Ideation Session
MOE Priority Research Foci:
Instructional Core

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What is the Instructional Core?

The “Instructional Core” focuses on understanding what goes on and what works in Singapore’s classrooms.

Actual enactment of planned teaching and learning experiences in the classroom by the teacher and actual responses of the students.

Student’s engagement in the learning experiences, designed and presented by the teacher in the classroom.

Process by which teacher uses content knowledge (the “what” of teaching), pedagogical knowledge (the “how” of teaching), and pedagogical content knowledge (the “how to teach specific what” of teaching) to “package” the content to facilitate student learning.

“Classrooms” are not restricted to the physical classrooms. They can include any “space” (including virtual spaces, CCAs) where learning and teaching take place.

(Adapted from the conception by City, Elmore, Fiarman and Teitel, 2009)
Instructional Core Priority Research Focus

• Pedagogical research that studies the teaching and learning practices in the instructional core (academic and non-academic) and how to improve these practices

• Driven by 3 broad research questions:
  • How do teachers teach?
  • Why do teachers teach the way they do?
  • How effective are the teachers?

• Why not just “classroom research”?
  – Attempt to conceptually define the type of studies that have a high(er) degree of potential relevance and utility to MOE
  – By focusing on the 3 elements (teacher, students, content) and the enacted interactions between them, studies can shed light on the state of T&L in Singapore schools, and how to improve T&L.
Instructional Core Broad Research Questions

• **How do teachers teach in Singapore?**
  – How well does the enacted curriculum match the planned curriculum?
  – What are the pedagogies commonly adopted in Singapore classrooms and what makes them unique to Singapore?
  – How do teachers implement new pedagogical practices adopted by MOE? How much, if at all, do they adapt the practice taking into account the local contexts of their classrooms?

• **Why do teachers teach the way they do?**
  – What factors explain the variations in pedagogical practice in Singapore?

• **How effective are the teachers?**
  – How does the enacted curriculum impact student learning?
  – Which pedagogical practices are more effective and which are less effective?
  – Why are they more/less effective, for what (i.e. content of learning, including subject disciplines, 21CC and non-academic skills) and for whom (i.e., student characteristics such as grade level, stream, and home background)?
Increasing Utility of Instructional Core Studies

- NIE’s CORE Research Office (CORERO) works with MOE to implement research on the priority area of the Instructional Core
  - To further usable knowledge to improve teaching and learning
  - To help increase relevance and utility of Instructional Core studies

- Greater focus on utility of findings in terms of informing policymaking, programme development and instructional practice
  - Where appropriate, CORERO and MOE will facilitate collaborations between Project PIs and MOE Representative(s) from relevant MOE divisions
  - Role of MOE Representative(s) to be worked out within project team, e.g.,
    - Advice on choice of schools (e.g., in view of latest policy/programme changes)
    - Provide useful information on policy initiatives
    - Within the parameters of the research design, advice on how to increase findings’ utility
    - Facilitate regular dissemination of interim findings from project team to relevant MOE communities to increase potential utility
CORE Research Office: Supporting Instructional Core Studies

- CORE Research Office can help NIE PIs:
  - Design of research grant
  - Methodological advice when needed, including established methodologies
  - Co-construct or suggest new developments in methodologies of studying T&L in classrooms
  - Sharing of classroom observation approaches, coding schemes, interview protocols
  - Advice on implementation issues including ethics, school contacting
  - Preparing for dissemination to MOE policymakers to better facilitate the potential impact of findings from research projects on policies, programmes and practice
  - Synthesize across Instructional Core studies to further improve the potential utility of findings to MOE and NIE AGs
# Selected Instructional Core Projects

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<th>Broad Content Area</th>
<th>Project Title</th>
<th>PI</th>
<th>MOE Reps</th>
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<tr>
<td>System Studies Pedagogies and Educational Outcomes</td>
<td>Core 3 Research Programme: Baseline Investigation of Mother Tongue Pedagogies in Singapore’s Primary and Secondary Classrooms (C3MT)</td>
<td>Dr Beng Kiat Dennis KWEK</td>
<td>CPDD</td>
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<td>Differentiated Instruction</td>
<td>Exploratory Study of Singapore Teachers’ Implementations and Experiences of Differentiated Instruction</td>
<td>Asst Prof Tang Tang HENG</td>
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<td>21st CC / ELit</td>
<td>Cultivating Cosmopolitan Virtues through Critical, Aesthetic and Ethical Engagements with Literature</td>
<td>Asst Prof Shen Li Suzanne CHOO</td>
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<td>Mathematics</td>
<td>CAIculus for TEaching and Learning: An Exploratory Study</td>
<td>Assoc Prof Tin Lam TOH</td>
<td>CPDD</td>
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<td>Science / SEN</td>
<td>Science Teachers and Teaching of Special Education Needs Students</td>
<td>Asst Prof Tang Wee TEO</td>
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<td>Assessment</td>
<td>Building Teachers’ and Students’ Capacities in Student-Involved Assessment in Primary Classrooms</td>
<td>Dr Hwei Ming WONG</td>
<td>CPO, SCSB</td>
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<td>Teacher Learning &amp; PD</td>
<td>Teacher learning with classroom assessment in Singapore schools</td>
<td>Asst Prof Heng JIANG</td>
<td>CPO</td>
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<td>English Language</td>
<td>Integrating Multiliterracies into the English Language Classroom: Developing an Instructional Approach to Teach Multimodal Literacy</td>
<td>Asst Prof Fei Victor LIM</td>
<td>CPDD</td>
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Some Non-Examples

- Classroom management
  - Generally about teachers and students. Missing in Content.

- Design and development of curriculum framework and standards
  - Generally focusing on content. Missing in Teacher as well as Student.

- Peer learning
  - Generally involves students and content. Missing in Teacher.

- Interventions focusing on student learning
  - While may involve content and students, some interventions do not involve teachers as part of the design and/or enactment of a new instructional approach.

Key Considerations to Remember:
- Involve all 3 components: Teachers, Students & Content, **AND**
- At least one relationship between them (interactions, engagement, design)
- Interventions should fulfil above 2 considerations
Specific Interest Areas for 25th RFP

Welcome proposals in all subject disciplines (both academic and non-academic skills) and 21CCs.

But for 25th RFP, specifically interested in proposals on:

- Subject Based Banding
- Enactment of Differentiated Instruction in Classrooms
- Enactment of Assessment Literacy in Classrooms
- Enactment of Inquiry-based Learning in Classrooms
- Studies that examine student engagement in relation to instructional practices
- Studies that examine the teaching of MOE’s 21st Century Competencies
- Studies that examine how teaching and learning takes place in SLS
- Baseline classroom observational studies in the following subject/levels:
  - History, Geography, Arts and Music, Sec 3 level
  - General Paper, JC level
  - Combined Science subjects, Sec 1 or Sec 3 levels
# Contact Information

**CORE Research Office (OER)**

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Contact Information

- For general grants queries, please email OER Grant (NIE) oergrant@nie.edu.sg

- For budgetary queries, please email Research Grant Management Unit (OER) oer.rgmu@nie.edu.sg

- For ICT related budgetary advice, please contact servicedesk@nie.edu.sg.

- For technical assistance on ROMS, please email Research Operation Management System IT Support (NIE) servicedesk@nie.edu.sg.
Thank You

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