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Intellectual Output Leader:
Research and Innovation Management GmbH (Austria)

Intellectual Output #2

Design and decision of the methodology on how to create the readiness levels to do with competencies to adapt hybrid model of VET training.

Participation of all partners from the perspective of their competencies

- Teachers / Trainers
- Students
- Managers

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1 IO2: METHODOLOGICAL APPROACH of VACCINE

1.1 Background information

The VACCINE project oversees to provide a **methodological fundament for evaluating levels of readiness**. It is a necessary task concerning the project's innovativeness. The activities' goal is to achieve effects. The results of the readiness scale will be reviewed to improve the pedagogical discourse. We assist in wide spreading an entrepreneurial way of thinking through the input and awareness which strengthen entrepreneurial skills. Moreover, we concentrate on the **fundament for evaluating levels of readiness** and take advantage of good practices for such assessment tools. We aim to boost the strengthening of this approach with present and past initiatives by emphasising innovative methods and pedagogies. Another important aspect of our work is to promote the growth of entrepreneurial skills to assist in a long-term digital economic strength. Overall, in Intellectual Output 2 of the Vaccine project we provide a **design and decision of the methodology on how to create the readiness levels to do with competencies to adapt hybrid model of VET training**.

Task 1 of the Vaccine project is the **analysis of the literature dealing with European VET experiences during COVID19 Spring of 2020**. The leading partner of this Intellectual Output is Tampere University of Applied Sciences. The participating partners in the Literature Review are ISRE, Research and Innovation Management GmbH (Austria). This task provided us with insights for Intellectual Output 2 of the Vaccine project to **design the methodology for the readiness levels to do with competencies to adapt hybrid model of VET training**. The leading partner of this Intellectual Output is Research and Innovation Management GmbH (Austria). All partners participate from the perspective of their competencies in this task.

The methodology is divided into three topics to which all partners provided input in their respective areas of knowledge.

- The partners of SPOK, Kiipula and TAMK worked on the methodological input for the topic Managers,
- The partners of Tredu and Kiipula worked on the methodological input for the topic Students, and
- The partners from ISRE, TAMK and Tredu worked on the methodological input for the topic Teacher/Trainer.

1.2 Introduction

1.2.1 IO1 Results and project aims

In literature review we got a general overall view of procedures and policy practices in vocational education and training in Austria, Finland, Germany, Italy during the pandemic from the spring 2020 to the spring 2021 (Aaltonen et al., 2013). We got some descriptions and experienced descriptions about the pedagogical experiments and hybrid solutions teachers and students had to take and use in teaching and learning to continue and keep on the curriculum and make it possible for students to proceed in their studies in exceptional situations.

In Vaccine project the ultimate aim is to build a readiness scale for teachers and students, and for management and infrastructure of the educational organisation.
The VACCINE-project plan states: "project's main aim is to find solutions and tools for inclusion of vulnerable students and tools for their teachers to use modern technology and pedagogical principles. The practice and the framework in which the aforementioned is to be researched is called hybrid pedagogy. Hybrid pedagogy simply means teaching arrangements where one part of the training takes place in learning facilities and at the same time another part is done online.

The pedagogical practices in vocational education and training varies a lot in different vocational branches – in e.g., car mechanics, information and media, logistics, hair and beauty services, social and health services there are different vocational skills and qualifications to be taught, trained, and learned. The learning environments vary from workshops, beauty salons, garages and health care centres, hospitals, care homes to the different on-the-job learning places in working places with differing workmates and work collectives. The hybrid solutions that have been taken into use to cope with the learning tasks in vocational education and training have been massive and innovative – and fast during the pandemic situation. To really get into the experiences of the field workers, students and teachers and get the most wide and general picture of the solutions, experiments, success stories, the critical points and challenges, we have to get the grassroot experiences recognized and documented and, collaborate with field actors in building the readiness scale.

The notion of inclusion is very crucial in Project Vaccine – we are supposed to find "solutions and tools for inclusion of vulnerable students and tools for their teachers to use modern technology and pedagogical principles." Inclusive pedagogy that invites, incites and supports all students to participation, active contribution and self-determination (these principles come from critical and feminist pedagogy that aims to active and empowered citizenship – references: Paolo Freire, Bell Hooks, Patti Lather, Elizabeth Ellsworth) – and inclusive hybrid pedagogy is the focus of Vaccine: how to define competencies and skills for teachers and students to keep all included in learning and developing their strengths and abilities in their vocational studies (Aaltonen et al., 2013).

The readiness scale should be strongly connected to the idea of inclusive education and pedagogy as we are dealing with students with various need of special support – the inclusion principles are supposed to guarantee equality and justice in education e.g., Salamanca Statement 1994, Education for All (Aaltonen et al., 2013).

The main general research questions in planning the methodology for building the readiness scale include the following:

1. What kind of hybrid pedagogical practices have been used in vocational education and training during Covid19-pandemics in teaching different students and student groups in different vocational skills and learning environments (Aaltonen et al., 2013)?
1. 2.How are the hybrid pedagogical practices following principles of inclusive education
2. How the practices invite and incite and support to equal participation and contribution of different students and student groups in different learning environments?
3. Which practices have been successful, and which have been not successful in inclusive hybrid pedagogy?
4. Based on the study with teachers and trainers, management, and students, how can we build the readiness level scale for the management, for teachers and for students?

These questions are to orientate the questionnaire methodology for managers, teachers, and support staff and for students (and their families in remote learning environments and context)

1.2.2 Basic theoretical concepts

Inclusion as the ideal of education for all in vocational education and training
The Cambridge Dictionary describes inclusion in education as "the idea that everyone should be able to use the same facilities, take part in the same activities, and enjoy the same experiences, including

people who have a disability or other disadvantage". Further references and reading material are listed at the end of this report.

Theoretical perspectives for "readiness" of pedagogy for hybrid teaching and learning
The following pedagogical perspectives are included in the framework of Project Vaccine: authentic, collaborative, flipped learning.

Theoretical concept: Authentic learning
The glossary of education reform states that "in education, the term authentic learning refers to a wide variety of educational and instructional techniques focused on connecting what students are taught in school to real-world issues, problems, and applications ("Authentic Learning - Output Education," n.d.). The basic idea is that students are more likely to be interested in what they are learning, more motivated to learn new concepts and skills, and better prepared to succeed in college, careers, and adulthood if what they are learning mirrors real-life contexts, equips them with practical and useful skills, and addresses topics that are relevant and applicable to their lives outside of school (Education, 2019). Jan Herrington (2000) has stressed that facilitating authentic learning is not just about providing examples from the real world. For meaningful learning to happen, there has to be a sense of purpose and motivation.

Theoretical concept: Collaborative learning
Collaborative learning is simple a situation in which two or more people learn or attempt to learn something together (Dillenbourg, 1999). Unlike individual learning, people engaged in collaborative learning capitalize on one another's resources and skills by asking one another for information, evaluating one another's ideas, monitoring one another's work (Chiu, 2008).

Theoretical concept: Flipped learning
Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter ("LE-Jack's Blog - LEADING E.D.G.E.," 2014). According to Flipped Learning Network's handout, there are four pillars in successful flipped learning or flipped classroom. These include flexible environment, learning culture, intentional content and professional educators.

1.2.3 Stakeholders in Project Vaccine

The actors in this approach include the vocational training institutes' educational managers, teachers and trainers, including student and career counsellors along with target group students. As for the vulnerability, the project does not include those students with physical disabilities such as motoric disfunctions or hearing impairments.

In the methodology for designing the survey, there are some generic research questions per each category.

1. Research questions per pedagogical managers
Suggestion for main question to get answers with the methodology and methods:
What is needed in school administration and infrastructure for implementing high quality and inclusive hybrid pedagogy?

2. Research questions per teachers, counsellors, and trainers

Suggestion for main question to get answers with the methodology and methods:
What kind of pedagogical principles and skills, digital applications and technological tools do the teachers and trainers need for implementing high quality and inclusive hybrid pedagogy?

3. Research questions per students

The main question orientating observations and interviews with students:
How have the students experienced the hybrid pedagogical practices used in vocational education and training (during Covid19-pandemics) (Aaltonen et al., 2013)?

