

# IO3

## Assessment Indicators for the Online Practicum

-Final Product description -

## Disclaimer

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# 1. Introduction

We aim to create a set of common assessment indicators that facilitate school mentors and faculty advisors the student teachers' evaluation at training in both face-to-face and online environments. To accomplish this purpose, the indicators should 'fit for purpose' and meet quality requirements, so they can serve as basis criteria to establish future European standards for teachers in the online practicum.

The consortium has explored to what extent existing assessments can be used. The examination has been based on the following criteria: Coherence and comparability; indicators are to be consistent internally, over time and comparable to other regions. Accessibility and clarity; indicators should be easily accessible for schoolteachers, student teachers and faculty. We revised many documents in the literature included the one put first in the proposal, the National Professional Standards for Teachers in Australia (AITSL, 2020) that allows evaluating teachers' practice and that of their teaching students. However, The ICALT instrument best fit the criteria in the five European countries.

The quality of an online practicum depends on several other indicators, like the role of the (school-based or university-based) teacher educator who is organising the online practicum by using specific ICT-components (AR, VR, 360 grades, etc.) and the development of the partnership between university and schools. So, besides the ICALT instrument (Section 3), we developed indicators for teacher educators to prepare and evaluate using specific ICT-components (Section 4 and 7) and indicators to depict the development of the partnerships and (Section 5 and 8). So, we discussed three different kind of indicators for an online practicum.

## 2. Rationale and Objectives

There are three different kinds of indicators for an online practicum:

1. Indicators to observe (evaluate / assess) (student teacher) behaviour in practice.

For this purpose the ICALT instrument can be used: International Comparative Analysis of Learning and Teaching (ICALT) observation protocol. The ICALT<sup>1</sup> includes 32 items that specify observable teaching practices. The items refer to six domains, that together describe the latent variable ‘teaching’:

- Safe learning climate which describes the relation between teacher and class
- Classroom management which describes the overall order in the classroom
- Clear instruction which describes the quality explanations of lesson topics and the overall lesson structure, as well as connections among lesson parts
- Activating which mentions various teaching practices that motivate (student) teachers to think about the topic.
- Learning strategies which describes teachers’ efforts to teach (student) teachers how to learn.
- Differentiation which describes whether (student) teachers are sensitive and flexible to meet individual students’ learning problems and needs.

Observers rate the items on a four-point scale (1 = mostly weak; 2 = more often weak than strong; 3 = more often strong than weak; 4 = mostly strong).

The instrument is available in Dutch, in English and in Spanish. When somebody wants to use the instrument, a training is necessary. This can be to contact with Michelle Helms-Lorenz of the University of Groningen [m.helms-lorenz@rug.nl](mailto:m.helms-lorenz@rug.nl) for Dutch and English or with Carmen Fernandez for Spanish [fernandezcarmen@uniovi.es](mailto:fernandezcarmen@uniovi.es) .

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<sup>1</sup> Van der Lans, R. (2017). [Teacher evaluation through observation: Application of classroom observation and student ratings to improve teaching effectiveness in classrooms — the University of Groningen research portal \(rug.nl\)](#). PhD thesis. Groningen, Netherlands.

2. Indicators to observe (evaluate / plan) teacher educators' behaviour when using approaches within the online practicum.

For this purpose, the new developed OPPET-tool can be used: Online Practicum Preparing & Evaluation Tool. The OPPET includes 21 items that specify observable teacher educators' practices. The tool is based on Shuell (1988)<sup>2</sup> and Boekaerts and Simons (2014)<sup>3</sup> who assume so-called learning functions. That are psychological functions which should be fulfilled during learning either physically or online, either by the teacher or by the students themselves. The items refer to four domains of learning phases:

- Teacher Educators Orientation: indicators for the preparation phase of learning.
- Teacher Educators Execution: indicators for the execution phase of learning.
- Teacher Educators Evaluation: indicators for the evaluation phase of learning.
- Teacher Educators Reflection: indicators for the reflection phase after learning.

The tool can be used to prepare and evaluate a specific component of the online practicum: 360 degrees, remote classroom, VR-AR, etc.). This can be done by filling in the last column. Information about the tool can be get by Zuyd University of Applied Science in the Netherlands [paul.hennissen@zuyd.nl](mailto:paul.hennissen@zuyd.nl)).

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<sup>2</sup> Shuell, T. (1988). The role of the student in learning from instruction. *Contemporary Educational Psychology*, 13, 276-295

<sup>3</sup> Boekaerts, M., Simons, R-J, (2014). *Leren en instructie: psychologie van leerling en het leerproces*. Van Gorcum, Assen, Netherlands.

3. Indicators to observe (evaluate / analyse) school-university partnerships as a basis for working with an online practicum.

For this purpose, a new tool was developed. To realise an online practicum, you need a partnership between university and school. Within partnerships there are three phases of development between universities and schools (Geldens & Popeijus, 2009)<sup>4</sup>:

- The schools are suppliers of internships.
- The schools are in formal way co-educators.
- The schools and university are partners in learning.

To realise quality of the school-university partnership four important indicators<sup>5</sup> can be use:

- A common vision on learning
- Realising a learning environment
- Organisation of the partnership
- Culture of Quality

Combining the indicators with the phase of development of the partnership, shows where the partnership is now and how it can develop. Realising an online practicum depends on the development of the partnership (phases) and the quality of realising the indicators in practice. The tool can be used as a starting point. Information about the tool can be get by Zuyd University of Applied Science in the Netherlands [paul.hennissen@zuyd.nl](mailto:paul.hennissen@zuyd.nl) ).

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<sup>4</sup> Geldens, J. & Popeijus, H. (2009). Leverancier van stageplaatsen, mede-opleider of partners in leren? (Supplier of internships, co-trainer or partners in learning) *Tijdschrift voor Lerarenopleiders*, 30, 36 - 43.

<sup>5</sup> Kwaliteitskader Samen Opleiden en Inductie en werkwijze peer review (Quality framework: teacher training & Induction period. A method of peer review), December 2021. Den Haag, Netherlands.

### 3. Indicators for Student Teachers

This section describes the indicators to observe (evaluate / assess) student teachers' behaviour in practice. This will be done by using the ICALT instrument. The ICALT instrument consists of three parts. The first part (first page) is information about the school. A copy of this page is shown below. The second part (second and third page) are completed while observing the lesson. A copy of that page is not included here but shown in a separate document 'ICALT'. The third part is open for notes for the researchers.

#### 3.1. First part of the ICALT questionnaire

In the first part of the ICALT Questionnaire some information about the school, teacher and class, and observer is provided (figure 1).

Figure 1. First part of the ICALT questionnaire.

LESSON OBSERVATION FORM for evaluating the pedagogical and didactic practice of teachers (Version 3.0)	
<b>(version 3.0) Information about the school</b>	
Name of the school	
School identification code	
Name of the sub-department (if applicable)	
School location code	
Location	1O urban 2O suburban 3O rural
Level of education	1O primary education 2O secondary education
School type	1O general 2O vocational
School denomination	1O public 2O private
<b>Information about the observed teacher and class</b>	
Date of the observation (dd-mm-yyyy)	..... - ..... - .....
Name and gender teacher	1O Male 2O Female
Subject	
Time of observation	1O early in the morning (before 10 AM) 3O early in the afternoon (12-2PM) 2O late in the morning (10-12 AM) 4O late in the afternoon (after 2PM)
Name class and year (if applicable)	Class (e.g. class 2b):
Number of students in the class during the observation	Year (e.g. year 2):
Is there another person present during the lesson who is executing educational tasks?	.....(including .... diagnosed LD students)
During which part of the lesson is this person present?	1O yes 2O no (if this is the case, skip the next question)
Which of the following describes the achievement level of students in this class best?	1O 0-25 % of the lesson 3O 50-75 % of the lesson 2O 25-50 % of the lesson 4O 75-100% of the lesson 1O most students are high performers 2O most students are average performers 3O most students are low performers 4O performance levels are more or less equally distributed in this class
Which of the following describes the socioeconomic status (SES) of students in this class best?	1O most students have a high SES 2O most students have an average SES 3O most students have a low SES 4O SES is more or less equally distributed in this class
<b>Information about the observer</b>	

Name and gender observer	1O Male 2O Female
Did you complete the ICALT-observation training?	1O yes 2O no
What is your occupation?	1O primary school teacher 3O university teacher 2O secondary school teacher 4O other, Please specify: .....
Do you have a teaching degree?	1O yes 2O no (if this is the case, skip the next two questions)
Do you have a degree to teach the observed subject?	1O yes 2O no
Years of teaching experience (excl. periods in which you were ill, had another job etc.)	1O less than 3 years 3O 6 to 15 years 2O 3 to 5 years 4O more than 15 years
Are you employed at this school?	1O yes 2O no
Are you involved in the school management? (e.g., school leader, principal, head, school administrator etc.)	1O yes 2O no
Are you appointed as a coach? (e.g., mentor, peer coach, subject matter coach etc.)	1O yes 2O no

### 3.2. Second part of the ICALT questionnaire.

The second part of the ICALT questionnaire is about observable behaviour of teachers and it shown in a separate document ICALT\_observation\_English. [See the link.](#) The ICALT is not only available in English, but also in Spanish and in Dutch (see figure 2)

Figure 2. Extract of the second part of the ICALT questionnaire.

Noted results<sup>1</sup> Please circle the appropriate answer: 1= mostly weak; 2=more often weak than strong; 3= more often strong than weak; 4= mostly strong  
Observed<sup>2</sup> Please circle the appropriate answer: 0= no, I have not observed this ; 1= yes, I have observed this.

