Results of the evaluation (IO6) in the VACIDE project

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Manuela Zauritz (GEBIFO)

VACIDE is …

inter-company learning projects
learning assignments
methodology and didactics
model of the complete action
VACIDE teachers and learners
workplace orientation digital media
robot arm digitization
guiding texts training robot **Thor** real work situations
learning location cooperation
digital learning sequences motivation to learn
process-oriented training
active learning digital competencies
media-pedagogical competencies

… innovative action-oriented learning on the customer's order

Evaluation in the VACIDE project (IO6)

- The three partners (SCSL, Eurocultura, VHS-Bildungswerk) have **modernised teaching-learning concepts** as a result of VACIDE by integrating workplace-oriented learning projects and digital learning sequences.

- **Task of the sub-project partner GEBIFO:** Development of a research design as well as the practice-oriented evaluation of the products developed in VACIDE (product evaluation)

- **Main focus of the study**: Identification of results and effects of the modernised teaching-learning concepts

- Evaluation includes the assessment

  – of **methods** used (workplace-based learning projects)

  – **materials** (teacher/trainer manual) and

  – **media** (digital learning sequences)

  → appropriateness, acceptance, impact in terms of competence development of trainees/learners

- **Evaluation tools:** Interviews and online-surveys

Survey design

1. Interviews

Project staff in the VACIDE project

Focus:
- assessment of the development, creation and practical implementation of the learning projects and materials
- assessment of the impact on the competence development of the trainees/learners
- assessment of the pedagogical/methodological approach
- assessment of the impact on the role and competences of trainers/teachers

Survey design

2. Online-Survey

Trainers/Teachers

Focus:

- own acceptance, benefit assessment and naming of challenges in the practical implementation of the adapted teaching-learning concepts with workplace-oriented learning projects
- feedback on the testing phase of the developed learning materials
- qualitative suggestions for improvement → basis for further development of the methodological-didactic concept

Survey design

3. Online-Survey

Trainees/Learners

Focus:

– immediate reaction of the participants in relation to the workplace learning projects (acceptance, satisfaction, etc.)

– feedback on the testing phase of the developed learning materials

– communicate to the trainees/learners that their opinion is important and that changes will be derived from it

Results of the evaluation
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Slovenia

1.
Results of the interviews
project staff
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Slovenia

core statements

Assessment of the development, creation and practical implementation of the learning projects and materials

- instructions for manufacturing and assembling the robot including technical documentation

- objective: clear description of what to do and how to do it in order to successfully complete the fictitious customer order

- learners/trainees have created the materials themselves → better understanding for other learners when they work with the materials (user perspective)

- learners/trainees also described problems and challenges they encountered → adaptation of the materials to make it easier for subsequent groups

Assessment of the impact on the competence development of the trainees/learners

- professional competence: with basic technical knowledge they can realise their own robot

- dealing with complexity, problem-solving skills, project management skills

- teamwork → knowledge exchange between the vocational school and the secondary school for mechanical engineering

core statements

Assessment of the pedagogical/methodological approach

- positive evaluation of the methodological approach

- effects:

  - high motivation of the learners (practice-oriented project)

  - good cooperation between the whole educational system in SCSL → tutoring system between different independent units (higher vocational school and middle school, between students of the highest and lowest level)

Assessment of the effects on the role and competences of trainers/teachers

- changed role: from lecturer to mentor/supervisor → formal guidance for the creation of the materials, assistance with some production processes, …

- "He is no longer someone who teaches, but someone who guides and accompanies the whole process."

2.
Results of the online-survey trainers/teachers (N=7)
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A. Assessment of the effects on the role and competences of trainers/teachers

