contact building	17
7. Evaluation of the measure	18
8. Appendix	19
8.1 Work instruction - example	19
8.2 Additional questions and tasks for the work assignment	23
8.3 Evaluation questionnaire - selection of possible questions.....	25
Free License.....	26

Introduction

In the course of the changes in the world of work, professions and occupational areas are also becoming more digital and increasingly abstract in the skilled crafts field. This makes them increasingly difficult for young people to grasp. At the same time, there are many traditional ideas about craft professions that do not always correspond to the reality in the workplace.

The concept presented here, "*Occupation puzzle: I puzzle my dream occupation*", builds on these problems, and aims to guide young people to independently acquire not only comprehensive but also realistic information on occupations to support a successful choice of training and occupation. The approach, which is team-based and partly playful, is at the same time intended to promote fun in dealing with the world of work and professions and to support the development of social skills that are urgently needed in the world of work.

"*Occupation puzzle: I puzzle my dream occupation*" is based on the basic principle of a traditional puzzle game, in which young people (pupils) in small groups have to research information on occupations in the crafts sector, some of which is given and some of which they have to research themselves, and in a figurative sense put them together as "puzzle pieces" (in different forms), and thus work out for themselves a comprehensive overall picture of an occupation, which provides insight into the most diverse aspects and characteristics of the respective occupation. Some of the puzzle pieces are given (suggested) as ready-made information and the task is to determine the correct information for the chosen occupation, another part of the puzzle is prepared as research assignments that the students are to work on independently in small groups.

At the same time, the puzzle is open-ended, in the sense that the small groups can add further information to their *occupation puzzle* according to their own interests.

The concept is flexible in many respects, so that the focus of the content (here: "digital crafts professions"), the social forms, the duration of the work and also the presentation of the results can be adapted to the respective framework conditions and requirements of the school or institution carrying out the measure.

1. Initial situation and background of the measure

As stated in the introduction, the world of work and the training associated with it is becoming increasingly complex and often more abstract. This makes it increasingly difficult for young people to get a concrete and realistic picture of occupations. Many occupations, including craft occupations, are less and less visible in everyday life and thus less and less tangible.

At the same time, many professions, especially craft professions, are changing and constantly evolving. Increasing digitalisation plays a central role in this. Occupations and training content are becoming more complex, demands on trainees and professionals are changing and often increasing, specialisation opportunities are developing and thus training offers, and labour market opportunities are also changing. These changes and developments are often not adequately reflected in occupational information and are thus difficult for young people to grasp in their career orientation. The situation is aggravated by the fact that the

possibility and opportunity to deal intensively with specific occupations is often not sufficiently available during orientation because there is neither the time nor the resources.

Digitalisation, which is also playing an increasingly important role in skilled crafts professions, has a lasting impact on the everyday lives of the vast majority of people, but often rather subliminally and is not even consciously perceived by many as a natural development in their lives. The concrete effects on professional reality, on everyday working life, are often difficult to grasp and tend to penetrate the consciousness as threat scenarios ("digitalisation versus human labour") via media reporting. This in turn creates a tendency to reject digitalisation in the professional context.

These developments come up against an often very traditional image of professions and crafts in particular.

The measure presented here is intended to help young people develop competences that enable them to independently research comprehensive and realistic information on occupations and training. This is intended to lay the foundation for further engagement with the world of work in a playful way and to support the career choice process beyond guided orientation measures.

2. Objective of the measure

Young people in initial vocational orientation, especially pupils, should develop the competence to independently obtain comprehensive and relevant information on occupations, occupational fields and training that are of particular interest to them by intensively dealing with a specific occupation (depending on the design of the task, there can also be several occupations). They should be able to use this competence as a basis for their further orientation and decision-making process.

By researching, getting to know, and assessing information and characteristic features for occupations, occupational fields and training, the young people should be able to use these research and assessment skills independently of guided situations (career orientation classes, career guidance). This should strengthen their ability to independently research realistic and decision-relevant information for any occupation and training.

The central point is to independently discover and explore the extensive and diverse characteristics and descriptive features of professions. The "Aha experience" of having found something out for oneself, of having developed new ideas and discovered new sources of information plays an essential role. The rather playful method of the *occupation puzzle* is therefore not only intended to develop the competence of researching and assessing information, but also to awaken or strengthen the desire to engage with the world of occupations.

The method is intended to generate motivation to dedicate oneself actively and sustainably to the choice of education and career.

The focus of the concept is on craft professions with a special digital focus or a clear digital orientation. However, the concept can be flexibly transferred to any other occupational field, independent of specific content focuses or enriched with further focuses.

