Learning and Teaching

Set Induction and Closure: Key Teaching Skills

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The best kind of teacher is one who helps you do what you couldn’t do yourself, but doesn’t do it for you (Child, Aged 8).
Set Induction and Closure

“In relation to social interaction, the induction of an appropriate set can be defined as the initial strategy employed to establish a frame of reference, deliberately designed to facilitate the development of a communication link between the expectations of the participants and the realities of the situation” (Hargie et al., 2004, p. 261).

In the context of teaching, set induction is therefore used at the beginning of a class so as to prepare students for optimum content assimilation.

Set Induction has 5 main purposes:

- To gain attention
- To increase motivation
- To assess understanding of prior learning
- To provide an overview of content that will follow (NB: using advanced organisers or concept mapping (Buzan) may prove useful)
- To determine the expectations of participants

There are 4 key components of SET INDUCTION, as follows: Perceptual, cognitive, motivational and social:

Perceptual Set

“Perceptual set refers to initial or first impressions and their impact on the perceiver: The initial perceptions received in social situations undoubtedly influence the expectations of participants” (Hargie, p.263).

If perceptions are positive, then favourable outcomes should occur; if they are not favourable, then the opposite may occur. In teaching situations, students are therefore more likely to engage with teachers whom they see as enthusiastic and committed than with those who are not. Moreover, engagement is also more likely to occur in a spacious and comfortable environment, though it is acknowledged that in this aspect of their work, teachers have little say:
“When an individual enters a room for the first time, the layout of the tables, chairs and other furnishings is translated into a set of expectations about the format of the interaction to follow” (Hargie, p.263).

**Cognitive Set:** This set recognises the need for structure and underlines the importance of mentally preparing the individual to assimilate new content and or new experiences.

In the context of student-centred learning and teaching, the following strategies are associated with this set:

- Clearly setting out learning outcomes and content sequencing.
- Explaining the relationship between prior and new learning.
- Explaining expectations and how learning outcomes are to be met.
- Asking students if they have any additional expectations.
- Incorporating these into teaching.

By linking prior and new content together, essentially one is attempting to consolidate content relevance and sequencing, so that students might better appreciate the continuity, conceptual or other, one is trying to establish at subject level.

Cognitive set is therefore a: “... process of informing participants where they have been, what stage they are now at, and where they are going. This involves five main components, namely providing prior instructions, reviewing previous information, ascertaining expectations, outlining functions and goal setting” (Hargie, p. 272).

Advanced organisers (Ausubel), spider diagrams and concept mapping (Buzan) are all strategies used to enhance cognitive set.

**Motivational Set**

“The way individuals perceive and assimilate information is affected by their initial motivation to attend” (Hargie, p. 270).
If, therefore, students are immediately attracted by the manner in which a topic is introduced – for example, the enthusiasm of their tutor, his/her opening strategy or emphasis on relevance and enjoyment – then attention and motivation should be evident.

Race (2005) has identified five factors underpinning successful learning, one of which, intrinsic motivation, is characterised by an inner desire or personal wanting to learn, as well as:

- Needing to Learn: taking ownership
- Learning by Doing: experiential learning
- Learning through feedback: praise and confirmation
- Making sense of things: digesting

Motivational set is enhanced through effective stimulus variation, including:

1. Novel stimuli such as audio-visual/multi-sensory media
2. An intriguing problem: case histories, problem-solving
3. A provocative but not insensitive statement: “Did you know that 80% of students...”
4. Behaviour change, for example: students teaching each other; tutor working in groups with students; tutor engaging in role play. In other words, behaviours that might not usually happen.

Social Set

“Social set creates an environment in which others are helped to feel at ease and are valued. A warm greeting, pleasant exchanges or humour, all serve to humanise the encounter, and often facilitate achievement of the core task objectives” (Hargie, p. 266). Without social set, all other sets may become irrelevant.

Closure, too, has four elements, namely: cognitive, perceptual, motivational and social.

Cognitive closure refers to a synthesis of main points and checking that they have been understood. Tutor and students, both, summarise during cognitive closure.
Perceptual closure: It is evident and clear to all concerned that closure is about to occur. Applied to teaching, perceptual closure would take place when students are explicitly made aware that a specific aspect of content is ending and a new one is about to begin, for example:

“I am now going to move on to the next part of the presentation, which will deal with (a) and (b)”.

At this point, student attention to the next learning episode should be greater.

Social closure involves socially reinforcing what has been achieved and or covered during an interaction. Reinforcement may either be “Task related” or “non-task related”, for example: “You all worked hard today to complete the task, thanks for doing so; contact me later if you have any further queries or questions” (examples of task-related statements); “I look forward to seeing you next week, have a safe journey” (non-task related statement).

Motivational closure seeks to stimulate ongoing engagement. In teaching, the use of motivating statements drawing attention to new/additional/useful sources, or to follow-up exercises aimed at reinforcing learning, are examples.

