Measure concept for vocational orientation

in the industial-technical vocational field with focus on digitisation in the work / professional world

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The Erasmus+ - project is funded by the European Commission

Content

Introduction

As the result of an extensive investigation in the previous project "BOQua" has shown, in the five partner countries involved in the project "BOQua digital" (Germany, Great Britain, Austria, Slovenia and Spain) there exist classic vocational orientation measures such as training fairs, internships, company visits, visits of career information centers, training courses, discussions with trainers or trainees, job information portals on the Internet (such as in Germany www.brufenet.de, www.planet-berufe.de etc.), but also country-specific activities through which young people can get to know apprenticeships and find their vocational way .

Interviews with vocational orientation experts in the context of the “BOQua digital” project have made it clear that the information imparted in the measures often does not correspond to the latest status quo of the professions. The existing measures often focus on apprenticeships in general and do not make any vocational field-specific differentiation or take into account the current changes in profession profiles due to the increasing digitisation in the world of work. Also it is the same with the associated changed requirements for the trainees and the operational challenges. Thus a wrong impression for young people in the career choice process with regard to different professions is created. The result of it is that some apprenticeships are not even considered by the young people or that they seemed to be unattractive. Furthermore, any apprenticeships that have started are finished prematurely due to wrong ideas.

The newly developed measure concept takes up the described new and changed requirements and concentrates exclusively on industrial-technical professions. With regard to contents, the focus is not only on changed profession profiles, but also on the new challenges and requirements resulting from the increasing digitisation, as well as aspects of data protection / security, cloud computing and digital learning. In order to give the young people the best possible access to different training professions, the concept includes not only a theoretical part, but in particular a mix of different practical activities such as exchanges with trainers / trainees, company visits and work samples for young people and testing themselves in professional tasks. The aim is to build up the individual actions on each other and thus to deepen or concretize the gained information and knowledge in the course of the measure.

The measure concept is structured in such a way that, on the one hand, it is easy to understand and comprehend for users and, on the other hand, it can be transferred to other countries due to its comprehensible structure. It enables to adapt and supplement content and to take into account country-specific framework conditions.

The description of the required resources enables the implementing institutions to decide in advance whether they are able to implement the measure successfully. Furthermore, a structure was chosen that can essentially be used for other professional fields at any time. The innovative character of the measure concept consists of the combination of existing individual actions that build on each other and that are supplemented by new action elements and focus exclusively on the industrial-technical professions.

1. Initial situation and background of the measure

At the interface with professional life, when young people are asked to make a career choice, it is of great importance that they are professionally informed about the professional profiles, the requirements and the operational challenges. And because the career choice process and the final decision for a specific training profession take a longer period of time, different vocational orientation activities can and should be used to make a reliable final vocational decision. In addition to informative and advisory measures and activities such as career counseling, visits to vocational fairs and information portals as well as exchanges with trainers and trainees, practice-related measures such as internships and training courses also come into play in the countries of the EU. The investigation in the context with the Erasmus + project "BOQua digital" has shown that all of these measures do not take digital aspects in industrial-technical professions into account, or only hardly take them into account. In order to counteract this deficiency, the following measure was developed, which on the one hand aims at the industrial-technical professions and on the other hand brings to the fore the changes due to the digitisation (new technologies).

Increasing digitisation as well as new technologies have and will also lead to changed work processes and thus also to changed requirements for skilled workers and trainees in the future. This in turn requires new competence profiles for potential trainees. Before the implementation of information and communication technologies, basic knowledge in mathematics, physics and technology as well as a technical understanding and interest were sufficient to complete an apprenticeship in the industrial-technical field successfully, today additional skills are required. These include: media skills, digital skills, process and system understanding, mental flexibility, spontaneity, learning skills, foreign language skills, problem-solving skills, resilience. In order to bring young people closer to these requirements in their career choice process and to prepare them for what later them expect in an industrial-technical apprenticeship, especially in the production area, and what operational challenges they have to face, combined vocational orientation measures with an informative and practical part will be beneficial.

The young people should thus receive a holistic insight into the industrial-technical training professions that are suitable for them. This happens

1. by identifying vocational-related information and a first exploratory of possible training professions,
2. through further information from interviews with trainers and trainees and a consolidation of the level of knowledge and
3. after the determination on one or two possible training professions, the everyday work of these professions should be explored.
4. In addition, the young people should try out professional-specific tasks.

In addition, the newly developed vocational field-specific VO measure should support specialists who are active in vocational orientation such as teachers, social / vocational pedagogues and career counselors and the institutions for which they work in their accompanying work in the career choice process. They should be given a new instrument that they can use to deepen the career choices of young people and that can be used to demonstrate real work processes and the associated requirements. The measure is aimed at young people who have already generally decided on the industrial-technical vocational field, but not yet specifically for a specific profession. The specialists should thus be given a vocational-field-specific approach in vocational orientation, which contributes to a further concretizing of the choice of profession.

2. Ziel des Maßnahmekonzeptes

The following measure concept for vocational orientation in the "industrial-technical field with a focus on digitistion in the world of work" aims to provide specialists for vocational orientation who implement the newly developed concept a new action plan for their vocational orientation work. That means supporting young people with an interest in training professions in the industial-technical field through a vocational field -specific measure in their career choice process. The focus is to bring young people closer to the extent to which professional profiles have changed due to digitisation in the working / professional world, what requirements are placed on potential trainees as a result of it and which operational challenges have to be mastered.

