The purpose of tutorials is to interact with students in small groups and to shift emphasis from acquiring knowledge during lectures to data evaluation and problem solving. Class size is vital in determining the efficiency of teaching and discussion in a tutorial. However, due to the large student intake and the lack of facilities, teaching staff and time, tutorials may be conducted for students in groups as big as 30. With such large tutorial groups, it is difficult to even give each a chance to speak in class or get to know all the students. In a traditional tutorial, students often have to be called to answer questions, and the quieter students or those who are less prepared can easily ‘hide’ behind the more vocal or better prepared students.

One possible solution to overcome the problem of a big class is to ‘divide and conquer’. By dividing the tutorial group of 30 students into smaller teams of 5–6, students are instructed to prepare the answers and participate in the tutorial as a team rather than individuals. When the tutor poses questions to the class, these teams will be given an opportunity to discuss and answer as a team through a representative, with other members chipping in when necessary. This ensures that there are no ‘sleeping members’ during tutorials.

I had the opportunity to test out the feasibility and effectiveness of this method on four groups each consisting of 28 second-year students from Yong Loo Lin School of Medicine, in two different tutorials conducted in September 2005. One tutorial, entitled “Critical Evaluation of Clinical Trial”, was based on a critical appraisal of a paper on a clinical trial and the other, entitled “Critical Evaluation of Appropriate Use of Statistical Tests”, was about problem solving in biostatistics. These tutorials were part of the module on “Principles in Evidence-based Medicine” for second year medical students. For both tutorials, reading materials and questions were distributed to students in advance. One of two groups in each tutorial was randomly assigned to be the team-method group. Instructions were emailed to students in the two team-method groups one week in advance of their tutorials so that they can divide themselves into teams of 5–6 (according to the alphabetical order of their names) for pre-tutorial discussions.

Tutor’s Experience

Before the tutorials for groups using the team-method, I arranged the chairs into five small circles to facilitate group discussions. This was not easy in a small tutorial room. Students came prepared with written answers, presumably from their earlier team discussions. Teams took turns to present their answers and for certain questions, I had to allow for ‘buzzing’ within the teams. The noise level was high during discussion time, and the room sounded like a market-place. In the two-hour tutorial, I did less didactic teaching and spent more time commenting on the teams’ different answers.
In groups using the conventional method, students sat in rows during tutorials and most students had written answers to some but not all the questions. Whenever a question was asked, I often had to call students by their names to present answers since there were often no volunteers. The more outspoken ones talked more, although I tried to ensure that everyone spoke in class at least once. Relatively, I did more teaching and finished the tutorial within one and a half hours.

Students’ Feedback Through Questionnaires at the End of the Tutorials

I collected students’ feedback through questionnaires at the end of the tutorials. 60% of students indicated that they would usually discuss tutorial questions with their classmates before attending the tutorial. For those who did not do this, the reasons given were: “not seeing a need since questions would be discussed during tutorials” (32.3%); “not thinking of doing such a thing” (29.0%); “not having the time to do so” (25.8%) and “not being able to find classmates who would want to do this together” (12.9%).

Among students in the team-method groups, 76.1% agreed or strongly agreed that the pre-tutorial team discussions were useful and 62.2% agreed or strongly agreed they were enjoyable. Students were asked what their greatest source of learning was at the end of the tutorial. The contrast in response between the two groups was statistically significant (p=0.006).

In additional feedback questions posed to the team-method groups, 66% agreed and another 17% strongly agreed that this method was more enjoyable than the conventional method. Finally, 76% said they would recommend pre-tutorial discussions in teams, as “it enforced better preparation before the tutorial” (40.0%); “it allowed me to interact with my classmates” (32.4%); “it facilitated learning” (22.7%) and that “it was fun” (4.9%). Similarly, 76% of students in the team-method groups also recommended conducting the tutorials in teams as “it allowed me to learn more from classmates” (25.9%); “it was a more active way of learning” (28.2%); “it widened the scope of discussion” (18.8%); “it was less intimidating” (12.9%); “students could be less reliant on tutor” (7.1%) and “it promoted self-learning” (7.1%).

Conclusion

This simple study has shown that the team-method of conducting tutorials in teams may enhance student-initiated and -directed learning during tutorials, although a formal assessment of the students will be necessary to prove that this is a more effective method of learning. A majority of students do discuss the tutorial questions with classmates before the class. Hence, formalising team formation for pre-tutorial discussions will facilitate such activities. Students feel less intimidated if asked to answer as a team rather than as individuals and are therefore more involved in class discussion. For medical students, this also provides an opportunity to work in teams and learn from their peers, which they have to do as doctors subsequently. However, suitability of tutorial material and size of tutorial rooms are important considerations for the success of this method.