Through the workplace learning projects developed in VACIDE, I take on a **new role** in the context of my previous work as a trainer (more learning process facilitator, less trainer or lecturer). N=7
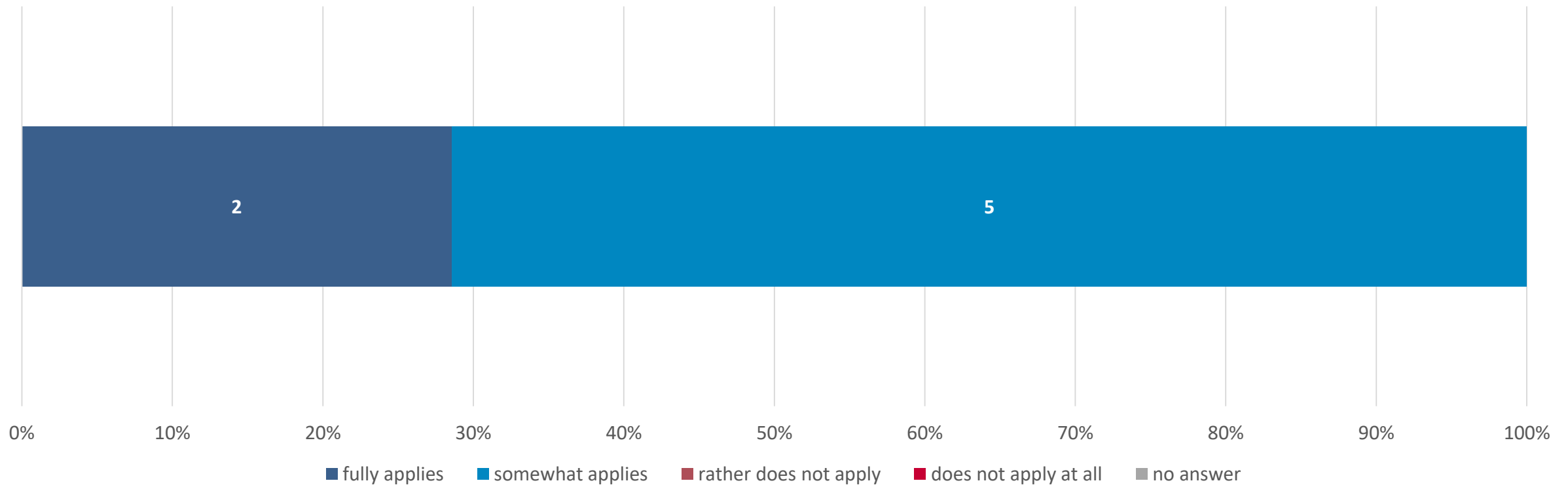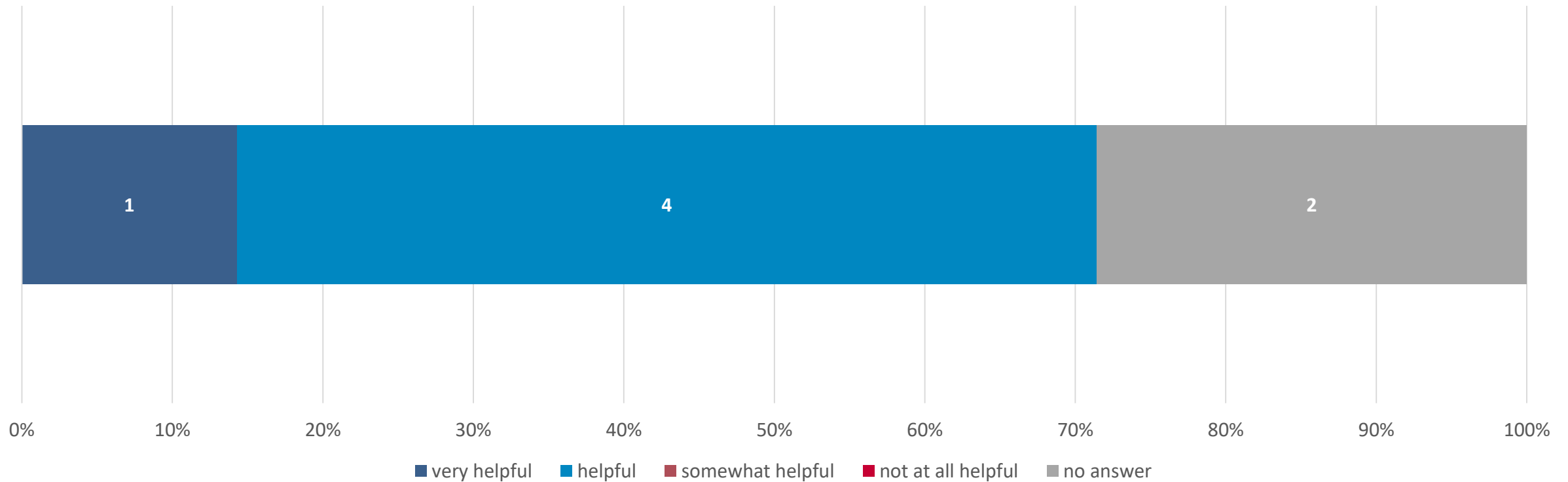
A. Assessment of the effects on the role and competences of trainers/teachers