At the same time, the intensive examination of craft professions is intended to correct the often very traditional and possibly outdated image of such professions and the entire occupational field, and to provide young people with a realistic insight into exciting and promising areas of activity.

Further vocational orientation-relevant and overarching goals of the measure:

- Developing understanding of digital content and activity aspects in occupations.
- Developing realistic ideas about occupations and training; breaking down clichés
- Discovering and getting to know new sources and possibilities of information and research relevant to vocational orientation
- Promoting and developing teamwork
- Promotion of media competence
 - through research of new, non-prescribed and sometimes complex information
 - assessing new, sometimes complex information and information sources
 - independent preparation and presentation of information

3. Starting position

3.1 Target group

The target group of the measure are **young people between the ages of 12 and 19**, at the interface to the first or a further choice of occupation or training.

The **core target group** are pupils in secondary level 1 (aged approx. 12 to 15 years; depending on the respective education system). However, the concept can be easily adapted and used for young people/students up to the age of 19.

Moreover, the concept is primarily designed for use in a school context. However, it can be adapted to other group settings (youth groups, orientation and training measures close to the labour market) and can be used in any vocational orientation setting in which work is done with groups. When used in an out-of-school setting, it must be considered that the measure is designed in such a way that it requires a group to work together for several weeks even outside the actual supervision time.

The use of the concept in work with adults is also not excluded.

3.2 Implementing institutions and responsibilities

The main providers of measures are schools at secondary level 1 and 2, with a focus on secondary level 1. In addition, the concept can also be implemented in youth care facilities and facilities for extracurricular vocational orientation.

Depending on this, the respective school authorities or providers of the training measure are responsible for implementation. Operationally, the responsibility for implementation lies with the teachers and coordinators in vocational orientation classes or with the counsellors and trainers in extracurricular vocational orientation measures.

3.3 Fields of action

In principle, this measure is suitable for all occupations and occupational fields and can be used with appropriate adaptations of the tasks for every occupation, every occupational field and furthermore also for concrete training offers and main topics.

In the concept presented here, the focus is on the occupational field of craft professions and on specific craft professions with a special focus on digitalisation in craft professions.

3.4 Regional reach

The measure is basically an offer limited to the respective school location (if applicable, location of a training, care, or counselling facility), whereby cross-location cooperation of several schools is not excluded and does not require major adjustments of the concept.

It would be conceivable to implement the concept as a competition across school locations, in which the best occupation puzzles are awarded prizes. Regional industry representatives could also be involved.

Completely independent of local and regional conditions, the concept can be implemented at any school location. In this sense, the measure can also be seen as a nationally implementable measure.

The visibility of the measure is limited locally in the minimum variant, but the effect is ideally supra-regional. The competences developed by the pupils within the framework of the measure have an effect beyond the local occasion.

4. Framework conditions

4.1 Participating actors – internal

The actors involved depend on whether the concept is implemented as a measure in a class, across classes, for example for a year group, or at the entire school site. In addition, a school-wide implementation is also conceivable.

In the minimum variant (measure in one class), the actors are limited to the teacher responsible for career orientation (vocational orientation teacher), in an interdisciplinary variant a team of teachers and the pupils of the class.

In more extensive implementation variants, additional actors can be added:

- Head teacher
- Administration staff
- Other teachers, also with a different subject focus
- Pupils/students from other classes
- Teachers and students from other schools

4.2 Involved partners and institutions - external

Depending on the research activities of the student groups, a wide variety of external partners and institutions can be involved. These include in particular:

- Vocational information centres/Career guidance centres and other guidance providers
- Vocational schools
- Universities, Universities of Applied Sciences and other education and training providers
- Training companies
- Experts from the occupational field as interview partners
- Social partner institutions
- Museums, libraries
- Industry events, trade fairs
- Other information centres
- ...

In all these cases, the structure of the measure does not require any further cooperation agreements, as the partners are primarily involved as information providers.

If the pupils decide to carry out relevant company explorations, work experience days or internships within the framework of the *occupation puzzle*, the applicable legal and school organisational rules must be taken into account and adhered to.

4.3 Description of a required infrastructure

An infrastructure beyond that usually available in schools is not required. In concrete terms, this means that classrooms and group rooms should be available as workrooms as well as powerful IT equipment.

If the presentation of the work results is to take place in the form of an exhibition in the school, a larger room (assembly hall, festival hall, gym) is also required.

4.4 Time frame (-point)

The implementation of the measure in the variant proposed here extends as a project order over a period of 2 to 3 months, from the awarding of the work order to the final presentation.

For details see chapter 5.

However, the timing of this measure is basically very flexible. The work assignment can also be reduced to such an extent that the period can be reduced to two mornings (minimum variant), for example. One morning for the research and preparation of the presentation and another morning for the final presentations. In this case, however, the amount of research must be considerably reduced.