Indicator: The teacher...	Results <sup>1</sup>	Examples of good practice: The teacher ...	Observed <sup>2</sup>
Safe and stimulating learning climate	1 ...shows respect for learners in his/her behaviour and language	...lets learners finish their sentences	0 1
		...listens to what learners have to say	0 1
		...does not make role stereotyping remarks	0 1
	2 ...maintains a relaxed atmosphere	...addresses learners in a positive manner	0 1
		...uses and stimulates humour	0 1
		...accepts the fact that learners make mistakes	0 1
	3 ...promotes learners' self-confidence	...shows compassion and empathy for all learners present	0 1
		...gives positive feedback on questions and remarks from learners	0 1
		...compliments learners on their work	0 1
	4 ...fosters mutual respect	...acknowledges the contributions that learners make	0 1
		...stimulates learners to listen to each other	0 1
		...intervenes when learners make fun of someone	0 1
Efficient organisation	5 ...ensures the lesson proceeds in an orderly manner	...keeps (cultural) differences and idiosyncrasies in mind	0 1
		...stimulates solidarity between learners	0 1
		...encourages learners to experience activities as group events	0 1
		Learners enter and settle in an orderly manner	0 1
		...intervenes timely and appropriately in case of disorder	0 1
		...safeguards the agreed rules and codes of conduct	0 1
	6 ...monitors to ensure learners carry out activities in the appropriate manner	...keeps all learners involved in activities until the end of the lesson	0 1
		...makes sure that learners know what to do if they need help with their work and explains clearly when they can ask for help	0 1
		...makes sure learners know what to do when they have finished their work	0 1
		...checks whether learners have understood what they have to do	0 1
		...provides feedback on learners' social functioning whilst carrying out a task	0 1
		7 ... provides effective classroom management	...explains clearly which materials can be used
8 ... uses the time for learning efficiently	The materials for the lesson are ready for use	0 1	
	Materials are geared at the right level and developmental stage of the learners	0 1	
	... starts the lesson on time	0 1	
... does not waste time at the beginning, during, or at the end of the lesson	0 1		
... prevents any unnecessary breaks from occurring	0 1		
... does not keep learners waiting	0 1		

Clear and structured instructions	9	...presents and explains the subject material in a clear manner	1 2 3 4	...activates prior knowledge of learners	0 1
				...gives staged instructions	0 1
				...poses questions which learners can understand	0 1
				...summarises the subject material from time to time	0 1
	10	...gives feedback to learners	1 2 3 4	...makes clear whether an answer is right or wrong	0 1
				...makes clear why an answer is right or wrong	0 1
				...gives feedback on the way in which learners have arrived at their answer	0 1
	11	...engages all learners in the lesson	1 2 3 4	...creates learners assignments which stimulate active participation	0 1
				...asks questions which stimulate learners to reflect	0 1
				...makes sure that learners listen and/or continue working	0 1
				...allows for 'thinking time' after asking a question	0 1
				...also invites learners to participate who do not volunteer to do so	0 1
	12	... during the presentation stage, checks whether learners have understood the subject material	1 2 3 4	...ask questions which stimulate learners to reflect	0 1
				...checks regularly whether learners understand what the lesson is about	0 1
	13	... encourages learners to do their best	1 2 3 4	...praises learners who do their best	0 1
				...makes clear that all learners should do their best	0 1
				...expresses positive expectations about what learners are going to achieve	0 1
	14	...teaches in a well-structured manner	1 2 3 4	The lesson is built up in terms of clear stages and transitions between stages	0 1
				The lesson builds up logically, going from the simple to the complex	0 1
				Activities and assignments are connected to the materials presented during the presentation stage	0 1
				The lesson offers a good variety of presentation, instruction, controlled practice, free practice, and so forth.	0 1
	15	...gives a clear explanation of how to use didactic aids and how to carry out assignments	1 2 3 4	...makes sure that all learners know what to do	0 1
				...explains how lesson aims and assignments relate to each other	0 1
				...explains clearly which materials and sources can be used	0 1

### 3.3. Third part of the ICALT questionnaire.

The third part of the ICALT questionnaire is open for own use and it registers the researcher's notes (see figure 3).

### NOTES FOR OWN USE

Safe and stimulating learning climate	Efficient organisation
Clear and structured instructions	Intensive and activating teaching
Adjusting instructions and learner processing to inter-learner differences	Teaching learning strategies
Additional remarks:	
Remarks for the researchers:	

Figure 3. Third part of the ICALT questionnaire.

## 4. Indicators for Teacher Educators

### 4.1. Introduction.

This section describes the indicators for preparing and evaluating the use of specific ICT-components by teacher educators. This will be done by using the OPPET instrument (See Section 7 for the complete instrument). The Online Practicum Preparing & Evaluation Tool (OPPET) delivers a description of indicators for each phase of the learning process to realise an online practicum by teacher educators. It can be used to investigate to what extent teacher educators are preparing and evaluating important aspects of a learning process when teacher educators are using specific components (e.g., Augmented Reality -AR-, Virtual Reality -VR-, 360 degrees scenarios, etc.).

The teacher educator (TE) has to prepare and evaluate (a specific ICT-component like VR, AR, 360-degree, remote classroom) the online practicum during four phases of the learning process of the online practicum. Every phase has its own questions, also called indicators (see table 1). ST = Student teachers.

*Table 1.* Indicators for each phase to be considered in the design of an online practicum.

<b>TE Orientation: indicators for the preparation phase of learning</b>	<b>Triggering Questions</b>	<b>Answer these questions for the chosen component (e.g. remote classroom, AR, VR, 360 degrees ...)</b>
1.1 Learning objective	Is there a concrete learning objective?	The learning objective is ...
1.2 Realized output	What is the output? Is it clear for ST?	The output at the end should be ...
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	Task motivation will be realised by ... The attention will be triggered by ...
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge will be activated by ...
1.5 Planning time	Is there a time-plan?	The time-plan is ...
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	The didactical form used will be
2.2 Time (in)dependency	Is the execution time (in)dependent?	The execution moment will be ...
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place will be ...
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The necessary learning-activities are ....
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	The monitoring of the learning process of the ST is realised by ...
<b>TE evaluation: indicators for the evaluation phase of learning</b>		

3.1 Completion of the task	When is the task achieved?	The task is achieved as ...
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	The evaluation-moment of the learning will be on ...
3.3 Criteria for evaluation	Are there explicit criteria formulated?	The evaluation criteria are ...
<b>TE reflection: indicators underlying the reflection phase after learning</b>		
4.1 Reflection by TE on previous 3 phases	Did TE reflect?	When looking back ... went good and ... wrong.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	The reason learning of ST took place is ...
4.3 Reflection by ST on integration theory, practice and person	Are practice, theory and person integrated within ST'reflection?	The integration took place by ...
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST'reflection	Within ST'reflection the ST discussed ...
4.5 Usefulness for future	The design of this online practicum is useful for the future?	This design If useful because ...

## 4.2. Use and evaluation.

There are examples of the use and full details per country of this instrument which can be found in Section 7 of this document. If we look closely at the effects of using the tool, then the following occurs:

- In Portugal the OPPET is used to prepare and evaluate two activities: a meeting in which 360 degrees video (nov22) were used and one in which AR (april23) is used. Looking back in the reflection phase the ST stresses the potential of the tools for them to be more reflective and critical in relation not only to the use of the tools but also the principles underpinning them. In particular, they stress their sense of agency and the making sense of the tools and activities in the process of becoming and being a teacher.
- In Spain the OPPET is used to prepare and evaluate one activity around 360 degrees training scenarios. Looking back in the reflection phase the ST thought that it was of great use for their learning as teachers at the faculty. The seminar about this technology gave them a sense of purposefully act in their profession and find their own solutions to the challenges they might face in the practicum or teaching practicum in the future. This design is useful to combine theory at the university and practice. This tool (focusing on immersive learning by using 360 degrees video) let the teacher educator to bring instructional situations of practice to the faculty and make the connections with the major theoretical concepts.
- In Greece the OPPET is used to prepare and evaluate the AR-activity (April23). The goal was to explore the use of AR in teaching and learning, and to practice

collaboration in interdisciplinary teams of STs and in-service teachers. Looking back in the reflection phase the discussion that followed the group work was quite constructive since many ideas of AR implementation were heard. This design has the potential to prepare the STs for interdisciplinary teamwork, but this aspect might depend on the technology. Also, the activity might make the STs better prepared for (and inclined to) the use of technology in their own teaching.

- In Norway the OPPE'T is used to prepare and evaluate the AR-activity (feb23). The ST reflections show they (at least at this stage) were more concerned with the technological aspects of the activity, and less with the aspects of professional development and interdisciplinary collaboration.
- In the Netherlands the OPPE'T is used to getting acquainted with artificial intelligence (AI) as a part of 21st century skills. The OPPE'T is used to prepare the STs within a university course of 10 weeks. They started with a challenge about AI. The goal is to realise the use of AI within primary education.

## 5. Indicators for institution

### 5.1. Introduction.

This section describes indicators to observe (evaluate/analyse) school-university partnerships on an institutional level as a basis for working with an online practicum.

To realise an online practicum, you need a partnership between university and schools. Within partnerships there are three phases of development between universities and schools (Geldens & Popeijus, 2009)<sup>6</sup>. To realise quality of the partnership four indicators can be used<sup>7</sup>. Combining the indicators with the phase of development of the partnership, shows where the partnership is now and how it can develop. See Section 8 for the complete instrument.

### 5.2. Partnerships Phases of development

There are three phases in the development of university-school partnerships:

A. The schools are suppliers of internships; the school is the place where ST get hands-on experience with teaching and all the other responsibilities are in hands of the university.

B. The schools are in formal way co-educators and are coordinating the supervision of the ST by an expert teacher or mentor. The school-coordinator is also supervising the expert teachers or mentors.

C. The schools and the university are partners in learning and have a common vision on teaching, learning and supervision. Within the school all participants including ST are learning and working together within a professional learning community (inquiry is part of that).