The target group itself (young people in the career choice process or young people who want to reorient themselves professionally) should be offered a new concept for vocational orientation in a certain vocational field, which gives them access to selected industrial-technical professions on both a theoretical and a practical level. The aim is to get to know selected and possible training professions holistically and with a view to innovations through digital work processes. In this regard, the theoretically acquired knowledge and collected information on different professions should be deepened through a practical part. This takes place by experience the chosen or possible training profession directly in the everyday work.

Collected information and theoretical knowledge should be deepened both through an exchange with trainers and trainees and in the context of company visits and lead to a narrowed selection of training professions. This should then be underpinned by company visits followed by testing practical things and work tasks from everyday working life. Thus the long-term aim should be achieved that later an apprenticeship is prematurely quited because of wrong ideas and ignorance of the professional changes and requirements on the skilled workers, which result from the increasing digitisation or from new technologies.

In addition, the aim is to open up digital ways for young people to acquire information and knowledge via

- video sequences,
- e-learning,
- digital professional databases from different institutions or
- webinars.

Furthermore, the planned work tasks should particularly show the digital challenges in the work / professional world, so that the young people can determine in the course of work samples whether they are up to the new requirements of a certain profession.

3. Zielgruppe

The target group of the vocational field-specific measure concept of measures for vocational orientation include

- young people at the interface between school and profession who are in the process of choosing a profession and
- young adults who want to reorient themselves professionally.

With regard to young people in the career choice process, the measure concept is aimed primarily at young people who have already completed their first vocational orientation activities and who can already narrow down their career choice to industrial-technical professions.

Nevertheless, it is designed in such a way that also young people who are at the beginning of their career choice process can take part in the measure. In general, young people from all types of schools who are at the interface to the professional life should be addressed. For the success of the measure, it is only important that the young people generally have an interest in participating and in particular in industrial-technical professions as well as the influence of digitisation on the professions. They should see a clear added value in participating in the measure. This ensures that the young people actively participate in the measure with the necessary commitment and are ultimately supported in their professional choice.

With regard to young adults who have already finished school and may or may not have completed an apprenticeship, it is particularly important to address those who are looking for a new professional perspective. This can include people who are dissatisfied with their initial training and are looking for a new professional challenge in another professional field. But also people who already have an industrial-technical profession and would like to complete further or supplementary training in this professional field. In particular, people who are undecided in their decision which additional profession is suitable for them.

The measure is designed in such a way that it can be adapted to the particular target group and its requirements (e.g. with regard to educational level, origin, previous professional experience) and is therefore accessible to all those interested in industrial-technical professions.

4. Executing institution and responsibilities

The concept presented here is primarily suitable for carrying out vocational orientation measures with the possibility of practical implementation in companies of the industrial--technical sector. The following situations are suitable

- Advisory institutions of the labour administration or company representatives (professional associations, company associations) that offer or carry out VO measures in cooperation with other institutions or companies.
- Institutions of vocational orientation like:
    - general education schools,
    - vocational schools and centers,
    - free educational institutions,
    - agency for free youth work,
    - institutions carry out vocational preparation
    - chambers and guilds of the craft
- Free initiatives which are supporting young people in the career choice process.

All institutions should have the necessary resources to implement the measure concept, both in terms of the necessary specialist staff and the necessary infrastructure. Because it is a combination of different activities, providers who are inexperienced in vocational orientation are also able to implement the concept. It is recommended that they cooperate with institutions that can compensate for their lack of know-how or resources.

Which institutions ultimately implement the new measure concept depends on the VET system of the respective EU country in which it is implemented. In general, every interested institution that deals with vocational orientation or preparation or with qualification and training has the opportunity to implement the concept. Only the framework conditions have to be met.

5. Implementation of the measure concept

5.1 General principles for implrmrnting the measure

To implement a demand-oriented vocational field-specific VO measure with a focus on industrial-technical professions and their profile changes due to the increasing digitisation and new technologies, and against the background of the measure aims described in Chapter 2, general priciples are defined as a basis for the measure. Here are mentioned:

Individualisation:
The measure concept, which combines five different vocational orientation activities, should be based on the individual status quo of the career choice process of the respective participant as well as on his/her individual professional interests. The content of the individual activities should be individually created with focus on the level of education of the participants, and individual deficits and problems should be taken into account, as well as knowledge of professions acquired in advance.

Flexibility:
The specified time order of the measure should be adhered, i.e. the order of the individual activities, but the scope of each activity can be determined flexibly in terms of time. The measure should also be flexibly applicable to different vocational fields and thus become a kind of "universal concept" which, contrary to current measures, considers and interacts with limited vocational fields, but remains flexible in the choice of the vocationall field to be considered.

Combination:
The individual activities of the measure are closely linked and build on one another in order to achieve the desired objective of the measure. They are not only linked to one another in terms of the content, they also based on the identified information content on different professions, as well as on the practical options for exchanging ideas with trainees and trainers as well as the options for company visits and for the implementation of work samples in the respective region. Though they contribute to the acquisition of knowledge about different professional profiles and their requirements as well as operational challenges.