Table 1. Feedback from students in team-method versus conventional method tutorial groups

<table>
<thead>
<tr>
<th>Greatest source of learning</th>
<th>Team-method groups (n=56)</th>
<th>Comparison groups (n=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tutor’s teaching</td>
<td>52.8%</td>
<td>85.4%</td>
</tr>
<tr>
<td>Input from other classmates</td>
<td>17.0%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Pre-tutorial team discussion</td>
<td>18.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student’s own discovery</td>
<td>11.3%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Teaching Patient-centred Care in the Community

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A physician is obligated to consider more than a diseased organ, more even than the whole man—he must view the man in his world.

Harvey Cushing

Rapid advances in technology and increasing specialisation in medicine are changing the way healthcare is delivered. Increasingly, there is a danger of an over-emphasis on the biomedical aspect of
illness. This depersonalisation of health care has been recognised as a threat to the quality of healthcare systems throughout the world. A report from the Institute of Medicine points out that patients often must adapt to the customs and procedures of health care organisations that provide services with little regard to the patient’s needs and preferences. In its recommendation on a framework for the National Health Care Quality Report, the Institute included patient-centredness as an essential component of quality care.1

Patient-centred care is a characteristic of the relationship between the doctor and the patient. It includes the patient’s experience of care and the presence of an effective partnership between the doctor and patient. A prerequisite that the doctor needs to have is an understanding of the individual patient’s social and physical environment and their effects on the patient’s illness. Based on such an understanding, treatment plans should take into account and maximise the resources available in the patient’s community. Figure 1 shows the characteristics of patient-centred care adapted from Bauman, Fardy & Harris (2003).

Learning to Appreciate the Patient’s Context

Teaching the paradigm of patient-centred care to undergraduate medical students is a challenging undertaking. It is an area that is generally lacking in undergraduate medical education.2 Patient-centred care teaches more context than content. It requires real life experience in patient management. However, the traditional learning environment of medical students is the lecture theatres and teaching hospitals. These places offer little opportunities for students to observe and learn about the ‘real’ environment a patient returns to when he/she leaves the hospital. In this article, we briefly discuss a module which attempts to provide opportunities for students to learn about patient-centred care, examine its pedagogical basis and reflect on some possibilities for enhancing its effectiveness.

Community Medicine Case Studies

“Community Medicine Case Studies” (CMCS) is an inter-disciplinary module which involves tutors from the Department of COFM and the medical departments in all the teaching hospitals students are posted to. Medical students spend most of their third year in full-day clinical rotations, which includes 8-week rotations through medical wards where a significant proportion of the patients they encounter have chronic conditions which require long-term care after discharge.

During their rotation to these units, each clinical group (of eight or nine students) will select one patient each. In addition to learning about the patient’s medical condition and treatment, students conduct a detailed study of the patient’s knowledge about the disease, family and home environment, as well as social and occupational backgrounds. The objective of the study is help students understand that the outcome of medical care does not only depend on what medication the doctor prescribes. When a patient leaves the hospital, there are many other factors that will eventually have an impact on how well the patient fares (see a hypothetical case study in Figure 2).

Experience—Reflect—Conceptualise

Experiential learning has been used to describe the acquisition of knowledge, skills and feelings in an immediate and relevant setting through a “direct encounter with the phenomena being studied rather than merely thinking…or considering the possibility of doing something about it.”3 Kolb’s (1984) model on experiential learning suggests that acquisition and internalisation of knowledge is aided by a cycle of experience—reflection—conceptualisation—experimentation/application. In keeping with this, a critical feature in CMCS is the home visit. The students and their tutors arrange for a convenient time to speak to the patient and his family members in their home environment. For some students, this may be their first time stepping into a 1-room HDB apartment in a disadvantaged neighbourhood. For others, it can be the first time students ‘test’ the route from the patient’s flat to the MRT station to see if their wheelchair-bound patient has any chance of moving about independently. Yet for other students, it may be their sitting down with a patient’s son, trying to understand why his mother has difficulties keeping to her follow-up appointments at the polyclinic, or how the family is helping her comply with special dietary requirements. By immersing themselves in the patient’s world, even for just a short span of time,

**The patient**

Mr Chew, a 58 year-old Chinese man, turned up at the Emergency Department with a large, infected ulcer on his right foot. The patient is a bachelor who lives alone in an old two-room HDB flat. He works as a drinks stall assistant at a coffee shop in a housing estate. Although he regularly meets up with friends at the coffee shop he does not have any relatives or close friends he can rely on. He seldom cooks, and often buys his meals from the hawker stalls at the coffee shop where he works. He has a preference for fried foods. He drinks about three to four bottles of stout and smokes 15 cigarettes a day. He does not have the financial means to pay for his hospitalisation and medicines.