4.5 Structure of the measure

The measure follows the following rough structure - overview (for details see chapter 5):

1. preparation of the work assignments and materials by the teacher or by a team of teachers.
2. assignment, introduction to the group work by the teacher, formation of groups and collection of the prepared puzzle pieces by the pupils.
3. group work: elaboration of the *occupation puzzle* and preparation of the final presentation by the pupils; the teacher is available during the entire work phase as a contact point for questions and in case of ambiguities.
4. final presentation and securing of results: presentation of the results of the work by the groups of pupils; moderation by the teacher
5. debriefing under the moderation of the teacher(s)

Note: The concept presented here is based on the assumption that it will be implemented in schools, so it always refers to pupils and teachers. However, the concept can also be implemented in non-school group settings without major adaptations.

In the following, chapter 5 presents an ideal-typical implementation of the measure "*Occupation puzzle: I puzzle my dream occupation*". The actual implementation can differ in practically every aspect and can be adapted to the respective local framework conditions.

5. Implementation of the measure concept

5.1 General principles of the action

The measure "*occupation puzzle: I puzzle my dream occupation*" is a project assignment that is carried out by groups of 3 to 4 young people.

The project duration in the variant proposed here extends over 2 months.

The basic principle of the concept is that the young people work largely independently in their group over the course of the project and, for example, independently carry out work assignments, methods, research, involve external partners and sources of information and make decisions independently. Teachers are available as contact persons in case of problems, queries and as support, for example, in contacting external partners, but they only intervene in the group processes if problems arise in the group that endanger the further course of the project and the learning success.

5.2 Preparation

The preparation of the measure includes the preparation of the concrete work instructions for the pupils as well as the elaboration of the puzzle pieces (information pieces), which are given to the groups in the first work step as a start to the group work.

The preparation is done by the class teacher responsible for vocational orientation or by a team of teachers who carry out the project together.

Appendix 8.1 shows an example of a work assignment that can be used as a basis for developing the work assignment for the class. Based on this template, teachers can adapt the work assignment to the respective framework conditions in their class, choose other occupational fields, set other or additional focal points, or also adapt the scope and procedure of the assignment to the respective needs.

An essential part of the preparation is the elaboration of the materials and information that are given to the young people as puzzle pieces in the first phase of work (assignment, group formation and first information research).

These include in particular:

- **Occupational titles for around 10 crafts:** depending on the size of the group/class, at least one set of 10 occupational titles should be prepared so that the students have some choice.
When choosing the occupations, make sure that they
 - a) represent the broad spectrum of craft professions and training well
 - b) have a certain relevance for the labour market and training
 - c) are not too exotic that it may be excessively difficult for the students to research information about them or that no real encounters are possible.
 - d) The topic of digitalisation should play a comprehensible role in the profession.
- **Short description** of the chosen occupations: one to two paragraphs at the most, on the basis of which the students choose which occupation they want to deal with.
- Excerpt from the job description (from the training regulations).
- **Photos:** at least two to three photos should be prepared for each occupation; ideally, at least one of the photos per occupation should already deal with the topic of digitalisation.
- **Relationships:** as far as there are legally defined relationships for the occupation, one or two photos should be prepared for each occupation.
- **Special features** of the occupation: to increase interest, one (or more) statements on special features can be presented as a puzzle piece.
- **Duration of training / apprenticeship period**

The respective materials are printed thematically separately on stronger paper or cardboard paper. They symbolise in particular the idea of the puzzle that the final representation of the profession is composed of the most diverse information parts and descriptive features.

The individual "pieces of the puzzle" can be flexibly extended with further information, but also reduced. The minimum requirements are the short descriptions and the corresponding occupational titles.

In the preparation, it is therefore necessary that the teachers themselves intensively deal with the occupational field of skilled crafts and the topic of digitalisation in skilled crafts.

Another essential part of the preparation is the determination of the concrete duration of the project. In the variant presented here, the total duration is conceived as 2 months.

5.3 Implementation

a) Description of content:

In the *occupation puzzle*, the pupils work in small groups on a specific craft occupation, with a special focus on the topic of "**digitalisation in craft occupations**".

The central features are that they

- get to know a craft occupation in detail
- learn about other craft occupations through the presentations of the other working groups
- develop a broad spectrum of descriptive characteristics for occupations that they can use individually as a checklist or structuring aid in their orientation towards other occupations they are interested in.