Inclusion:
Within the framework of the measure, every participant, independently of their gender, age or origin, religion, education and any disabilities or other individual characteristics, should be equally accepted and treated. Each participant should be given the same appreciation and the right to participate in the measure. The instruments and methods should be used for the implementation hat are required to enable each participant to participate, independently of their personal background or deficits.

Self-determination and self-organisation:
The measure should promote the self-determination and self-organization of the participants.

Transparency:
The individual activities of the measure are designed to be transparent and comprehensible for everyone. Furthermore, the acquired knowledge will be made transparent at the end of the measure for all participants in the course of the follow-up so that each of the other can gain additional knowledge.

Transfer:
The measure is designed in such a way that it can be transferred to various professional fields without a great effort. Furthermore, it can easily be transferred to other EU countries, regardless of their training or school system, and carried out there. This also relates to the implementation of the measure by different institutions.

Cooperation:
As part of the measure cooperations with other institutions who are involved in training such as chambers, labour administration, technical schools and training companies should come into effect with regard to the individual activities.

Promotion of the individual career choice process:
Independently of the individual status quo, already completed VO measures and activities of various kinds as well as existing knowledge about vocational fields and profiles and professional opportunities as well as the changed requirements that are due to digitisation and new technologies in the work environment come up, the measure is intended to promote the individual career choice process and to make conscientiously a professional decision. The promotion includes the ability to use different media with regard to the procurement of information (in particular digital media such as Internet portals, video sequences, digital databases) and the ability to acquire information communicatively. Furthermore, the ability to observe and the look at the essentials are promoted as well as practical knowledge through testing and the associated necessary skills such as media skills, methodological skills, logical analytical thinking, dealing with trainees / trainers / specialists, care, self-organized work, etc.

(Social) pedagogical support:
Because the measure includes both a theoretical and a practical part, a pedagogical accompaniment of the measure is required to support the implementation. In addition, practical instructions with focus on the professions are required in the course of the work samples. This should be done by pedagogical specialists or at least accompanied by them in cooperation with specialists from the companies to be visited.

5.2 Field of action

The measures concept described here relates to the industrial-technical field and the training professions that belong to it as well as related specifics resulting from the increasing digitisation (or new technologies). This includes in particular IT-supported work processes in both planning and production through to interface links within the work processes. But also the decentralization of work organization and the deployment of personnel by means of new IT systems are creating new professional requirements and changing the professional profiles that can and should be considered within the framework of the measure. In particular, new technologies that are digitally controlled and their effects on the requirements for the executing specialist are to be considered. It should be clearly worked out where digitisation has found its way into the individual professions and what it means for the required competencies in the practice of individual professions.

Furthermore, a link should be established between the vocational orientation of the individual young person as well as his vocational interests and inclinations and the industrial-technical field or the related training occupations. In doing so the focus should be lie quasi on both on the regional as well as on the national training market.

With regard to the industrial-technical field to which the concept relates, two vocational fields and the profession to be assigned can be examined more closely within the framework of vocational orientation. Here are to be mentioned:

1. Professional field of metal, mechanical engineering:

   - Systems mechanic
   - Industrial mechanic
   - Construction mechanic
   - Production mechanic
   - Cutting machine operator
   - Tool mechanic
   - Cutting tool mechanic
   - Stamping and forming mechanic
   - Mechatronics engineer
   - Machine and system operator
   - Specialist for metal technology (specializations: construction, assembly, forming / wire and machining technology)
   - Aircraft mechanic (specializations: production, maintenance and engine technology)
   - Production technologist
   - Tank and apparatus builder

2. Pofessional field of electro:

   - Electrical system mechanic
   - Electronics technician for industrial engineering
   - Electronics technician for automation technology
   - Electronics technician for building and infrastructure systems
   - Electronics technician for devices and systems
   - Electronics technician for information and systems technology
   - Aircraft electronics technician
   - Industrial electronics technician specializing in industrial engineering
   - Industrial electronics technician specializing in devices and systems
   - Microtechnologist

Furthermore, by means of the measure concept, the fields of action theory and practice are linked with each other in the career choice process. That means theoretically acquired know-how and information are underpinned with practical examples from the world of work as well as smaller job-related tasks.

The two fields of action, theory and practice, are linked by a so-called link, which is what the expert interviews represent in the concept.

The newly developed measure concept offers the possibility of using it to other vocational fields and the corresponding training professions at any time. This primarily requires content adaptations

The basic structure of the concept should generally remain in place in order to achieve the desired results and thus the aim of narrowing down the career choice within a vocational field. In addition, it can be used independently of different training systems in different EU countries, because the fields of action exist across national borders.

5.3 Range of the measure

The implementation of the newly developed VO measure concept should take place as regionally as possible. There are four reasons for this:

1. The credibility of the experts in the context of the speed dating is reinforced by the fact that the young people know the companies they come from in their region.
2. Further supplementary vocational orientation measures can be carried out after the measure is completed, such as internships in the companies they have visit, without logistical expenses (because regional companies are easier to reach).
3. There is a chance of an apprenticeship in such a company.
4. It is easier to win suitable companies for the measure, because regional networks can be used for the acquisition of experts and companies.