**A worst-case scenario**

One week and several blood tests later, the infection subsided and Mr Chew was discharged with follow-up visits scheduled at a polyclinic near his home. He was told briefly by the doctor that he had diabetes and was given medication. He was also advised to control his diet, reduce his alcohol intake and quit smoking. After just two visits to the polyclinic, Mr Chew’s boss complained that these absences were disrupting his work. So, Mr Chew defaulted on his follow-up. After two weeks the ulcer got worse and he returned to the EMD. It was recommended that Mr Chew undergo a forefoot amputation.

**A better scenario**

During the admission the doctor spoke to Mr Chew about diabetes, its complications and management. The doctor also counselled him about quitting smoking. Mr Chew expressed concern that his boss would not give him time-off to visit the polyclinic for review and dressing of his ulcer. The doctor offered to call his boss to explain his condition and the need for follow-up. Luckily the boss agreed and even encouraged Mr Chew to attend the follow-up sessions.

The doctor also referred Mr Chew to a diabetes educator, social worker and dietician. The diabetes educator spent several sessions educating him about diabetes, its management and prevention of complications. She also asked another diabetic patient who recently had a foot amputated because of a non-healing and infected ulcer to talk to him about diabetes. The social worker assessed his financial status and referred him to the relevant authorities for financial assistance. The dietician spent time with him to assess his dietary habits and showed him the healthy food he can buy from the hawker stalls. She also advised him to reduce his alcohol intake.

His ulcer healed and during the subsequent visits to the polyclinic, the importance of regular follow-up and checks for complications of diabetes was reinforced by the doctors and nurses who reviewed him.

Mr Chew remains compliant in taking his medication and going for regular checkups. His diet has also since improved although he does indulge in char kuay teow once a week. Although he is still trying to gradually cut down the number of cigarettes he smokes, he has managed to reduce his alcohol intake to one bottle of stout a day.

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students experience something they cannot experience in the hospital wards.

At various stages in the module, each group of students prepares a presentation which is then critiqued by their classmates and tutors. At the end of four months, after students have carried out their own home visits, applied the principles learnt, and observed the progress of their patient, each student submits a write-up on his/her own patient. The most important function of the write-up is to allow the student to reflect on what he or she has learnt about patient management in the community.

**Reflecting: Can We Do More?**

If patient-centredness is indeed an essential component of quality care, then the CMCS approach needs to be incorporated as an important part of medical education. For the approach to be effective, CMCS must extend beyond a single module to become an intrinsic part of medical students’ approach to all patients they encounter in the hospital wards. However, before one can recommend that the CMCS approach is the way to go, a more rigorous evaluation is needed. To see if the module has achieved its objectives, we plan to adapt or develop valid instruments that can measure changes in attitudes and perspectives, such as the degree of patient-centred orientation. However, this is a challenging task that requires careful planning.

Meanwhile, we are encouraged by students’ own reflections on their learning, some examples are quoted below:

- “This case study has made me realise the importance of treating the patient and not his disease. It is indeed easy to prescribe a certain medication to treat a patient’s problem but is this really enough? …One must understand his financial difficulties, social concerns and family support…one must also adequately educate the patient…this task involves not only the doctor but other members of the healthcare profession as well...This case study has broadened my horizons, helped me to see beyond the clinic and hospital setting and allowed me to have a better and more complete understanding about patient management.”

- “I have learnt that it takes more than a patient’s own efforts for recovery to take place effectively...the support of people around her and every little thing they do for her contribute to her well-being.”
Case-based Tutorials

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Case study is an effective teaching and learning tool because it brings real life experience into the classroom. Learning to solve real world problems in the case studies helps develop students’ ability to think critically and sharpen their decision-making skills.

In this article, I would like to share my experience in conducting case-based tutorials for an undergraduate module RE3381 “Real Estate Development 1”. The ideas presented here are based on my personal experience as well as tips from texts on case teaching.

Case Selection and Preparation

First, I select appropriate real estate cases based on the lesson’s objectives. Usually, the cases focus on issues in decision-making (e.g. Which site to acquire? How much to pay? Whether to enter into a joint venture? When is a good time to start the project? How to secure the finances and market the project?). To stimulate students’ interest, the cases are based on actual real estate projects or prominent local developers that students can relate to.