Other questions include:

What are the interpersonal and support skills of teachers and trainers for implementing high quality and inclusive hybrid pedagogy? Pedagogical skill: inclusiveness, or sensitivity on student differences, diversity and needs of support.

1.3 Input of the methodology

This final deliverable of the Intelligent Output provides a report which comprises the following:

- Existing practices and the relevant literature have been analysed.
- The logic and rationality on which the evaluation is based rest upon high-quality expertise.
- The methodological framework provides a groundwork for measuring effect.
- The task incorporates the design concept.
- The deliverable of this task will subsequently build the basis for the assessment readiness scale.
- This exact output is not the readiness scale at hand but instructions for multiple VET institutions on how to create their own readiness scales in case there is a need according to cultural and educational factors that the scale needs to be changed which was designed in this project.
- The methodology encompasses the preparation of different dimensions applicable for managers, teachers and students which visualises the pedagogical and technological competences.
- The final deliverable will be a reader-friendly report comprising instructions on how to define flexible readiness scales at a later stage.

1.3.1 Rational Background for this methodological approach

Based on IO1 the reasons for choosing the following methodological approach are:

- The approach is applicable to any educational system and has a European dimension.
- The approach is feasible for students, teachers, and managers to proceed.
- The approach can be done by any intensity.
- The approach is flexible in terms of choosing the focus (for instance on which aspect(s) do I want to focus).
- The approach is easy to handle in terms of administration and logistics.
- Furthermore, from a wider implication it can be used internationally.
- Subsequently the approach is based on a well-established questionnaire of an educational system.

2 Project beneficiaries: School organizations and managers

2.1 Support

2.1.1 Definition of managerial support

In our case, the term support means the manager's knowledge of external support options for trainees and trainers at the knowledge and competence level. Knowledge is defined as insight that can be justified rationally, that means on the basis of facts (Broßmann and Mödinger, 2011).[1] "Competence, as opposed to knowledge, is the learnable ability to act in a way that is appropriate to the situation. Competence describes the relationship between the demands placed on a person or group, or the demands placed on a person or group itself, and its abilities or its potential to meet these demands (North et al., 2013)."[2]

2.1.2 Support in hybrid learning environment

Behind the term "support" is the following assumption. Hybrid learning requires a set of distinctive competencies and knowledge strategies from all participants (instructor/participant) that can be responded to more quickly and compensatory in conventional instruction if they are not present. In the case of trainees, the main issue is whether their personal self-efficacy and media competence are sufficient to meet the instructor's requirements in the modified instructional setting. Without a minimum of media literacy, the learning platforms needed to implement hybrid instruction cannot be used functionally, or only partially. Simple tasks such as uploading videos, answering online questionnaires, commenting on posts, or working in virtual chat rooms become a problem. If trainees are unable to deal with these challenges, they urgently need external support or the help of the trainee. The latter, in turn, needs sufficient pedagogical and didactic knowledge to solve problems that may arise in hybrid teaching. If the knowledge is not available, further training measures must be organized. The manager has a high profile if he or she can offer a wide range of assistance to both trainees and instructors and is well informed about training courses or external courses that have been held in the past.

2.1.3 Field of application

The areas of application of the concepts relevant to managers cannot be reduced to individual subjects, nor to individual training courses. The areas together form the framework in which successful hybrid teaching can take place.

2.1.4 Variables for readiness level (what skills are needed?)

A number of variables can be listed that provide information about a manager's level of awareness. The three most important among them are the following:

1. Has a survey been conducted to map the level of knowledge, competence of my instructors on hybrid teaching. Among other things, the questionnaire should inquire about the instructors' knowledge of methods, are they aware of the increased importance of feedback, project work instead of copied worksheets, and others. A survey was conducted to reflect the trainees' level of knowledge and competence. Contents to be queried should be among other things: Can the trainees handle the learning platform, i.e., do they know its elementary functions, etc.?
2. Do manuals and guides exist specifically for hybrid instruction as a support option for trainees.
3. Are there further training opportunities for trainers tailored to the promotion of competencies in hybrid teaching.

[1] Broßmann M., Mödinger W., Was ist Wissen?. In: Praxisguide Wissensmanagement. X.media.press. Springer, Berlin, Heidelberg 2013, S. 9-14.

[2] K. North, K. Reinhardt et al., Kompetenzmanagement in der Praxis, Wiesbaden 2013, S. 43.

2.1.5 Risks or precautions

Support in the form of further training and assistance measures for instructors and trainees should take place before the changeover to hybrid teaching. This is necessary for one simple reason. Competencies cannot be learned overnight. They are a complex construct with which knowledge and skills can only be linked through frequent, repeated application in such a way that job-related tasks can be solved at the end. If the competencies are not learned until the hybrid teaching phase, there is a risk of insufficient application.

2.2 Legal Framework

2.2.1 Definition of Legal Framework

Legal framework means all laws and regulations that form the legal basis for vocational training.

2.2.2 Legal framework in hybrid learning environment

Laws and regulations can vary from country to country, either relating to the company and the vocational school, as in Germany, or affecting only one of the two training locations. Despite cross-national differences, the regulations have one thing in common. They set out a series of minimum standards that must be met by those involved in training. Those responsible must know the legal basis to ensure that trainees are trained in accordance with the law. If the regulations are not followed, the quality of the training will suffer. In addition, vocational training is subject to legal challenge. Even in extreme situations such as the Corona pandemic, minimum legal standards must be met. Hybrid training, for example, must comply with data protection guidelines. Trainers must ensure that trainees acquire a certain level of expertise. Managers have a high level of awareness if they know the legal framework and can reconcile it in any situation.

2.2.3 Field of application

As in all fields, the areas of application of the concepts relevant to managers cannot be reduced to individual subjects, nor to individual training courses. The areas together form the framework in which successful hybrid teaching can take place.

2.2.4 Variables for readiness level (what skills are needed?)

1. The manager should know the content adaptations of the national training regulations for the company and the company apprenticeship, if any.
2. He/she should also be aware of the possibilities and limits of the curriculum. That is, what leeway in terms of content does the school's framework curriculum allow for in-company instruction without the training being legally challenged.
3. In addition, he/she should ask himself/herself whether there is sufficient knowledge and experience of data protection guidelines and whether the software and equipment used meet information security requirements.

2.2.5 Risks or precautions

If the regulations are not followed, the quality of the training will suffer. In addition, vocational training is open to legal challenge. Even in extreme situations such as the Corona pandemic, minimum legal standards must be met. For example, hybrid training must comply with data protection guidelines. Trainers must ensure that trainees acquire a certain level of expertise. Managers have a high level of awareness if they know the legal framework and can reconcile it with any situation.

2.3 Technical Aspects (Infrastructure)

2.3.1 Definition of Technical Aspects

In the area of technical aspects, the focus is primarily on spatial and infrastructural aspects surrounding hybrid instruction.

2.3.2 Technical Aspects in hybrid learning environment

The manager must be aware of whether the trainees have a minimum amount of space in the company or at home to be able to conduct and participate in hybrid instruction. The term infrastructure also includes access to end devices and the use of online tools/online platforms with the necessary licenses (Ruokamo et al., 2011). Optimal infrastructural equipment is reflected in an optimally equipped room consisting of an interactive whiteboard, a teacher's computer, digital devices for students, a document camera and a school network consisting of a W-LAN connection, in-school cabling, and data servers.

2.3.3 Field of application

As in all fields, the areas of application of the concepts relevant to managers cannot be reduced to individual subjects, nor to individual training courses. The areas together form the framework in which successful hybrid teaching can take place.

2.3.4 Variables for readiness level (what skills are needed?)

The most important variables in the area include the space in the form of teaching, classrooms, the technical equipment, based on the digital classroom in the previous section and the issue of licenses.

2.3.5 Risks or precautions

Optimal basic equipment is the basis for successful hybrid teaching, but it is not synonymous with its realization. Trainees in particular must have the skills to effectively use the functions offered to them. The Microsoft Teams platform, for example, ensures optimal exchange between all stakeholders, but its Facebook-like structure tempts trainees in particular to distract themselves with contentless activities.

