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The Teacher Professional Development Course on Assessment Based on the Main Assumptions of the Dynamic Approach

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***Promoting Formative Assessment: From Theory to Policy
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The Teacher Professional Development Course on Assessment Based on the Main Assumptions of the Dynamic Approach

One of the main aims of the Erasmus+KA3 project entitled “*Promoting Formative Assessment: From Theory to Policy and Practice (FORMAS)*” is to support teachers who teach Mathematics in secondary education to become more effective in assessing students in terms of promoting student learning outcomes (cognitive and meta-cognitive). To achieve this aim, a Teacher Professional Development (TPD) course in student assessment was designed. This deliverable/output presents the course syllabus developed to communicate all relevant information about the TPD course. The syllabus aims to supplement the Teacher Handbook (see Deliverable 8) and the Teacher Trainer Handbook (see Deliverable 9) that were developed under the FORMAS project to further support the implementation of the TPD course by intended users. Therefore, this deliverable can act as a guide for policy makers and educational institutions interested in offering either initial or in- service teacher training programs in student assessment.

Specifically, the syllabus outlines the time and workload expected to be devoted for the TPD course, following the ECTS system. Next, it presents the course’s purpose and objectives and the intended learning outcomes expected to be achieved. The teaching methodology is described with specific reference to the training paths (i.e., Group A, Group B, and Group C) offered to address teachers’ differentiated needs. The content for each session of each training path is outlined to provide a more comprehensive view of the training focus for each group. In addition, supporting material that can be used by both teacher trainers and participating teachers is presented. Finally, the assessment processes required (i.e., initial and final evaluation mechanisms and formative assessment during implementation) are explained. The TPD course proposed and the supporting material required for its implementation are available in English, Greek and Dutch.

Course Title	Promoting Formative Assessment in Mathematics in Secondary Education		
ECTS	4.5	Contact Hours	Five three-hour sessions spread over a period of six months
		Workload	<p>In-between the five sessions, an estimated time lapse of approximately six weeks is expected.</p> <p>During this time, teachers are asked to work towards improving their assessment practice.</p> <p>Therefore, an average of two hours' workload per week, in addition to the sessions, is expected.</p>
Course Purpose and Objectives	This TPD course aims to help teachers develop specific assessment knowledge and skills that are necessary to effectively implement student assessment, while at the same time taking ownership over and critically reflecting on their learning.		
Learning Outcomes	<p>By the end of this TPD course, participating teachers are expected to be able to:</p> <ol style="list-style-type: none"> 1. Structure learning environments that encourage the implementation of formative assessment. 2. Design and implement high quality formative assessment. 3. Select, analyze, and modify their practices in all phases of the assessment process to better address students' learning needs. 4. Implement assessment in ways that support student learning and enhance their effectiveness. 5. Support students' involvement in the assessment process. 6. Evaluate the effectiveness of their assessment practice based on critical guided reflection. 		
Teaching Methodology	<p>The Dynamic Approach (DA) was used to design and guide the implementation of the TPD course. The DA puts emphasis both on the development of competence and the engagement of participants in guided critical reflection. Emphasis is also given on promoting the enactment of new knowledge/skills. Therefore, application activities are included in each session to provide teachers with opportunities to practice the skills under focus. Teachers are expected to take ownership of their learning through the development and implementation of their action plan, while continuous support and feedback is provided by the trainer(s).</p> <p>Instructional activities used in each training session include:</p> <ol style="list-style-type: none"> a. presentation of new content, b. reflective activities, c. small and large group discussion, d. group work, e. case studies, and f. authentic exercises. 		
Course Content	The DA used in this TPD course acknowledges that teachers have differentiated professional needs and that assessment skills vary in difficulty level. Taking this into account, the training material of this TPD course is differentiated to address groupings of assessment skills that vary in difficulty. Specifically, three different training paths are provided (i.e., Focus Group A, B and C).		

