Chief Executive's Award for Teaching Excellence (2010/2011)
Excellence Indicators for Teaching Practices for the
Mathematics Education Key Learning Area

Foreword

The *Excellence Indicators for Teaching Practices for the Mathematics Education Key Learning Area* are compiled for use as reference in assessing nominations for the Chief Executive's Award for Teaching Excellence (CEATE) (2010/2011).

In drafting the Indicators, we have consulted a number of references including curriculum documents (see References on pages 9–11). The Indicators have been formulated and structured in a way that reflects the complexities of teachers' work and the diverse nature of teachers' competencies.

For the purposes of the CEATE, teaching excellence means teaching practices that are –

(i) outstanding and/or innovative with proven effectiveness in arousing students' motivation in learning and/or helping students to achieve the desired learning outcomes; or
creatively adapted from exemplary teaching practices from elsewhere to suit the local (i.e. school-based and/or student-based) context with proven effectiveness in enhancing students' learning outcomes;

(ii) based on a related conceptual framework, showing reflective practices;

(iii) inspiring and can be shared with colleagues to improve the quality of education; and

(iv) instrumental in achieving the learning targets of the Mathematics Education KLA (i.e. to develop students' abilities and skills in solving problems and undertaking inquiries in a logical, creative, critical and mathematical way; and to cultivate an appreciation of mathematical applications).

The Indicators fall within four domains, namely, (1) Professional Competence, (2) Student Development, (3) Professionalism and Commitment to the Community, and (4) School Development. The first two domains focus on recognising teaching excellence and the other two on fostering teachers' professional development and building a culture of teaching excellence.

The Indicators are to be used only as a framework for recognising excellent teaching practices; they are not intended to prescribe a rigid model of excellence for every teacher. We hope that the Indicators will not only be used as an assessment tool, but may also highlight the qualities of an accomplished teacher in the area of mathematics education, so as to motivate teachers to pursue professional excellence.

All awardees must possess the essential qualities of a professional teacher such as professionalism and loving concern for students. Every nomination will be assessed according to the four domains mentioned above by adopting a **holistic approach** based on professional knowledge and judgment. However, as the focus of CEATE is on learning and teaching, we are looking for exemplary and effective teaching practices that are inspiring and can be shared. In assessing group nominations, we will also consider the effectiveness of teamwork as measured by the contribution of each group member, interactions among group members, and how the concerted efforts of group members have contributed to the desired outcomes.

The Assessment Working Group on Mathematics Education
Chief Executive's Award for Teaching Excellence (2010/2011)
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Excellence Indicators for Teaching Practices for the Mathematics Education Key Learning Area

1. Professional Competence Domain

Area	Performance Indicator	Examples of Excellence
Curriculum	1.1 Curriculum Design and Organisation	The teacher is able to : • plan and develop a coherent, balanced, systematic, flexible and well-articulated school-based curriculum, with appropriate adaptation to cater for learner differences / students' diverse needs including special educational needs to enhance effective learning of Mathematics; • infuse into the curriculum elements of the Four Key Tasks to promote the development of students' generic skills, positive values and attitudes and hence whole-person development; • promote independent and lifelong learning through developing students' learning skills and strategies, to enable them to construct their knowledge effectively, and to develop their capability of appreciating the aesthetic nature and cultural aspects of Mathematics; • take into consideration current / innovative pedagogical practices, curriculum emphases and priorities, and purposefully incorporate them into curriculum planning for implementation; • strengthen cross-curricular links and connections with other Key Learning Areas, and take forward various learning and teaching activities in different context, providing multifarious scenarios for students to apply their mathematical knowledge, thereby enriching their learning experiences; and • adopt a learner-centred approach, taking into account students' needs, interest, abilities and learning style when developing learning materials and organizing co-curricular activities to complement the formal Mathematics curriculum and to promote life-wide learning.

Area	Performance Indicator	Examples of Excellence
	1.2 Curriculum Management	The teacher is able to : • formulate effective mechanism to monitor and evaluate curriculum implementation, take forward concrete follow-up measures and take the initiative to share the experiences with colleagues to improve the quality of education; • participate actively in sharing and exchanging of ideas and resources with colleagues on curriculum and pedagogical content knowledge to enhance learning and teaching effectiveness; and • collaborate with colleagues in reviewing and improving the school-based curriculum and to make flexible and effective use of learning time to cater for learner differences and to enrich students' learning experiences.
Teaching	1.3 Strategies and Skills	The teacher is able to : • plan, organize and take forward effectively the teaching work to ensure students' attainment of learning targets which are appropriately set in the light of students' varied abilities and needs; • adopt a student-centred approach to design learning activities that are related to students' everyday lives, and to use a variety of strategies to provide them with diversified learning experiences, to strengthen motivation, enable them to construct their knowledge, and establish positive values and attitudes; • adapt creatively or adopt innovative and effective teaching strategies that enhance students' learning interest and outcomes, and promote the development of students' enquiry, communication, reasoning, conceptualization, critical-thinking, problem-solving, and high order thinking skills; • demonstrate good classroom performance skills and/or teaching resources, attend to students' learning needs and performance; and maintain an inspiring and harmonious learning atmosphere; and • design and take forward learning activities and resources in diversified context to enhance learning of Mathematics.

