Intensive Mode Teaching Guide

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# Intensive Mode Teaching Guide

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Purpose of the Guide
This guide provides recommendations on how to plan for, develop, resource, coordinate, and teach an intensive mode unit.

What is Intensive Mode Teaching (IMT)?
Intensive Mode Teaching (IMT) involves engaging students in facilitated learning (classes of various kinds) on fewer days and for longer on each day than is traditional in the discipline.

Who should read the guide?
The guide is written for:
- people teaching with intensive mode in higher education and people teaching or supporting people teaching with intensive mode
- university administrators
- students learning in intensive mode
- researchers.

Authors of the guide
Sally Male, Caroline Baillie, Philip Hancock, Jeremy Leggoe, Cara MacNish—The University of Western Australia
Stuart Crispin, Dev Ranmuthugala—University of Tasmania
Firoz Alam—RMIT University

Contact
Sally.Male@uwa.edu.au ph: +61 8 6488 1242

Webpage
www.uwa.edu.au/imt

LinkedIn® Group
www.linkedin.com/groups/Intensive-Mode-Teaching-6937072/about

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Evidence for the Recommendations

The recommendations in this guide are based on findings from the project ‘Student Experiences of Threshold Capability Development with Intensive Mode Teaching’ www.uwa.edu.au/imt which was a National Strategic Priority Project under the priority ‘21st Century Student Experience’, supported by the Australian Government Office for Learning and Teaching.

Philosophy and values

IMT is increasingly used for a range of reasons, from pedagogical through to practical. Because the decision to teach—or study—in intensive mode is not always under the control of the teacher or the student, the research behind this guide focused less on whether to choose intensive mode teaching, and more on how to teach and learn effectively in intensive mode. The intention was not to determine whether intensive modes are better or worse than other modes of teaching. Rather, the project studied how to optimise students’ experiences of capability development when intensive mode is used.

Recommendations in the guide are based on findings from the study, literature, and the team’s experience teaching with intensive mode.

While many of the recommendations are consistent with good practice in other modes of teaching, they are especially important in intensive mode. The team has found that intensive mode offers opportunities such as time for extended interactive activities and bonding between students. At the same time, intensive mode also increases risks, such as students having insufficient time to receive and respond to feedback. Good teaching and learning practices are critical for teachers and students to realise the benefits and avoid the hazards of intensive mode.

The Study Behind the Guidelines

Theoretical framework

The study was framed by threshold concept theory (Meyer & Land, 2003) and threshold capability theory (Baillie, Bowden, & Meyer, 2013). These are curriculum development theories that propose that any discipline has concepts, and capabilities, that act as gateways to future learning and practice in the discipline. Threshold capabilities are likely to require understanding of one or more threshold concepts. Overcoming these thresholds is transformative for the student—opening up new ways of thinking and practising—and almost always troublesome. For further details about the theory, refer to the section ‘Threshold concepts and threshold capabilities’ on page 8 of this guide.
Method

The research team undertook a national sector-wide survey of coordinators of units taught in intensive mode, to understand the range of models in use across all disciplines \((N = 105)\).

Concurrently, the team investigated in more detail, students’ experiences of threshold capability development in eight intensive mode units at four universities, including undergraduate and postgraduate units in business and engineering. The approach included an exploratory phase in which 213 students participated, with 10 teaching team members, rationalisation, and surveys \((N = 55)\) based on identified themes.

The team also interviewed a purposive sample of six people with significant experiences of IMT. Nine people who were teaching with intensive mode generously participated in interviews on video for the video vignettes in the online guide. These are outlined in Appendix A.

Development and refinement of the guide was further informed by responses from 161 workshop participants at ten workshops.

Altogether, over 450 unique participants have contributed to the project.

Experience

The research team has extensive experience of IMT. Cara MacNish oversaw the introduction of IMT in the Master of Professional Engineering at The University of Western Australia. Firoz Alam, Caroline Baillie, Stuart Crispin, Phil Hancock, Jeremy Leggoe and Dev Ranmuthugala teach with intensive mode in engineering and in business. Their experience spans undergraduate and postgraduate courses, using a variety of models, both domestically and internationally.
Why Use IMT?

Curriculum Design Question 1: Why are you using IMT?

21st century context

- Increasing numbers of students are now combining work and studies.
- 21st century technology makes it possible for students to access and interact with learning material before, after and between blocks of classes.
- Many universities are offering programs at regional campuses and offshore.
- With academics increasingly less likely to have recent industry experience (Cameron, Reidsema, & Hadgraft, 2011), practitioners are sometimes engaged to teach classes in an intensive block, rather than over a full semester.

Main reasons IMT is used

IMT is used to address and take advantage of features of the 21st century context. It allows for the following:

1. Students to fit work and other activities, such as practicums or field trips, between their classes.
2. Extended engaged learning that cannot be achieved with shorter classes is distributed across the week for a semester.
3. Teaching team members from a university or industry to travel to main regional or offshore campuses.

IMT is used in credit-bearing units and in other courses, such as skills development for postgraduate students (Greer, Cathcart & Neale, 2016). It is also used for professional development.

Benefits perceived by teachers and students

Teachers’ perspective

Unit coordinators (N = 105) who participated in the national IMT survey liked IMT for the following reasons:

- **Learning community**—with IMT, students and teachers bonded and developed a learning community.
- **Focus**—IMT provided a retreat-like focus and immersion.
- **Elasticity**—IMT allowed for long interactive activities of flexible duration.
• **Continuity**—students could learn, face trouble, apply, and overcome challenges on the same day.

• **Flexibility**—teachers were able to expose students to real-world applications with IMT, due to extended classes during which simulations, field trips and practical activities are possible.