	<p>Teacher allocation into specific groups is based on their professional needs as these are identified by the initial measurement of their assessment skills (i.e., Teacher Assessment Skills Questionnaire, see Deliverable 3).</p> <p>The first session of the TPD course is common for all teachers. For sessions 2 to 5, teachers are grouped based on their professional needs as these are identified by the initial measurement of their assessment skills (i.e., Teacher Assessment Skills Questionnaire). A detailed outline of the course content for each group throughout the 5 session is presented below (see Table 1).</p>
<p>Bibliography</p>	<p>Two handbooks have been developed to support the implementation of the TPD course. Specifically:</p> <ul style="list-style-type: none"> ▪ <i>Teacher Training Handbook:</i> This handbook is addressed to teacher educators interested in supporting teachers to improve their skills in student assessment. Specifically, it aims to support teacher trainers in the delivery of a TPD program in student assessment. ▪ <i>Teacher Handbook:</i> This handbook is addressed to teachers interested in improving their skills in student assessment. Specifically, it aims to support teachers to engage in a self-study process focused on improving teachers’ skills in assessment and through that on promoting student learning outcomes. <p>In addition to the two handbooks, supportive literature is provided throughout the course according to teachers’ professional needs. Teachers have the opportunity to get familiar with the review of the literature on formative assessment and its impact on student learning. Below, a list of papers and chapters used for the delivery of the course is provided:</p> <ul style="list-style-type: none"> ▪ Barton, C. (2018). <i>How I wish I'd taught Maths: Lessons learned from research, conversations with experts, and 12 years of mistakes</i>. John Catt Educational Limited. ▪ Bennett, R.E. (2011). Formative assessment: a critical review. <i>Assessment in Education: Principles, Policy & Practice</i>, 18(1), 5-25. ▪ Berry, R. (2008). <i>Assessment for Learning</i>. Hong Kong: Hong Kong University Press. ▪ Black, P., & Wiliam, D. (2009). Developing a theory of formative assessment. <i>Educational Assessment, Evaluation and Accountability</i>, 21(1), 5–31. ▪ Brookhart, S.M. (2011). Educational assessment knowledge and skills for teachers. <i>Educational Measurement: Issues and Practice</i>, 30(1), 3–12. ▪ Bruno, I., Santos, L., & Costa, N. (2016). The way students’ internalize assessment criteria on inquiry reports. <i>Studies in Educational Evaluation</i>, 51, 55-66. http://doi.org/10.1016/j.stueduc.2016.09.002 ▪ Gardner, J., Harlen, W., Hayward, L., Stobart, G., & Montgomery, M. (2010). <i>Developing teacher assessment</i>. Maidenhead: Open University Press. ▪ Harris, L. R., & Brown, G. T. (2018). <i>Using Self-Assessment to Improve Student Learning</i>. Routledge. ▪ Hattie, J., & Timperley, H. (2007). The power of feedback. <i>Review of Educational Research</i>, 77(1), 81–112. ▪ James, M., & Pedder, D. (2006). Professional learning as a condition for assessment for learning. In J. Gardner (Ed.), <i>Assessment and learning</i> (pp. 27–44). London: Sage. ▪ Kyriakides, L., Anthimou, M., & Panayiotou, A. (2020). Searching for the impact of teacher behavior on promoting students’ cognitive and metacognitive skills.

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Assessment	<p><i>Initial Assessment (Teacher Assessment Skills Questionnaire)</i></p> <p>An initial measurement during the introductory session (i.e., session 1) to identify priorities for improvement for participating teachers and group teachers based on their needs. Based on this initial assessment, teachers will be allocated into the three training groups.</p> <p><i>Formative Evaluation: During the TPD course implementation</i></p> <p><i>Critical and reflective use of the course content:</i> Each teacher is expected to develop and implement his/her own action plan by considering his/her own needs and context in which he/she is expected to teach. Teachers are expected to revise their action plans in each session by considering the new material covered during the sessions and their experiences in implementing their actions.</p> <p><i>Final Evaluation (Teacher Assessment Skills Questionnaire)</i></p> <p>Final evaluation after the end of the sessions to examine the impact of the TPD course on improving teachers’ assessment skills and provide suggestions on how learning can be continued. Based on the final evaluation results, teachers are expected to continue working towards improving their assessment skills either on the same set of skills (if no stage progression is identified) or the skills included in the next developmental stage (if movement to the next developmental stage is identified).</p>
Language	<p>English Greek Dutch</p>

Table 1
The content of sessions 1-5 for each training group

	<i>Session 1</i>	<i>Session 2</i>	<i>Session 3</i>	<i>Session 4</i>	<i>Session 5</i>
GROUP A	Setting a common ground for discussing formative assessment	Creating a culture that can foster formative assessment	Quality Assessment: representativeness Creating a specification table: content validity	Quality Assessment: Developing different types of assessment items: the internal validity Assessment items using multi-dimensional approach to student understanding	Assessing homework for formative purposes
GROUP B	Setting a common ground for discussing formative assessment	Using different types of assessment techniques in an efficient and systematic way (i.e. written/ oral/ performance)	Formulating assessment success criteria Involving students in the process of assessment	Keeping records Using rubrics/checklists to record results from different assessment techniques	Providing constructive feedback to students
GROUP C	Setting a common ground for discussing formative assessment	Basic steps for introducing peer and self-assessment Differentiation in assessment	Different types of self-assessment activities Assessing group work	Assessing Homework Challenges of differentiation: Assessment administration and homework	Recording results in ways that facilitate their formative use Challenges of differentiation: Assessment recording