5.4 Involved actors – internal and external

In order to be able to implement the vocational field-specific VO-measure successfully and to support the young people in a targeted manner in their career choice process, different skilled workers are required internally. The planning of the measure, from preparation to implementation and follow-up, should be carried out by a specialist for vocational orientation. Depending on the institution that offers the measure, this can be, for example, a teacher in schools who has already gained extensive experience in vocational orientation and is appropriately qualified here. In the case of independent youth work or educational institutions that are active in vocational preparation or training placement, this can be social pedagogues / workers or trainers and/or teachers.

It is an advantage and a benefit for the implementation of the new VO measure if the corresponding internal specialists have the following know-how or skills and contacts:

- Knowledge of different professional information media and their use
- Knowledge of the professional profiles of the above-mentioned professions (training content, structure, opportunities)
- Knowledge of the regional and national training market
- Knowledge of professional changes due to the increasing digitisation and new technologies
- Knowledge of suitable companies
- Organisational skills
- Media skills
- Empathy
- Methodological skills
- Network skills
- Analytical skills
- Contacts to regional and supra-regional networks of entrepreneurship
- Contacts with institutions such as chambers, labour administration, business associations and professional associations

Appropriate specialists should be able to recruit the specialists required for the implementation of the speed dating as well as suitable companies for company visits and work samples and they should be able to implement the course of the measure logistically. This can take place in cooperation with different actors which have to be involved in the measure. Which includes:

- Labour administration
- Chamber of Industry and Commerce as well as other institutions responsible for training (e.g. technical schools)
- Vocational schools / centers
- Business / professional associations
- Possibly Unions
- Trainees in different professions (if possible from the last year of their apprenticeship, because they can report on their training in total)
- Instructors for different professions
- Entrepreneurs from innovative companies in which digitisation and new technologies are increasingly used

The cooperation with the relevant actors contributes significantly to the success of the measure. In this way, the young people can acquire all the relevant information they need for their career choice. In addition, some of the actors are actively involved in the measure, especially in the practical part. They should generally have an interest in revealing themselves professionally to young people and be able to make their experiences accessible to young people.

5.5 Temporal classification and timeframe of the measure

Temporal classification of the VO measure in the career choice process:

In general, the measure can be carried out at any point in the career choice process. But it is recommended, that it is used as soon as a young person can narrow down his/her career choice to a certain vocational field. Or e.g. by means of a potential analysis, an interest or inclination test or a strengths / weaknesses analysis, it has been identified that the young person is interested in an apprenticeship and suitable for a defined vocational field.

In order to obtain as much information as possible on different professions of a vocational field in a relatively short time at the beginning of the measure, it is an advantage if the young people are not at the beginning of their career choice process, but have already experienced initial vocational orientation activities and, above all, know sources of information. When exactly the measures should be carried out depends on the status of a possible participant.
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1. It is therefore advisable to carry out the measure for pupils shortly before they start the application process for an apprenticeship position (which does not exclude that it can also be completed at other time). Due to its specific orientation, it can make a significant contribution to the final career choice or consolidate a decision that has already been made.
2. For young people who take part in a vocational preparation measure after graduating from school, the implementation of the measure at the beginning of the vocational preparation can help to determine in which field or for which professions the vocational preparation should take place. Thus, the choice of career can be supported in a targeted manner and the entry into an apprenticeship can be prepared.
3. In the case of young adults who have completed their apprenticeship and who want to reorient themselves professionally, the measure can take place at any time and support them in their new professional decision.

Timeframe of the measure:

In total the measures covers five days, with the theoretical part taking two days (gathering information and preparing the practical part and follow-up work), the speed dating with experts one day and the practical part two days (company visits including work samples / tasks). The time sequence takes place in a predetermined order. This must be met, because the individual elements build on one another. There may be free days between the individual modules of the measure, depending on the required planning effort in relation to the respective next modules (preparation time). There is also the option of extending the time of the individual modules (e.g. 2 to 3 days of gathering information, 2 days of speed dating, company visits for 2 days per visit and 2 to 3 days of follow-up). A temporal extension of the individual modules should be made dependent on the status quo of the participants, how much time they need to complete the individual modules successfully.

In addition, depending on the existing contacts to companies that offer a visit and for the acquisition of suitable trainees and trainers for the speed dating, a few days of work must be planned for the specialist who plans, organizes and accompanies the measure.

6. Structure of the measure

The structure developed should introduce the young people participating in the measure step by step and in depth to individual professions and their requirements.

1. After the identification of general vocational field-specific as well as detailed vocational-specific information, this should be underlined and deepened in a second step.
2. The deepening takes place by comparing the identified information with the real work situation by an exchange between the young people with experts.
3. As a result of the second step, there should be a further limitation and focus on two possible training professions, which should then be examined more detailed.
4. The in-depth examination takes place through practical getting to know of the selected two professions directly in the world of work, whereby the young person should focus on digitisation. In this way, he/she should get a complete idea of the apprenticeships that are suitable for him/her.
5. Because the mere observation in the company only reflects the impression of the professional requirements that the young people expect, they should try out themselves in a further step and should solve small, profession-specific tasks in practice. This should ultimately support them in their decision for or against a certain profession.
6. Finally, the activities should be critically reflected in the post processing period and a possible and above all well-founded career choice should be made.

Steps 1 to 4 build on each other and a more specific decision for a certain profession is made from step to step. The participants should primarily work out the steps themselves. The accompanying pedagogical staff should only intervene in a guiding and supportive manner if open questions and ambiguities emerge and when moving from one step to the next. In addition, they should ensure the smooth running of the measure and its objectives.