Through VACIDE and the workplace-based learning projects, I can also develop my **media pedagogical competence** (e.g. by creating or using digital learning sequences). N=7
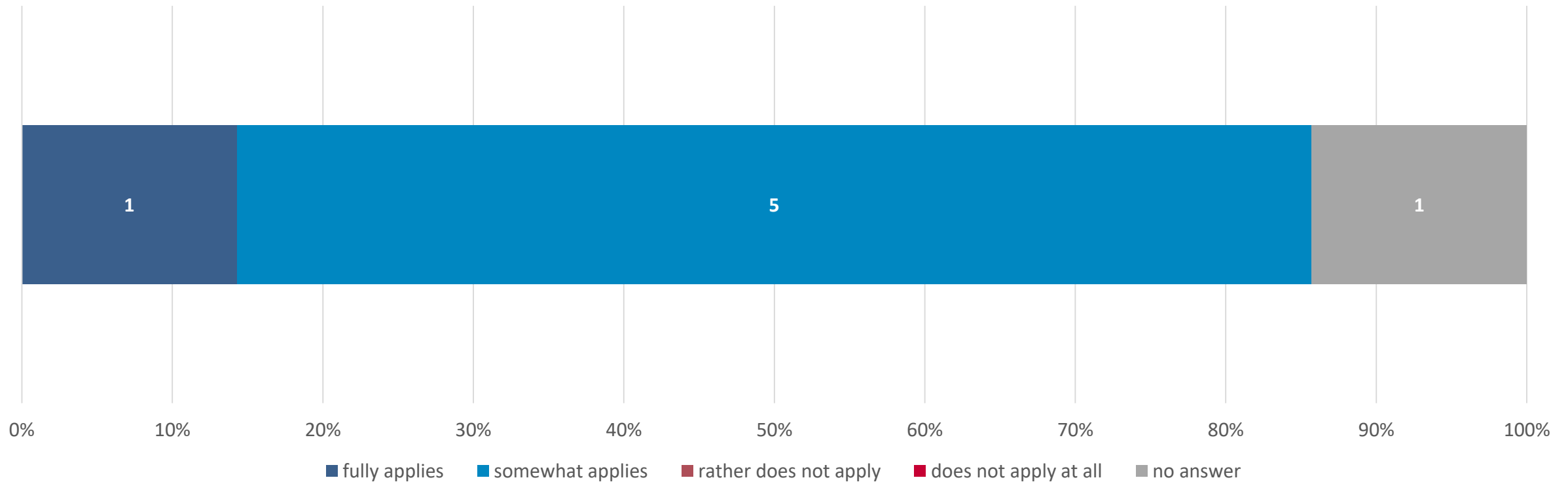
A. Assessment of the effects on the role and competences of trainers/teachers

What support do you need or what do you need so that you can continue to implement action-oriented learning projects in the future? N=4

Support with electrotechnical **knowledge**

I think I should be involved in more sessions. I didn't have all the **information**. I need to share more information with the people who make the electrical part and the control unit.

Cooperation with partners with similar experiences and **exchange** of examples of good practice

More **time** is essential.

B. Assessment of the impact on trainees' competence development

The **materials** provided with the learning project (scenario, learning assignments, digital learning sequences) for the trainees are sufficient to independently carry out the respective sub-assignment for the production and delivery of the training robot.

| fully applies | somewhat applies | rather does not apply | does not apply at all | keine Antwort |
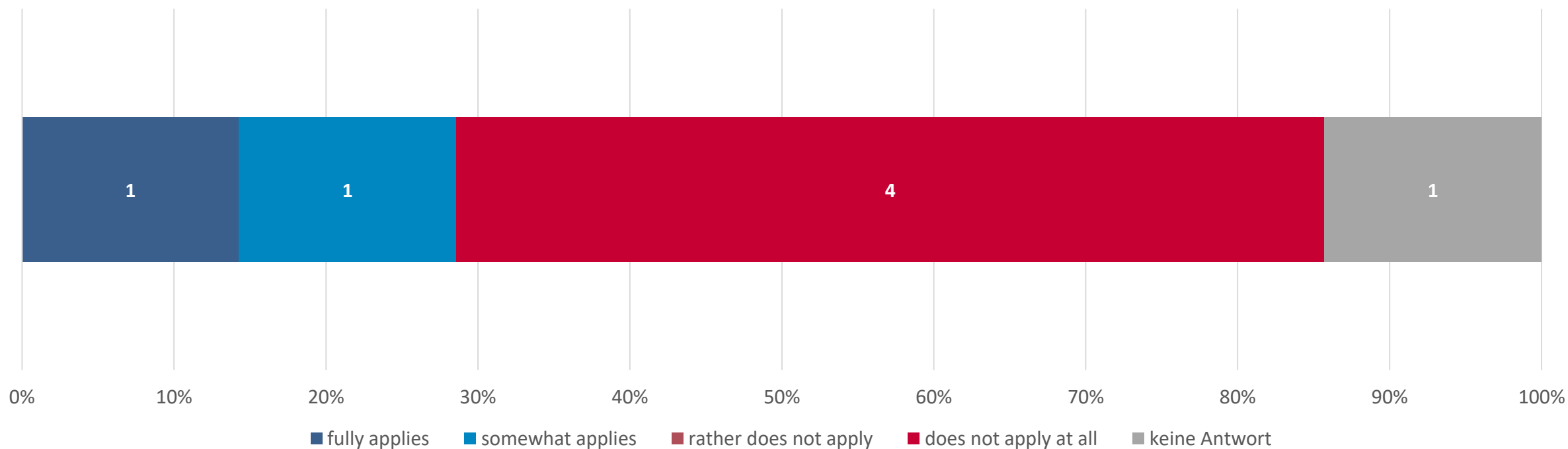
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B. Assessment of the impact on trainees' competence development

| What effect does the processing of the task with the provided materials have on the competence development and learning success of the trainees? N=5 |
| --- |
| **positive** |
| the trainees acquire **new additional knowledge, skills and competences** by using the materials provided to assemble the robot arm |
| It was very good to work in an international project with different experiences and working systems. |
| more effective **self-learning** |
| learning by doing |
| Integration of different technologies |
| higher **motivation** |
| Tutoring... |
| they offer different approaches |