Introductory workshop:

In an introductory workshop lasting about half a day, the pupils choose a specific craft occupation based on a brief description using the documents prepared by the teacher team. After a detailed introduction by the teacher or the team of teachers, in which the process and the goal of the project work are explained in detail and corresponding work instructions are handed out (see Appendix 8.1 for a sample), the groups are formed.

The groups are formed by each pupil choosing from a set of short descriptions the one that interests him/her the most and forming a small group together with two to a maximum of three other pupils who have chosen the same description (3 to a maximum of 4 pupils per group).

When forming groups, each occupation should only be assigned once so that the broadest possible range of occupations is covered. This means that individual students may have to change their mind because the desired occupation is already taken.

Therefore, sufficient time must be allowed for group formation.

This possibly necessary reorientation can also be transferred as a learning process to the process of choosing an apprenticeship, where the first choice is not always actually realisable.

After forming the groups, the pupils begin to collect the initial information on the professions prepared by the teacher team. For this purpose, the teachers lay out the prepared information (see above: Preparation) as "puzzle pieces" in thematic groups in the classroom. The students have to select the information (puzzle pieces) from the thematic groups that match their occupation, especially the correct occupational title. To do this, they will have to do initial research on the internet and other vocational materials available at school.

The information collected will be prepared by the groups on pinboards and presented to the classmates and the teacher team in a first feedback round. In particular, it is important to identify and correct any wrongly selected pieces of the puzzle.

Building on this interim result, the groups should spend the rest of the morning structuring what information they want to research about their chosen profession, what methods they will use, how they want to work together in the group and draw up an initial timetable for the work.

With regard to the content to be researched and the methods to be used, it is up to the teacher team to decide to what extent they specify questions and methods or leave the development completely free to the students.

Note: Appendix 8.2 lists a number of questions and suggested some methods that can be integrated into the assignment.

A final feedback session concludes the introductory workshop. In the feedback round, especially ambiguities and open questions from the work assignment should be clarified.

Group work phase:

The group work phase forms the main part of the measure in terms of time. Over a total period of two months, the groups carry out different research tasks and real-life encounters that give a deeper insight into the chosen occupation and help to create a comprehensive *occupation puzzle*.

An essential part of the task is that the groups independently consider what information is important to them in order to gain a comprehensive insight into an occupation. In other words, the young people should determine for themselves which descriptive and experiential features of the occupation are important for them and may be relevant to their decision. To support this, the teacher team can provide lists of guiding questions, but these are to be understood as suggestions and not as guidelines (cf. Appendix 8.2).

In the group phase, the working groups define for themselves:

- a) the topics/information
- b) the methodology/procedure for the research,
- c) the division of who is responsible for which questions,
- d) a timetable in which the two months of work are structured
- e) a first idea of what the final presentation could look like, and which methods should be used.

In the sense of the main topic "digitalisation", the following questions are given for the group work, which are to be dealt with by the groups in any case:

- What is the significance and impact of digitalisation in the chosen craft occupation?
- How has the profession changed/developed through digitalisation?
- How can these changes be recognised?
- What further changes are foreseeable or expected by industry experts?
- How do these developments affect the requirements for applicants and trainees?

- How has vocational training changed as a result or what changes are foreseeable?

In any case, the working groups should include these questions in their research and results and at least develop a basic idea about them.

After about one month, an interim discussion on the project takes place in the class plenum, where problems and challenges and proposed solutions are discussed in the class together with the team of teachers. In addition, the groups give the teachers a brief overview of the status of the work, open points, and next steps.

In any case, the group work should also include different real-life encounters where the students get information in practice and gain personal experience in companies where the respective profession is practised.

About a week before the end of the group phase, the students should start preparing the final presentation and write a maximum four-page summary of their research results, which will then be made available to all classmates and which, in total, will result in an encyclopaedia of occupations by students for students.

In the last week of the project, it is also necessary for the individual groups to agree with the team of teachers which technology, media and materials are needed for the final presentation.

Addition: Part of the work in the group phase can also be a proposal for a checklist that reflects the description structure of the occupation worked out by the students and can be used for future occupational research.

Final presentation:

Each group has 20 minutes to present their most important findings to their classmates and the teacher team. The choice of method for the presentation is up to the group. A further 15 minutes are available for questions from classmates and for discussion.

In addition, all classmates receive a prepared handout with the key findings of each group.

Alternative:

Final presentation in the form of an exhibition for the whole school. This form is particularly suitable if the project is carried out across classes as a project for a whole cohort of pupils or for the whole school.

Further steps:

Further steps in the project are a debriefing on the content with securing the results of the work as well as an evaluation of the project work among the pupils, in the team of teachers and possibly also with external partners..

b) Process planning and time schedule:

The timing of the measure is flexible and can be quickly and easily adapted to the respective framework conditions and the concrete design. For the implementation proposed here, a total duration of 2 months is suggested.