There are two steps to fill in these indicators. First determine in which phase the partnership is now: supplier of internships (phase 1), co-educators (phase 2) or partners in learning (phase 3). Second describe the quality of the partnerships by answering the specific questions concerning four important quality indicators of university-school partnerships: vision of learning (1), realising a learning environment (2), organisation of the partnership (3), culture

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<sup>6</sup> Geldens, J. & Popeijus, H. (2009). Leverancier van stageplaatsen, mede-opleider of partners in leren? (Supplier of internships, co-trainer or partners in learning) *Tijdschrift voor Lerarenopleiders*, 30, 36 - 43. (in Dutch)

<sup>7</sup> Bestuurlijk Overleg Samen Opleiden Nederland, december 2021. Kwaliteitskader Samen Opleiden en inductie; en werkwijze peer review. (Quality framework Training Together and induction; and method of peer review) (in Dutch)

of quality (4).

The form can be filled in by putting a cross in one of the boxes of the table. Then, an explanation can be given below in Table 2.

*Table 2.* Indicators for determining development university-school partnerships.

		A.Phase 1 Supplier of internships	B.Phase 2 Co- educators	C.Phase 3 Partners in learning
1.	What is the vision of learning ...			
	... on the professional image of the teachers			
	... on the teachers development of knowledge?			
	... on working together within and outside the schools?			
	What is the level of motivation of the partners?			
	What is the level of responsibility of the partners?			
2.	What kind of learning environment is realised for (student) teachers for their professional development:			
	... hybride?			
	... community?			
	... flexible possibilities?			
3.	Is the organisation of the partnership ...			
	... based on trust and equivalence?			
	... regular meetings?			
	... focusing on the development of ST, beginning and expert teachers?			
4.	Is there a Quality Culture ...			
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?			
	... with clear frames for alle partners?			

### 5.3. Use and evaluation.

Every university made an analysis in which phase their partnership between university and schools is, which can be found in Section 8. If we look closely at the analysis of each country, the following occurs:

In Portugal the institution of Braga is in-between B and C. There is a clear and consistent framework for the practicum which implies the setting-up of a protocol between the university and the schools. It also includes a formal partnership with the schools and mentors which can benefit from a course on pedagogical supervision at beginning of each school year. The rationale behind the practicum is inquiry-based professional development aimed at enhancing reflective, learner-centered teaching within a transformative vision of education on humanistic and democratic values.

In Spain, the University of Salamanca could be positioned in phase B, although there is no such figure of the school coordinator who supervises the expert teachers or mentors. There is the role of the faculty practicum coordinator though that performs that role connecting the university with the schools in terms of administrative task, assessment criteria and

mentoring roles. Thus, in this regard the phase would be more accurately positioned between A and B as most of the schools at the university context are suppliers of internships. The most important evaluation tool is the portfolio which in the case of the USAL is assessed both by the school mentor (45% of the final mark for the practicum subject) and the faculty advisor (55% of the final mark).

In Greece, the University of Thessaly and their partnership could be positioned in phase A. School collaborate with the University in terms of providing places for STs to teach in the class. The class teacher observes ST during teaching with unofficial character, they are present in the class to support the ST if anything is needed. Therefore, the school is the place where STs get hands-on experience with teaching and school life. STs are embraced in the school life and culture. In terms of planning lessons and providing feedback the university – based mentors (in-service teachers who are placed for one school year at the university to work with STs and they do not have their own class) and tutors (laboratory teaching staff) who take on the role of supervising STs' lesson plans in pairs and individually and provide feedback respectively. Moreover, they observe STs' teaching and assess it based on specific criteria. Thus, STs' lesson planning, observation of teaching and assessment is in hands of the university.

In Norway the partnership is in-between phase 2 and 3. There is a clear vision of learning based on the National Curriculum (phase 3). The Learning environment consists of learning at the campus of the University of Bergen. The student teachers have a certain number of mandatory lessons/seminars. The practicum is 100% mandatory. Intentions and frameworks for Quality Culture are present, but evaluations show that the system opens up for variations, which might have negative consequences (Phase 2). There is a gap between intentions and reality, and the responsibility is pulverized. There are too many stakeholders at different levels. Third space meetings are missing (Ulvik, Eide, Helleve, Kvam, 2023).

In the University of Zuyd Hogeschool in the Netherlands the partnership is between phase 2 and 3 and it is trying to realise Partners in Learning (phase 3). The focus is till now on student teachers and less on beginning and experienced teachers. The learning environment for student, beginning and expert teachers are very different and not aligned. The schools are in formal way legislate by the government co-educators and coordinating the supervision of the ST by an expert teacher or mentor. The school-coordinator is also supervising the

expert teachers or mentors. But the school-coordinator is also a school-based teacher educator who is responsible for ensuring learning processes between student teachers themselves and with mentors. There is a common vision about teachers.

## 6. Concluding remarks

The quality of an online practicum depends on several indicators, like indicators for observing student teachers within classrooms, like the development of the partnership between university and schools and the role of the (school-based or university-based) teacher educator who is organising the online practicum by using specific ICT-components (AR, VR, 360 grades, etc.). So, besides the ICALT instrument, we developed indicators to depict the development of the partnerships and indicators for teacher educators to prepare and evaluate using specific ICT-components. So, we discussed three different kinds of indicators for an online practicum.

The indicators for observing student teachers within classrooms are based on the ICALT, an internationally validated instrument. The ICALT can be easily used in an online practicum. Every observation of (student) teacher behaviour in a remote classroom, 360 grade video or other online medium can be assessed or supervised by using the ICALT instrument. It can be used to observe all the categories, but it can also be used for specific categories based on the needs of the student teacher. It is only possible to observe when the goals are clear. This instrument focusing on six domains of teaching makes it possible to translate general goals of teaching into observable concrete actions.

The indicators for preparing and evaluating teacher educators' behaviour when organizing learning activities with specific tools (AR, VR, etc.), is useful can should be further developed.

The OPPET instrument can be used in several ways:

- for preparing the complete learning process;
- for evaluation of the complete learning process;
- for one activity for one hour;
- for an activity of 10 weeks;
- for activities within teacher training institutes;
- for activities within schools.

It is important before using the form to choose in advanced how the form will be used.

The indicators for phase of development and quality of partnerships within schools and universities is useful and should be further used and developed. It is clear that an online practicum is fully dependant on the phase and quality of development of the partnership. So, the use of the PPT-tool depends on the phase of development. When the partnership is on level 1, then the PPT-tool can be used to match student teachers with mentors of all the schools. When the partnership is on level 3, then the PPT-tool can be used to match student teachers with mentor within one school, because a group of student teachers is going to that particular school. The same applies to the use of specific tools (O.2). A partnership in phase 3 provides many more opportunities for learning on the job than in phase 1. In phase 3, the online practical mainly comes in addition to learning in practice. This has not been further investigated in this study.

## APPENDIX A. Attachments Section II of each country

**Online Practicum Preparing & Evaluation Tool (OPPET)**  
for preparing and evaluating the teacher educators' online practice (version 2.0)

### Goal

This tool delivers a description of indicators for each phase of the learning process to realise an online practicum by teacher educators.

### Task

Investigate to what extent these indicators occur for a chosen component (360 degrees, remote classroom, recorded lessons, AR-VR, etc.). If the component occurs, describe how by answering the question.

### Phases of the learning process of online practicum

The teacher educator (TE) has to prepare and evaluate (a specific component like VR, AR, 360-degree, remote classroom) the online practicum during four phases of the learning process of the online practicum. Every phase has its own questions, also called indicators. ST = Student teachers (see table 3).

*Table 3:* Indicators for each phase to be considered in the design of an online practicum

<b>TE Orientation: indicators for the preparation phase of learning</b>	<b>Triggering Questions</b>	<b>Answer these questions for the chosen component (e.g. remote classroom)</b>
1.1 Learning objective	Is there a concrete learning objective?	The learning objective is ...
1.2 Realized output	What is the output? Is it clear for ST?	The output at the end should be ...
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	Task motivation will be realised by ... The attention will be triggered by ...
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge will be activated by ...
1.5 Planning time	Is there a time-plan?	The time-plan is ...
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	The didactical form used will be

2.2 Time (in)dependency	Is the execution time (in)dependent?	The execution moment will be ...
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place will be ...
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The necessary learning-activities are ....
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	The monitoring of the learning process of the ST is realised by ...
<b>TE evaluation: indicators for the evaluation phase of learning</b>		
3.1 Completion of the task	When is the task achieved?	The task is achieved as ...
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	The evaluation-moment of the learning will be on ...
3.3 Criteria for evaluation	Are there explicit criteria formulated?	The evaluation criteria are ...
<b>TE reflection: indicators underlying the reflection phase after learning</b>		
4.1 Reflection by TE on previous 3 phases	Did TE reflect?	When looking back ... went good and ... wrong.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	The reason learning of ST took place is ...
4.3 Reflection by ST on integration theory, practice and person	Are practice, theory and person integrated within ST'reflection?	The integration took place by ...
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST'reflection	Within ST'reflection the ST discussed ...
4.5 Usefulness for future	The design of this online practicum is useful for the future?	This design If useful because ...

Portugal – University of Minho

Teacher educator: Maria Flores

Testing of the 360 degrees training scenarios and AR done by UiB. The testing of this technology was done in November 2022 and April 2023 at the University of Minho. We are also including here the use of critical incidents identified by the ST and discussed in the Focus Group (see table 4).

*Table 4:* Indicators for each phase to be taken into account in the design of an online practicum.