The components that describe the individual steps are shown in more detail below.

6.1 Information Fishing

Information fishing is at the beginning of the measure and is to be assigned to the theoretical part. Before participants start information fishing, it should be determined in advance of the measure how interested they are in training in the industrial-technical field, whether they are generally suitable for an industrial-technical apprenticeship and in which measures or activities for vocational orientation they have participated in the past. This depends on how intensively the young people have to be briefed at the beginning of the information fishing.

As part of a short introduction, the measure and the individual components as well as the overall aim should be briefly explained to the young people. In addition, maybe an instruction in the use of possible information media and sources (depending on the level of knowledge of the participants) may be necessary.

The young people should use the first day of the measure to find out information about numerous apprenticeships in the industrial-technical field and to gather facts. In addition to general information, it is particularly important to work out information on digital work processes / workflows or new technologies and their influence on changes in professional profiles. But also information on possible future trends should be identified. Then the requirements for the trainee / future specialist should be derived from this.

To ensure that this is aim-oriented and structured, key questions can be made available to the young people or these can be worked out together with the young people. After documenting the identified information, it should be determined together with the young people which selection of training professions they want to take in a closer look in the context of the second day, the speed dating and where they in particular need more information. In addition, a catalog of questions for speed dating with the trainees and trainers is to be developed.

Duration: 1 day (optionally also 2 days)
Place of execution:
Class or seminar room with Internet access, optional vocational information centers
Equipment:
Digital end devices (e.g. PC, laptop, tablet) with access to the internet

Information media and sources:

- Job databases or training databases (e.g. in Germany berufe.net, planet-beruf.de, berufskunde.de, azubi-azubine.de, bibb.de)
- Training regulations (in Germany to be found at bibb.de or kmk.org, directory of recognized training professions 2021 - see bibb.de)
- Information from professional associations or training companies or technical schools
- Information videos on professions (e.g. YouTube, BerufeTV of the Federal Employment Agency, ausbildung.de/videos)
- Local career information centers

Possible key questions after the introductory question:

- Which apprenticeships are there in the industrial-technical field?
- How long is the training /apprenticeship and what do you earn?
- In which branches is the profession practiced?
- Where does the training take place (e.g. company, school)?
- What do you do in the profession?

- Where do you work?
- Which school leaving certificate is required?
- Where and how does digitisation take place (digitisation topics)? (e.g. 3-D printing, additive manufacturing, automation in production, working with digital tools such as cobots, virtual virtual / augmented reality, wearable technology; changes in work through automatic identification of measuring points / components, predictive maintenance, Embedded systems, networked production systems)
- What requirements are placed on the trainees by the increasing digitalisation and in general?
- What previous school knowledge is required to meet the changed requirements?
- Which interests, skills, competencies are required to meet the changed requirements?
- What are the health aspects?
- Are there career alternatives and which ones?
- What are the working conditions like?

Aim:

The participants should collect as much information as possible and, on the basis of the information they have collected, narrow down the professions about which they want to receive in-depth information at first hand (from the real world of work). It is recommended to limit the selection to 5 to a maximum of 10 professions.

Catalog of questions to be developed for speed dating:

Questions should be formulated that

1. could not be clarified by means of the information procurement,
2. that have given ambiguities with regard to individual information,
3. which help to get an impression of the work / professional reality.

6.2 Speed Dating

Speed dating takes place on a second day of the measure and builds on information fishing. In the form and organization of a speed dating, the young people should be given the opportunity to exchange ideas with regard to the different training professions directly with experts (in particular trainers and trainees from different years of training). In this way, information that has already been identified and theoretically acquired knowledge can be questioned, substantiated and consolidated, and unanswered questions can be clarified.

Above all, questions that relate to the real world of work should be more in the focus. In particular, questions about digital work processes / workflows, new technologies and the required skills to cope these. Because the currently information on individual professions only provide limited information about it. In order to get as many questions as possible answered in a short time, the young people should use pre-formulated questions that they work out at the end of the information fishing as a basis for the interviews. The corresponding questions should be used as a kind of central questions to come into the exchange. Open questions that arise from the exchange should be also asked and answered at the same time.

Since the preparation of the speed dating depends on the result of the information fishing (i.e. which professions need to be examined more closely) and thus requires time for planning, the speed dating can or should be carried out a few days after the information fishing (but timely). In advance of the implementation, the participants and the experts should be briefed on the process by the educational staff accompanying the measure. The time period for the individual interviews as well as the order of the interlocutors should be determined.

This is essential for a smooth process, because several young people take part in the speed dating at the same time and there is a constant change of interview partners. That means to prevent a mess, the rules and the process should be clearly defined and communicated in advance.

Duration: 1 day (optional also 2 days)

Place of execution:
Option 1: In a large room or in several connected rooms. The individual interview tables should be placed at an appropriate distance from one another in order to be able to do interviews without any disruptive interviews form others. The different stations / interlocutors should be clearly marked with a number and name, the profession and position (trainer, trainee and the apprenticeship year, optionally the company from which they come) so that these can be found as quickly as possible when changing the interlocutor. This option requires a little more planning effort and is useful for larger groups of participants.