• **Practicality**—IMT allowed teachers and students to meet face-to-face when this might not otherwise be possible.
  * IMT fitted student life and course schedules.
  * IMT freed teacher time for other activities.

• **Better for Learning**—IMT was perceived by many as better for learning.

Many of the interview participants who were teaching with IMT reported that IMT was consistent with courses undertaken by professionals.

**Students’ perspective**

The studies of students’ experiences in eight units were consistent with the above perceptions by unit coordinators. Students especially reported that the following supported them in developing threshold capabilities with IMT:

• **Extended interactive learning activities** such as discussions, role play, and games that simulated real-world applications.

• Exposure to **real-world applications**.

• **Learning from each other.** This is important when students are now often in classes of hundreds, yet without a cohort.

• The **focus on one unit**.

• **Continuity**—learning, applying, being challenged, asking questions, and receiving support all on one day.

• Being able to **ask questions**.

• Receiving **timely feedback** (for example, quizzes and feedback on assignments).

• **Practising** using concepts and capabilities.

• **Incentive to keep up** (for example, in exercises such as quizzes).

• Doing the **set reading** (in relevant units).

• **Managing** their time.

• Keeping a **learning journal**.

None of the above is limited to IMT, or a natural consequence of IMT. Several of the items in the list can be enhanced by IMT, but this requires curriculum design beyond the decision to use intensive mode.
Identifying Your IMT Model

The importance and implementation of the recommendations below depends on your model of IMT. Numerous models are popular, sometimes even within one faculty. Twelve models of IMT were identified. They are described in Appendix B.

Curriculum Design Question 2: Which model of IMT will you use?

After reviewing possible models, consider the following dimensions of your unit. Each selection brings different opportunities and challenges.

Constraints or decisions

Where is the unit taught?
• onshore
• offshore (see Scheduling for teachers\(^1\) and Recommendation 9\(^2\))

Is the unit:
• residential? (see Recommendation 2\(^3\) and Recommendation 5\(^4\))
• not residential?

Is it possible for you to give students an opportunity to prepare?
• no (see Recommendation 8\(^5\))
• yes

Is the cohort diverse in backgrounds?
• not very diverse
• yes significantly (see Recommendation 2\(^3\))

\(^1\) www.uwa.edu.au/imt/guide/Recommendation12
\(^2\) www.uwa.edu.au/imt/guide/Recommendation9
\(^3\) www.uwa.edu.au/imt/guide/Recommendation2
\(^4\) www.uwa.edu.au/imt/guide/Recommendation5
\(^5\) www.uwa.edu.au/imt/guide/Recommendation8
What is the time between classes?
- nights only (see IMT and the Thresholds Framework\textsuperscript{6})
- days (see Recommendation 6\textsuperscript{7} and Recommendation 7\textsuperscript{8})
- one or more weeks (see Recommendation 7\textsuperscript{8})

What is the span of the classes?
- days (see IMT and the Thresholds Framework\textsuperscript{6})
- one week
- two weeks
- three weeks
- half semester
- one semester

What is the time between last class and final assessment?
- none
- days
- weeks (see Recommendation 4\textsuperscript{9} and Recommendation 6\textsuperscript{7})

What is the duration of the classes?
- up to three hours in a day
- more than three hours in a day (see Recommendation 2\textsuperscript{3})

\textsuperscript{6.} www.uwa.edu.au/imt/thresholds-framework
\textsuperscript{7.} www.uwa.edu.au/imt/guide/Recommendation6
\textsuperscript{8.} www.uwa.edu.au/imt/guide/Recommendation7
\textsuperscript{9.} www.uwa.edu.au/imt/guide/Recommendation4
IMT and the Thresholds Framework

This guide is framed by threshold concept theory and threshold capability theory. The theories and their relevance to IMT are introduced below.

Threshold concepts and threshold capabilities

Threshold concepts and capabilities are transformative for students. They are critical to future learning and practice in the discipline and they are usually troublesome for students in one of several ways, such as being foreign, complex, counter-intuitive or requiring unfamiliar language (Perkins, 1999). Threshold concept theory provides a valuable framework for this project because it focuses on students’ experiences of learning. As described by Billett (2011, pp.20–24), the ‘experienced curriculum’ is very different from the ‘enacted curriculum’ or ‘intended curriculum’. By identifying threshold concepts experienced by students in a discipline, curriculum designers can focus class time on the concepts that are most critical and most troublesome for students.

Why are thresholds relevant for optimising students’ learning with IMT?

Six features of the framework of threshold concept theory and threshold capability theory are especially suitable for studying, developing and improving IMT.

1. The framework focuses on students’ experiences.

2. The framework is approachable for academics teaching in disciplines, because although it forces them to consider the students’ experience, their own experience of the concepts and of teaching in the discipline is important within the framework (Cousin, 2010). Within this framework, both educators and students can contribute to exploring and enhancing the students’ experience of learning.

3. Within the framework it is understood that there is a state, known as the liminal space (Meyer & Land, 2003, p.10), experienced by a student when a threshold has come into view, but the student still finds it troublesome. The time required for a student to traverse the liminal space varies greatly depending on the student, the concept, and the curriculum. This is of concern in IMT because the time available to traverse the liminal space might be shorter than otherwise. However, IMT could offer benefits that shorten the time it takes a student to traverse the liminal space. This guide helps educators and students to optimise such possibilities.