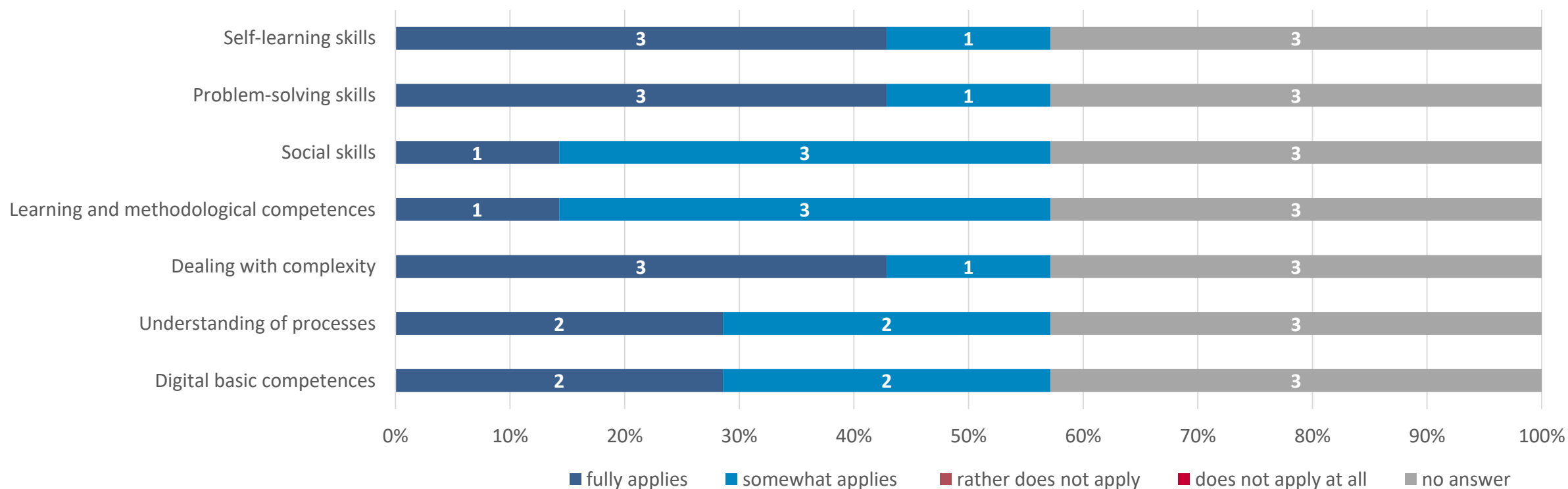# B. Assessment of the impact on trainees' competence development