3 Project stakeholders: Teachers, trainers and counsellors

3.1 Pedagogical skills (design, didactic, evaluation)

Starting from the content that emerged from the Final research report IO1 and in particular from the recommendations about the pedagogical approach and the methodologies suitable for inclusion through hybrid teaching, we resume the competences that teachers / trainers should possess in relation to three methodologies:

- Authentic learning
- Collaborative learning
- Flipped classroom

3.2 Authentic learning

3.2.1 Definition of Authentic learning

In Vocational Education Training, authentic learning is a didactic approach that is aimed to allow students to meaningfully explore, discuss and construct concepts and relationships closely linked to their own contexts involving real-world problems and projects that are relevant for themselves (Education Reform, 2013). The basic idea is that students are more likely to be interested in what they are learning, more motivated to learn new concepts and skills, and better prepared to succeed in their studies, profession, and life if what they are learning is closely related to real-life contexts, provides them with practical and useful skills, and addresses topics relevant and applicable to their lives outside the Training Centre (Education Reform, 2013).

Authentic Learning will, therefore, assume a very different form compared to traditional teaching methods in which students have a passive role in the learning process (Education Reform, 2013). In Authentic Learning the teachers and trainers offer students the opportunity to build their knowledge through engaging in self-directed inquiry, problem solving, critical thinking, and reflecting in real-world contexts assuming an active role in which the student becomes the main actor of the learning process. Learning experiences within the dual system (as in Germany and Austria) should be regarded as a part of authentic learning, too (Buforn et al., 2018). If the two learning venues of vocational school and company are optimally interlinked, the theory learned is directly applied in the trainees' living environment, i.e., in the company. In this setting, the learner faces a work based on-the-job experience, allowing them to learn, to act and react in an environment set by actual work assignments and demands from “real” work conditions. Problems/issues that are normally considered abstract become authentic the moment they have to be solved individually by the trainees. Only at this moment do they affect the real life of the trainees. Before that, they usually remain pure theory. In contrast to the dual training system, purely school-based training can only simulate practical situations. A certain amount of missing authenticity ultimately remains unavoidably present. The trainer normally takes a more professional tutor-like part of the training, allowing the learner to learn outside a “narrow” curriculum.

3.2.2 Authentic learning in hybrid learning environment

Authentic learning, according to The Glossary of Education Reform (2013), occurs when students are asked to meaningfully explore, discuss and construct concepts and relationships closely linked to their own contexts involving real-world problems and projects that are relevant for themselves. This kind of learning can be based on face to face and online, synchronous, or asynchronous, communication activities.
Looking at the implementation steps of a learning unit based on this methodological approach:

1. Launch the problem with students to get them hooked (Crowley and Popilek, 2014).

This can be done in a face-to-face activity, but it could take advantage using a LMS (Learning Management System) used to launch the problem, but also to get feedbacks by the students (Simonson and Crawford, 2005). Social media can also be used to get feedbacks on the relevance of the problem by the group of students.

2. Teach the concepts, standards, critical content, and skills. Literacy (and some math) learning experiences should centre around the purpose or problem (Crowley and Popilek, 2014).
In the LMS concepts and standards can be stored and be available for personal asynchronous study. Multimedia learning content made with different tools can be chosen by the student according to her/his personal learning approach. Face to face activity can also take place especially when some fixed and common points must be defined.

3. Assess standards.
This can be done far away from the classrooms by online quiz tools like:

- Socrative - quizzes and questions with real-time grading.
- Mentimeter - pre-built education templates.
- Poll Everywhere - used by 300,000 teachers.
- Kahoot - game-based assessment tool ("How is self assessment used?," n.d.).

What is really important, even more than the used tools, is a clear and shared assessment criteria and grid.

4. Students determine authentic products and a specific audience (Crowley and Popilek, 2014).
Collaborative Learning can assume a role if the task is given to a small group of students that can work together in a face-to-face environment, but, as well, from their home using more formal sharing platforms embedded in the LMS, social media and online meeting tools. In case of autonomous learning the same tools can be used. The role of the teacher or the tutor becomes more important in order to assist the student in her/his progression (Simonson and Crawford, 2005).

5. Students create products and deliver to audience (Crowley and Popilek, 2014).
The above equally applies in the production and delivery phase. A calendar with fixed deadlines is useful as one of the aims is also to develop transversal skills as time planning and stress resistance.

6. Assess product.
The assessment and evaluation phase can benefit by a face-to-face condition in which the relation between the teacher/trainer and the students have a special meaning. The assessment results can be stored in the LMS (Miao et al., 2020).

7. Reflect on process and learning (Crowley and Popilek, 2014).
This last very important, although often ignored, step can be done face to face or using online meeting tools. We would like to stress the importance of a group reflection on the learned lesson, but also a bilateral teacher/trainer-student engagement.
The teacher guides the students through an interactive on-line study, which can include blackboard sharing, application sharing, electronic "show of hands", audio and video chat functions live on the network. In collaborative contexts of fundamental importance is the tutor, a figure of mediation between the teacher and the students (Azadi et al., 2018). The task of the tutor is to organize, facilitate and monitor the conduct of educational activities and the climate of collaboration

3.2.3 Field of application

Authentic learning is a teaching methodology that can be used across disciplines. With young people attending Vocational Training it's recommended to use it specially on "theoretical" subjects like maths, science (chemical or physics), foreign languages, general culture. In a more general way the following key European competences are developed: personal, social and learning skills and entrepreneurial competence; the use of the methodology in a hybrid learning environment obviously allows to develop also the digital competence.

3.2.4 Risks or precautions

One of the main risks is represented by the "relevance"; what is relevant for the teacher/trainer might not be relevant for the student or the group of students. This risk could be overcoming by asking the students what is really relevant for them. Another risk is to investigate a topic which is too wide and generic. This is especially true when the group of students is not used to this methodological approach. In the dual system, the learner faces another serious risk when switching to a hybrid learning setting. There is a strong and extremely vulnerable connection between work-based VET and a pandemic. Upcoming corona-restrictions might have a very negative impact on learning, as the VET in the dual system happens inside the companies. The reason is that an implementation of authentic learning happens mainly outside a "curricular" environment. For example, if the company is having financial problems, it is very likely that these problems have a negative impact on the learning possibilities for the apprentices. If, however, the trainers and tutors are aware of hybrid risks and opportunities, an apprentice within a dual system has a good chance to reach his or her learning aim.

3.3 Collaborative learning

3.3.1 Definition of Collaborative learning

Collaborative learning[3] refers to methodologies and environments in which learners engage in a common task where each individual depends on and is accountable to each other. These include both face-to-face conversations and computer discussions (online forums, chat rooms, etc.). Thus, collaborative learning is commonly illustrated when groups of students work together to search for understanding, meaning, or solutions or to create an artifact or product of their learning. Furthermore, collaborative learning redefines the traditional student-teacher relationship in the classroom which results in controversy over whether this paradigm is more beneficial than harmful. Collaborative learning activities can include collaborative writing, group projects, joint problem solving, debates, study teams, and other activities (Dillenbourg, 1999).

3.3.2 Collaborative learning in hybrid learning environment

Collaborative learning, according to Anthony Kaye[4]'s definition, occurs when there is a real interdependence between the members of the group in the accomplishment of a task, a commitment to mutual help, a sense of responsibility towards the group and its objectives. This kind of learning is based on face to face and online, synchronous, or asynchronous, communication activities (Kaye, 1994). Asynchronous communication techniques include for example the exchange of e-mails or the use of online areas for discussion and group work. With the latter, students can access common materials, such as files, software and multimedia objects and can collaborate in the performance of assigned tasks or projects, with a certain freedom with respect to when and where to deal with them. Typically, asynchronous collaboration is facilitated by a teacher. Or rather, the

[3] Theoretical background: Lev Vygotsky, Kurt Lewin, Jean Piaget, John Dewey, Jerome Bruner, Célestin Freinet.
[4] Anthony Kaye – Open University – "Apprendimento collaborativo basato su computer" - https://www.researchgate.net/publication/283522502_Apprendimento_collaborativo_basato_sul_computer [12/10/2021]

teacher is not present in real time to support students but interacts with them through email and shared databases. The correction of tasks, the evaluation of projects and the control of exercises can also be carried out in the same way. The collaboration in real or synchronous time allows simultaneous contact between teachers and students, in addition to contemporary access to the content made available. Synchronous collaboration is typically conducted by the teacher, for example in a virtual classroom environment. The teacher guides the students through an interactive on-line study, which can include blackboard sharing, application sharing, electronic "show of hands", audio and video chat functions live on the network. In collaborative contexts of fundamental importance is the tutor, a figure of mediation between the teacher and the students. The task of the tutor is to organize, facilitate and monitor the conduct of educational activities and the climate of collaboration.