4. The framework recognises that one of the factors influencing students’ experience of learning is pre-liminal variation (Meyer & Land, 2005, p.384). This explains the significance of knowing, accommodating, and exploiting the variation in students’ backgrounds. With IMT there is less time than in traditional units to accommodate pre-liminal variation. This guide helps educators to understand, accommodate and even exploit the pre-liminal variation.
5. Threshold concept theory is founded in the phenomenographic methodology for education research (Cousin, 2009). When using this methodology, a researcher collects rich participants’ descriptions of the phenomenon being studied, identifies levels of conceptual understanding of the phenomenon and identifies the dimensions of variation between the levels. Although this project does not use phenomenography, the interest in the breadth of variation of students’ descriptions of their experiences across the full diversity of students was important.

6. When using threshold concept theory for curriculum design, researchers identify the reasons for trouble that students experience in overcoming thresholds. This informs the design of curriculum improvements.

**Identifying thresholds and understanding students’ experiences of them**

**Diversity in students’ experiences of thresholds should be recognised**

Within the frameworks of threshold concepts and threshold capabilities, educators must focus on students’ experiences of learning and not merely the desired learning outcomes or unit content. Students come to a unit with different backgrounds and each student experiences the curriculum differently for numerous reasons, such as their group affiliations and degree of alignment with the dominant culture. Consequently, students may experience different thresholds and teachers must be aware of this variation. Educators must identify common student experiences of thresholds and also the range of students’ experiences of thresholds, in order to accommodate the variation between students.

**Identification should be consistent with the theory**

To identify a threshold, a curriculum developer or researcher should identify data consistent with students having experienced a concept or capability as:

1. **transformative**, meaning that in overcoming the threshold the student learned to see the world differently and acquired a new capability (a feature of all thresholds), and usually
2. **troublesome** (a feature of most thresholds), and often
3. **integrative, irreversible, or discursive** (features of many thresholds, see below).

Threshold concepts are also often:

- Irreversible, meaning that once they are understood they are not forgotten.
- Integrative, meaning that they help students to connect other concepts.
- Discursive, meaning that a student speaks more like someone in the discipline once they are comfortable with the threshold concept.
Participants should include students and teachers

When identifying threshold concepts and capabilities, the curriculum developer or researcher should collect data about the students’ experiences of learning. The approach that the research team has used is to invite students and teaching team members to volunteer as participants. If the exercise is for research, then the researcher must first obtain human research ethics approval. The student voice is critical because it is likely that the students’ experiences of the curriculum are different from those intended by the curriculum designers or the teachers.

Data collection

For the approach that has been used to identify thresholds, the curriculum developer or researcher collects data, including students’ recounts of learning about a concept or developing a capability, as well as teachers’ observations, either in class or in assessments. Data collection methods could include interviews, surveys, focus groups, observations, and analysis of assessment responses and data. Researchers disagree on whether the theory should be introduced to the participants. In the researchers’ extensive experience the team has successfully explained the theory to participants before collecting data (Male, 2012a). A video which introduces the theory is available here https://youtu.be/AdqGWpjgR8c

If intensive mode has not yet been used

If IMT has not yet been used, then students’ experiences of a similar unit taught in a different mode should be studied. In a previous project ‘Engineering thresholds: an approach to curriculum renewal’ (The University of Western Australia, 2009) a two-stage process to identify thresholds was developed. The first stage was exploratory—involving interviews and focus groups with teaching team members and students—and identified potential thresholds. In the second stage, the potential thresholds were negotiated in workshops, reducing the list of identified thresholds. Findings about how students found each threshold troublesome can inform ways to support students over the thresholds.

Protocols are provided in the Guide for Engineering Educators on Curriculum Renewal using Threshold Concepts (Male, 2012b).

If intensive mode has already been used

If IMT has already been used, then students’ experiences of features that supported and hindered them in overcoming the identified thresholds should be studied. In the IMT project the two-stage process described above was adapted (Male et al., 2015). The exploratory stage included interviews with teaching team members and either focus groups or in-class mini-workshops with students. After identifying potential themes, these were negotiated in focus groups with teaching team members, and students were surveyed about their experiences of the resulting reduced list of thresholds. These findings about features of the unit that supported and hindered learning informed curriculum development. Resources are available:

- Teaching Team Interview Protocol for Guide
- Student in-class Mini-Workshop Protocol for Guide
Content design

As with any mode of teaching, start with the learning outcomes and design learning activities and assessments to support and assess the learning outcomes. As mentioned, this guide is framed within threshold concept theory and threshold capability theory. Threshold capability theory, in turn, combines threshold concept theory and capability theory, and proposes that students should develop capabilities to respond to previously unseen problems.

At the capstone level, students should have capability to:

- Identify the key aspects to be dealt with in each new situation.
- Relate those aspects to the knowledge already acquired and/or to knowledge the graduate knows how to access.
- Determine what the underlying task or problem in that situation might be.
- Design a process or solution to deal with the situation.
- Complete the task or solve the problem, either alone or with others.

(Bowden, 2004, p.40)

Overcoming threshold concepts and developing threshold capabilities is the most transformative, critical and troublesome learning in any program. Therefore, teachers and students must focus on these thresholds in the curriculum—both within each unit and throughout the program. In an intensive mode unit, the focus on thresholds is especially important.

Students can learn less troublesome concepts and develop less troublesome capabilities by themselves, accessing content and exercises using books or online. By supporting students to achieve the less transformative and troublesome learning outside class, teachers can focus on the most challenging learning during class time.

In any mode, thresholds should be revisited in more than one unit, because some students may not completely traverse the liminal space in just one unit.
Curriculum Recommendation 1: Focus on thresholds

With IMT it is important to understand the thresholds in the unit and their troublesome features to:

• Focus class time on the thresholds and ensure that during class time students enter the liminal space, face the challenge of the troublesome features of the thresholds, and are held in the liminal spaces with the correct balance of challenge and support to overcome the troublesome features.