The measure follows the following procedure (for details on the content, see the description of the content):

Step	Short description	Timetable
Step 1: Preparation	Creation of the work assignment and the puzzle pieces by the teacher team	about one week before the introductory workshop
Step 2: Introductory workshop & group formation	Introduction of the students to the work assignment, grouping and start of the occupation puzzle	Half day
Step 3: Group phase - Part I	Researching occupational information in the group, according to the given or self-generated questions. If necessary, preparation of interview guidelines; planning of real encounters (establishing company contacts and contacts with other institutions for real encounters).	1 month
Step 4: Interim presentation	Interim report from the groups in the class plenary, discussion of challenges and discussion of solutions, setting the timetable with regard to final presentation	After the first month of the group stage
Step 5: Group Phase - Part II	Further work on open points Implementation of real encounters	1 month
Step 6: Preparation of handout and final presentation	Preparation of the handout on the results of the work for the classmates and preparation of the final presentation. Inform the teacher team which materials, equipment and media are needed for the final presentation.	In the last week of the group phase
Step 7: Final presentation	Presentation of each group's work results in individual form in the class plenary. Alternative: Exhibition in the school	At the end of the two-month group phase
Step 8: Content Debriefing	Debriefing the project work and securing the results in the class plenum	The day after the final presentation
Step 9: Evaluation	Evaluation of the project work by means of a written questionnaire and a discussion round with the pupils as well as in the teacher team and with external partners.	One week after the final presentation

c) Possible milestones:

Milestones in the implementation of the concept are:

- **Milestone 1: Completed preparation**

There is a written work assignment for the students and all materials for the introductory workshop have been prepared.

- **Milestone 2: Introductory workshop with group formation**

Completion of group formation and start of the group work phase.

- **Milestone 3: Interim report after one month**

After one month of group work, a feedback session is held in a double lesson in the class. The individual groups report briefly on the status of their work, problems and proposed solutions are discussed and open questions are clarified that concern the whole class.

- **Milestone 4: Final presentation after two months**

Presentation of the group results, the finished occupation puzzle, as the high point of the project assignment. Handing in the handout as a summary of the work results.

d) Used methods:

The “*occupation puzzle*” measure concept is characterised by a broad mix of methods that is not strictly prescribed but essentially results from the group processes. The following methods can be used during the measure:

- lecture
- group work
- individual work
- brainstorming
- Internet research
- interviews
- real encounters
 - Company visits
 - Career exploration/work experience days
 - internships (depending on the age of the young people)
- written reports
- and so on

Possible methods for presenting the results, e.g.

- slide presentation
- poster presentation
- exhibition / show of work
- role play
- quiz (digital, analogue)

e) Used materials:

A variety of materials and tools can be used in the preparation and implementation of the measure, which are only briefly outlined here due to the possibilities for individual design within the group work:

- computers, laptops, notebooks, tablets, smartphones with internet access
- various websites
- printers, scanners
- poster paper, flipchart paper
- poster pens
- scissors, adhesives
- photos, pictures
- leaflets, brochures
- films, video, and audio recordings
- tools, materials from various crafts and trades
- and so on

5.4 Follow-up

The follow-up is divided into up to three steps.

Step 1: Presentation of results by the individual groups

Step 2: Debriefing in the class plenary and securing of results

Step 3: Evaluation of the project through debriefing in the group of teachers/trainers involved, with the pupils, for example, in the form of a written questionnaire and an oral feedback session, and, if necessary, through feedback from external partners.

5.5 Expected results

In accordance with the objectives described above, it is expected that the participating young people (pupils) will independently work out the various descriptive characteristics of a profession in the intensive examination of a concrete profession and thus get to know them and be able to apply them to further research.

This should have the following sustainable effects:

- The pupils are able to research further occupations, occupational fields, or training independently and to classify and assess the information.
- The pupils have a comprehensive, realistic picture of concrete crafts professions and know the significance and effects of digitalisation in these professions.
- The pupils gain motivation and enjoyment in exploring occupations, occupational fields and training beyond the occupation dealt with.

The concrete, tangible results after the project work should be

- a catalogue of comprehensive and multi-layered job descriptions for a number of crafts (depending on the number of groups involved), which will be available to all pupils in the class/school.
- a structure developed by the pupils themselves for describing characteristics of occupations, which is available to all pupils as a checklist for their further occupational research.

6. Resources and funding

6.1 Personnel requirement and their use

The measure does not require any personnel resources beyond the existing staffing of schools and training providers.