3.3.3 Field of application

Collaborative learning is a teaching methodology that can be used across disciplines. Through it, the following key European competences are developed in particular: personal, social and learning skills and entrepreneurial competence; the use of the methodology in a hybrid learning environment obviously allows to develop also the digital competence.

3.3.4 Risks or precautions

This methodology greatly favours the participation and learning of vulnerable students, as it makes each working group responsible for achieving the task. However, in order to avoid those imbalances within the group are created among the members, so that most of the work falls only on some of them, it is advisable that the teacher decides on the formation of the groups and distributes specific tasks and roles , following the techniques of cooperative learning (Johnson and Johnson, n.d.)[5].

3.4 Flipped Classroom

3.4.1 Definition of Flipped Classroom

“Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter” (Bergmann and Sams, 2014)[6].

3.4.2 Flipped Classroom in hybrid learning environment

The basic idea behind the «Flipped Classroom» is that the lesson becomes homework while the time in class is used for collaborative activities, experiences, debates, and workshops. In this scenario, the teacher does not play the role of a lead actor but becomes a kind of facilitator, the director of the educational activities. In the time at home, extensive use is made of video and other digital resources as contents to be studied, while in class students experiment, collaborate, and carry out workshop activities (Stoszkowski, 2018). To all intents and purposes, ‘flipping’ is an educational methodology to be used in a fluid and flexible way, regardless of the subject or type of class. What is important is that the time ‘gained’ in class thanks to flipping is used in an optimal manner and that the resources used by the student in the time at home are of high quality, in addition to being gauged to the knowledge level reached up to that point by the young person. A library of contents supplemented by online videos selected on the basis of quality and accessibility are the best starting points to obtain a satisfactory end result.
In reality the Flipped Classroom is divided into the following steps:

[5] http://www.co-operation.org/what-is-cooperative-learning [12/10/2021]
[6] https://flippedlearning.org/definition-of-flipped-learning/ [12/10/2021]

1. Taking into consideration the context and the students' educational needs, the teacher can choose to use different types of digital resources, either self-produced, or found on the web or in online stores. What must be emphasized is that at this point the information has a function of anticipation and activation in the learning and should be challenging for the students or enable them to deal with something new and motivating, to raise questions that require further study and thereby foster development in the learning pathway.
2. The students will arrive at school with a wealth of information to be critically mobilized in a specific learning environment oriented to problem-solving and the promotion of skills. In fact, the time at school, no longer needed for lecture-based lessons, naturally encourages the group dimension or, what is even more desirable, a research community. Thus, in the classroom, the emphasis should be on variegated types of educational activity, such as collaborative or experiential, including debates as well as workshops possibly devoted to producing an artefact, hence a product (a presentation, video, podcast, or eBook) all of which allows students to actualize the study process activated by the work at home in line with a 'learning-by-doing' approach. This product can be worked on and developed in a group but may also require individual reflection and input.
3. What is important is that the product created can be shared and presented in class and perhaps kept in a storeroom for subsequent consultation, or made available to the outside world via, for example, a class website or blog; this can elicit comments and observations and allows documentation of the learning process, also in view of a subsequent reflexive return on the work.
4. The moment when the teacher metacognitively supports students in explaining the learning path realized should not be underestimated nor when he or she returns to the concepts considered essential to highlight these and gives further guidance for investigation and study Specifically, to put in place a flipped classroom you should be able to have a technological equipment: a video presentation medium such as, for example, an IWB, notebook or tablet for the teacher, who acts as a "dashboard" for the management of the teaching process, a virtual environment for learning (such as, for example, Moodle or Docebo) to be used as a repository and workplace online; at least four or five tablets or notebooks for learners (the optimum would be to have a provision of a device for each student) to allow them to carry out activities both individual, both in small groups, supported by technologies (Ferri, 2013).[7]

3.4.3 Field of application

Flipped classroom is a methodology that can be used across disciplines. Through it, the following key European competences are developed in particular: digital competence, personal, social, and learning skills and entrepreneurial competence.

3.4.4 Variables for readiness level (what skills are needed?)

We believe that the use of the above-mentioned methodologies implies a certain number of preconditions (variables) that are shared by each of them. Therefore, we thought it could have been better to group them in a single chapter. Of course, building the questionnaire in order to evaluate the readiness level asks for more specific questions related to a methodology or the other.
The variables for measuring the teachers' readiness scale to use those methodologies may be the following:

- Necessary knowledge and experience in order to develop a didactic plan in which authentic learning-based tasks are defined in the annual planning of one's own discipline
- Digital Skills to implement a hybrid environment
- Use of methodology supported by specific observation tools

[7] Indire http://pheegaro.indire.it/uploads/attachments/1963.pdf [12/10/2021 in Italian]

- Assessment and evaluation of learning outcomes and transversal skills, also developed through methodology, with appropriate tools
- Establish the initial climate in which the group or class experience will have to mature
- Clarify the intentions of the individual in the class and more generally of the group
- Organize and make readily available the greatest number of means of learning
- Consider himself as a means available to the group
- Accept both the intellectual and emotional content of the class group and individuals
- Conduct ongoing formative assessments during class time through observation and by recording data to inform future instruction
- Collaborate and reflect with other educators and take responsibility for transforming my practice

3.4.5 Risks or precautions

Among the critical points of the flipped classroom model are the necessary skills and fatigue required to teachers for :find on the net (e.g. for Italian teachers there is often a real barrier because in most cases the online material is in English) and/or create the digital material to be made available to learners before the meeting in the classroom; organize and manage the work in the classroom, completely different from what normally is carried out in traditional teaching. The teacher, who normally was not trained to the method
flipped classroom and does not have all the "digital skills" that you need, so must make a considerable effort to put this methodology into practice.

3.5 Digital skills

3.6 Basic use of multimedia in training special needs students

3.6.1 Definition of Multimedia

Multimedia is a technique (such as the combining of sound, video, and text) for expressing ideas (as in education, entertainment, or art) in which several media are employed

3.6.2 Multimedia in hybrid learning environment

Multimedia in hybrid learning environment is all the different visual and audio content being delivered, exchanged, and processed during training in which one or more participants are using online communication.

3.6.3 Field of application

Multimedia can be used in every instance of the hybrid environment. Well produced and placed video and static images can enhance appeal and increase motivation. Furthermore, multimedia is an excellent addition to those students that have problems with reading skills and concentration. Multimedia contents can be delivered through the web conferencing platforms so that both the remote and local participants observe them simultaneously.

3.6.4 Variables for readiness level (what skills are needed?)

Multimedia can be divided into two separate areas of readiness, namely production and distribution. Both involve separate skill sets and readiness levels.
Production

- Using video editing software and production application in producing multimedia content.
- Using image production and editing tools
- Using Interactive Equipment in producing material.
- Having basic skills in producing multimedia presentations.

Distribution and exchange of information

- Editing and combining material
- Using Interactive Equipment in delivering multimedia material.
- Having basic skills in giving multimedia presentations.
- Basic troubleshooting of presentation applications.

3.6.5 Risks or precautions

As in all digital production and delivery, also multimedia poses risks. These include the lack of production and distribution skills that may lead to interruptions in hybrid teaching situations and thus decrease students' concentration and motivation. In using multimedia, especially dealing with vulnerable groups, sensitivity in content is an area in which precaution must be observed.