• Understand, accommodate and exploit pre-liminal variation.

The main steps to follow when focusing on thresholds are outlined below:

1. **Identify thresholds.** (as explained in the previous section)

2. **Understand troublesome features of thresholds.** When identifying thresholds, it is valuable to also identify the features that students find troublesome. The common troublesome features can usually be recognised in students’ reports of experience of thresholds. The troublesome features are important to design support for students to overcome the thresholds.

3. **Ensure that students enter the liminal space during classes.** It is important to ensure that activities force students to meet the troublesome features of thresholds as soon as possible during the classes. This finding from the study is consistent with others’ recommendations to introduce difficult content early when teaching with intensive mode (Kops, 2014; Kuiper, Solomonides, & Hardy, 2015).

To ensure that students meet troublesome features of thresholds early in classes, it may be necessary to support students to complete important yet simpler learning before the classes. In two of the units studied, students were focusing on learning to use software during classes, instead of focusing on the learning considered important by the unit coordinators. With IMT it may be necessary to provide software training before the intensive classes. Similarly, in another unit students were spending time during intensive classes searching online for definitions and how to read standard tables in the discipline. The decision was made to provide a glossary and explain how to read the tables, so that entering the liminal space was not delayed by these trivial hurdles (Crispin et al., 2016).
Curriculum Recommendation 2: Support and value student diversity

Understanding the cohort

Cohorts are generally now more diverse than two decades ago due to increased:

- flexibility in selection of courses and study modes
- proportion of the population now studying at university
- cultural diversity among students
- numbers of international students
- pathways for ‘non-traditional’ students.

To support diverse cohorts and benefit from the richness of diversity it is recommended to:

1. **Prepare students before they start classes.** Provide online or other support and testing to bring students closer to a level standard before they start the unit (as described in the online guide in the video vignette about IMT for Conflict Management and Resolution). An interview participant with much experience overseeing programs taught in intensive mode reported that pre-reading should be given only if it is assessed, because otherwise it is unfair on the students who do the pre-reading.

2. **Support students to build a learning community.** (see Recommendation 5)

3. **Engage students in group activities that build on the strength of diversity and in which they need each other (Techera, 2010).** Examples are quizzes that students complete individually and then in groups, activities in which members of the group play different roles, and assignments that require the team to work cohesively, such as creating a poster. These reveal to students the benefits of having backgrounds and skills that complement each other.

4. **Track students’ progress.**

   - Observe attendance, participation, and assessments.
   - Use activities to informally assess students’ progress. An example is the one-minute paper (Angelo & Cross, 1993). Students respond to questions such as (Male, 2012b, p.23):
     1. *Give an example of something new you have learned in this course.*
     2. *If there is anything you find muddy/confusing and which you would like more help with/clarification on, please describe it here, explaining why it is confusing.*
     3. *Any other comments.*
Curriculum Recommendation 3: Design an optimal learning space and environment

The learning environment should support:

- Interactive activities and real-world learning activities that are known to support threshold capability development.
- Development of a learning community among students and teachers.
- Optimisation of the opportunity for continuity between learning activities.

Students in the study reported that asking questions, learning from peers, interactive activities, and extended informed discussions supported their development of threshold capabilities.

Additionally, the extended class times allow students to learn theory, practice and ask questions in one day. To support this continuity, an environment in which information and drawings can be posted on walls and returned to later for reference and modifications is helpful.

1. The learning space should allow students to turn around to talk with neighbours, or in groups. Lecture theatres can now be designed with wide levels of two rows of seats and benches spaced to allow students to turn around and teachers to walk between rows.

2. Avoid obstacles that block line of sight between students in the class.

3. The learning space must be comfortable (Scott, 2003).

4. Students must feel relaxed, free to walk around and break frequently.

5. Professional and respectful expectations for conduct and interactions with others in class and during the unit should be set at the start. Consider engaging students in describing these. For residential units this is especially important.

6. The tone must be non-judgemental so that students feel able to interact and ask questions (Scott, 2003).

7. Boards or screens should be available in abundance so that points can be displayed and later used as a reference or even modified, during the class. ‘Pod rooms’ in which students sit at groups and each group has a screen that can show the group’s work, or be controlled from the other sources in the room are becoming increasingly popular. Even in these rooms, boards around the room are popular with students.

8. Learning environments that accommodate exposure to real-world applications are recommended. Depending on the discipline, this may mean some classes in the field, spaces in which students can build or experiment, simulations, or virtual environments.

9. When teachers take intensive mode units there may be less time to keep the learning management system up to date and interactive. However, students expect the same interaction as in other modes.
**Curriculum Recommendation 4: Design appropriate activities**

Design interactive, real-world activities with ample opportunity for practice, reflection, and especially asking questions.

Features of capability theory (Bowden & Marton, 1998) proved to be consistent with many of the activities that students in the studies reported as supporting their development of threshold capabilities. Capability theory emphasises the following aspects of the teaching and learning environment:

- Students experiencing open problems in which they need to identify the critical features.
- Experience of tasks used in real practice.
- Opportunities to test solutions.
- Reflection on tested solutions.
- Feedback from teachers and professionals.
- Assessment of all the above, rather than just deliverables of the tasks.