<b>TE Orientation: indicators for the preparation phase of learning</b>	Triggering Questions	Answer these questions for the chosen component (e.g. 360 degree training scenario)
1.1 Learning objective	Is there a concrete learning objective?	Yes, it provides ST to learn from tools that can enhance their professional learning and reflection what it means to be a teacher. The potential of the tools is related to situations and strategies that may contribute to provide ST to problematize the nature and complexity of teaching and being a classroom teacher but also what kinds of activities can be used to foster ST learning during practicum.
1.2 Realized output	What is the output? Is it clear for ST?	The active and interactive nature of the tools (360° and AR) and the reflection process inherent in the identification and analysis of the critical incidents encompass both the learning process and its outcomes for ST learning. ST understood very well the tasks and they recognised their value in terms of the enhancement of their professional learning by using practical activities such as 360° and AR. They stressed also the potential of the analysis of the critical incidents to enhance their reflection on how to think and how to act as a future teacher.
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	ST were very motivated for the tasks. Due to the innovative and practical nature of the tasks, they were very engaged in the process of learning and sharing with their peers. TE were also very positive in relation to AR and 360° but they made suggestions in the questionnaires that they had to fill in. TE would appreciate a more critical (and less technical) approach to the exploration of the tools, namely 360°.
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge is activated by making connections to the different kinds of knowledge: curriculum, pedagogy and didactics. ST were also able to mobilise previous knowledge related to the context of teaching and how it influences their pedagogical interaction with pupils and their decisions in the classroom.
1.5 Planning time	Is there a time-plan?	The time-plan is divided in four moments. First of all, the ST as well as TE familiarised with the tools and how they work. Then they explored them following their own pace and focus. After that, they reflected together of their potential and shortcomings and they filled in the questionnaires and they also reflected together about what they have learnt when using it and the potential of the resource for the practicum.
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	Active and interactive methodologies were used. First of all, ST explored the tools at their own pace and then they discussed together their potential for their professional learning during practicum. Cooperative learning was a key feature of the activities. This was much appreciated from the part of the ST.

2.2 Time (in)dependency	Is the execution time (in)dependent?	The activities were carried out during a Seminar and also in an independent activity organised for this purpose only. Time was a key feature as ST had more time to explore the tools at their own pace.
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place was at the Institute of Education at the University of Minho.
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The learning-activities were characterised by their active and interactive nature (testing the 360° scenario by moving the cursor to the observation angle the student teachers like to position), cooperative learning (ST discussed in groups about the challenges and questions posed in the recorded training scenarios) and reflective dimension (writing up of a narrative about their ideas and thoughts in relation to the activities (360° and AR as well as written narratives about the critical incidents). Key questions included: 1.What do you think about this tool? What have you learned? 2.What would you improve if you were to use this tool for learning the profession during the practicum? 3.How do you see the potential of this tool for ST professional learning?
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	Yes, first of all ST provided feedback for each other. This was the main characteristics for feedback that was done in the Portuguese context. TE also interact with the ST to enhance their reflection of the underpinning principles in practicum and the use of the tools in such context but also during course work.
<b>TE evaluation: indicators for the evaluation phase of learning</b>		
3.1 Completion of the task	When is the task achieved?	ST were highly motivated and engaged with the activities; they completed all the tasks and they found them very interesting. They also would like to use them in their learning process as a teacher to be before the practicum. They suggested the use of such tools during course work too.
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	SE and TE did a formative assessment of the activities and of the use of the tools. They stressed their potential for cooperative learning and critical reflection. The wrote down their thoughts and ideas in an open/flexible way but they also used the guidelines/prompts provided in the advance.
3.3 Criteria for evaluation	Are there explicit criteria formulated?	Only formative assessment with no implications for their grades.
<b>TE reflection: indicators underlying the reflection phase after learning</b>		
4.1 Reflection by TE on previous 3 phases	Did TE reflect?	TE provided a very relevant and useful reflection. They were very positive about the tools and the tasks for reflection but they suggested a more critical approach. They stressed that some of the questions implied a technical view of teaching and of the practicum. This has to do with the model in place in my institution which encompasses a transformative view of education and of teacher education. Critical reflection is a key feature of the practicum model.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	Yes, they discussed a lot and they provided written feedback about the tools and the activities. They found them very useful to foster ST professional learning and they identified possible areas to explore such as pedagogical approaches wad ways of being a teacher.
4.3 Reflection by ST on integration theory, practice and person	Are practice, theory and person integrated within ST'reflection?	Yes, they were able to mobilise different kinds of knowledge: how to become a teacher, knowledge of the context, of curriculum and pedagogy and on the creation and use of AR and 360° tools.
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST'reflection	Yes, ST stresses the potential of the tools for them to be more reflective and critical in relation not only to the use of the tools but also the principles underpinning them. In particular, they stress their sense of agency and the making sense of the tools and activities in the process of becoming and being a teacher.
4.5 Usefulness for future	The design of this online practicum is useful for the future?	Yes. Online practicum was valued to complement their face-to-face practicum. This would make the most of different situations for professional learning.

Spain – University of Salamanca

Teacher educator: Juanjo Mena

Testing of the 360 degrees training scenarios: the one made by the UiB and two other real classrooms 360° situations recorded at a Spanish primary school. The testing of this technology was done on December 1<sup>st</sup>, 2022 at the University of Salamanca (see table 4).

*Table 4:* Indicators for each phase to be taken into account in the design of an online practicum.

<b>TE Orientation: indicators for the preparation phase of learning</b>	Triggering Questions	Answer these questions for the chosen component (e.g. 360 degree training scenario)
1.1 Learning objective	Is there a concrete learning objective?	The learning objective is to open the opportunity for STs to get involved in immersive learning. It is a type of learning by which student teachers apply and develop knowledge and skills in real and/or simulated environments in an experiential, active and flexible way depending on their professional and personal needs.
1.2 Realized output	What is the output? Is it clear for ST?	Due to the interactive nature of the seminar, the output at the end should be that the students can practice and learn from secure environments improving the educational process (Lampropoulos, Keramopoulos, Diamantaras & Evangelidis, 2022). This type of learning enables the STs to get closer to the school practice from the faculty classroom in a reflective-ready and safe environment. The output, in form of the seminars' objective was clear to the student teachers. The TE focused in a type of learning needed in the practicum subject: the immersive learning. I explained four types: theoretical learning, technical, practical and immersive learning. The academical training (theory) is based in deep understanding of conceptual frameworks and models to be applied in the profession. Professional training (practice), such the one given in the teaching practicum setting, fundamentally base the preparation on the practical principles and knowledge that arises from regular teaching at the schools. Immersive training (technical training) is the one that in our view should be implemented in the faculty settings by critically analyzing real or simulated context of practice.
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	Learners' self-regulation, self-efficacy, motivation and agency is going to be promoted because they could feel the technology brings them real or simulated classroom scenarios to discuss and reflect upon. It is also supported by the following authors: Makransky & Petersen, 2021.  The attention will be triggered by the fact of the interactive nature of the educational resource. It will allow the students to focus the perspective on the classroom angle they prefer when playing the 360-degree video on their computers.
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge will be activated by connecting major educational theories: e.g., Meaningful learning theory by Ausubel; Sociocultural Theory of learning; Communities of learning, etc. to the educational situations watched on the 360° videos
1.5 Planning time	Is there a time-plan?	The time-plan is divided in four moments. The first 30 min. are intended to show how the technology works by a short explanation made by the Teacher Educator and an example. In a second moment (30 min.) the STs play the 360° videos on their computer. A third moment (30 min.) is to be used to discuss in group about the contents of the videos. The final

		moment (30 min.) the STs will reflect about what they have learnt when using it and the potential of the resource for the practicum.
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	The didactical form used will be both cooperative and individual. The first part is going to be conducted in groups of five student teachers to test the 360-degree scenarios and let them get engaged in a focus group discussion. In the second part, each student teacher will be encouraged to reflect upon the advantages and disadvantages on the use of this technology.
2.2 Time (in)dependency	Is the execution time (in)dependent?	The execution moment will be at 17h after the 22 student teachers finished their practicum at the schools (i.e., they all finished at 14h.). The STs who attended were learning the profession in schools located in the main district of the city of Salamanca, Spain. The seminar went from 17h to 20h.
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place will be at the Faculty of Education, University of Salamanca in one ample classroom to have enough space to work in groups.
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The necessary learning-activities are of interactive (i.e., test the 360° scenario by moving the cursor to the observation angle the student teachers like to position), dialogic (i.e., the student teachers discussed in groups about the challenges and questions posed in the recorded training scenarios) and reflective nature (i.e., they asked by written to four questions. See below). The questions that were asked to the ST were: 1. What feedback you give to this tool (360° training tool)? 2. What would you improve to be used as a tool for learning the profession in the practicum? 3. Do you think the use of 360° videos would be relevant to be used at the faculty of education to prepare student teachers for the practicum experience? 4. Do you see this technology as an alternative tool to the face-to-face practicum? Please, justify your response.
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	The monitoring of the learning process of the ST was done by: (1) the Teacher Educator. He gave the instructions to conduct the seminar, explain major concepts and answer the STs' questions regarding learning aspects of the profession; (2) the practicum coordinator at the faculty of education, USAL, was present the first 45 minutes to test whether the 360° scenarios were well received by the Student Teachers. She wanted to check whether this technology could be implemented in the future of the USAL practicum programs; 3) by technology: the full session was video recorded to further analyse the STs' comments through a focus group interview. The recordings are part of the faculty archives as data to be consulted in case this technology is considered useful in the future of the Primary and Early Teacher Education degrees.
<b>TE evaluation: indicators for the evaluation phase of learning</b>		
3.1 Completion of the task	When is the task achieved?	The task is achieved as the student teachers were (1) highly motivated with the activities done; (2) they completed all the tasks that were demanded. I could say that the overall objective was achieved when they send the final reflective individual reports and group discussion notes. Some emails from the student teachers to the teacher educator showed that they were fully engaged with the discussions provoked in the seminar and they wanted to repeat it for the next year's practicum.
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	The evaluation-moment of the learning will be on the analysis on the reflective written material and the focus group discussion transcripts out of the recordings of the session. The evaluation was done by the Teacher Educator. He assessed the level of reflection by each student teacher taking into the account Hatton & Smiths' (1994) categories: (a) habitual reflection; (b) descriptive reflection; (c) dialogic reflection; (d) critical reflection.
3.3 Criteria for evaluation	Are there explicit criteria formulated?	The evaluation criteria were shared with the student teachers although the task was additional to their rutinary activities in the practicum subject. Therefore, it does not count for their final marks.