3.7 Basic use of participatory tools in training special needs students

3.7.1 Definition of Participatory tools

Collaboration is commonly defined as working with another individual or group to achieve something. Definition of a participatory tool is simply a technology or a tool in form of application or online service that can be used to help people work together to achieve a common goal or objective ("What Are Collaboration Tools? - Definition & Types," 2016).

3.7.2 Participatory tools in hybrid learning environment

Online participatory tools used in hybrid training can be as simple as a whiteboard in a conference room that people gather around and use to brainstorm and solve problems together with participants that are online. Another collaboration tool is a conference call, during which multiple people get together over the phone to hash out an issue ("What Are Collaboration Tools? - Definition & Types," 2016). In this we focus on tools allowing hybrid attendance. Representative tools considered here are Padlet and Canva. The first one is a typical tool for whiteboard-style collaborative knowledge building, the latter a tool for producing visual material. Other tools include Flipgrid for video production, ThingLink for making interactive images and Flinga for simplified collaboration.

3.7.3 Field of application

Participatory tools may also be used in all aspects of the hybrid training situations. They work best in committing students and in motivating discussion within the group. Furthermore, most of the participatory applications are very flexible towards the technology used. They can be used with the equipment that the students often have themselves providing that the devices are connected to the internet.

3.7.4 Variables for readiness level (what skills are needed?)

All the aforementioned require at least basic understanding and skills concerning how modern user interfaces work with both desktop and portable devices. For each individual service or platform there are several components that may or will differ from other similar services. Therefore, the teacher needs to be able to interpret and modify their competence to meet the needs of the new tool so that they are able to flexibly use the tools in a hybrid situation (Simonson and Crawford, 2005).

3.7.5 Risks or precautions

As with multimedia, also with participatory tools, emphasis need to be in the flexibility and ease of use. If the teacher is unable to easily use the participatory services, it can lead to rapidly diminishing

motivation, when everything does not work well instantaneously. Also, it needs to be noted that prior using the tools it needs to be made sure that everyone in the group has access to them. These tools, like everything that happens over the internet, need and steady internet connections.

3.8 Basic use of communication tools in training special needs students

3.8.1 Definition of Communication tools

A communication tool is a tool or a method that supports a community in discussing topics of common interest. This can further refer to three forms of electronic communication in hybrid education: chat rooms, videoconferencing, and audio communication tools.

3.8.2 Communication tools in hybrid learning environment

Modern organizational platforms often combine the three into one coherent structure such as Microsoft Teams or Zoom. They are collection of applications that act as a virtual, online meeting room for team members. They help the team have conversations, exchange ideas, update others with progress, share files, and create work collaboratively. Here, we can divide the communication tools into structured communication tools and social media. Typical structured communication tools include MS Teams, Zoom and Google collaborative applications. Social media can be classified into several different components. In 2019, Merriam-Webster defined social media as "forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos) (Barreto and Whitehair, 2017).

3.8.3 Field of application

In this project we concentrate on tools most connected with education in the hybrid environment. The field of application then include blogs, media sharing and social networking tools. Blogs include both personal blogs such as WordPress and microblogs like Twitter. Media sharing includes applications such as Instagram, Snapchat, and YouTube. Social networking tools are often a combination of media sharing and multi-person dialogue environments. These include WhatsApp and Facebook. It is noted that the field of social media is ever expanding.

3.8.4 Variables for readiness level (what skills are needed?)

All the aforementioned require at least basic understanding and skills concerning how modern user interfaces work with both desktop and portable devices. Teacher also needs at least basic skills of the specific use of using each application including skills to use them with mobile devices. In addition, all communication tools need the teacher to be able to explain the rules and basic settings to their students. This means a slightly deeper understanding of the main settings and how to troubleshoot them in situations in which connection is lost.

3.8.5 Risks or precautions

Risks include students misusing the communication tools by using foul language and using the communication platforms to not participate especially in home environments. Also, when working from home, the quality of the surroundings and the existing internet connection may greatly hinder the student's ability to fully participate in communication. As with other digital tools, teacher needs to be able to effortlessly use the tool and be ready to give advice to the participants.

3.9 Using digital gaming in training special needs students

3.9.1 Definition of Gaming

A game is a system in which players engage in an abstract challenge defined by rules, interactivity, and feedback that results in a quantifiable outcome or objective, often eliciting an emotional reaction. The system has a clear beginning, middle, and end in which the learner dedicates specific time to engage in the game. Additionally, games are a certain form of isolation from other activities. It's hard to play a board game while exercising on a treadmill (Alsawaier, 2018).
Educational games are games explicitly designed with educational purposes, or which have incidental or secondary educational value. All types of games may be used in an educational environment, however educational games are games that are designed to help people learn about certain subjects, expand concepts, reinforce development, understand a historical event, or culture, or assist them in learning a skill as they play ("GAME BASED LEARNING," 2014). Game types include board, card, and video games.

3.9.2 Gaming in hybrid learning environment

Here is a short list of the types of games can their features that may be used in a hybrid learning situation:

1. Games that include giving points or badges
2. Narrative games with characters
3. Player control games
4. Immediate feedback from quiz type games
5. Opportunities for collaborative problem solving
6. Scaffolded learning with increasing challenges
7. Opportunities for mastery, and levelling up

3.9.3 Field of application

Games can be used in all the aspects of hybrid approach. They may work well in motivating students, giving them moments of success and satisfaction. Especially quiz type games can be used in teaching theoretical contents or things like vocabulary in a drill-like exercises, where many questions exist, and the system randomly chooses a fixed number of questions.

3.9.4 Variables for readiness level (what skills are needed?)

All the games require at least basic understanding and skills concerning how modern online game user interfaces work with both desktop and portable devices. Teachers need to learn the game features so well, that they can explain the rules and the game features and user interface to their students.

3.9.5 Risks or precautions

Using games in dealing with the target group involve the situations dealing with winning and losing. Teacher needs to clearly explain that winning and losing is not the issue but instead focusing on the educational value of the chosen game. Lack of understanding on how the game works will lead to diminished motivation and difficult situations in which the remote participants are left behind.

3.10 Interpersonal and support skills: Support of Inclusion

3.10.1 Definition of inclusion in hybrid learning environment

Inclusive pedagogy is pedagogy as inviting, inciting, and supporting equal participation, contribution and self-determination of different students and student groups in different learning environments.

3.10.2 Field of application

For teachers' perspective, there are several aspects to note in creating inclusivity in hybrid surroundings. Firstly, there needs to be creative innovations in building learning environments for vulnerable students. These environments include hybrid combinations of real life and digital environments. They also need to recognise all different types of learning and possibilities for learning in different environments thus taking care of accessibility for all. In applying best practices for our target group, the following questions need to be addressed:

- How do teachers describe the students and their differences /diversity?
- How do teachers see the students who need special support?
- How do teachers support different students?
- How do teachers support collaboration between students?
- How do teachers give guidance to and support peer support?

In addition to these, there are several common interests in the methodology and focus of the case studies. These items are the following:

- generic skills and abilities of the students in their path to employment (key competencies)
- skills for collaboration and social interaction
- on-the-job learning – guiding, tutoring, mentoring
- neuro-psychiatric disorders – how to encounter the individual student and see behind and besides the diagnosis; how to encounter e.g., hypersensitivities
- micro-credentials
- life-long learning
- social media and port folios
- how to focus on strengths, skills and abilities in teaching and learning of disabled students – focus on teaching and learning vocational skills and leave the diagnostics to other professionals; and, to make students to take their differences and diversities into account in collaborative learning, problem-based learning, authentic learning
- different students need different support – e.g., some have big benefits of distance learning, some need the face-to-face interaction to not drop out
- information security issues
- accessibility of applications

It also needs to be noted that the cases from the participating countries and educational institutions vary in each country according to their areas of teaching and educational systems.