The team recommends and notes the following:

1. Focus on the thresholds.
2. Understand the troublesome nature of each threshold and ensure that students face these.
3. Facilitate activities that support students to experience the challenge of the troublesome features of the threshold and keep the student in the liminal space. It is important that students do not brush over a threshold without recognising its troublesome nature.
4. Students reported that interactive group activities supported them to develop threshold capabilities. Interactive activities can include discussions, role play, and problem-based learning.
5. Students reported that exposure to real-world applications supported them to overcome threshold capabilities. This included service learning, design and build activities, laboratory practical activities, site visits, guest speakers, creating public blogs, real case studies, applying learning to their own jobs, and simulations and games.
6. Students reported that the opportunity to practice, reach hurdles, and ask questions supported them in overcoming thresholds.
7. Students can reflect on their learning face-to-face or in journals. Students in the study reported that journals suitable for the disciplines supported their development of threshold capabilities. In one, students recorded written reflective narratives. In another, students used the journal more like a notebook, recording things they had learned and reasons for decisions.
Curriculum Recommendation 5: Support development of a learning community

In the studies, both the unit coordinators in the national survey and the students reported that intensive mode supported students to learn from each other, and learning from each other supported them in overcoming thresholds.

In past decades students were in cohorts. With large classes and program flexibility, cohorts are now less clear. An intensive mode class can fill the need for a sense of belonging. A sense of communitas can be nurtured by a shared experience of overcoming challenge. Students should be supported to form a learning community (Wenger, 1998) in order to optimise this opportunity.

Interactive activities were reported by students to support their learning. However, some students reported that they were not naturally comfortable in interactive activities. The skills of the facilitator are especially important for these students, and for the other students to learn from them. As such, teaching team members should be carefully selected and trained.

1. Provide ice-breaking activities that support students to learn about each other. Examples are discussion in pairs and students reporting to the class something others would not know about the person with whom they talked. Another example is team-building activities in which students share their strengths and things they like doing. These activities create interest and build rapport between students.

2. Engage students in activities in allocated diverse teams. Be careful to avoid isolation of a minority group. For example, if there are only two female students, put them in the same group. Be especially mindful of the need to actively develop an inclusive learning community in the circumstance where most students, but not all, know each other well. For example, a final-year class with an exchange student should be managed to ensure the exchange student is included.

3. Set inclusive expectations such as ‘everyone will be invited to speak without interruption’.

4. Use a talking piece or other object that is passed to the person who is allowed to speak, to ensure everyone speaks without interruption.

5. Use group assessments that force real teamwork, not the sum of individual efforts. For example, use poster assessments as an alternative to reports.
Curriculum Recommendation 6: Design appropriate assessment

1. Carefully structure assessments for early and timely feedback, without overloading the assessor. With intensive mode, it is essential that students have assessment with feedback early, in order to ensure they apply themselves from the start and throughout the unit—there is no time to catch up (Kops, 2014; Kuiper et al., 2015). Students need cycles of feedback and opportunities to improve using the feedback (Vardi, 2012). However, it can be difficult to provide feedback in intensive mode in time for students to use it. Therefore, carefully structure early small assessments that can be marked quickly, and use tools for providing feedback without imposing impossible loads on the teaching team. Examples are peer assessment, quizzes marked in class, and online quizzes.

2. Use group assessments. As discussed in Recommendation 5, design assessments that force group interaction where students need each other to complete the assessment.

Curriculum Recommendation 7: Support students to prepare

With intensive mode, it is critical that students prepare for each class and if possible, even before the first class.

One of the problems of intensive mode reported by unit coordinators in the survey was lack of preparation for class by students.

To benefit students must:

- do set readings before class
- attempt to apply theory by solving problems or starting assignments or projects, working until they meet a point where they feel blocked or confused, and taking questions to class.

Self-management and commitment were reported by students in the study, as being important to support them in developing threshold capabilities.

To support students to self-manage and be committed:

1. Provide information such as pre-reading, the schedule, and marking guides as early as possible.
2. Provide opportunities for students to apply theory or become aware of applications in areas of interest to them.

3. Assist students to be aware of appealing possible future roles and the relevance of the learning to their futures.

**Students must be aware that intensive mode demands a higher workload while enrolled than does a traditional mode.**

Alert students, prior to enrolment, to the intensive nature of the unit and the intensive workload. Many of the students in the units studied had not understood that their units were intensive at the time of enrolment. Even if they had understood that the unit was intensive, many had not understood that this would demand more intensive commitment to the unit.

People who advise students—such as the international student office, learning support services, and other professional staff—must be aware of the intensive mode. In one of the units studied, an exchange student received incorrect advice from the international office that tutorials did not start until the second week. This caused great disadvantage, because a full-day class was missed and there was little time to catch up.

Students can be encouraged to **prepare for class** by using:

- readiness assurance tests, for example quizzes on scratchies performed individually and then in groups at the start of class, see [www.teambasedlearning.org](http://www.teambasedlearning.org) and [www.epsteineducation.com/home/history/default.aspx](http://www.epsteineducation.com/home/history/default.aspx)
- class Apgar tests, meaning a quick self-assessment of students’ preparation for class at the start of each class, see [www.gardnercampbell.net/blog1/?p=421](http://www.gardnercampbell.net/blog1/?p=421)
- apparently random selection of a student to explain his or her assignment work, or give a mini-lecture on the selected reading.

Encourage students to meet hurdles while there is time to ask questions, by scaffolding parts of problems, assignments or projects, with early deadlines. If the schedule does not allow for this, then provide ample **opportunity to ask questions** by email, or through the learning management system after classes end and before assessments are due.
Curriculum Recommendation 8: Optimise learning

Use strategies to motivate students towards their learning and avoid overloading them.

Students reported both that long classes were exhausting and that their commitment supported their learning. The strategies below can be used to maintain commitment in and out of class.