TE reflection: indicators underlying the reflection phase after learning		
4.1 Reflection by TE on previous 3 phases	Did TE reflect?	When looking back to the activity, and overall, I think the activity conducted went really well as the Student Teachers' most frequent feedback was that this sort of seminars should be done more often at the faculty of Education when it comes to talk about the practicum. Something that could be improved is timing. This activity needs more time to get all the student teachers fully involved.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	The reason learning of ST took place is when they affirmed that the fact of using videos makes it easier to understand the relation between practical situations at the school contexts (i.e., the recorded videos in 360°) and the theories explained at the faculty. It cannot be considered as a substitute of the practicum itself but as a powerful resource to be ONLY used at the faculty to help teacher educators to illustrate the main educational theories.
4.3 Reflection by ST on integration theory, practice and person	Are practice, theory and person integrated within ST'reflection?	The integration took place by the group discussions and by each ST's group written notes, but also by the individual reflections they submitted to the Teacher Educator as the final task.
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST'reflection	Within ST'reflection the ST discussed about the questions mentioned in 2.4. (1.What feedback you give to this tool (360° training tool)?; 2.What would you improve to be used as a tool for learning the profession in the practicum?; 3.Do you think the use of 360° videos would be relevant to be used at the faculty of education to prepare student teachers for the practicum experience?; 4. Do you see this technology as an alternative tool to the face-to-face practicum? Please, justify your response). I would not affirm that they develop a sense of ownership about the technology used. They thought it was of great use for their learning as teachers at the faculty, but they did not show interest in developing 360° recording for their own classes. However, the seminar about this technology gave them a sense to purposefully act in their profession and find their own solutions to the challenges they might face in the practicum or teaching practice in the future. So, yes, they develop teachers' agency as the activities made sense to them.
4.5 Usefulness for future	The design of this online practicum is useful for the future?	This design is useful because there is a gap between theory and practice. That is to say, at the faculties of education Teacher Educators mainly focus on explain educational theories to make sense of the complex situations of practice (mainly a theory-based learning). In the practicum the student teachers learn, mostly by imitation the profession (practice-based learning). We need to bridge these two worlds and one solution might be to focus on immersive learning by using 360° videos (out of many other resources). This tool let the Teacher Educator to bring instructional situations of practice to the faculty and make the connections with the major theoretical concepts.

Greece – University of Thessaly

Teacher educator: Stavroula Kaldi

University of Thessaly, Greece, April 2023- This university tested the AR on 27<sup>th</sup> of April 2023 and some of the reflections and comments made by their researchers are shown in table 5.

*Table 5:* Indicators for each phase to be taken into account in the design of an online practicum.

<b>TE Orientation: indicators for the preparation phase of learning</b>	Triggering Questions	Answer these questions for the chosen component (e.g. remote classroom)
1.1 Learning objective	Is there a concrete learning objective?	The learning objective is ... To explore the use of AR in teaching and learning, and to practice collaboration in interdisciplinary teams of STs and in-service teachers.
1.2 Realized output	What is the output? Is it clear for ST?	The output at the end should be ... To create an outline for an interdisciplinary learning activity that includes an animated object. The output is stated orally by the TE at the beginning of the seminar, and it is repeated by the animated principal in the first AR scenario.
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	Task motivation will be realised by ... -Testing an innovative tool. -Doing something new and “different”. -The TE being enthusiastic about testing out a tool that she has participated in developing. The attention will be triggered by ... the use of mobile phones, the element of surprise when the principal shows up “in the room” and talks to them.
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge will be activated by ...the TE talking about the importance of professional development and collaboration in interdisciplinary teams. These are aspects of teacher work that we address in our (interdisciplinary) seminar groups.
1.5 Planning time	Is there a time-plan?	The time-plan is ... approx. 60 minutes.
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	The didactical form used will be ... Collaborative. The students work in two groups of 5 mixing STs and in-service teachers.
2.2 Time (in)dependency	Is the execution time (in)dependent?	The execution moment will be ...during the second half of the semester, during STs’ practicum so as to enrich their experiences for future teaching practice. So the implementation time is independent of time – the activity can work just as well after the STs have finished their practicum.
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place will be ... at a seminar room at the Pedagogical Department of Primary Education. The execution place is not dependent, but the seminar room has to be spacious enough for 2 groups of 5 people to do group work.
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The necessary learning-activities are ...as follows: “At the working stations, you will find sheets with QR codes. On your screen, an object will appear, which you can study by moving your mobile or tablet around. The object is linked to one of the UN’s 17 Sustainable Development Goals (SDG). Together, you will create an outline for an interdisciplinary learning activity that includes: <ol style="list-style-type: none"> <li>1. The animated object</li> <li>2. The SDG</li> <li>3. At least two school subjects</li> </ol>

		You jointly decide which school level/age group is the target group for the activity, as well as the duration of the activity. “
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	The monitoring of the learning process of the ST is realised by ...the TE. She gave the instructions, provided guidelines, and answered questions. After the session, the TE wrote a log about the experience.
<b>TE evaluation: indicators for the evaluation phase of learning</b>		
3.1 Completion of the task	When is the task achieved?	The task is achieved as ...the technology worked well and the STs were able to explore the use of AR in teaching and learning. The only challenge was that we did not have many iPhone and the two groups shared one in each group. They also got to practice collaboration in interdisciplinary teams. The two groups completed the tasks assigned for the first two SD goals and they came up with many ideas about the other two SD goals as presented in the Q codes. The STs shared ideas and engaged in eager discussion. They shared their common ideas in a plenary discussion led by the TE with the written outlines completed.
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	The evaluation-moment of the learning will be ...conducted in a joint reflection (STs and TE) in the seminar. The TE wrote her reflections in the form of a log after the session.
3.3 Criteria for evaluation	Are there explicit criteria formulated?	The evaluation criteria are ...none. No explicit evaluation criteria were formulated for this activity.
<b>TE reflection: indicators underlying the reflection phase after learning</b>		
4.1 Reflection by TE on previous 3 phases	Did TE reflect?	When looking back ... I think the activity went surprisingly well! I was concerned before the seminar by the fact that not all members in each group had an iPhone or iPad and probably STs would react negatively to the task. However, the two iPhone worked well and the two groups worked effectively. All participants showed enthusiasm and active involvement. They expressed at the end their gratitude for experiencing this unique teaching preparation planning. Teachers admitted that they received new information and process about teaching planning and designing learning activities for and with their pupils. If I were to repeat the AR activity I would remove probably the principal instructions. The participants were very happy that I had explained what they would see first and also having the questions and SD goals in English and Greek was very helpful for them as they admitted.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	The reason learning of ST took place is ... that all students participated in the group work, they shared their ideas with the other groups, and in the joint reflection on the activity they stated that the task had been challenging, but useful and fruitful for exchanging ideas for planning activities.
4.3 Reflection by ST on integration theory, practice and person	Are practice, theory and person integrated within ST'reflection?	The integration took place by ...the joint reflections on the activity, the sharing of ideas, etc. For a more thorough integration of theory, practice, and person, the activity should be more integrated in the course (not be conducted as a “stunt” as it was this time).
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST'reflection	Within ST'reflection the ST discussed ... In the context of our reflection we point out that it was an original activity which we implemented with our STs and the in-service teachers. The discussion that followed after the group work was quite constructive since many ideas of AR implementation were heard. There was a reflection on the cost of creating AR activities and the time to use them in the classroom. For us, it was a pleasant surprise to see a lively and interesting discussion among the group members. It was also important that they managed in 15 minutes to complete one activity and start another at a second station. We would agree with our students teachers' point that there should have been an app for android phones or alternatively we should have asked them to bring along the iPad that some of them had. Finally, we believe that we could have given more time to the group activities by saving the time allocated for downloading the app. Overall, it was a special experience for both our student teachers and us.
4.5 Usefulness for future	The design of this online practicum is useful for the future?	This design If useful because ... it has the potential to prepare the STs for interdisciplinary team work, but this aspect might depend on the technology.

		<p>Also, the activity might make the STs better prepared for (and inclined to) the use of technology in their own teaching. One student pointed out that AR is something that can "suddenly" appear in school (as we've seen with ChatGPT recently), and that it's nice to be prepared.</p> <p>I was pleasantly surprised by how quickly the students got started with the group work and the creative outcomes they came up. In this sense, the program worked as intended: to practice collaboration in interdisciplinary teams and reflect on the use of AR.</p>
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Norway – University of Bergen (UiB)

Teacher educator: Liv Eide

University of Bergen

The UiB tested the use of Augmented Reality on February 7th 2023. The main researchers' impressions and comments from that institutions are shown in table 6

*Table 6:* Indicators for each phase to be taken into account in the design of an online practicum.