Area	Performance Indicator	Examples of Excellence
	1.4 Professional Knowledge and Attitude	The teacher is able to : • display a high level of informed professional knowledge of the current curriculum objectives, subject content and pedagogy and apply pedagogical content knowledge effectively; • be a reflective practitioner and strive for self-improvement, demonstrate the passion for Mathematics and commitment to teaching of the subject; • assume different roles of a teacher, varying from a transmitter of knowledge to a resource person, facilitator, collaborator, advisor, counsellor, assessor, and consultant; • demonstrate genuine care and respect for students; recognise and value students' potential and achievement with appropriate expectations; and • build up trust and rapport with students.
Performance Assessment	1.5 Assessment Planning and Use of Information	The teacher is able to : • draw up a detailed assessment mechanism; make effective use of a wide repertoire of assessment modes and evaluation tools systematically, and align them with curriculum planning, teaching progression and other student-based or school-based contextual factors with due emphases on formative assessment; • record and document assessment results systematically, and use them readily and effectively to improve learning and teaching, monitor students' progress, cater for learner diversity, review pedagogical practices and inform pedagogical planning and design; • give timely, useful and positive feedback to students to help them sustain the momentum in learning and to identify weaknesses and strengths, and to coach them to build on strengths and overcome weaknesses; • capitalise on self-assessment and peer assessment among students and to engage them in reflection and discussion to consolidate their learning and make improvement; and • demonstrate self-reflective practices in regular review of the assessment mechanism and to relate evaluation/ assessment results to learning and teaching effectiveness for further improvement.

2. Student Development Domain

Area	Performance Indicator	Examples of Excellence
Student Development	2.1 Attitude	The teacher is able to : • inspire students of different backgrounds and abilities, motivate them to learn and help them achieve the desired learning outcomes; • enrich students' learning experiences and make positive impact on their self-directed, lifelong learning, and whole-person development; • develop students' imagination, initiative, creativity, learning interest, inquiring mind and flexibility of mind; • encourage students to remain open-minded, respect others' views, collaborate and share ideas with others readily; • strengthen students' sensitivity and confidence in applying mathematical knowledge to daily life and their persistence in solving mathematical problems; and • develop students' interest in learning Mathematics and keenness to participate in mathematical activities.
	2.2 Knowledge and Skills	The teacher is able to : • develop students' imagination, creativity and spirit of exploration, as well as their independent, logical, critical and higher order thinking skills; • develop students' generic skills and the ability to organise, analyse, conceptualise, reason and communicate using mathematical language; • develop students' ability to manipulate numbers, symbols and other mathematical objects; develop their number sense, spatial sense, measurement sense, and the ability to explore and appreciate structures and patterns; • develop students' ability to make informed judgment, and their ability and confidence in dealing with mathematics needed in life; and • develop students' ability to construct their knowledge, to learn how to learn, and to fulfil their potential in Mathematics.

3. Professionalism and Commitment to the Community Domain

Area	Performance Indicator	Examples of Excellence
Professionalism and Commitment to the Community	3.1 Contribution to the Profession and the Community	The teacher is able to : • pursue continuous self-improvement and professional development; • demonstrate good understanding and knowledge of current development in Mathematics Education, education practices and policies and present views and ideas to address the impact of related issues; • produce exemplary teaching materials; actively involve in or contribute to educational research, or contribute articles on mathematics / teaching -related topics; • introduce effectively new ideas and practices, with regard to contemporary education or learning theories/initiatives, to improve and promote the learning of Mathematics; • set himself/herself as a role model; • provide mentorship for novice teachers and contribute to school-based or community professional development; • actively support other teachers, promoting collaboration and a sharing culture among colleagues; and • provide active support to the teaching profession and the community, such as participating in and contributing to professional sharing activities, disseminating of good practices, and involvement in community services or voluntary work.

4. School Development Domain

Area	Performance Indicator	Examples of Excellence
School Development	4.1 Support to School Development	The teacher is able to : • inspire colleagues and other stakeholders to work together to improve the learning and teaching of Mathematics; • promote a sharing and collaborative culture among colleagues and stakeholders with a view to developing the school as a harmonious and professional learning community; • contribute to developing close links with the community and an effective networking with stakeholders to support students' learning and school development; • give active support to home-school collaboration; and • take a leadership role in promoting, among colleagues, a consensus on and the actualization of the school vision and mission through own exemplary practices and sharing of experiences; and in focusing energy on achieving continuous school development and realizing the essence of the school culture and ethos through a variety of effective channels.

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