Ideally, the preparation of the measure should be done in a team of several teachers who are responsible for educational and vocational orientation and other interested teachers who are responsible for different subjects. In this case, the workload can be well distributed and should only place moderate demands on individual teachers. At the same time, the sustainable (repeated) and inter-class use of the measure can be ensured.

The teachers involved are responsible for the preparation of the task description, the elaboration of the puzzle pieces and guiding questions, for the guidance of the pupils as well as ongoing feedback and the implementation of reflection or feedback rounds. They support with questions and problems in the group phases, supervise the group activities in school and organise a suitable opportunity to present the results of the work.

If the activity is set as a school-wide activity, teachers plan and organise a final event (e.g. an exhibition) as a team and together with the students.

In any case, teachers with a qualification for vocational guidance should be involved in the planning and implementation of the activity.

6.2 Room and technical equipment

a) for the work on the *occupation puzzle*

The project can be carried out in the existing classrooms or group rooms of the school or institution. No additional rooms are required for this.

It must be ensured that the working groups have access to computers with (powerful) internet connections and printing facilities. This access should also be guaranteed in free working phases outside of class time, especially for groups of pupils who have only limited access to private IT equipment.

Usually, a considerable part of the work on the *occupation puzzle* is project-oriented and takes place in the free time of the young people and thus also in their private environments. In cases where the young people themselves do not have any IT equipment and there is also no access to the school IT infrastructure outside of lesson times, equipment for hire should ideally be available.

b) for the presentation of the results

For the presentation of the results of the work, it should be agreed with the young people in advance which technical equipment will be available. In the concept, the groups should inform the teacher team in the last week of the project about the materials, equipment, and media they need to present their results. For example, these could be

- projector with laptop
- smartboards
- blackboards
- Flipcharts, posters
- pin boards
- television with DVD player
- CD player, bluetooth-capable receivers, loudspeakers
- and so on

If the presentation is planned as part of an exhibition for the whole school, appropriate rooms (assembly hall, festival hall, etc.) and additional presentation media must be provided.

6.3 Costs and possible financing of the measure

In principle, no significant additional costs should be associated with the project.

In exceptional cases, the following cost items may arise:

- Travel costs for pupils / young people to contact points, companies, etc.
- Entrance fees for events, museums, exhibitions, fairs, etc.
- Rental fees for media
- Working materials for the preparation and presentation of the results.

However, all these items should not be disproportionately high and thus not represent a relevant burden.

6.4 Required contacts and contact building

Contacts may be necessary within the framework of the implementation of the measure concept, in particular to companies, training companies, vocational schools or other relevant education and training providers, to experts from the occupational field. All these contacts serve as sources for practical information (e.g. in the course of interviews, requests for information) as well as for real encounters such as company explorations, practical vocational days, taster days, etc.

Contacts to information and counselling centres (career information centres, labour market service, etc.), occupational or sector representatives, research institutions, and visits to events, fairs, museums/exhibitions, etc. can also become relevant during the research in the group work.

The concept of the measure provides for the young people to establish contacts with these experts largely on their own. Teachers or trainers should by no means take over the contacting of companies and vocational experts for the young people.

However, it is of course possible for teachers or trainers to support the young people with tips and suggestions when establishing contacts.

7. Evaluation of the measure

To evaluate the success of the measure, it is proposed to use a combination of oral feedback (discussion) and a short questionnaire. In addition to providing feedback for possible further development and optimisation of the measures, the evaluation should also serve to make the young people reflect on their personal learning success.

A discussion in the class (group) not only promotes communication skills, but may also enable a further learning effect, as the young people learn from the experiences and assessments of their colleagues. The written questionnaire, on the other hand, ensures that all young people involved, not just a few particularly committed ones, reflect again on the measure and think about possible learning effects.

Annex 8.3 summarises some possible questions for such an evaluation.

This in-class evaluation should take place about a week after the final presentation so that there is some time between the work phase, the presentation, and the evaluation to let the measure take effect.

As a concrete measured parameter for the activity, it can also be included whether all groups have successfully completed the work assignment and were able to present their results, including the summary, as agreed.

Note: In an extended consideration, the participating companies, institutions, and persons outside the school could also be included in an evaluation phase and asked for their feedback. The idea of the *occupation puzzle*, possible suggestions for improvement as well as feedback on the work with the young people could be included in the feedback.