<b>TE Orientation: indicators for the preparation phase of learning</b>	Triggering Questions	Answer these questions for the chosen component (e.g. remote classroom)
1.1 Learning objective	Is there a concrete learning objective?	The learning objective is ... To explore the use of AR in teaching and learning, and to practice collaboration in interdisciplinary teams.
1.2 Realized output	What is the output? Is it clear for ST?	The output at the end should be ... To create an outline for an interdisciplinary learning activity that includes an animated object. The output is stated orally by the TE at the beginning of the seminar, and it is repeated by the animated principal in the first AR scenario.
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	Task motivation will be realised by ... -Testing an innovative tool. -Doing something new and “different”. - The TE being enthusiastic about testing out a tool that she has participated in developing. The attention will be triggered by ... the use of mobile phones, the element of surprise when the principal shows up “in the room” and talks to them.
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge will be activated by ...the TE talking about the importance of professional development and collaboration in interdisciplinary teams. These are aspects of teacher work that we address in our (interdisciplinary) seminar groups.
1.5 Planning time	Is there a time-plan?	The time-plan is ... approx. 30 minutes.
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	The didactical form used will be ... Collaborative. The students work in groups of 5.
2.2 Time (in)dependency	Is the execution time (in)dependent?	The execution moment will be ...during the first month of the semester, before the STs start their practicum. The execution time is not dependent – the activity can work just as well after the STs have finished their practicum.
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place will be ... at a seminar room at the Department of Education. The execution place is not dependent, but the seminar room has to be spacious enough for 4 groups of 5 people to do group work.
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The necessary learning-activities are ...as follows: “At the working stations, you will find sheets with QR codes. On your screen, an object will appear, which you can study by moving your mobile or tablet around. The object is linked to one of the UN's 17 Sustainable Development Goals (SDG). Together, you will create an outline for an interdisciplinary learning activity that includes: <ol style="list-style-type: none"> <li>1. The animated object</li> <li>2. The SDG</li> <li>3. At least two school subjects</li> </ol>

		You jointly decide which school level/age group is the target group for the activity, as well as the duration of the activity. “
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	The monitoring of the learning process of the ST is realised by ...the TE. She gave the instructions, provided guidelines, and answered questions. After the session, the TE wrote a log about the experience.
<b>TE evaluation: indicators for the evaluation phase of learning</b>		
3.1 Completion of the task	When is the task achieved?	The task is achieved as ...the technology worked well and the STs were able to explore the use of AR in teaching and learning. They also got to practice collaboration in interdisciplinary teams. The more specific task of creating an outline for an interdisciplinary learning activity was only partially fulfilled within the time limits of this activity. The STs shared ideas and engaged in eager discussion. They shared their common ideas in a plenary discussion led by the TE, but no written outlines were completed.
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	The evaluation-moment of the learning will be ...conducted in a joint reflection (STs and TE) in the seminar. The TE will also write her reflections in the form of a log after the session.
3.3 Criteria for evaluation	Are there explicit criteria formulated?	The evaluation criteria are ...none. No explicit evaluation criteria were formulated for this activity.
<b>TE reflection: indicators underlying the reflection phase after learning</b>		
4.1 Reflection by TE on previous 3 phases	Did TE reflect?	When looking back ... I think the activity went surprisingly well! I was nervous before the seminar that the technology would not work and/or that the STs would react negatively to the task. However, the technology worked and the STs were very positive. One ST even thanked me for letting them try the technology. I think the expressed enthusiasm of some students might have influenced the whole group and the learning environment positively. In hindsight, I see that the initial instructions were not clear enough, and the instructions given by the animated principal got “lost” in the surprise. Next time, I will ensure that the STs also have instructions in written form when they start the group work.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	The reason learning of ST took place is ... that all students participated in the group work, they shared their ideas with the other groups, and in the joint reflection on the activity they stated that the task had been challenging, but useful.
4.3 Reflection by ST on integration theory, practice and person	Are practice, theory and person integrated within ST’reflection?	The integration took place by ...the joint reflections on the activity, the sharing of ideas, etc. For a more thorough integration of theory, practice, and person, the activity should be more integrated in the course (not be conducted as a “stunt” as it was this time).
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST’reflection	Within ST’reflection the ST discussed ... that it was fun doing something new, and that it was an activity that facilitated movement. The technology could be a bit confusing, and the talking principal was so impressive that it could take attention away from the content of what he was saying. Some of the students believed that the principal’s instructions should also be written on a piece of paper, but one of the students felt that this was good training in paying attention to what is being said. The students also believed that this could have worked better if everyone had their own mobile phones and headphones. The students discussed opportunities to use similar activities in their own practice, either outside in nature or inside the classroom. An objection from one student concerned the app itself, which is only available for Apple products.  In my opinion, the STs reflections show they (at least at this stage) were more concerned with the technological aspects of the activity, and less with the aspects of professional development and interdisciplinary collaboration.
4.5 Usefulness for future	The design of this online practicum is useful for the future?	This design If useful because ... it has the potential to prepare the STs for interdisciplinary team work, but this aspect might be overshadowed by the technology. Also, the activity might make the STs better prepared for (and inclined to) the use of technology in their own

		<p>teaching. One student pointed out that AR is something that can "suddenly" appear in school (as we've seen with ChatGPT recently), and that it's nice to be prepared.</p> <p>I was pleasantly surprised by how quickly the students got started with the group work. Although they did not come up with a specific teaching plan, creative ideas emerged. In this sense, the program worked as intended: to practice collaboration in interdisciplinary teams and reflect on the use of AR.</p>
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Netherlands – Zuyd University

Teacher educator: Ankie van der Broek & Marcel Graus

The specific component of this activity was AI (Artificial Intelligence) in Education as a part of 21<sup>st</sup> century skills. Done by 25 April 2023. See table 7.

*Table 7:* Indicators for each phase to be taken into account in the design of an online practicum

<b>TE Orientation: indicators for the preparation phase of learning</b>	Triggering Questions	Answer these questions for the chosen component (e.g. remote classroom)
1.1 Learning objective	Is there a concrete learning objective?	The learning objective is getting acquainted with artificial intelligence in education as a part of 21 <sup>st</sup> century skills.
1.2 Realized output	What is the output? Is it clear for ST?	The output at the end should be that students can form an opinion about AI in their lessons.
1.3 Motivation for the task & triggering attention	How are ST motivated for the task or triggering attention? By whom: TE or ST?	Task motivation will be realised by participation in a challenge about artificial intelligence. The attention will be triggered by workshops on the topic
1.4 Activating previous knowledge	How will previous knowledge be activated? By whom: TE or ST?	Previous knowledge will be activated by acquiring a certificate for attending an online introductory course about AI. Also their knowledge about ChatGPT will be used.
1.5 Planning time	Is there a time-plan?	The time-plan is a ten-week educational period
<b>TE execution: Indicators for the execution phase of learning</b>		
2.1 Didactical form: cooperative, individual, discussion, ...	Which didactical form is chosen?	The didactical form used will be standard lessons and assignments
2.2 Time (in)dependency	Is the execution time (in)dependent?	The execution moment will be a lesson in primary education in which some form of AI can be recognised to be planned in a random moment within the ten-week period.
2.3 Place (in)dependency	Is the execution place (in)dependent?	The execution place will be primary education
2.4 Learning activity: understanding, integration or applying	What kind of learning activity is requested of the ST?	The necessary learning-activities are getting acquainted with AI and looking for pedagogical applications.
2.5 Monitoring and feedback by TE	Is there feedback or monitoring learning process? By whom: TE or ST?	The monitoring of the learning process of the ST is realised by teacher educator (mentor)
<b>TE evaluation: indicators for the evaluation phase of learning</b>		
3.1 Completion of the task	When is the task achieved?	The task is achieved if a lesson is developed and executed with positive result to be assessed by the mentor.
3.2 Evaluation of the learning process	Is there an evaluation of the learning takes place? By whom: TE or ST?	The evaluation-moment of the learning will be directly after the lesson has been executed
3.3 Criteria for evaluation	Are there explicit criteria formulated?	The evaluation criteria are the discrepancy between the lesson preparation in writing and the actual execution of the teaching task.
<b>TE reflection: indicators underlying the reflection phase after learning</b>		

4.1 Reflection by TE on previous 3 phases	Did TE reflect?	TE's look back on their teaching activity by means of the til-model.
4.2 Reflection by TE on learning process ST.	Did learning take place by ST?	The reason learning of ST took place is that there is an interview with the student
4.3 Reflection by ST on integration theory, practice, and person	Are practice, theory and person integrated within ST's reflection?	The integration took place by means of evaluating the content elements of the til-model (what is learned).
4.4 Reflection by ST on ownership, agency and sensemaking	Are sensemaking, ownership, agency discussed within ST's reflection	Within ST's reflection the ST discussed the identity learning concepts of the til-model. (How did learning take place)
4.5 Usefulness for future	The design of this online practicum is useful for the future?	This design If useful because it could be a template to assess other practical performances.

## APPENDIX B. Attachments Section III of each country

### Online practicum indicators for partnerships Indicators on institutional level between universities and schools (version 1.0)

To realise an online practicum you need a partnership between university and school. Within partnerships there are three phases of development between universities and schools (Geldens & Popeijus, 2009)<sup>8</sup>. To realise quality of the partnership four indicators can be use<sup>9</sup>. Combining the indicators with the phase of development of the partnership, shows where the partnership is now and how it can develop.

#### Partnerships Phases of development

There are three phases in the development of university-school partnerships:

A. The schools are suppliers of internships; the school is the place where ST get hands-on experience with teaching and all the other responsibilities are in hands of the university.

B. The schools are in formal way co-educators and are coordinating the supervision of the ST by an expert teacher or mentor. The school-coordinator is also supervising the expert teachers or mentors.

C. The schools and the university are partners in learning and have a common vision on teaching, learning and supervision. Within the school all participants including ST are learning and working together within a professional learning community (inquiry is part of that).

#### First: determine in which phase the partnership is at the moment

<sup>8</sup> Geldens, J. & Popeijus, H. (2009). Leverancier van stageplaatsen, mede-opleider of partners in leren? *Tijdschrift voor Lerarenopleiders*, 30, 36 - 43. Only in Dutch.