For case-based learning to be effective, students need to be adequately prepared. Thus, the selected case is usually distributed to students at least three weeks before the tutorial. Students have to read the case and ponder over the decision issue/s on their own. In addition to individual preparation, students are encouraged to discuss the case with their peers before the tutorials.

Case Discussion and Role Play

At the beginning of each tutorial, I provide students with some background information on the case and highlight the learning objectives. I then set aside 30 minutes for students to ask questions arising from the case, assigned readings or lecture materials. This impromptu question-and-answer session gives me an opportunity to assess students’ understanding of the key concepts and clarify their doubts.

I allocate a maximum of 60 minutes to the most engaging part of the tutorial—role play. Before the tutorial, a group of students will be pre-selected to lead the class discussion and present the relevant decision issues. During the case discussion, the selected group will play the role of the main character (i.e. the decision-maker) in the case, whilst the rest would assume other characters (e.g. the directors, board members, prospective clients, partners or investors). After the tutorial, the selected group is also responsible for writing a case summary of the main learning points and sharing it with the whole class.

Where possible, seats are arranged in a rectangle to facilitate face-to-face communication. In addition to the formal presentation, the pre-selected group has to defend their views and answer questions from their classmates. Role playing forces students to think on the spot and helps them develop communication, presentation and critical thinking skills. During the session, I deliberately restrain myself from participating in the discussion. Instead, I record the dynamics of the discussion by observing how many times each student speak during the session as well as the quality of his or her contributions.

At the conclusion of the role playing session, I will use the remaining 15–20 minutes to review the salient points raised in the discussion and give my feedback on the group’s performance in terms of the contents of the presentation and their knowledge of the issues.

Charting the Dynamics of Class Participation

To give students a fair assessment of their class participation, I take attendance by noting where each student seats in the classroom at the start of each class. I then use the seating chart (see Figure 1) to record the dynamics of the class discussion. Every time a...

References


Learner-centred Practices and the Necessary Changes

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Department of Information Systems

Coming from the premise that teaching is supposed to facilitate learning, I am a strong advocate of learner-centred methods that focus on students (i.e. learners) rather than the teacher. Weimer (2002) highlights five key areas that need to be changed when using learner-centred teaching approaches. In this paper, I will discuss the five areas briefly and show how they have been incorporated into my teaching.

Students’ Feedback

The common student feedback on case-based tutorials is that such a teaching method makes the theories come alive in the classroom. Not only do case-based tutorial sessions stimulate students’ interest in the subject, they also facilitate higher learning outcomes such as analytical skills and critical thinking. The following are some positive feedback from students:

- “The cases allowed us to have hands-on practice in analysing issues. They provoked us to evaluate issues at higher level and understand some of the problems and constraints in the real world.”
- “The tutorials are highly interactive; a group is selected to present and lead the discussion instead of the tutor. Though this approach is pretty new to me, it helps me to think more independently instead of waiting to be spoon-fed with the ‘correct’ answers. The tutorials have no doubt encouraged and moulded us to be independent thinkers and good presenters.”
- “We are drawn into a complex case that seems to have more questions than answers. In fact, the greatest lesson I learnt was how to ask the right questions. It is only by asking important questions that we can analyse a case critically.”
- “It challenges me to think from various view points which are sometimes conflicting. I guess that’s what real life is about—conflicts and the birth of new ideas.”

References


Table 1: A sample summary (based on Figure 1) of the number of contributions each student made and the quality of each student’s contribution

<table>
<thead>
<tr>
<th>Student’s Name</th>
<th>Quantity</th>
<th>Quality (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>H</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 1: Dynamics of a case discussion
1. The Balance of Power

In most courses, teachers make most, if not all, decisions pertaining to syllabus, textbooks, assignments and course policies. However, Weimer (2002) challenges that students could be given more power to make decisions for their own learning and argues that student involvement in making decisions associated with learning not only has a positive impact on students’ educational experiences but also motivates students to work harder for the course. From my own experience in both undergraduate teaching as well as honors-year project supervision, I find that students are indeed more motivated when they participate in the decision-making process. For example, students enjoy working on their projects more when they are given the autonomy to choose the nature and scope of their projects. This is a simple way a teacher can ‘share power’ with learners. However, one would probably need more courage to experiment with more radical approaches mentioned in Weimer’s book!

2. The Function of Content

As teachers, we often wonder how much content is enough or which chapters of the textbook to cover. Weimer (2002) challenges her readers to consider a new content-learning relationship. Firstly, she argues that content, though important, is only a vehicle to help students develop communication or study skills. Secondly, content is used to promote self-awareness of learning (i.e. content as a means for students to understand how they learn and discover their strengths and weaknesses). In her book, Weimer (2002) defines self-awareness as “the foundation on which further development as a confident, self-directed, and self-regulated learner grows” (p. 51–52). Finally, content also provides the context for students to learn and apply the information.