8. Appendix

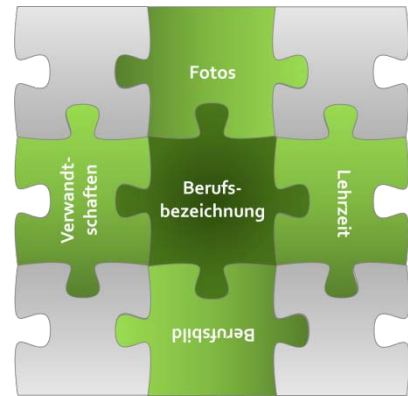
8.1 Work instruction - example

PROJECT ORDER

**Occupation puzzle:
I puzzle my dream job**

Special topic:

**Craft professions in the sign of
digitalisation**



The aim of this project is to,

- a) that you intensively deal with a handicraft profession over a period of 2 months and that you deal with it on the basis of this concrete example,
 - what you are interested in,
 - what information you need to get a realistic picture of an occupation and the training possibilities for it,
 - and how you can get this information,
 - How crafts change over time...
 - and what influence digitalisation has on this.
 - b) that you develop an understanding for changes in the world of work, opportunities, possibilities and challenges through digitalisation in general and in the craft occupational field in particular.
 - c) that you are able to assess whether an occupation is suitable for you as a VET possibility on the basis of the descriptive characteristics you have developed yourself.
-

Work instruction for groups

In the classroom you will find cards on the floor with short descriptions (without job titles) of 10 different crafts. On the basis of these short descriptions, you will choose a crafts occupation that you will work on intensively over the next two months.

There are also different thematic stations in the classroom. You will find more information about these crafts as puzzle pieces.

You can find the following information in the stations:

- Occupational title
- Excerpt from the occupational description (training regulations)
- Photos
- Relationships
- Special features of the occupation (statements on special characteristics)
- Duration of training / apprenticeship period

STEP 1: Formation of groups

- Read the short descriptions carefully - each of you individually - and decide on a short description that seems particularly interesting to you.
- Find two to a maximum of three classmates who have chosen the same short description.
- Form groups of three to a maximum of four people.
- There should only be one group for each description. If a full group has already formed for the description that interests you, you have to change your mind and choose another description.

STEP 2: Collect the existing puzzle pieces and start the group work

Collect the information (puzzle pieces) distributed in the classroom that match your brief description and put the puzzle pieces together to form an overall picture. Make sure that you choose the information from the materials that actually fit your profession.

Research existing documents and media to select the right information. The use of notebooks, tablets and smartphones is allowed.

Put the pieces of the puzzle together on a pin board and present your first result to your classmates and the teacher team.

Based on this intermediate result, you will use the rest of the morning to start the group work: Structure together what information you want to research on the chosen profession, what methods you can use, how you want to work together in the group and develop a first timetable for the further work.

STEP 3: Group work

Duration: 2 months, with interim report after one month

Results: Four-page description of your profession

Presentation of your research results to the class

Tasks:

- Develop a concept of what information is important for you to form as comprehensive a puzzle as possible about your chosen profession.
- Develop a concept of how you can research this information, which sources of information you need for this and how you want to proceed with the research.
- Use the supplementary sheet with suggestions for possible contents and questions (*Note: See Annex 8.2*).
- Develop a concept for presenting the results of your research to your classmates.
- Set a timetable.
- Carry out the planned work.

When designing your *occupation puzzle* and conducting your research, please consider the following questions:

A) Thematic complex of digitalisation:

- What is the significance and impact of digitalisation in the chosen craft profession?
- Do you work a lot on the computer or with computer-controlled machines and devices in this profession?
- How has the profession changed/developed through digitalisation?
- How can these changes be recognised?
- What further changes are foreseeable or expected by industry experts?
- How do these developments affect the requirements for applicants and trainees?
- How has vocational training changed as a result or what changes are foreseeable?

B) Special tasks:

When working out the contents, you should in any case carry out the following tasks:

- Each group member should do an occupational exploration of at least one day in a company where the crafts occupation is practised.
- Each group member should fill in an occupational questionnaire during this occupational exploration. You can use an existing questionnaire from a textbook or from the internet or you can develop your own questionnaire.
- Each group member should conduct at least one interview with an expert from the profession/occupational field.
- For these interviews, please develop an interview guideline together.
- One focus of the interviews should be on the topic of "digitalisation in craft professions".

Important:

Please indicate the source of all information you find out. Together we will create a list of sources that will be available to everyone for their vocational orientation and further research.

STEP 4: Processing the collected information

- a) Think about a suitable form of presentation for your occupation puzzle. You have complete freedom of method. Possibilities are e.g. slide presentations, role plays, flip charts, exhibition, video ... mix of different methods.
- b) Create a handout of maximum 4 pages on your occupation puzzle for your classmates. Design this handout in such a way that the information that you think is particularly important for a good insight into the profession is presented.
- c) Create a checklist of descriptive features that you think are particularly important for gaining a good insight into a profession. We will work out a common checklist from these checklists that can support you in your further personal career orientation.