<sup>9</sup> Bestuurlijk Overleg Samen Opleiden Nederland, december 2021. Kwaliteitskader Samen Opleiden en inductie; en werkwijze peer review. (Quality framework Training Together and induction; and method of peer review) (in Dutch)

## Indicators for the quality of partnerships

There are four important indicators for university-school partnerships:

1. A vision of learning
2. Realising a learning environment
3. Organisation of the partnership
4. Culture of Quality

## Second: give answer on the question /indicators

The indicators can be seen within each phase of development

		A.Phase 1 Supplier of internships	B.Phase 2 Co- educators	C.Phase 3 Partners in learning
1.	What is the vision of learning ...			
	... on the professional image of the teachers			
	... on the teachers development of knowledge?			
	... on working together within and outside the schools?			
	What is the level of motivation of the partners?			
	What is the level of responsibility of the partners?			
2.	What kind of learning environment is realised for (student) teachers for their professional development:			
	... hybride?			
	... community?			
	... flexible possibilities?			
3.	Is the organisation of the partnership ...			
	... based on trust and equivalence?			
	... regular meetings?			
	... focusing on the development of ST, beginning and expert teachers?			
4.	Is there a Quality Culture ...			
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?			
	... with clear frames for alle partners?			

## Portugal – University of Minho

### Online practicum indicators for partnerships

Indicators on institutional level between universities and schools (version 1.0). By Maria Flores

I would say that in my institution we are in-between B and C. We have a clear and consistent framework for the practicum which implies the setting-up of a protocol between the university and the schools. Here is an overview of the practicum. It also includes a formal partnership with the schools and mentors which can benefit from a course on pedagogical supervision at beginning of each school year. See figure 4 below.

*Figure 4.* Rationale for the online practicum indicators in the case of the University of Minho, Portugal.

RATIONALE		
Inquiry-based professional development aimed at enhancing reflective, learner-centered teaching within a transformative vision of education based on humanistic and democratic values		
PROJECT DEVELOPMENT: STAGES, SUPPORT, AND ASSESSMENT		
Project Design	Project Implementation	Project Report (delivered after the practicum)
Context analysis Literature review Project proposal Proposal approval	Project development in one of the cooperating teacher's classes Inquiry into practice through ongoing data collection & analysis Portfolio writing	Systematization of inquiry Report writing (20 000 to 25 000 words) Public defense before an examining board
University-based seminars to support practice Supervision conferences at school and university Observation by cooperating teachers and faculty supervisors		Faculty supervisor support
Formative and summative self/co-assessment of participation in seminars and supervision conferences, project proposal, classroom practice, and portfolio (50%)		Assessment of project report by examining board (50%)
PRACTICUM SUPPORT & COORDINATION		
Dissemination of support materials (internal regulations and Practicum Dossier) Initial training course (25h) on pedagogical supervision for cooperating teachers (every year) Coordination meetings between the general coordinator of the practicum and program directors Coordination meetings between program directors and practicum participants		

We also have a set of guidelines listed in the practicum internal regulation and in the Practicum Dossier:

*Adequacy to the contexts of practice* – Knowledge and problematization of teaching contexts to design and develop action plans that are relevant in the face of situational variables.

*Orientation towards practice* – Definition of topics, objectives and action strategies that result from the observation and analysis of teaching and learning practices within the teaching area and contribute to understanding and improving those practices.

*Ethical and conceptual grounding* – Grounding in up-to-date and relevant ethical and conceptual assumptions oriented towards the development of inclusive practices that are centered on learning and support educational success.

*Research at the service of pedagogy* – Use of pedagogical research strategies that support the understanding and improvement of teaching and learning practices.

*Formative potential* – Articulation between the project's objectives and the student teacher's professional development goals, within a view of professional practice that favours the development of reflection, self-direction, collaboration and creativity/innovation skills.

(Regulation of the master's in teaching and Practicum Dossier, University of Minho, Institute of Education)

For more information see paper below:

Vieira, F., Flores, M. A., Silva, J. L. C., Almeida, M. J. & Vilaça, T. (2021) Inquiry-based professional learning in the practicum: Potential and Shortcomings, *Teaching and Teacher Education* 105 103429 [<https://doi.org/10.1016/j.tate.2021.103429>]

Indicators for the quality of partnerships

There are four important indicators for university-school partnerships:

5. A vision of learning
6. Realising a learning environment
7. Organisation of the partnership
8. Culture of Quality

## Second: give answer on the question /indicators

The indicators can be seen within each phase of development

		A.Phase 1 Supplier of internships	B.Phase 2 Co- educators	C.Phase 3 Partners in learning
1.	What is the vision of learning ...			
	... on the professional image of the teachers		X	
	... on the teachers development of knowledge?			X
	... on working together within and outside the schools?		X	
	What is the level of motivation of the partners?		X	
	What is the level of responsibility of the partners?			X
2.	What kind of learning environment is realised for (student) teachers for their professional development:			
	... hybride?		X	
	... community?		X	
	... flexible possibilities?		X	
3.	Is the organisation of the partnership ...			
	... based on trust and equivalence?		X	
	... regular meetings?		X	
	... focusing on the development of ST, beginning and expert teachers?			X
4.	Is there a Quality Culture ...			
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?			X
	... with clear frames for alle partners?			X

## Spain – University of Salamanca

### Online practicum indicators for partnerships

Indicators on institutional level between universities and schools (version 1.0)

By Juanjo Mena

### Phase B. Spain (University of Salamanca)

The partnership phase of development in the context of the University of Salamanca, Spain could be positioned in option B. Although there is no such figure of the school coordinator who supervises the expert teachers or mentors. There is the role of the faculty practicum coordinator though that performs that role connecting the university with the schools in terms of administrative task, assessment criteria and mentoring roles. Thus, in this regard the phase would be more accurately positioned between A and B as most of the schools at the university context are suppliers of internships. Most of the Faculties and University Schools do not have problems in finding a sufficient number of schools and classrooms (87.3%), although 12.7% of cases do (Egido-Gálvez & López Martín (2012). Student teachers in the district of Salamanca, and extensively in the rest of Spain have an active role in the classroom during the practicum spending three quarters of the time delivering lessons, conducting activities or supervising pupils.

		B.Phase 2 Co-educators
1.	What is the vision of learning ...	
	... on the professional image of the teachers	Generally speaking, student teachers are perceived as partners that equally interact at the schools with the expert teachers during the practicum experience. It is assumed that they are in their period of teaching training, and they are "teacher learners" but the degree of integration at the schools let them the freedom to join the profession and assume regular school duties in the same degree as fully working teachers.
	... on the teachers' development of knowledge?	Knowledge is conceived in a dual vision as either theoretical (delivered at the faculty) and practical (given at the schools). The theory-practice divide is evident from a student teachers' perspective and almost unanimously assumed. This is in line with a number of works that highlight the difficulties experienced by Student teachers to link theory with school practice, to the point that the disconnection between what is taught in universities and the experience is considered critical in Teacher Education (Darling-Hammond, 2008; 2010; Zeichner, 2010). In short, the practicum allows in one hand the ST to face in-context situations of practice and, on the other hand, it offers the opportunity to reflect on these situations and on the representations from theory that might guide future actions (Mauri, Onrubia, Colomina, & Clarà, 2019).
	... on working together within and outside the schools?	The Practicum has been widely assumed in the Spanish context as "the interconnection between the training world and the productive world" (Tejada-Fernández, 2006, p. 2). The practicum vision of learning is mainly understood as the necessary in-context type of learning for the teaching profession not only related to teaching tasks but also with other school duties and social commitments. Therefore, understanding the connections

		with the educational jurisdiction of the school, the regional and national legislation, and the teachers unions' main demands is part of the practicum subject goals.
	What is the level of motivation of the partners?	The level of motivation among the student teachers is usually high. Mentor teachers' level of motivation is fully dependant on the school characteristics and professional/personal traits. Performing the role of mentor in the USAL context is made on a voluntarily basis, as no remuneration is received (in the primary school level. A stipend is given at the secondary school level). Partners' motivation can be determined out of the following factors: i.e., importance of supervision approach, verbal, and written feedback, positive or negative attitudes towards teaching and school routines, timing and responsibility when performing teachers' tasks, relationship with school students, understanding of school reforms, and relationship with parents and other stake holders.
	What is the level of responsibility of the partners?	As mentioned above the level of responsibility among partners is equally distributed. Although it is weighed at the mentor teacher's end as the expert teachers who knows the profession and the nuances of the school context, the tendency is to work together as co-workers to solve daily situations of practice. The faculty advisors are more focused on the assessment of the written report (portfolio) that is written by the ST after the practicum experience. They visit the schools once or twice but do not supervise the ST in context, they talk to the school mentors.
2.	What kind of learning environment is realised for (student) teachers for their professional development:	
	... hybride?	The modality of learning is unanimously face-to face although in the last decade there is a move to b-learning environments where some online tasks are requested to be completed from the faculty. For instance, there is a Moodle platform where the student teachers have to upload evidence from their experiences, e.g., the portfolios, legislative documents, and channels to communicate with both faculty advisors and school mentor teachers.
	... community?	The learning environment is also understood as a "community of practice" (Wenger, 2002), defined as a group of teachers and educators that share common interests and recurring problems that require to collaboratively reflect upon as well as to develop practical knowledge to provide adequate assistance to the teacher learner (Aguilera, Mendoza, Racionero & Soler, 2010). The faculty advisors, ST and schoolteachers constitute the key elements of the Practicum but converging for the same purpose: prepare teachers' professionals and improve the quality of education .
	... flexible possibilities?	The way to the practicum subjects is the same for all the students belonging to both the Primary school Teacher Education Program and the Early Childhood Teacher Education Program: there are no itineraries possible or different calendar days of teaching practice depending on the student teachers' or mentor teachers' needs.
3.	Is the organisation of the partnership ...	
	... based on trust and equivalence?	Yes, indeed. As mentioned before the common understanding is that learning the profession rely in the idea that is necessary to renew the profession, contribute to teacher Education, developing a professional community, or promote engagement.
	... regular meetings?	The teacher training at the schools is mainly based on regular conferences, and co-working between the school mentors and student teachers in the classroom. According to Egido-Gálvez & López Martín (2012) the time the student teachers are accompanied by their mentors surpasses 80% of the total of the practicum experience as reported by 60.7% of the cases (n=1,093)
	... focusing on the development of ST, beginning and expert teachers?	Basically, the focus is on the development of technical skills by the ST and accurate adoptions of the educational reform. Although there is sometime a lack of connection between field experiences and the rest of the subjects of the teacher training program taught at the faculty. Sometimes there is also extensive student teachers' workloads and the schoolteachers to solve urgent issues in the classroom, at the expense of better learning opportunities.
4.	Is there a Quality Culture ...	
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?	<p>Quality is guaranteed on each university teacher education program. As evidenced by Arias, Cantón and Baelo (2017) there are important differences among universities in Spain in the number of hours - ranging from 100 to 200 (10 to 20 ECTS)-, timing, calendar days, and the courses (it could be either in the first courses or at the end, 3<sup>rd</sup> and 4<sup>th</sup> courses of the degree of teaching).</p> <p>The most important evaluation tool is the portfolio which in the case of the USAL is assessed both by the school mentor (45% of the final mark for the practicum subject) and the faculty advisor (55% of the final mark). The evaluation of the document has a set of clear criteria in each university but counts on a high level of dispersion among university programs across the country. There is no- co-assessment among the student teachers in the criteria (Martínez, Tellado &amp; Raposo, 2013; Susinos &amp; Saiz , 2016).</p>

