Dear colleague!

We need your help to organise a suitable continuous professional development (CPD) programme. In order to organise the programme in the best possible way we need to know:

1) your confidence in certain skills;

2) your needs and expectations for the topics dealt with in the programme.

For that reason we ask you to fill in both columns (confidence and emphasis for the professional development programme) for the 50 item questionnaire by putting an ‘x’ in the appropriate columns.

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|  |  | **Confidence** |  | **Emphasis for CPD** |
|  |  | V-very well | W-well | S-satisfactorily | D-do not know |  | 1-definitely not | 2-rather not | 3- necessary | 4- very necessary |
|  | **Nature of Science** |  |  |  |  |  |  |  |  |  |  |
| 1. | Explain to students that science cannot provide complete answers to all questions. |  |  |  |  |  |  |  |  |  |  |
| 2. | Explain to students the gap between school science and actual scientific research. |  |  |  |  |  |  |  |  |  |  |
| 3. | Explain to students the difference between science and pseudo-science. |  |  |  |  |  |  |  |  |  |  |
| 4. | Explain to students how scientists work. |  |  |  |  |  |  |  |  |  |  |
| 5. | Explain to students the difference between models and real processes. |  |  |  |  |  |  |  |  |  |  |
| 6. | Ensure students can distinguish between a law and a theory. |  |  |  |  |  |  |  |  |  |  |
|  | **Scientific and Technological Literacy STL** |  |  |  |  |  |  |  |  |  |  |
| 7. | Give a useful interpretation to the expression “scientific and technological literacy“. |  |  |  |  |  |  |  |  |  |  |
| 8. | I use a social orientation (dimension) to problems (situations) in science teaching. |  |  |  |  |  |  |  |  |  |  |
| 9. | Guide students to use the acquired knowledge and skills in new situations (contexts). |  |  |  |  |  |  |  |  |  |  |
| 10. | Guide students to think creatively and justify the socio-scientific problems (issues). |  |  |  |  |  |  |  |  |  |  |
| 11. | Promote students thinking as well as practical and predictive skills. |  |  |  |  |  |  |  |  |  |  |
|  | **Goals of Education/Science Education** |  |  |  |  |  |  |  |  |  |  |
| 12. | Realize the general objectives of education within subject (science) teaching. |  |  |  |  |  |  |  |  |  |  |
| 13. | Specify the competencies that are suited to science teaching, based on the context of science. |  |  |  |  |  |  |  |  |  |  |
| 14. | Understand the purpose of PARSEL-type materials. |  |  |  |  |  |  |  |  |  |  |
| 15. | Specify the learning outcomes in each class, so as to foster development of students' knowledge, skills, attitudes and values. |  |  |  |  |  |  |  |  |  |  |
|  |  |  | V-very well | W-well | S-satisfactorily | D-do not know |  | 1-definitely not | 2-rather not | 3- necessary | 4- very necessary |
|  | **Inquiry-based Science Education** |  |  |  |  |  |  |  |  |  |  |
| 16. | Distinguish between “structured“, “guided“ and “open inquiry“. |  |  |  |  |  |  |  |  |  |  |
| 17. | Guide students to put forward scientific questions and hypothesis for investigation. |  |  |  |  |  |  |  |  |  |  |
| 18.  | Guide students to plan an experiment. |  |  |  |  |  |  |  |  |  |  |
| 19. | Guide student to undertake investigation using pencil and paper. |  |  |  |  |  |  |  |  |  |  |
|  | **Classroom Learning Environment** |  |  |  |  |  |  |  |  |  |  |
| 20. | Implement student-centred teaching in the classroom. |  |  |  |  |  |  |  |  |  |  |
| 21.  | Consider students’ prior knowledge, attitudes and skills. |  |  |  |  |  |  |  |  |  |  |
| 22. | Consider students’ wishes and proposals for lesson planning (interact with student ideas). |  |  |  |  |  |  |  |  |  |  |
| 23. | Promote students’ communication skills in a variety of ways, both orally and in written formats. |  |  |  |  |  |  |  |  |  |  |
| 24. | Guide students to ask questions and discuss the social dimension of scientific problems. |  |  |  |  |  |  |  |  |  |  |
| 25.  | Promote higher order thinking amongst students (analysis, synthesis and evaluation).  |  |  |  |  |  |  |  |  |  |  |
| 26. | Promote effective peer-peer learning through student group work. |  |  |  |  |  |  |  |  |  |  |
| 27.  | Involve students in learning through group work of various types (experimental, discussions, role playing, debates). |  |  |  |  |  |  |  |  |  |  |
| 28. | Promote students creative thinking. |  |  |  |  |  |  |  |  |  |  |
| 29.  | Promote students argumentation skills for socio-scientific decision-making. |  |  |  |  |  |  |  |  |  |  |
|  | **Student Motivation** |  |  |  |  |  |  |  |  |  |  |
| 30. | Create motivational challenges for students within their capabilities. |  |  |  |  |  |  |  |  |  |  |
| 31. | Guide students to value their science learning as useful for life, lifelong learning and for their career choice. |  |  |  |  |  |  |  |  |  |  |
| 32.  | Use media texts and video clips. |  |  |  |  |  |  |  |  |  |  |
| 33.  | Use (extract, draw, use) interesting and suitable examples of the history of science. |  |  |  |  |  |  |  |  |  |  |
| 34.  | Encourage self-motivation by students in science lessons. |  |  |  |  |  |  |  |  |  |  |
| 35.  | Determine relevant topics, in the eyes of students. |  |  |  |  |  |  |  |  |  |  |
|  | **Assessment** |  |  |  |  |  |  |  |  |  |  |
| 36. | Use a variety of assessment strategies that are designed to measure competencies. |  |  |  |  |  |  |  |  |  |  |
| 37. | Undertake a range of formative assessment strategies with one’s own students. |  |  |  |  |  |  |  |  |  |  |
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| 38. | Provide suitable positive feedback to both the “more able” and the “weaker” students. |  |  |  |  |  |  |  |  |  |  |
| 39. | Assess students’ knowledge and skills according to their portfolios. |  |  |  |  |  |  |  |  |  |  |
| 40. | Counting different levels of thinking (different types of questions) in test preparation.  |  |  |  |  |  |  |  |  |  |  |
|  | **Education theories** |  |  |  |  |  |  |  |  |  |  |
| 41. | Promote student learning which focuses on storage in students’ long term memory rather than short term. |  |  |  |  |  |  |  |  |  |  |
| 42. | Give meaning to ZPD (zone of proximal development). |  |  |  |  |  |  |  |  |  |  |
| 43. | Aware of SDT (self determination theory) to motivate students. |  |  |  |  |  |  |  |  |  |  |
| 44. | Distinguish between intrinsic and extrinsic motivation of students. |  |  |  |  |  |  |  |  |  |  |
| 45. | Motivate student by valuing learned (material). |  |  |  |  |  |  |  |  |  |  |
| 46.  | Teach in a constructivist manner so that students are guided to construct meaning of knowledge. |  |  |  |  |  |  |  |  |  |  |
|  | **Self reflection** |  |  |  |  |  |  |  |  |  |  |
| 47. | Create self-reflective teaching videotapes. |  |  |  |  |  |  |  |  |  |  |
| 48. | Carry out action research to raise effectiveness for my teaching. |  |  |  |  |  |  |  |  |  |  |
| 49. | Modify science teaching modules to raise effectiveness for student learning. |  |  |  |  |  |  |  |  |  |  |
| 50. | Appreciate the meaning of self-efficacy (being both confident and competent). |  |  |  |  |  |  |  |  |  |  |

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