STEP 5: Presentation of the results

- Present the results of your occupational puzzle to the class.
- Each group has a total of 20 minutes for the presentation + 15 minutes each for questions from the other groups and joint discussion about the profession.
- Details about the final presentation of the results will be discussed and decided in a feedback session after one month of group work.
- Inform the teacher team about one week before the final presentation which materials, media, technology or equipment you need for the final presentation.

8.2 Additional questions and tasks for the work assignment

a) Possible information aspects/questions:

While developing the *occupation puzzle*, information can be collected and prepared on the following questions or topics, for example (examples in arbitrary order):

- Typical activities in the occupation, unusual activities
- Typical workplaces: What does a typical workplace look like? Where do people usually work (working environment)?
- Tools, machines, equipment used in the job
- Materials used in the job
- Products, services: What are typical products/services produced in the occupation?
- Classification of the occupation in existing occupational systems
- Income opportunities
- Employment opportunities/labour market opportunities
- Further training and career opportunities
- What specialisation and development opportunities does the occupation offer?
- Opportunities and requirements for self-employment
- What are the requirements of the occupation? What should one be particularly good at?
- What requirements are often made in job advertisements for this profession?
- What personal qualities are important in this profession?
- What are the usual working hours?
- A typical working day: What does a working day in this profession usually look like?
- Who do you work with most often in this job, both inside and outside the company? With which other professions do you often work together?
- Do you have to be particularly mobile in this job (changing work locations)?
- Do you have to travel in this job?
- Are there any particular stresses in this occupation that you must cope with?
- What training opportunities are there?
- How long does the training take?
- What are the training regulations?
- What are the prerequisites for training?
- Where are there training opportunities for this profession?
- Is there a training allowance during the training or does the training cost anything?

- was the name of the occupation in the past?
- Since when has this occupation existed? Since when has it been possible to train for this occupation?
- Sources of information on the occupation and the sector?
- What do we like most about this profession?
- What do we like less about this profession?
- Fun facts: find out three to four particularly remarkable (also funny) information (facts) about the profession.

Digitalisation as a topic:

- What is the significance and impact of digitalisation in the chosen craft profession?
- Do you work a lot on the computer or with computer-controlled machines and devices in this profession?
- How has the profession changed/developed through digitalisation?
- How can these changes be recognised?
- What further changes are foreseeable or expected by industry experts?
- How do these developments affect the requirements for applicants and trainees?
- How has vocational training changed as a result or what changes are foreseeable?

b) Possible additional tasks - recommended:

The following methods should be used, or tasks fulfilled in the development of the contents:

- Each group member should do an occupational exploration of at least one day in a company where the occupation is practised.
- Each group member should fill out an occupational exploration questionnaire during the occupational exploration / company exploration. This questionnaire can be selected from existing questionnaires (textbooks, internet) or developed/created by the group itself.
- Each group member should conduct at least one interview with an expert from the profession/occupational field.
- The interviews should deal in particular with the main topic "digitalisation in craft occupations" (see above Digitalisation as a topic).
- For this purpose, an interview guideline should be worked out together in the group.

8.3 Evaluation questionnaire - selection of possible questions

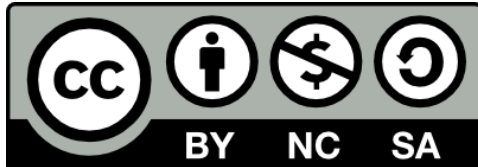
During an open discussion and/or a written evaluation, the following questions, among others, could be discussed. In the written survey, the questions would have to be provided with suitable rating scales, at least in part.

- a) Was the task clearly formulated and easy to understand?
- b) How do you rate the time you spent on the *occupation puzzle*?
- c) Did you have all the materials you needed to work on the *occupation puzzle*?
- d) Did you have enough and suitable technical equipment (computer, internet, printer, etc.) to work on the *occupation puzzle*?
- e) Was the support from the teachers involved sufficient?
- f) What was particularly easy about working on the *occupation puzzle*?
- g) Are there things (e.g. work assignments) that were particularly difficult?
- h) What new information, characteristics of occupations or training did you learn through the *occupation puzzle* that you were not aware of before?
- i) Is there any information that would have been interesting for you but that you could not find out in your group?
- j) Did your work on the *occupation puzzle* change your attitude towards crafts occupations?
- k) Has your understanding of digitalisation in the world of work changed as a result of your work on the *occupation puzzle*?
- l) Did your work on the *occupation puzzle* change your motivation to explore other occupations independently?
- m) If you had to assess the idea and implementation of the *occupation puzzle* with a school grade, what grade would you give the *occupation puzzle*?
- n) Do you have any suggestions for changes or improvements?

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