1. Set expectations for learning. Share a vision with the students for the outcomes of the unit and consider engaging them in describing this (as described in the online guide in the vignette about IMT for Water Waste and Resource Recovery, Part 2).

2. Engage the students in defining a successful class session and ask them to rate each session on a chart at the end (as described in the online guide in the vignette about IMT for Water Waste and Resource Recovery, Part 2).

3. Select reading very carefully. Students in intensive mode units that were studied reported that it was difficult to cover set reading. This problem could create a non-inclusive class.

4. Consider sharing reading between students and engaging them in activities in class, such that they learn from other students’ reading (as described in the online guide in the vignette about IMT for E-Learning).

5. Find applications that are consistent with students’ interests and/or values. Students in the study reported that alignment between the unit and their interests or values motivated them towards their studies.

Curriculum Recommendation 9: Consider important resources

Consider the complete environment. Intensive mode units are often held outside normal teaching periods.

- Will students have transport to and from the university?
- Will students be able to access resources such as libraries and cafes?
- Will the university have software, and is the learning management system fully functional?
- Will students’ grades be confirmed and posted for them within a reasonable time of the unit completing?
- Will the campus be safe?
- Especially if teaching offshore, what access to technology will students have?
Curriculum Recommendation 10: Design to reap the potential benefits of IMT and mitigate potential disadvantages of the mode

Do not assume that the potential enhancements to students’ learning that are offered by IMT will be natural consequences of using IMT. Identify the learning outcomes, thresholds, and optimal learning experience, and design to reap the potential benefits of IMT and mitigate potential disadvantages of the mode.

Curriculum Recommendation 11: Review

Once a unit has been held in intensive mode, it should be reviewed for improvement.

Explore the students’ experience as described here

www.uwa.edu.au/imt/thresholds-framework

The team can recommend as successful: in-class workshops or focus groups, teaching team interviews, and rationalisation to develop and implement a student survey.

Compare the intended, enacted, and experienced curricula, and plan improvements.
Curriculum Recommendation 12: For Administrators
Manage workloads

Carefully manage workloads for staff and students

Scheduling in the course and the timetable

- Students can undertake fewer intensive units (or courses) concurrently than traditional units. Take care when inserting intensive units among traditional units. Overloading and timetable clashes are least problematic if students take only intensive mode units at any time, either because the whole program is taught with intensive mode—such as the MBA program at Griffith University, or the full-time MBA at The University of Western Australia—or because students take the intensive mode unit between traditional teaching periods. The team studied examples of the latter option in a summer intensive unit at RMIT University, largely for students catching up on a core unit, and an elective winter intensive unit at the Australian National University.

- When a program is taught entirely in intensive mode, it is important to ensure that students do not burn out. This can occur when there is no effective break between units, due to students being expected to prepare for subsequent units immediately. The issue may not be apparent to staff involved in a single unit. Distribute extracurricular activities such as opportunities for students to build industry relationships, and take account of periods when students are busy applying for internships or graduate opportunities.

Scheduling for teachers

- Allow time for preparation before the unit starts because there is little time during the intensive period.

- If teaching offshore, provide ample opportunity for the teacher to discover details before travelling to the campus. The teacher needs to know the students’ prior learning and level of English, the support to be provided and the technology available.

- Allow time or provide support for marking, in order to provide feedback in time for students to use it in the next assessment.

- Avoid scheduling a teacher to teach additional units concurrently with an intensive unit.

- The first time a unit is taught in intensive mode it requires extensive modification to the unit. Teaching allocations should provide stability wherever possible.

- Co-teaching is recommended to reduce stress and minimise the consequence of a teacher becoming unavailable for health or other reasons. Co-teaching also builds continuity in the unit, so that the effort developing the unit is not lost when one of the teachers leaves.

- Fifty-nine per cent of unit coordinators teaching with intensive mode who completed the survey reported that no more than 40 students were taking their unit. Higher student numbers are likely to require larger teaching teams.
Glossary

- **Curriculum**: everything that the university influences and that creates the student experience of the course, including: learning activities; assessments; the physical learning environment; learning resources; faculty culture; extracurricular experiences facilitated or required by the university; the university’s community, industry and international relationships; and costs of studying.

- **Intensive Mode Teaching (IMT)**: teaching in which students engage in classes or facilitated learning activities on fewer days and for longer on each day than is traditional in the discipline.

- **Threshold capabilities**: transformative capabilities to solve unseen problems. These capabilities are critical to students’ progress and usually involve one or more threshold concepts.

- **Threshold concepts**: the transformative and usually troublesome concepts that are critical to students’ progress.

- **Liminal space**: the state experienced by a student when a threshold concept has come into view but the student is not yet comfortable with the concept.

- **Pre-liminal variation**: variation between students’ backgrounds before they entered the liminal space.

- **Program**: a series of units that when taken together contribute to a complete degree, sometimes known as a ‘course’.

- **Unit**: usually one quarter of a full semester load in a university program, sometimes known as a ‘subject’ or a ‘paper’.
Bibliography


Kuiper, A., Solomonides, I., & Hardy, L. (2015). Time on task in intensive modes of delivery. Distance Education, 36(2)


Appendix A: IMT Vignettes

People teaching with intensive mode kindly agreed to be interviewed on video. They discuss the models they use, what they like and dislike about the mode, techniques, and their advice for teachers and students. The video vignettes are available in the online guide at: www.uwa.edu.au/imt/guide/vignettes

Summaries are below.