With the learning project "Manufacturing and commissioning of a training robot", the trainees acquire technical qualifications in different areas. Please indicate to what extent which technical qualifications are taught. N=7
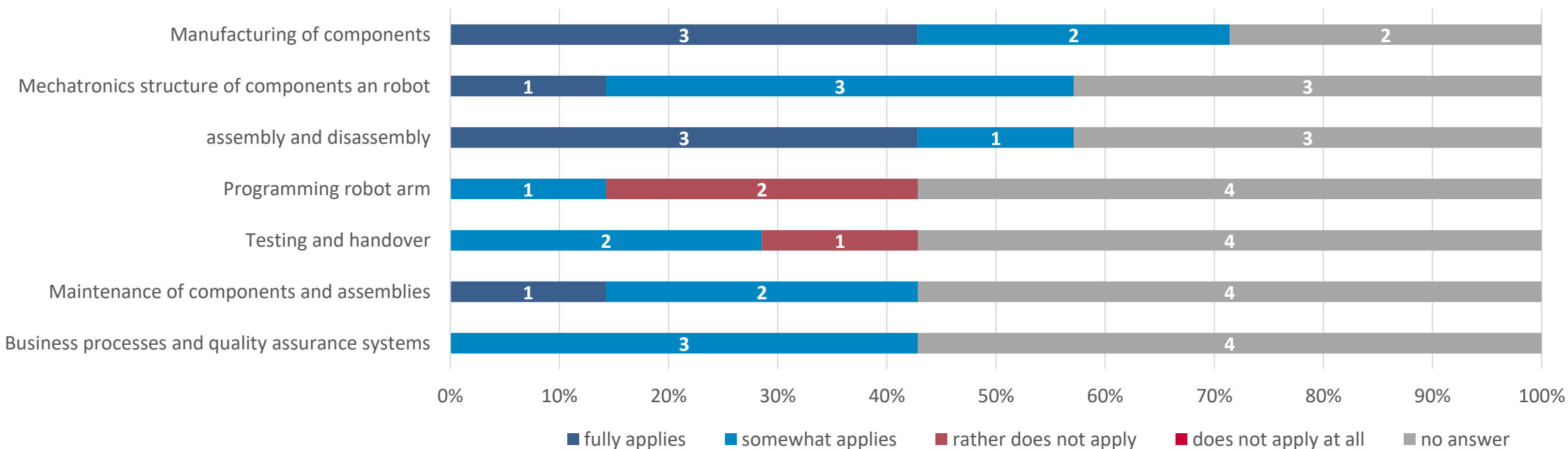
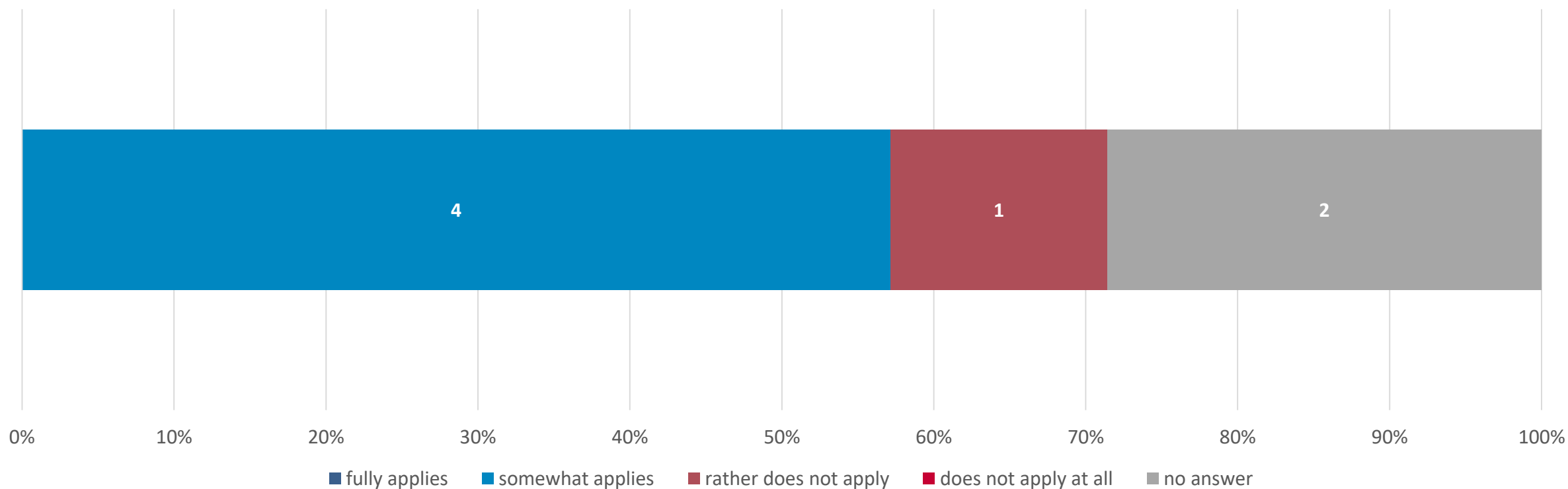# B. Assessment of the impact on trainees' competence development

To what extent are other competences promoted in addition to professional competences?
Please indicate which applies. N=7

	fully applies	somewhat applies	rather does not apply	does not apply at all	no answer
Self-learning skills	3	1			3
Problem-solving skills	3	1			3
Social skills	1	3			3
Learning and methodological competences	1	3			3
Dealing with complexity	3	1			3
Understanding of processes	2	2			3
Digital basic competences	2	2			3