Bringing the session to an end using a memorable statement, finding or quotation also achieves effective motivational closure. Simply by emphasising the value of content, a tutor also achieves motivational set: “Today’s content will help you to see how...” OR: “Now that you are able to apply X to Y, please prepare for our next class by...”

These principles are now applied, for illustration purposes, to large group teaching.

Applying set induction and closure
Teaching a large group is a considerable undertaking for any teacher, and even the most experienced may find it highly challenging. For students, the value of a lecture or similar form of presentation is diminished greatly when they:

- have difficulty in hearing and seeing the presenter
- are unclear as to purpose and relevance
- are unable to see connections with previous inputs (often made by different staff)
• consider that too much is being covered too quickly
  or
• are unable to participate (ask questions, make comment, ask for clarification): in other words, there is no active learning.

Thus, a good presentation should have a clear structure and “SMART” learning outcomes, be logically sequenced and timed, and, crucially, as interactive as possible.

Attributes of an effective presentation therefore include:

**At the beginning (Cognitive Set):**
- Welcoming participants, while ensuring you can be seen and heard
- Providing a visual overview of the learning outcomes and content
- Providing opportunities for their clarification
- Explaining how new content will build on previous content
- Assessing prior knowledge and understanding
- Stressing purpose, relevance and value (a high priority)
- Explaining key terminology

{It is important, however, to time this element of the presentation exceptionally well.}

**During the presentation:**
- Using stimulus variation/motivational stimuli to engender interest
- Clearly indicating new content as it is introduced:

  We will now consider (state aspect to be examined),

  Or

  I am going to end that section but before doing so I will... (opportunities are then provided for discussion/questions)
- Inviting students to conform what they are learning to self assess the relevance of this area: transitional closure.
- Selectively building on student self-assessment of content in order to consolidate learning
• Inviting students to confirm what they are learning, and/or to self-assess the relevance of this new area: transitional closure
• Prioritising content by clearly indicating the importance of each new area/encouraging students to do this as well:
  “This is important because...”
  “Could anyone explain why this is important?”
• Alerting students to more difficult/complex areas of content by using forms of wording explicitly to emphasise what these are:
  You will find, when dealing with this aspect, that (X and Y) are more complex than.... Let’s consider why. Would anyone like to suggest why?
• Testing assumptions about these levels (pre-determined) of complexity: exactly how complex are they?
• Explaining why they are complex (“This is difficult because...”) (Teachers who do this are highly regarded by their students)
• Providing, where relevant, student-centred interactive activities (see Figure 1 below)
• Promoting student self-assessment (small group discussion, paired work etc.) and peer learning
• Accommodating diversity within the student body

At the end (Closure):
• Leaving adequate time to summarise (understanding is assessed/learning is consolidated: final closure occurs)
• Involving students in summarising, or asking questions, or providing comment. Often it is the latter, more than the request or invitation to ask a question, that can prove more appealing
• Reminding students of further reading on the topic; clarifying how lecture content is linked to next input
• Setting specific tasks for follow-up work: developing responsibility and independence in relation to this (for example, preparing for the next class)
• Obtaining feedback
• Briefly saying what the next class will be about and why
Reinforcing purpose, value and usefulness/encouraging students to assess this for themselves

Thanking students for attending

Throughout, students and tutor engage with each other. Time is built in for each to reflect on learning. There are opportunities to receive content, apply it and then assess how well it has been understood. “SMART” learning outcomes and effective time management are therefore essential, as is avoidance of:

- Too much teacher talk
- Too much content
- Speaking too rapidly/monotonously
- Incoherent content sequencing
- Vague/irrelevant responding to student answers, comments, queries
- Complex/overly technical language
- Too many closed questions

Figure 1: A Summary of Strategies to Engage Students in Large Groups

1. At the beginning, explain that you will introduce some short exercises as class progresses.
2. Ask students to summarise content of previous lecture - verbally, in writing or through a mind map. Monitor outcomes. Check your own assumptions about prior learning.
3. After 8-10 minutes, ask students to pair up with each other and agree main points you have covered up to that moment. Identify gaps in understanding, then teach accordingly.
4. Build in thinking time, asking students to reflect on material covered and while doing so to consider its relevance to a specified aspect of the course, theme or topic.
5. Set a problem then ask for its solution. Mini-problems will be more suitable when time is short. Asking students to hypothesise/make a prediction should enhance interest.
6. Write up part of an equation or problem then ask for it to be completed. Students may work independently to begin with, then pair up with each other or form small groups to discuss solutions.
7. Introduce quizzes, which can be constructive when their content is directly relevant to your class input.

8. Ask questions that are both probing and have high content relevance. See examples in Questioning Skills booklet. Pre-prepare some sample questions, engage students in discussion.

9. Present case studies, providing students with specific questions that should be answered within a clearly defined timescale before class ends.

10. If it is possible to problem-solve in more ways than one, provide opportunities challenging students to do this.

11. Incorporate demonstrations into your presentation. Role plays and debates may also be used.

References