Option 2: In addition to the present option, speed dating can also be carried out virtually. For this it is required a corresponding communication platform (video conference tool) that enables access to several virtual rooms. These should be manned by the individual experts, to whom the participants can connect in a specified order in order to ask their questions immediately.

Equipment:

Option 1: Individual tables for the different stations. Possible partitions if the space for the tables is too tight. Possible additional information material from the experts side for the young people asking about the professions as well as writing material for notes.

Option 2: If the speed dating is planned virtually, it must be ensured that the necessary technology is available for everyone involved, the selected program runs smoothly and that there is a technical management in the background who can help if there are any technical problems or questions and who ensures that the speed dating is going on.

Course of actions:

Each participant receives a list of their interlocutors and the order in which they should consult them. The duration of the interviews should be limited to 10 minutes. Then the change to the next expert takes place on a fixed signal. The participants rotate until they have spoken to everyone who is relevant to them. In order to prepare the experts, these can be sent the questions in advance. Thus they have the chance to prepare temselves for any special questions you may have and to provide meaningful answers.

Aim:

The young people should close possible information gaps on individual professions and underpin or supplement their knowledge with specific questions to the experts. In addition to theoretically collected information, they should get a realistic impression of individual professions. In addition, the aim of speed dating is to ensure that the participants receive first-hand information. This means that they should benefit from the experience of those who practice or learn a particular profession and find out what to expect in everyday work in individual professions and what challenges they have to face. Finally, they should be able to narrow down their vocational decision and at the end of the speed dating they should be able to determine which two professions they want to get to know in depth in the next step during the company visits and practical tasks.

6.3 Company visits and work sampels

The first company visit and then the second company visit take place after the speed dating and based on the resulting decision which two professions should be considered in more detail. If the involved pedagogical staff already has a well-functioning network of companies that generally want to participate in the measure, the first company visit can take place on the following day for speed dating and the second company visit on the next day. This requires an appropriate preparation in advance of the measure, in particular with regard to the course of action and possible tasks for the work sample. If, however, it is first necessary to find suitable companies to get to know certain professions, the two company visits can also take place at a separate time from the speed dating, but timely. Only one training profession should be examined more closely per company visit in order to be able to concentrate on its content and its integration into the world of work.

Duration: One day per company visit, each of which is divided into two parts. First the company visit up to a maximum of half a day and then a work sample based on a task.

Place of execution:

Depending on the chosen profession, which is to be examined more closely, as well as the regional possibilities, the company visits should be carried out regionally as far as possible. Only in exceptional cases should these take place further away in order to avoid a major logistical effort. The selected companies should be accessible to the participants as easily as possible.

Which work areas (e.g. offices, workshops, production halls, warehouses, laboratories) are visited in detail depends on the company and the chosen profession. However, all areas that are relevant to the profession should be visited and digital work processes and new technologies should be highlighted. In this way, the participants should get a holistic impression of the two chosen training professions, the requirements for trainees and skilled workers as well as the operational challenges now and in the future. Depending on the company and the number of young people participating in the company visit as well as the task in the company, the respective work sample can take place directly at real workplaces or in company training workshops or laboratories.

Equipment:

Depending on the possibilities of the company and the form of the presentation of individual professions, technical devices are needed to play video sequences or to explore individual areas of the company virtually that, for example, cannot be observed and visited at the location of the company.

Insofar as the visit to the company or the work sample requires certain equipment, this must be reported in advance or provided by the company or the institution carrying out the measure. In the industrial-technical field, this is primarily safety clothing.

Course of action:

Before the company visit, the specific course of action should be defined with the respective company. That means which departments/areas are visited, who the respective contact persons are in the departments/areas, which work processes should be presented in more detail in the professional context, in which form the requirements for the skilled workers of individual professions can be explained or shown and how the young people can be made clear where the professional journey due to increasing digitisation in the future goes to and what that demands of the skilled workers.

Company visit against the background of getting to know a certain profession:

- In general, the company should briefly introduce its company at the beginning of the visit, referring to the subject of training and professions performed within the company.
- The participants should be given the opportunity to classify the professions in the company and possible interfaces to other professions.
- The company should focus on the professions to be considered in advance, i.e. when observing different areas of the company and different work processes and tasks should be established a relationship to the chosen profession.
- With a view to the future of the world of work, it should be emphasized where digitised work processes take place and what this means for the skilled workers in the relevant profession.
- Above all, the new requirements due to digitisation should be considered in various areas.
- During the company visit, the participants should on the one hand be given enough time for open questions and, on the other hand, they should be asked to answer questions such as

    - What skills do you think they should have for the profession?
    - What do you think will change even more for skilled workers in the future due to increasing digitisation?
    - Do you think you are able to match the challenges of the desired profession?
    - ……..

  to deal with the considered profession, the requirements for this and the operational challenges. In order to consolidate the acquired knowledge, the participants should, under certain circumstances, take notes on the newly acquired knowledge (especially against the background of the subsequent follow-up).

Work samples and tasks:

Following the visit of the company and the classification of the profession to be considered in the operational workflows and processes, the practical testing will start. On the one the participants should get a task that considers their current knowledge and that also can be mastered by them. And on the other hand, the task should be typical for the profession and, that takes into account digital aspects in order to give the participants a future-oriented opportunity to test themselves and decide whether they are practically up to the chosen profession.