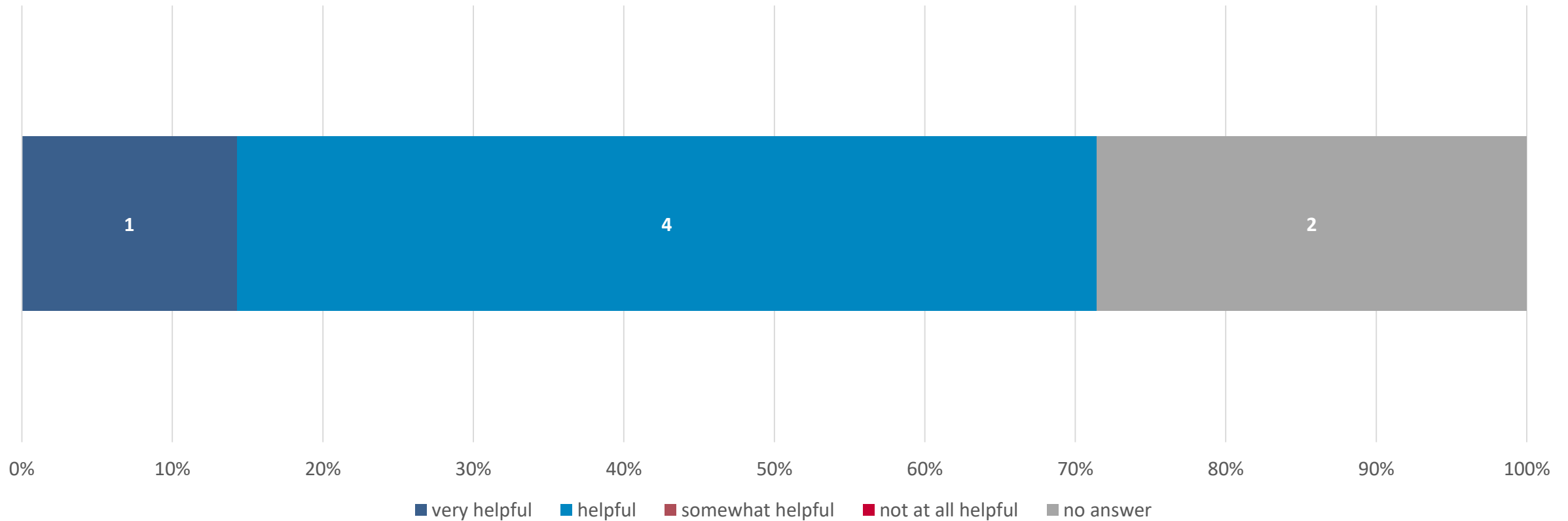# C. Assessment of the pedagogical/methodological approach

The description of an action scenario (constructed customer order: "Building a training robot")
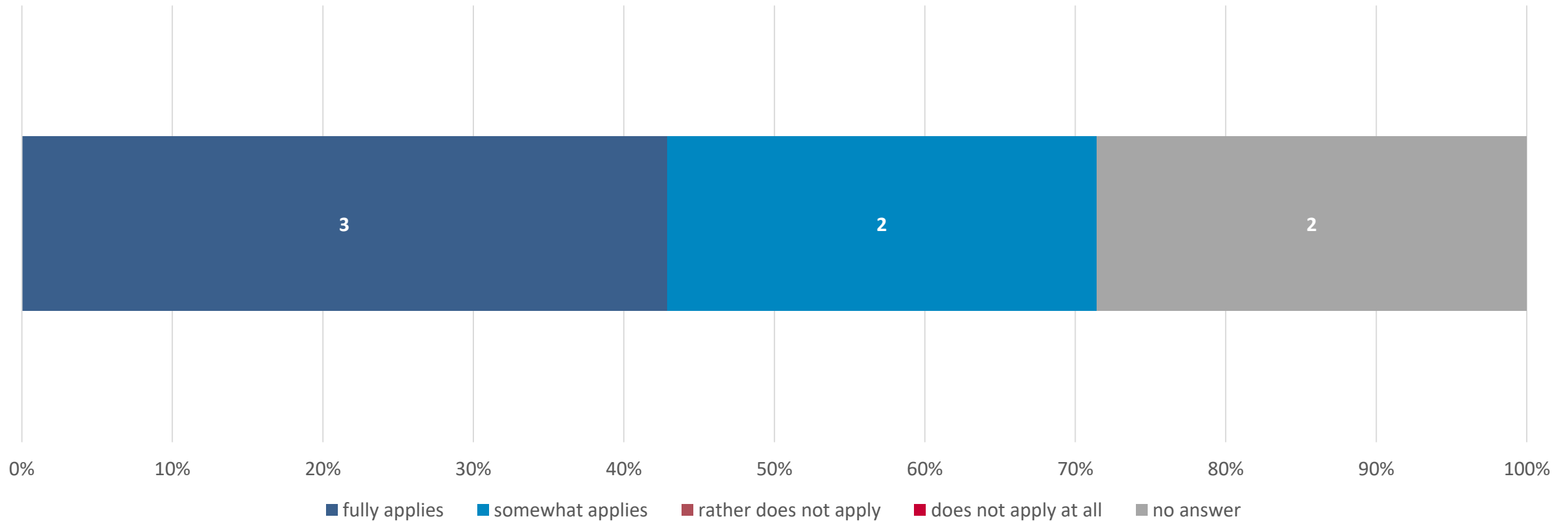is suitable for deriving work assignments for the trainees. N=7

4	1	2

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ fully applies   ■ somewhat applies   ■ rather does not apply   ■ does not apply at all   ■ no answer

C. Assessment of the pedagogical/methodological approach

The digital sequences are helpful for the trainees to work on the learning project. N=7

| very helpful | helpful | somewhat helpful | not at all helpful | no answer |

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C. Assessment of the pedagogical/methodological approach