### IMT for Accounting and Strategic Management Units

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Management</td>
<td>Business</td>
<td>Masters</td>
<td>University of Tasmania</td>
<td>Intensive</td>
<td>5</td>
<td>3.5</td>
<td>21</td>
</tr>
<tr>
<td>Accounting</td>
<td>Business</td>
<td>Masters</td>
<td>The University of Western Australia</td>
<td>Intensive</td>
<td>7</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

Benefits: learning from peers; feedback

### IMT for Computer Science

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Structures and Algorithms</td>
<td>Computer Science</td>
<td>Year 2</td>
<td>Taught in China</td>
<td>3 lectures each morning for 4 days of the week</td>
<td>3</td>
<td>Exam 6 to 8 weeks after intensive classes; 3 weekly labs before and 6 weekly labs after the intensive classes</td>
<td>100</td>
</tr>
</tbody>
</table>

Benefits:
- community of learning—working together on something difficult
- forces the teacher to think about the structure of the material in a new way—how things are related and what is important

Techniques:
For teachers
- coverage is deeper but narrower than in traditional mode
- think about the structure—what is important and how it is related
- instead of sequential slides as in traditional mode, use one-page handouts, multiple boards in class for revealing relationships, and problem sheets
- monitor students’ learning and adapt to their needs

For students
- enjoy being present and in the moment
- come prepared
IMT for Conflict Management and Resolution

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict Analysis</td>
<td>Conflict Management and Resolution</td>
<td>Postgraduate</td>
<td>James Cook University</td>
<td>Limited mode – blended mode – online engagement and a workshop of 3 days across a weekend</td>
<td>&lt;1</td>
<td>Exam 6 to 8 weeks after intensive classes</td>
<td>Ranges from 8 to 35 and usually about 15</td>
</tr>
</tbody>
</table>

Benefits:
- students can work anywhere around Australia and attend the workshop

Techniques:
- reading and assessments motivate students to prepare for class, thereby reducing variation in their level of preparation
- also trying in-class quizzes called ‘readiness assurance tests’ as recommended in the guide and workshop
- by preparing for class, students also learn about the unit, meaning they are informed to decide whether to withdraw before the census data without penalty, but the workshop is after the census date so that students cannot use the workshop for free professional development and then withdraw before the census date and avoid fees

IMT for E-Learning

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-learning</td>
<td>Education</td>
<td>Postgraduate</td>
<td>Murdoch University</td>
<td>1 intensive week of 8-hour days</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Benefits: daily interaction

Techniques:
- reading shared among students
- responsibility for facilitating sessions rotated among students
- online interaction following classes and before the group assessment is due
IMT for Humanitarian Engineering

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanitarian Engineering</td>
<td>Engineering</td>
<td>3/4</td>
<td>Australian National University</td>
<td>Intensive</td>
<td>4</td>
<td>1</td>
<td>36 on campus +8 in the field</td>
</tr>
</tbody>
</table>

**Benefits:** opportunity for varied learning activities including site visits and field trips

IMT for Leadership & Management; Human Resources; Project Management; or Training, Education & Assessment

<table>
<thead>
<tr>
<th>Course topics</th>
<th>Discipline</th>
<th>Year</th>
<th>Organisation</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership &amp; Management; Human Resources; Project Management; or Training, Education &amp; Assessment</td>
<td>Business</td>
<td>Novices to experienced professionals</td>
<td>Logicoool Solutions</td>
<td>Diverse modes—the shortest being weekends</td>
<td>Can be months</td>
<td>Varies</td>
<td>8 to 100+</td>
</tr>
</tbody>
</table>

This video refers to training for people from novices to experienced professionals.

**Benefits:** intensive mode works for logistical and cost reasons—the teacher can travel to a group of participants for intensive blocks of classes

**Techniques:**
- emphasis on participant interaction
- building rapport, trust and engagement with participants

IMT for Commencing Postgraduate Research Students

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-graduate research</td>
<td>Multidisciplinary</td>
<td>Commencing research postgraduate students</td>
<td>Murdoch University</td>
<td>2 intensive bursts of 3 x 5-hour days separated by 4 or more weeks</td>
<td>6 or more</td>
<td>Years</td>
<td>Up to 80</td>
</tr>
</tbody>
</table>

**Benefits:** development of a cohort or learning community
IMT for Process Instrumentation and Control

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Instrumentation and Control Engineering</td>
<td>Engineering</td>
<td>Masters by Coursework</td>
<td>The University of Western Australia</td>
<td>1 day per week for 7 weeks</td>
<td>7</td>
<td>&lt;1</td>
<td>60</td>
</tr>
</tbody>
</table>

Benefits: focusing on learning for a whole day instead of short periods

Techniques:
- using diverse learning activities and adapting to students’ needs
- using open-ended assessments
- using student presentations to support peer-to-peer learning

IMT for Waste Water and Resource Recovery

<table>
<thead>
<tr>
<th>Unit topic</th>
<th>Discipline</th>
<th>Year</th>
<th>University</th>
<th>Mode</th>
<th>Weeks Spanned by Classes</th>
<th>Weeks after Classes Before Final Assessment</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Water and Resource Recovery</td>
<td>Engineering</td>
<td>Masters by Coursework</td>
<td>The University of Western Australia</td>
<td>1 day per week</td>
<td>7</td>
<td>&lt;1</td>
<td>30–40</td>
</tr>
</tbody>
</table>

Benefits:
- intensity—quality time to tackle complex issues in class
- preferred by industry

Techniques Part 1:
- using workshops and not simply compiling the material from traditional mode teaching
- using VLOGS (online videos), BLOGS and social media for assessment to encourage students to take responsibility for their own learning
- using peer assessment and encouraging students to be responsible also for the learning of others

Techniques Part 2:
- motivating students to take responsibility for their learning by linking the learning to their aspirations
- student evaluation of each workshop, using a target on which they place dots, to encourage students to take responsibility for the success of the workshop
- creating a safe space
Appendix B: Intensive Mode Teaching Models and Design Consequences

Table 1 outlines models of intensive mode teaching identified from descriptions reported by participants (N = 105) in the national survey of IMT unit coordinators. They are ordered by a subjective ranking from more to less intensive.