3.10.3 Variables for readiness level concerning assertiveness

According to the Vaccine team, inclusive pedagogy for teachers and trainers has several important pedagogical principles and skills. They include:

- being fair and just in teaching practices
- being sensitive and responsive in listening and recognizing difference and diversity among students
- get different skills, strengths and perspectives recognized and taken as part of teaching and learning process.
- giving special support so that it does not segregate and label as disabled but focus on strengths and abilities that are recognized and invited to participate and contribute
- building collaboration and dealing tasks where students can use their abilities, develop them further and learn more and new skills
- identifying students' feelings

- defending and supporting those who need it
- responding to and contradicting bullying
- disagreeing respectfully
- negotiating with different perspectives
- reasonable and polite refusing without feeling guilty
- build up strong and positive relationships
- build up and support student confidence and self-esteem
- coordinating and leading firmly
- resilience

In hybrid pedagogy the aforementioned factors mean skills in:

- getting distance participants and face to face participants equally present in teaching
- using multimedia
- using participatory tools
- using digital gaming
- videoconferences
- using social media and multichannel communication
- getting all the students to participate and actively contribute to learning
- empowering, inviting, and inciting all the students
- organizing and coordinating special pedagogical support for learning
- clear and accessible guidance
- searching and trying suitable media for different students
- supporting learning in not so strong areas of students

3.10.4 Risk points or precautions

According to the results of study made with younger students, by Husnutdinova, the main concerns of the parents of students of comprehensive, inclusive, and correctional schools are reduced to a few basic risks: lack of individual approach while teaching those with different educational needs, increased emotional pressure on the student, and their perception of the complexity of disability as an equal (Husnutdinova, 2017).

4 Project Stakeholders: Students

The main question orientating observations and interviews with students: How have the students experienced the hybrid pedagogical practices used in vocational education and training (during Covid19-pandemics)?

Suggestion for methodology of how to find out the experiences of teachers and students in applying hybrid pedagogy and what works, what does not work and what kind of abilities, skills and readiness is needed and also, what kind of a support different students and student groups need to be able to study and learn what they are supposed to. These generic questions will be related to each of the pedagogical practices and digital approaches mentioned earlier in this report (Simonson and Crawford, 2005).

We suggest that for studying the student perspective and the interpersonal and support skills of the teachers, we need to focus on different learning environments more than on specific, before defined teaching and learning methods (like authentic, PBL, collaborative) To get the different, even surprising experiences we need to do the study collaboratively with the students and everyone involved in teaching and learning activities in different environments (teachers, students, study counsellors, special education teachers, personal assistants etc.) – that is in e.g. welding workshops, beauty salons, garages, caring homes etc. listening and observing, asking, and encountering people in action. And we should get some information also about the different home circumstances students have for their distance learning possibilities.

4.1 How do students experience their learning?

Have the students learned what they are supposed to or what they want to learn? (Eskola & Mäkinen 2020 /Eskola 2021)

4.1.1 Variables for readiness level (what skills are needed?)

- teaching and supporting practices
- individualized guidance
- learning tasks and materials
- choosing digital tools and instructions to use them
- collaboration with teachers and trainers
- collaboration with peer students
- collaboration with student support services
- collaboration with other services inside and outside school
- collaboration with parents
- participation and contribution in studies learning environments and social interaction

(We did not understand how to combine these subtitles to our questions and orientation to observations and interviews with students – we suggest that we will think of these more after we got some data from the field)

4.2 Basic use of multimedia in inclusive hybrid pedagogy

4.2.1 Variables for readiness level (what skills are needed?)

- What methods have been used?
- What have worked?
- what have not worked?

- What kind of support have they got?
- what kind of support would they have needed?

4.3 Basic use of participatory tools in training special needs students

4.3.1 Variables for readiness level (what skills are needed?)

- What methods have been used?
- What have worked?
- what have not worked?
- What kind of support have they got?
- What kind of support would they have needed?

4.4 Basic use of communication tools in training special needs students

4.4.1 Variables for readiness level (what skills are needed?)

- What methods have been used?
- What have worked?
- What have not worked?
- What kind of support have they got?
- What kind of support would they have needed?

4.5 Using digital gaming in training special needs students

4.5.1 Variables for readiness level (what skills are needed?)

- What methods have been used?
- What have worked?
- What have not worked?
- What kind of support have they got?
- What kind of support would they have needed?

4.6 Inclusive hybrid pedagogy related to learning of generic skills and abilities of the students in their path to employment (key competencies)

4.6.1 Variables for readiness level (what skills are needed?)

Furthermore, there are several common interests in the methodology and focus of the case studies concerning the student target group. These items are the following:

- skills for collaboration and social interaction
- on-the-job learning – guiding, tutoring, mentoring
- neuro-psychiatric disorders – how to encounter the individual student and see behind and besides the diagnosis; how to encounter e.g., hypersensitivities
- micro-credentials
- life-long learning
- social media and port folios
- how to focus on strengths, skills and abilities in teaching and learning of disabled students – focus on teaching and learning vocational skills and leave the diagnostics to other professionals;

and, to make students to take their differences and diversities into account in collaborative learning, problem-based learning, authentic learning
- different students need different support – e.g., some have big benefits of distance learning, some need the face-to-face interaction to not drop out
- information security issues
- accessibility of applications

Cases from the participating countries and educational institutions vary in each country according to their areas of teaching and educational systems.

4.7 Methodology for collecting information from student stakeholders

Observation and on-site interviews and discussions with students, teachers, and support workers in different learning environments – how inclusive hybrid pedagogy has been implemented in different vocational branches – case studies in some specific branches e.g. (these have been suggested).

4.7.1 Variables for readiness level (what skills are needed?)

- information and media technology studies
- hair- and beauty studies
- social and health sector studies
- gardening studies
- business and trade studies; sales assistants, salesclerks
- car mechanic studies
- logistics
- restaurant and catering studies

5 Conclusion and outlook to next Intellectual Output 3

5.1 Conclusion of methodological approaches

The above chapters have described in detail the different situations and groups of students who need different educational approaches to learn in hybrid learning environments. It is important to set the methodology for these inputs correctly so that one can subsequently get targeted results. The next stage in the vaccine project is to formulate the questionnaire for all three stakeholder groups.
In each stakeholder area, the methodology will be queried differently. For students and teachers, on-site interviews and observations are advantageous. For the managerial target group, the most convenient and time saving method is to conduct an online questionnaire.

The following part of the paper and the appendix are already the bridge to Intellectual Output 3. It is an idea of how to proceed in IO3. The details will follow in the next Intellectual Output.

5.2 How to do survey research in Vaccine

Surveys are a flexible method of data collection that can be used in many different types of research. Surveys are used as a method of gathering data in many different fields. They are a good choice when you want to find out about the characteristics, preferences, opinions, or beliefs of a group of people. Survey research means collecting information about a group of people by asking them questions and analysing the results. The type of survey relates to the specific target group. Mostly we are using social survey, which is a type of survey in which the team is investigating the experiences and characteristics of different stakeholders in connection with hybrid experiences. The survey should also aim to produce results that can be generalized in some form or another. This means that we need to carefully define exactly who you want to draw conclusions about (McCombes, 2019).
In Vaccine project survey, there are following steps.

5.2.1 Determining are the survey stakeholders

The survey stakeholders are as mentioned. Before starting to conduct the survey research the Vaccine team has stated abovementioned clear research question that define what the generic information is that we want to find out. Based on these questions we determine exactly who you will target to participate in the survey (McCombes, 2019).

Designing the survey methodology, questions, and layout
The following types of surveys are considered for each stakeholder:

5.2.2 Students

As for the students the method needs to be such that it enables fluent and secure interaction in the surroundings in which students operate. Method includes observing and asking relevant questions to get students views of high-quality inclusive hybrid pedagogy. The student stakeholders are encountered as collaborative knowledge producers for Vaccine-project. The discussions in authentic learning environments and interviews with students and student groups are audiotaped and transcribed as anonymized data for Vaccine-project. Observing and interviewing also allows gathering more in-depth information on student's opinions and preferences. Personal approach is efficient in that the person collecting the is able to clarify questions and ask for follow-up information when necessary (McCombes, 2019). The participants sign an informed consent which will be formulated by following guidelines of research ethics and WHO's template (see the Appendix). The data is archived according to the methodology used, the method in some cases can be handwritten notes by pen or tablet. The audio files and transcription of conversation need to be saved in a safe hidden part of the Kiipula's MS SharePoint system in a separate Teams folder.