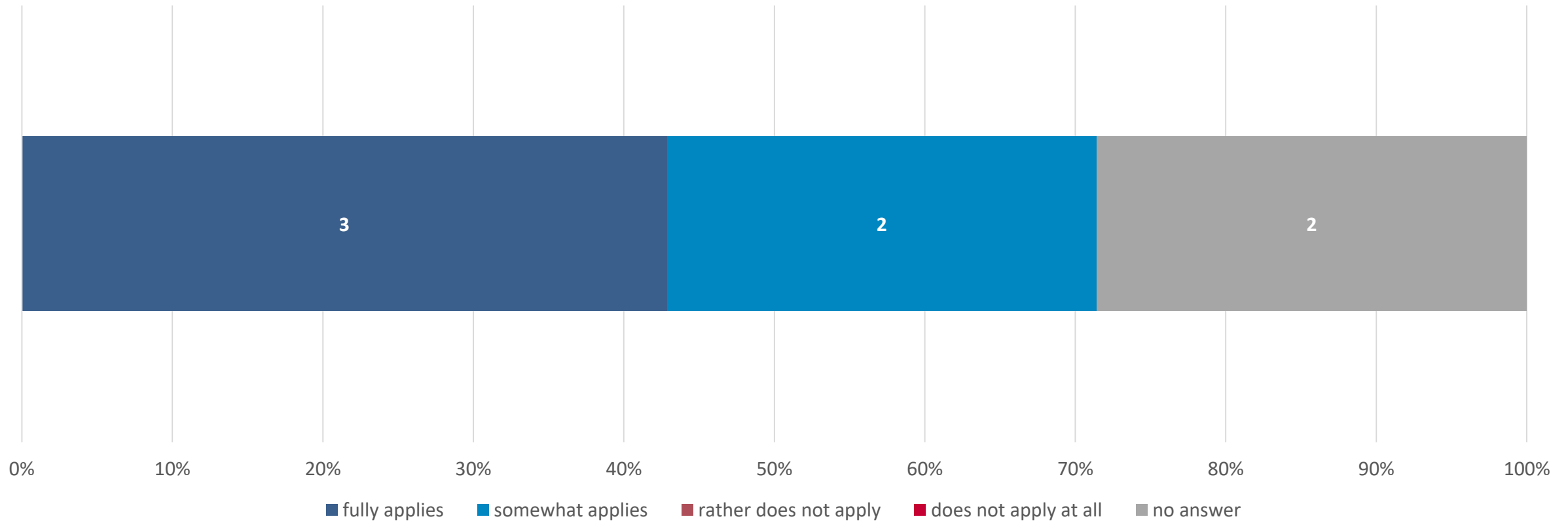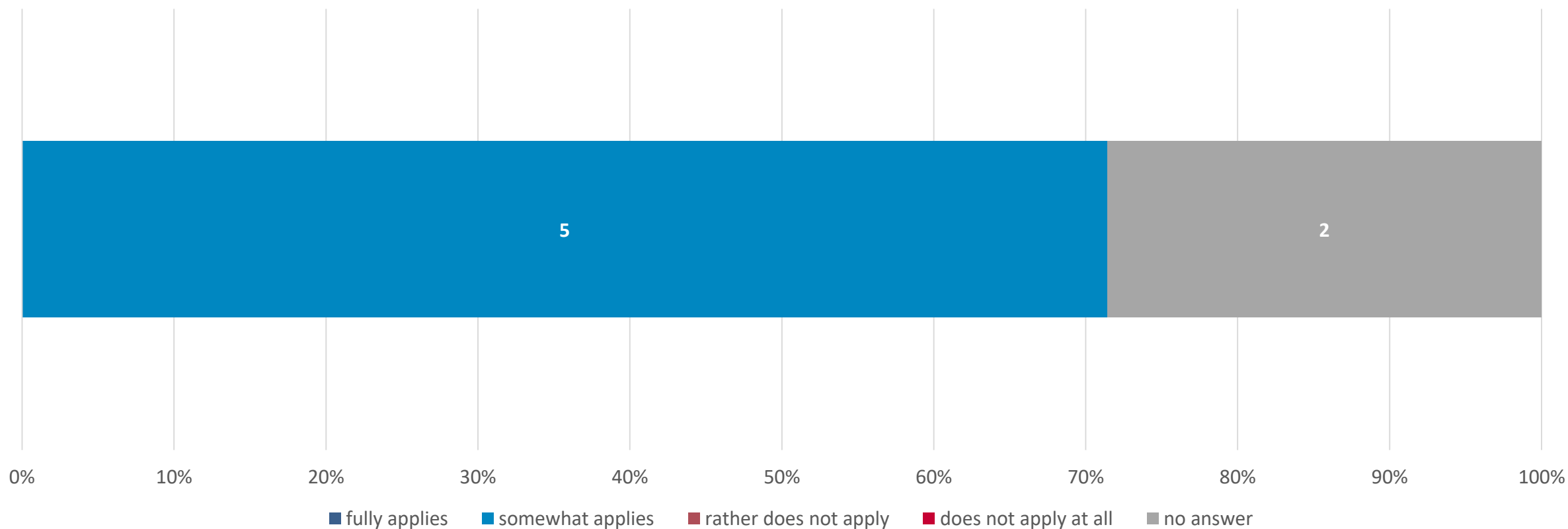## The methodology has a positive effect on the trainees' motivation. N=7

| fully applies | somewhat applies | rather does not apply | does not apply at all | no answer |