While there are many challenges and opportunities that are common across all or most IMT models, some have been identified by respondents as particularly relevant to an individual delivery mode. The challenges and opportunities reported for each mode are captured in the last two columns of the table.

In planning an intensive mode course, it is useful to consider challenges and opportunities identified by coordinators who have taught in the same, or familiar, format.

Table 1. Intensive Mode Teaching Models and Common Challenges and Opportunities

<table>
<thead>
<tr>
<th>Sample model</th>
<th>Prep before classes</th>
<th>Span (weeks)</th>
<th>Time between classes</th>
<th>Time after last assessment (weeks)</th>
<th>Support after classes</th>
<th>Challenges</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 full days in week 11 following online prep.</td>
<td>Online prep lectures, activities and assessment for first 10 weeks of semester.</td>
<td>12 Nights</td>
<td>Approximately 3 weeks</td>
<td>Feedback throughout semester.</td>
<td>Minimal time to hold students in a liminal space and support them through it during classes.</td>
<td>Extensive preparation before classes.</td>
</tr>
<tr>
<td>B</td>
<td>Solid 1 week block followed by several weeks before last assessment deadline.</td>
<td>None Weekly 2-hour online evening classes / 1 week online prep / 2 online modules in 4 weeks.</td>
<td>1 Nights only</td>
<td>&gt;1</td>
<td>Tutor, or electronic contact with lecturer and peers / Students may be on practicum.</td>
<td>Ensuring students meet troublesome features of thresholds during the classes (see Entering the liminal space in time). Providing sufficient support following classes (see Recommendation 7). Exhaustion.</td>
<td>Retreat-like focus. Bonding and development of a learning community (see Recommendation 6).</td>
</tr>
<tr>
<td>C</td>
<td>Weekends</td>
<td>Pre-reading/online lectures</td>
<td>3-8</td>
<td>1-4 days</td>
<td>&gt;=1</td>
<td>Electronic contact with lecturer and peers.</td>
<td>Ensuring students prepare for class (see For students). Clashes with life.</td>
</tr>
<tr>
<td>Letter</td>
<td>Duration Details</td>
<td>Days</td>
<td>Nights</td>
<td>Time Between Classes</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------------------</td>
<td>------</td>
<td>--------</td>
<td>----------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>2 solid weeks with 10 days of 6 hours per day over the 2 weeks. Testing first Saturday and fun activities on weekend. (Residential)</td>
<td>?</td>
<td>2 Nights</td>
<td>?</td>
<td>Exhaustion. Setting expectations for conduct. A short time during which to traverse liminal spaces. Development of a learning community (see Recommendation 6).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>2 medium weeks of 8 hours per day for 6 days over 2 weeks.</td>
<td>?</td>
<td>2 Days</td>
<td>?</td>
<td>Exhaustion. A short span of classes during which to traverse liminal spaces. Development of a learning community (see Recommendation 6).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>3 medium weeks of approximately 2 days or 3 hours per day per week.</td>
<td>?</td>
<td>3 Half days</td>
<td>?</td>
<td>A short span of classes during which to traverse liminal spaces.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>3 fairly solid weeks of 4 to 5 hours per day.</td>
<td>?</td>
<td>3 Nights and weekends only.</td>
<td>&lt;=1</td>
<td>Minimal time between final class and final assessment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>4 medium weeks of 2 to 3 full days per week. 5 including final week of seminars and final assessment.</td>
<td>5 including final week of seminars and final assessment.</td>
<td>Nights and weekends</td>
<td>&lt;1</td>
<td>N/A</td>
<td>Minimal time between final class and final assessment. Time for reading exists but is limited, which may affect students differently. Time for preparation and practice between classes.</td>
<td></td>
</tr>
</tbody>
</table>
I  | Half semester of 1 day or 2 half days per week. | ? | 5-8 | <=1 week | <=1 | ? | Minimal time between final class and final assessment. It is important to breakdown and scaffold assessment during the half semester. | Time for preparation and practice between classes. \\
J  | Full semester with 5 sessions of 4 hours. | ? | 12 | 2 weeks | >=1 | ? | Time for preparation and practice between classes. Development of a learning community (see Recommendation 6). \\

Additional features are not presented in Table 1 but are important. These are considered below.  

K: Offshore teaching

Opportunities

The retreat-like, focus on a unit and the opportunity to form a learning community are enhanced. Tools for achieving this are consistent with other recommendations.

Challenges

- Preparation is critical. It is important and can be difficult to know the previous learning of the students and the resources that will be available. Ask many questions of the teachers in the host country before arriving and plan not to rely on technology.
- Language and cultural barriers can increase the troublesome features of thresholds. It is important to support the students to ask questions and use tools such as quizzes to track their learning.
- This style of teaching can be extremely exhausting.

L: Residential Excursions

Opportunities

- This mode is an extreme version of retreat-like focus. We studied a unit in which students spend time on a working fishing vessel. Students reported learning about communication, self-management, teamwork, and creativity, from experiencing real risks and consequences, working with others, and acute time constraints.
- Residential excursions provide opportunities for exposure to real-world contexts and applications.

Challenges

- Safety and students’ well-being must be top priorities. Setting expectations for conduct and mutual respect before the trip, or at the very start is essential.