5.2.3 Teachers

For the teachers, a possible method will include both, an interactive face-to-face interview together with an online questionnaire. Information then is a combination of verbal and numeric information. The audio files and transcription of conversation need to be saved in a safe hidden part of the Kiipula's MS SharePoint system in a separate Teams folder. The online survey data is saved into the specific applications register. The application to be used at this point is Webropol questionnaire tool.

5.2.4 Managers

The most suitable method for the managers is a concise online questionnaire where a list of questions is distributed by mail, online or in person, and respondents fill it out themselves (McCombes, 2019). The online survey data is saved into the specific applications register. The application to be used at this point is Webropol questionnaire tool.

5.2.5 Distribute the survey

The different surveys are distributed during spring of 2022 within the country-specific groups according to the methods mentioned above.

5.2.6 Collecting the data and analysing the responses

The data is collected both by automatic questionnaire tool and proof-writing the verbal feedback from interviews and student observing situations.

5.2.7 Writing up the results

Results are collected into a coherent document in which there is also a chapter for guidance for creating the readiness scales.

5.2.8 Designing the survey questions

During the IO3, the survey team decides, which questions are asked and how to ask them. It's important to consider the type, content, and phrasing of questions, ordering and layout and finally, whether the survey is conducted using open-ended vs closed-ended questions. For the teachers and trainers survey uses a combination of both.

5.2.9 These are examples of close-ended questions:

- Yes/no or agree/disagree
- Likert scale with points from strongly agree to strongly disagree
- Dropdown single option
- Dropdown list of multiple options

Open-ended questions are best for qualitative research. This type of question has no predetermined answers to choose from. Instead, the respondent answers in their own words. Open questions are most common in interviews, but you can also use them in questionnaires. They are often useful as follow-up questions to ask for more detailed explanations of responses to the closed questions (McCombes, 2019).

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7 Appendix

Informed Consent Form Template for Qualitative Studies

(This template is for research interventions that use questionnaires, in-depth interviews or focus group discussions)

(language used throughout form should be at the level of a local student of class 6th/8th)

Notes to Researchers:

1. Please note that this is a template developed by the WHO ERC to assist the Principal Investigator in the design of their informed consent forms (ICF). It is important that Principal Investigators adapt their own ICFs to the outline and requirements of their particular study. **The logo of the Institution must be used on the ICF and not the WHO logo.**

2. The informed consent form consists of two parts: the information sheet and the consent certificate.

3. Do not be concerned by the length of this template. It is long only because it contains guidance and explanations which are for you and which you will not include in the informed consent forms that you develop and provide to participants in your research.

4. This template includes examples of key questions that may be asked at the end of each section, that could ensure the understanding of the information being provided, especially if the research study is complex. These are just examples, and suggestions, and the investigators will have to modify the questions depending upon their study.

5. In this template:
   - square brackets indicate where specific information is to be inserted
   - bold lettering indicates sections or wording which should be included
   - standard lettering is used for explanations to researchers only and must not be included in your consent forms. The explanation is provided in black, and examples are provided in red in italics. Suggested questions to elucidate understanding are given in black in italics.

TEMPLATE ON FOLLOWING PAGE

[Informed Consent Form for _____]

Name the group of individuals for whom this consent is written. Because research for a single project is often carried out with a number of different groups of individuals - for example counselors, community members, clients of services - it is important that you identify which group this particular consent is for.

(Example: This informed consent form is for social service providers in the community X and who we are inviting to participate in research Y, titled "The Community Response to Malaria Project".)

You may provide the following information either as a running paragraph or under headings as shown below.

[Name of Principle Investigator]
[Name of Organization]
[Name of Sponsor]
[Name of Project and Version]

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction
Briefly state who you are and that you are inviting them to participate in research which you are doing. Inform them that they may talk to anyone they feel comfortable talking with about the research and that they can take time to reflect on whether they want to participate or not. Assure the participant that if they do not understand some of the words or concepts, that you will take time to explain them as you go along and that they can ask questions at anytime.

(Example: I am X, working for the Y organization. I am doing research on the disease malaria which is very common in this country and in this region. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.
This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me or of another researcher.)

Purpose of the research
Explain the research question in lay terms which will clarify rather than confuse. Use local and simplified words rather than scientific terms and professional jargon. In your explanation, consider local beliefs and knowledge when deciding how best to provide the information. Investigators however need to be careful not to mislead participants, by suggesting research interests that they do not have. For example, if the study wants to find out about treatments provided by local practitioners, wording should not suggest that they want to find out about how the practitioners are advertising themselves. Misleading participants may be essential and justified in certain circumstances, but that needs to be carefully argued, and approved by an ethics committee.

(Example: Malaria is making many people sick in your community. We want to find ways to stop this from happening. We believe that you can help us by telling us what you know both about malaria and about local health practices in general . We want to learn what people who live or work here know about the causes of malaria and why some people get it. We want to learn about the different ways that people

try to stop malaria before someone gets it or before it comes to the community, and how people know when someone has it. We also want to know more about local health practices because this knowledge might help us to learn how to better control malaria in this community.)

Type of Research Intervention
Briefly state the type of intervention that will be undertaken. This will be expanded upon in the procedures section but it may be helpful and less confusing to the participant if they know from the very beginning whether, for example, the research involves a vaccine, an interview, a questionnaire, or a series of finger pricks.

(Example: This research will involve your participation in a group discussion that will take about one and a half hour, and a one hour interview).

Participant Selection
Indicate why you have chosen this person to participate in this research. People wonder why they have been chosen and may be fearful, confused or concerned.

(Example: You are being invited to take part in this research because we feel that your experience as a social worker (or as a mother, or as a responsible citizen) can contribute much to our understanding and knowledge of local health practices.)

- ***Example of question to elucidate understanding:*** *Do you know why we are asking you to take part in this study? Do you know what the study is about?*

Voluntary Participation
Indicate clearly that they can choose to participate or not. State, only if it is applicable, that they will still receive all the services they usually do if they choose not to participate. Explanation: It may be more applicable to assure them that their choosing to participate or not will not have any bearing on their job or job-related evaluations. This can be repeated and expanded upon later in the form as well. It is important to state clearly at the beginning of the form that participation is voluntary so that the other information can be heard in this context. Although, if the interview or group discussion has already taken place, the person cannot 'stop participation' but request that the information provided by them not be used in the research study.

(Example: Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate all the services you receive at this Centre will continue and nothing will change.
OR
The choice that you make will have no bearing on your job or on any work-related evaluations or reports. You may change your mind later and stop participating even if you agreed earlier.)

- ***Examples of question to elucidate understanding:*** *If you decide not to take part in this research study, do you know what your options are? Do you know that you do not have to take part in this research study, if you do not wish to? Do you have any questions?*

Procedures
A. Provide a brief introduction to the format of the research study.

(Example: We are asking you to help us learn more about malaria in your community. We are inviting you to take part in this research project. If you accept, you will be asked to….:)

B. Explain the type of questions that the participants are likely to be asked in the focus group, the interviews, or the survey. If the research involves questions or discussion which may be sensitive or potentially cause embarrassment, inform the participant of this.

(Example 1 (for focus group discussions)
take part in a discussion with 7-8 other persons with similar experiences. This discussion will be guided by [name of moderator/guider] or myself.

The group discussion will start with me, or the focus group guide or moderator (use the local word for group discussion leader), making sure that you are comfortable. We can also answer questions about the research that you might have. Then we will ask you questions about the malaria and give you time to share your knowledge. The questions will be about malaria in your community, how is it recognized, what people do to stop it from spreading to other people, who people go to for help and what happens when people become sick with it.
We will also talk about community practices more generally because this will give us a chance to understand more about malaria but in a different way. These are the types of questions we will ask…..
We will not ask you to share personal beliefs, practices or stories and you do not have to share any knowledge that you are not comfortable sharing.
The discussion will take place in [location of the FGD], and no one else but the people who take part in the discussion and guide or myself will be present during this discussion. The entire discussion will be tape-recorded, but no-one will be identified by name on the tape. The tape will be kept [explain how the tape will be stored]. The information recorded is confidential, and no one else except [name of person(s)] will have access to the tapes. The tapes will be destroyed after _____number of days/weeks.