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D. Feedback on the testing phase

The practical testing of the learning projects developed in VACIDE was successful. N=7

| | 5 | | 2 |

Legend: fully applies · somewhat applies · rather does not apply · does not apply at all · no answer

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D. Feedback on the testing phase

What challenges do you see in the practical implementation? N=4
We are still working on this phase.
The test phase should be made live with the German and Slovenian sides together for at least a few days.
The trainees have to start working under the guidance of a mentor and can then continue working independently on sections for which the participants are specially prepared.
The project is time-consuming and this could be a challenge.

What suggestions do you have for improving the methodological-didactic concept? N=3
More joint work with professionals from different fields, especially mechanical and electrical engineering professionals.
I think it was good enough.
Meet again 1 year after the end of the project and evaluate the work of the partners and the application of the concept and then exchange good practice.

3.
Results of the online-survey learners/trainees (N=2)
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concept

- The majority rated the concept of the learning project as good to very good overall.

- The clear majority confirmed that working on the learning project had promoted their independence and that they would like to work on further learning projects.

- The trainees especially liked the practical and work-related exercises and the possibilities to work out solutions to problems "on their own" - in the group.

- Learning was easier for them because they were able to work practically on a concrete case from the "world of work".

- Most of the trainees liked the teamwork.

- All of them confirmed that they always had a contact person at their side while working on the learning project.
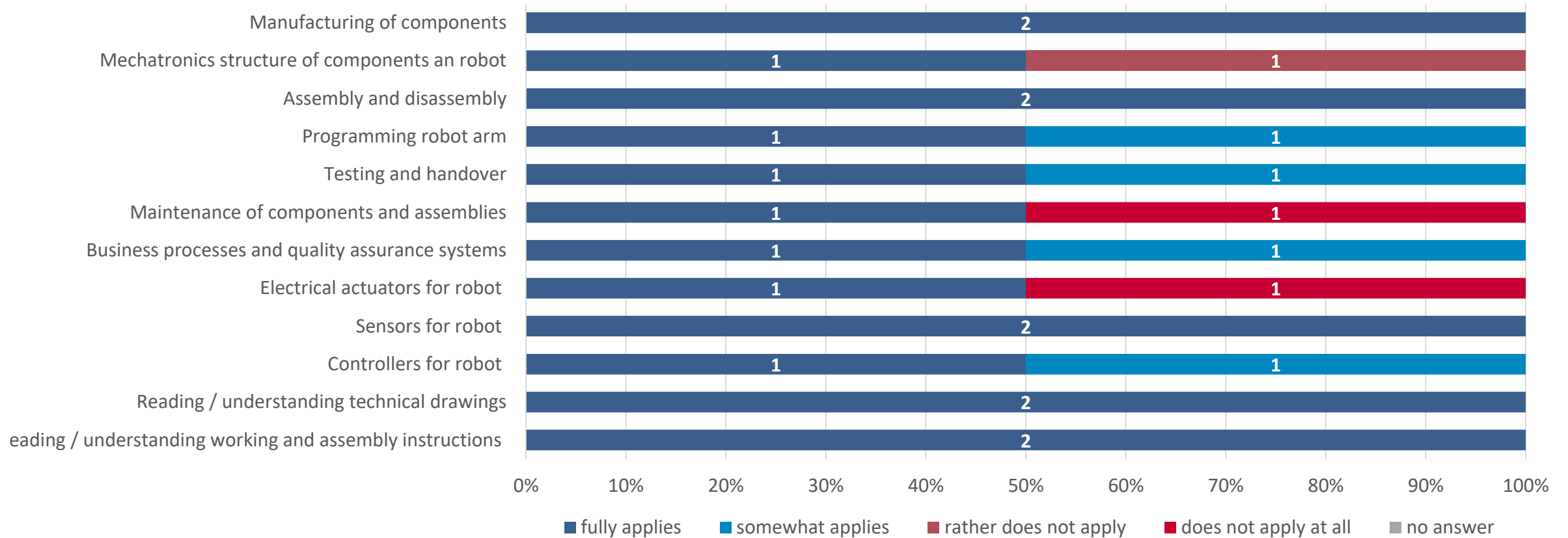
tasks and materials

- The constructed customer task "Building a training robot" is described as understandable by the trainees.

- The majority of the trainees coped well with the work tasks.

- They confirmed that the materials provided enabled them to work on the task independently.

- The tasks were described by all trainees as versatile and varied.

- Overall, they enjoyed working on the learning project.