	... with clear frames for all partners?	<p>All the faculties of education at universities in Spain have their own authorized programs for the practicum. The frames are clear for the student teachers, the mentor teachers, school principals, and faculty advisors.</p> <p>However, there is no unanimity on the guidelines for the practicum assessment among the universities across Spain (Carvalho &amp; Tejada-Fernández, 2013), they depend on each Teacher Education Program</p>
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## Greece – University of Thessaly

### Online practicum indicators for partnerships

Indicators on institutional level between universities and schools (version 1.0)

By Stavroula Kaldi

Greece: Phase 1 - University of Thessaly

The partnership phase of development in the context of the University of Thessaly, Greece could be positioned in option A. School collaborate with the University in terms of providing places for STs to teach in the class. The class teacher observes ST during teaching with unofficial character, they are present in the class to support the ST if anything is needed. Therefore, the school is the place where STs get hands-on experience with teaching and school life. STs are embraced in the school life and culture. In terms of planning lessons and providing feedback the university – based mentors (in-service teachers who are placed for one school year at the university to work with STs and they do not have their own class) and tutors (laboratory teaching staff) who take on the role of supervising STs' lesson plans in pairs and individually and provide feedback respectively. Moreover they observe STs' teaching and assess it based on specific criteria. Thus STs' lesson planning, observation of teaching and assessment is in hands of the university.

#### The indicators can be seen within each phase of development

		A. Phase 1 Supplier of internships
1.	What is the vision of learning ...	
	... on the professional image of the teachers	To act professionally in the teacher role in a pedagogical manner following the advancements in different disciplines needed for their profession
	... on the teachers' development of knowledge?	To be producers of pedagogical and subject knowledge (i.e. in primary education)
	... on working together within and outside the schools?	To be collaborative within teacher networks and between communities and school
	What is the level of motivation of the partners?	-----
	What is the level of responsibility of the partners?	The responsibility is high to the university structures and human resources
2.	What kind of learning environment is realised for (student) teachers for their professional development:	
	... hybride?	STs learn both at the university and schools. They are informed by the main theories and data for school life and teaching and learning and then they visit schools. They come back to the university to discuss and analyse the data from their observations. Similarly when they have to teach, they follow the circle: prepare from the university, observe

		in the class, plan at the university (in two phases, i.e. first on own and then meet the university-mentor or tutor to discuss the lesson plan), implement lesson plan in the class and come back to the university for feedback of teaching.
	... community?	They co-operate in pairs at the first level of their teaching practice for subject lesson planning and then with the university-mentor or tutor. In the final teaching practice level STs co-operate in bigger groups for planning project-based learning to be implemented in the class.
	... flexible possibilities?	STs get fixed syllabus to follow during school practicum in 4 different levels, gradually becoming familiar to teaching. The syllabus is fixed from the specific university department of primary education. Different university departments of primary education in Greece set up their own syllabuses for teaching practice but they are fixed except one department that has added supplementary practice in different agencies than only schools. In that department STs can choose to have extra practice in agencies other than schools, but teaching practice in schools is compulsory for all STs.
3.	Is the organisation of the partnership ...	
	... based on trust and equivalence?	It is based on trust of participants from the part of the university and the class teachers that they can embrace STs within the school life.
	... regular meetings?	Every three months there is a meeting amongst all participants based at the university re school practicum. Once per academic year there is joint meeting with Headteachers and university agents
	... focusing on the development of ST, beginning and expert teachers?	The partnership is focusing on the development of STs mainly and subsidiary in the development of class teachers as they experience through STs' teaching innovative ideas and teaching actions which are guided by the university teaching staff.
4.	Is there a Quality Culture ...	
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?	Yes, we provide questionnaires to class teachers and STs at the end of the academic year. STs also fill an evaluation questionnaire at the end of their semester.
	... with clear frames for alle partners?	Yes all instructions are clear to all participants

## Norway . University of Bergen (UiB)

### Online                      practicum                      indicators                      for                      partnerships

Indicators on institutional level between universities and schools (version 1.0)

By Liv Eide

		A.Phase 1 Supplier of internships	B.Phase 2 Co- educators	C.Phase 3 Partners in learning
1.	What is the vision of learning ...			X
	... on the professional image of the teachers			X
	... on the teachers development of knowledge?			x
	... on working together within and outside the schools?		x	
	What is the level of motivation of the partners?		x	
	What is the level of responsibility of the partners?		x	
2.	What kind of learning environment is realised for (student) teachers for their professional development:			
	... hybride?			
	... community?		x	
	... flexible possibilities?			
3.	Is the organisation of the partnership ...			
	... based on trust and equivalence?		X	
	... regular meetings?		X	
	... focusing on the development of ST, beginning and expert teachers?		X	
4.	Is there a Quality Culture ...			
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?		X	
	... with clear frames for alle partners?		X	

Vision of Learning: The National Curriculum is a framework for all partners, and provide a shared vision for learning. At the University of Bergen, we have a committee for the organisation of the practicum, where stakeholders from schools and university meet. Common guidelines for the student teachers' practicum are developed and agreed upon in this committee.

Learning environment: the teacher education at the University of Bergen is campus based, and the student teachers have a certain amount of mandatory lessons/seminars. The practicum is 100% mandatory.

Quality Culture: Intentions and frameworks for Quality Culture are present, but evaluations show that the system opens up for variations, which might have negative consequences. There is a gap between intentions and reality, and the responsibility is pulverized. There are too many stakeholders at different levels. Third space meetings are missing (Ulvik, Eide, Helleve, Kvam, 2023).

## Netherlands Zuyd University

### Online practicum indicators for partnerships

Indicators on institutional level between universities and schools (version 1.0)

By Ankie van de Broek & Marcel Graus.

		A.Phase 1 Supplier of internships	B.Phase 2 Co- educators	C.Phase 3 Partners in learning
1.	What is the vision of learning ...			
	... on the professional image of the teachers			x
	... on the teachers development of knowledge?			x
	... on working together within and outside the schools?			X
	What is the level of motivation of the partners?			X
	What is the level of responsibility of the partners?			X
2.	What kind of learning environment is realised for (student) teachers for their professional development:			
	... hybride?		x	x
	... community?		x	X
	... flexible possibilities?		x	x
3.	Is the organisation of the partnership ...			
	... based on trust and equivalence?			X
	... regular meetings?			X
	... focusing on the development of ST, beginning and expert teachers?		x	x
4.	Is there a Quality Culture ...			
	... based on a regular cyclical approach of evaluation (with questionnaires or discussion meetings)?		x	x
	... with clear frames for alle partners?		x	x

The partnership is between the second and third phase and trying to realise Partners in learning. The focus is till now on student teachers and less on beginning teachers and experienced teachers. The learning environment for student, beginning and expert teachers are very different and not aligned. The schools are in formal way legistate by the government co-educators and coordinating the supervision of the ST by a expert teacher or mentor. The school-coordinator is also supervising the expert teachers or mentors. But the school-coordinator is also a school-based teacher educator who is responsible for ensuring learning processes between student teachers themselves and with mentors.

### Vision

The partnership has a versatile, ambitious professional image of the education professional, in which the following three aspects are decisive:

### **Ability**

Our education professionals show a broad development and the courage to specialize. In addition, they are able to make constructive educational choices. Their flexible, investigative and analytical attitude is focused on development, quality and inclusion. Giving feedback and reflecting form the basis for developing competence.

### **Cooperation**

New forms of education require different ways of working together. Our education professionals know what the society of 2030 will ask of its citizens. They anticipate this and seek cross-sector collaboration. They are team players, focused on professional dialogue, coaching and connection.

### **Reflection**

Our education professionals are ambassadors for education. They have an eye for every child and provide pedagogical and didactic customization. Reflective ability and self-measurement are second nature. Taking responsibility for one's own sustainable development in all its facets is a logical consequence of this.

The development of these three aspects takes the form of appropriate training, which offers every (prospective) teacher the right training at the right time, matching his needs. In the graduation phase of the initial training, this is visible in an in-depth initial training instead of a supply-driven programme.