Example 2 (for interviews)
participate in an interview with [name of interviewer] or myself.
During the interview, I or another interviewer will sit down with you in a comfortable place at the Centre. If it is better for you, the interview can take place in your home or a friend's home. If you do not wish to answer any of the questions during the interview, you may say so and the interviewer will move on to the next question. No one else but the interviewer will be present unless you would like someone else to be there. The information recorded is confidential, and no one else except [name of person(s)] will access to the information documented during your interview. The entire interview will be tape-recorded, but no-one will be identified by name on the tape. The tape will be kept [explain how the tape will be stored]. The information recorded is confidential, and no one else except [name of person(s)] will have access to the tapes. The tapes will be destroyed after _____number of days/weeks.

Example 3 (for questionnaire surveys)
fill out a survey which will be provided by [name of distributor of blank surveys] and collected by [name of collector of completed surveys].OR You may answer the questionnaire yourself, or it can be read to you and you can say out loud the answer you want me to write down.
If you do not wish to answer any of the questions included in the survey, you may skip them and move on to the next question. [Describe how the survey will be distributed and collected]. The information recorded is confidential, your name is not being included on the forms, only a number will identify you, and no one else except [name of person(s) with access to the information] will have access to your survey.)

Duration
Include a statement about the time commitments of the research for the participant including both the duration of the research and follow-up, if relevant.

(Example: The research takes place over ___ (number of) days/ or ___ (number of) months in total. During that time, we will visit you three times for interviewing you at one month interval and each interview will last for about one hour each. The group discussion will be held once and will take about one and a half hour.)

- ***Examples of question to elucidate understanding:*** *If you decide to take part in the study, do you know how much time will the interview take? Where will it take place? Do you know that we will be sending you transport to pick you up from your home? Do you know how much time will the discussion with other people take? If you agree to take part, do you know if you can stop participating? Do you know that you may not respond to the questions that you do not wish to respond to? Etc. Do you have any more questions?*

Risks
Explain and describe any risks that you anticipate or that are possible. The risks depend upon the nature and type of qualitative intervention, and should be, as usual, tailored to the specific issue and situation.

(If the discussion is on sensitive and personal issues e.g. reproductive and sexual health, personal habits etc. then an example of text could be something like "We are asking you to share with us some very personal and confidential information, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the discussion/interview/survey if you don't wish to do so, and that is also fine. You do not have to give us any reason for not responding to any question, or for refusing to take part in the interview"
OR If for example, the discussion is on opinions on government policies and community beliefs, and in general no personal information is sought, then the text under risks could read something like "There is a risk that you may share some personal or confidential information by chance, or that you may feel uncomfortable talking about some of the topics. However, we do not wish for this to happen. You do not have to answer any question or take part in the discussion/interview/survey if you feel the question(s) are too personal or if talking about them makes you uncomfortable.)

Benefits
Benefits may be divided into benefits to the individual, benefits to the community in which the individual resides, and benefits to society as a whole as a result of finding an answer to the research question. Mention only those activities that will be actual benefits and not those to which they are entitled regardless of participation.

(Example: There will be no direct benefit to you, but your participation is likely to help us find out more about how to prevent and treat malaria in your community).

Reimbursements
State clearly what you will provide the participants with as a result of their participation. WHO does not encourage incentives beyond reimbursements for expenses incurred as a result of participation in the research. These may include, for example, travel costs and reimbursement for time lost. The amount should be determined within the host country context.

Example: You will not be provided any incentive to take part in the research. However, we will give you [provide a figure, if money is involved] for your time, and travel expense (if applicable).

- ***Examples of question to elucidate understanding:*** *Can you tell me if you have understood correctly the benefits that you will have if you take part in the study? Do you know if the study will pay for your travel costs and time lost, and do you know how much you will be re-imbursed? Do you have any other questions?*

Confidentiality
Explain how the research team will maintain the confidentiality of data with respect to both information about the participant and information that the participant shares. Outline any limits to confidentiality. Inform the participant that because something out of the ordinary is being done through research, any individual taking part in the research is likely to be more easily identified by members of the community and therefore more likely to be stigmatized. If the research is sensitive and/or involves participants who are highly vulnerable - research concerning violence against women for example - explain to the participant any extra precautions you will take to ensure safety and anonymity.

(Example: The research being done in the community may draw attention and if you participate you may be asked questions by other people in the community. We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project will be kept private. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except [name who will have access to the information, such as research sponsors, DSMB board, your clinician, etc])

The following applies to focus groups:
Focus groups provide a particular challenge to confidentiality because once something is said in the group it becomes common knowledge. Explain to the participant that you will encourage group participants to respect confidentiality, but that you cannot guarantee it.

(Example: We will ask you and others in the group not to talk to people outside the group about what was said in the group. We will, in other words, ask each of you to keep what was said in the group confidential. You should know, however, that we cannot stop or prevent participants who were in the group from sharing things that should be confidential.)

- ***Example of question to elucidate understanding:*** *Did you understand the procedures that we will be using to make sure that any information that we as researchers collect about you will remain confidential? Do you understand that the we cannot guarantee complete confidentiality of information that you share with us in a group discussion Do you have any more questions?*

Sharing the Results
Your plan for sharing the findings with the participants should be provided. If you have a plan and a timeline for the sharing of information, include the details. You may also inform the participant that the research findings will be shared more broadly, for example, through publications and conferences.

(Example: Nothing that you tell us today will be shared with anybody outside the research team, and nothing will be attributed to you by name. The knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. Each participant will receive a summary of the results. There will also be small meetings in the community and these will be announced. Following the meetings, we will publish the results so that other interested people may learn from the research.)

Right to Refuse or Withdraw
This is a reconfirmation that participation is voluntary and includes the right to withdraw. Tailor this section to ensure that it fits for the group for whom you are seeking consent. The example used here is for a community social worker. Participants should have an opportunity to review their remarks in individual interviews and erase part or all of the recording or note.

(Example: You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in the [discussion/interview] at any time that you wish without your job being affected. I will give you an opportunity at the end of the interview/discussion to review your remarks, and you can ask to modify or remove portions of those, if you do not agree with my notes or if I did not understand you correctly.)

Who to Contact
Provide the name and contact information of someone who is involved, informed and accessible - a local person who can actually be contacted. State also the name (and contact details) of the local IRB that has approved the proposal. State also that the proposal has also been approved by the WHO ERC.

(Example: If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact any of the following: [name, address/telephone number/e-mail]
This proposal has been reviewed and approved by [name of the local IRB], which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact _____ .)

This proposal has been reviewed and approved by [name of the local IRB], which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact [name, address, telephone number.]). It has also been reviewed by the Ethics Review Committee of the World Health Organization (WHO), which is funding/sponsoring/supporting the study.

- ***Example of question to elucidate understanding:*** *Do you know that you do not have to take part in this study if you do not wish to? You can say No if you wish to? Do you know that you can ask me questions later, if you wish to? Do you know that I have given the contact details of the person who can give you more information about the study? Etc.*

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

This section must be written in the first person. It should include a few brief statements about the research and be followed by a statement similar the one in bold below. If the participant is illiterate but gives oral consent, a witness must sign. A researcher or the person going over the informed consent must sign each consent. Because the certificate is an integral part of the informed consent and not a stand-alone document, the layout or design of the form should reflect this. The certificate of consent should avoid statements that have "I understand…." phrases. The understanding should perhaps be better tested through targeted questions during the reading of the information sheet (some examples of questions are given above), or through the questions being asked at the end of the reading of the information sheet, if the potential participant is reading the information sheet him/herself.

Example: I have been invited to participate in research about malaria and local health practices.

(This section is mandatory)
I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant_____
Signature of Participant _____
Date _____
Day/month/year

If illiterate [1]

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ **Thumb print of participant**

Signature of witness _____

Date _____
Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

[1] A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

1.
2.
3.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____
Day/month/year