The work task should be developed in combination by trainers or trainees from the company and the pedagogical specialist who accompanies the measure and formulated in writing. The participants should also be told the purpose of the work task and how it should be classified in the day-to-day work of the profession.

During the implementation of the work tasks, i.e. the implementation of the work sample, the young people should be accompanied by a specialist from the company as well as by the pedagogical specialist. They only intervene in a supportive manner if questions or uncertainties about what to do arise.

Aim:

The company visit with subsequent work sample is intended to give the participants in the measure the opportunity to get to know the potentially targeted training professions even more closely and with direct reference to the reality of work. They should compare their informatively acquired knowledge from the two previous days with the reality of everyday work and recognize to what extent the desired profession has changed due to digitisation or new technologies and may still change in the future. They should be able to recognize where the professional requirements are now and in the future and to decide whether they are up to them.

The participants should not only be brought closer to the envisaged training profession in everyday working life, i.e. the areas of application, work processes, digital aspects as well as advantages and disadvantages, operational challenges and professional opportunities, but they should also test their own skills through the work sample. By means of a practical job-related work sample, they should also be given the opportunity to determine whether they are actually suitable to work in the profession and whether they correspond entirely to their inclinations and interests. In conclusion, they should be able to judge whether they ultimately want to learn the profession they are considering and practice it later.

6.4 Post Processing

Post processing takes place at the end of the measure and is to be assigned to the theoretical part. In the context of the follow-up the activities that have been carried out, should be the prepare and documented under supervision by the participants themselves, in particular with focus on the two chosen training professions. They should prepare a presentation in such a way that it is comprehensible for the other participants in each case. The presentations are to be designed in such a way that they can also be used in the future as a source of information for other young people in the career choice process. In particular, it is important to work out the digital aspects of the individual training professions and to show what influence they have on the requirements for potential trainees. The preparation of the presentation can be done in the classic way in the form of a ppt presentation or a written summary and a subsequent lecture. On the other hand, alternatives to the documentation such as the creation of an audio sequence or a video can also be used in which the young people create an e-portfolio for every day. Which form is ultimately used depends on the young people and their knowledge of documentation, as well as on the technical possibilities that the institution implementing the measure makes available to them.

Before starting the follow-up, the young people should be instructed by the accompanying pedagogical specialists about the objectives of the follow-up and a possible structure of the documentation. In particular, it should be worked out with the young people which questions the documentation should answer and how detailed it should ultimately be. If the documentation takes the form of an audio or video sequence, the young people must be instructed in the technology to be used for this.

If e-portfolios or videos are created, it should be determined before the speed dating what content they should include. Thus, questions can be asked more specifically during the speed dating and answers can be recorded. And also digital work processes that influence the requirements can be recorded during the company visits (after obtaining a company permit) or the recordings can be used for later documentation.

Duration: 1 day (optional also 2 days)
Place of execution:
Class or seminar room with Internet access

Equipment:

Digital end divices (e.g. PC, laptop, tablet) with access to the Internet, common programs for creating documentation, writing material, presentation medium e.g. projector/beamer

Course of action:

First of all, before the start of the practical part, the participants must be informed that, at the end of the measure, they will document and present their findings on the ultimately two selected professions, which will be identified by the speed dating and in the framework of the company visits in detail.

1. Determination of the documentation form taking into account the fact that information should be processed immediately during the practical part (e.g. creating audio and video sequences). But even if the documentation is in written form, it is advisable to specify this before the practical part, because this allows a information collecting in a targeted manner.
2. The direct implementation of the documentation takes place after a short briefing and is supported by the pedagogical specialist who implements the measure.
3. Development of a structure and definition of the content together with all participants. With regard to the preparation of the documentation, the pedagogical specialist should only intervene in a supportive manner if there are ambiguities.
4. If several young people have considered the same training professions, the elaboration can and should be done in teams of two or in small groups of up to 4 people. In this way, direct exchange with one another is promoted and various aspects are included in the documentation, because it can be assumed that each individual has his own way of looking at things.
5. The presentation of the documentation will be done by the participants after it is finalized. The form of the presentation depends on the chosen documentation method. In the case of possible teams or group work, the documentation should be presented by one person in charge, while the other group members answer the following questions. So all participants are actively involved in the post processing.
6. Feeding of the documentation to a collection of documentation on different training professions

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Aim:

The follow-up is carried out with the aim that the participants reflect on the measure and their knowledge acquired and exchange with other participants about that. The reflection should support a possible final decision for or against a certain training profession.

7. Ressources and financing

7.1 Personnel requirements and their use

The institution that offers and implements the measure should be closely related to vocational orientation and accordingly have experience with various VO measures and activities. In particular, they should be able to provide the necessary specialist staff who are able to accompany the measure from start to finish and know how to react to any problems that may arise. Here are to be mentioned:

- Teachers in general
- Vocational / social pedagogues / social workers.
- Trainers, with a qualification in the industrial-technical field and an additional pedagogical qualification
- Skilled workers from the field of vocational / training counseling

Specialists who have had or still have a connection to the industrial-technical field in their life are advantageous, because they have an easier access to the examined professions and the associated requirements. In addition to a completed qualification, the skilled workers should, if possible, have the following experience, knowledge and skills:

- Experience in advising and / or supporting adolescents or young adults in their career choice process
- Knowledge of different VO measures and activities and their implementation in practice
- Knowledge of the industrial-technical field of work (or the respective field of work considered) and the professions that belong to the field in general
- Knowledge of digital work processes and their effects on profession profiles and vocational requirements
- Knowledge of the VET system
- Knowledge of the regional and national labour and training market
- Knowledge of different information media and their use
- Pedagogical skills and the ability to work in a team
- Empathy and sociability
- Ability to build and maintain networks
- Media skills related to Internet use, databases, development of audio / video sequences
- Analytical skills
- Organizational skills
- Methodological skills

Advantages are further:

- Good contacts with companies and business associations
- Contacts with chambers and guilds
- Contacts to the labour administration
- Experience in imparting knowledge
- Experience in interdisciplinary work

In addition to the core staff who plan and carry out the measure, skilled workers / specialists should be deployed in the companies, in particular for the company visits and the implementation of work samples, who on the one hand know the company and its processes well and on the other hand the professions to be considered. Ideal would be trainers or trainees from the industrial-technical field (or the vocational field under consideration) or long-term employees at skilled worker level, but also personnel managers in the companies.

With regard to the deployment of personnel and the personnel key, it should be pointed out that this can only be a possible suggestion. It is based on the results of discussions with experts in vocational orientation as well as on the practical experience of the concept developers in vocational orientation and dealing with the target group. In general, the personnel key should be chosen in such a way that everyone who takes part in the measure can be given professional and targeted advice and support according to their needs.

Possible personnel key:

With regard to the deployment of personnel, the overall measure should be accompanied by a specialist from the implementing institution with a personnel key of 1:15. This person should be responsible for the young people in all phases of the measure and only be supported in the practical part by other specialists. In order to be able to do justice to the young people with regard to answering questions and the desired assistance, the group size of a maximum of 15 participants should not be exceeded if possible. If, however, it is a class with a larger number of young people (pupils), it is recommended to separate the class or to bring in a second specialist.

However, the recommended personnel key should be differentiated between the individual phases. While information fishing and post processing (follow-up work) can be supervised by a single specialist, an additional specialist should be planned for speed dating and company visits. This specialist should provide support, especially against the background that the practical part of the measure entails a greater logistical effort and more organizational tasks. With regard to company visits, a personnel key of 1: 3 to a maximum of 1: 5 should be taken into account by the companies. Insofar as the groups of young people are kept as small as possible during the company visits, it can be ensured that they devote themselves more closely to observing the selected professions and that the interactivity between young people and the supervisor of the company is promoted.

Groups that are too large during company visits run the risk of distracting the individual from the essentials. Furthermore, with regard to the work samples, the groups of participants should correspond to those during the company visits and should be accompanied and supported by both a specialist from the company and a specialist from the institution carrying out the measure. This ensures that the participants have a contact person both in terms of content and for general questions.

7.2 Room and technical equipment

The institutions that carry out the measure should have training rooms for carrying out information fishing and post processing, which can hold at least 15 participants and enable group work. In addition to equipping the training rooms with the usual presentation media such as projectors, blackboards or whiteboards, etc., they should be equipped in particular with PCs, laptops or tablets with access to the Internet and common writing programs. Furthermore, the technology required for the creation of audio or video sequences should be available (e.g. tablets) several times, because several groups may require devices for documentation in parallel.

For speed dating, as mentioned above, really large rooms with individual tables or, in the case of virtual implementation, a digital device with access to the video platform for each participant is needed. The work samples can be carried out in the companies directly in the work process, in in-house training workshops or laboratories, and at other institutions such as inter-company training centers with corresponding workshops. If, depending on the task, work or safety clothing and special tools are required, these must be provided by the institution or the company.

7.3 Costs and possible financing of the measure

The measure should be part of the carried out vocational orientation carried out, which is implemented within the framework of the institution to which the young people are assigned. This applies equally to schools as well as to institutions of free youth work, which e.g. carry out vocational preparation or other measures for young people. But also advisory institutions of the chambers, labour administration or business associations / representatives should also finance the measure on their own. The same applies to the involved companies, who have to pay for the personnel costs of the skilled workers who are assigned for the visit themselves. The assumption of costs by third parties is not intended and / or necessary because the vocational orientation as such is part of the work of the involved actors or, in the case of companies, there is an interest in find young people for an apprenticeship in the long term.

In general, it should be pointed out that the costs for the implementation of the measure can be assessed as very low. In addition to personnel costs, there are a maximum of costs for non-existent rooms or the acquisition of technical equipment such as PCs, literature, internet, etc. as well as travel costs to the company visit, which would either have to be taken over by the institution implementing the measure or paid by the participants.

7.4 Required contacts and contact establishment

In order to plan and implement the measure successfully, different contacts and a good regional network of the accompanying specialists are advantageous and are recommended. These include, among others:

- Chamber of Commerce and Industry
- Regional labour administration
- Regional career information centers
- Vocational schools or technical schools in whose area industrial-technical trainings are to be assigned
- Business associations or representations
- Professional associations
- Possibly unions
- Companies from the industrial-technical sector

8. Evaluation of the measure

The success of the measure can be measured and evaluated based on how many young people actually decide to start an industrial-technical training after the measure and take up and successfully complete it. But also the interest of training companies in particular to participate in the measure by assigning specialists to the speed dating and allowing company visits and work samples can be used as a measure of the success of the measure implementation. actively

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