I agree totally with the author’s views on the functions of content. As university teachers, our teaching goals should not be confined to merely helping students master the subject; we should aim to develop students’ communication and critical thinking skills as well as the ability to apply their knowledge to solve problems. In my teaching for example, I attempt to help students learn independently and develop their communication skills by getting them to research and present to the class a topic of their choice. Such assignments help students learn from supplementary course materials when they do research and develop communication skills when they make presentations. From the student feedback I received, they do appreciate the skills they develop through such an exercise.

3. The Role of the Teacher

In learner-centred teaching, the teacher’s role is similar to that of a guide, facilitator or coach. On the surface, the learner-centred approach may seem to simplify the roles and responsibilities of teachers, but it actually requires teachers to put in more effort and work. As the approach focuses on learners and what they are doing, teachers have to put more time and effort in designing instructional activities and assignments which are to become the main vehicles through which learning occurs. In addition to tasks associated with traditional modes of teaching such as organising content, generating examples and crafting questions, teachers have to create and maintain classroom conditions conducive to learning-centred activities and methods.

4. The Responsibility for Learning

In learner-centred teaching, the responsibility of learning is shifted from the teacher to learners. Students have to be responsible for their own learning while teachers help by building student autonomy and responsibility in class. While this may be possible for motivated students who are interested in the subject, the teacher would need to put in extra time and effort to help weaker students who are unmotivated to learn. Weimer (2002) suggests several different policies and practices that could develop students’ maturity and help them take responsibility for their own learning. One of the approaches I have tried is to invite students who did badly for the midterm test to meet me individually. During the meeting, I would find out more on the student’s study practices, and allow him/her to suggest what he/she could do to be better prepared for the exam. Encouraging students and expressing confidence in their abilities can help students take responsibility for their own learning.

5. The Purpose and Processes of Evaluation

Weimer (2002) suggests that evaluation can be used in learner-centred teaching to generate grades and promote learning. This is one of the most important teaching practices I have adopted. For example, in addition to the grade students receive for their assignments, I always make it a point to provide detailed feedback and comments. Weimer (2002) goes one step further to suggest that comments and grades should be separated. For example, the teacher could return the assignment with comments only and get students to write their responses to the comments before giving the grade. According to Weimer (2002), other practical approaches which could help students become self-directed learners include peer-assessment as well as ways to reduce exam-related stress so that exams can promote better learning.

In short, changes to the above-mentioned five areas are a paradigm shift from traditional teaching practices that we may be used to, but they are worth considering if we are serious about learner-centred teaching. From my own experience, I find it more manageable to introduce changes incrementally each semester, instead
Good teaching is often viewed as the practice of creating situations that maximise student learning. Thus, learner-centred teaching is often synonymous with good teaching as it focuses on the learners, not the teachers. So, what are some factors to consider in making our teaching learner-centred? Broudy (1972) describes three teaching modes namely:

1. Didactics—a subject-centred approach emphasising the transmission of knowledge from teacher to students.
2. Heuristics—an experiential learning approach encompassing the equipping of students with methods or processes so that students can learn on their own.
3. Philetics—a student-centred approach (also known as affective education) highlighting the importance of looking at students’ needs holistically.

Central to the philetic mode of teaching is the student-teacher relationship. However, more often than not, the cognitive-oriented education system we are familiar with prevents us from seeing students as individuals with aspirations, concerns and feelings. In addition, our task-oriented culture often confines lecturers and students to stereotypical roles of providers and recipients of knowledge respectively. Indeed, most teacher-student relationships are often short-lived, ending with the completion of a module.

Building relationships with students requires us to look beyond teaching methodologies and evaluate our approaches in interacting with students. Thus, it will be helpful if we can keep the following questions in mind as we plan our lessons:

1. Is the subject matter relevant and interesting to our students?
2. Is what we are teaching contradictory to students’ personal beliefs and values?
3. Is our teaching style threatening to the self-concepts/esteem of students?
4. What is our attitude towards students?
5. Do we make time to listen to students’ concerns, especially those pertaining to their learning needs?

Students learn most effectively when learning is self-initiated. As facilitators of learning, we can motivate students and stimulate their interest in the subject by incorporating affective learning in class. This requires us to pay attention to how affective factors (e.g. students’ attitude, self-concept, motivation, interest and engagement in learning the subject) are managed. If handled well, these affective factors contribute positively to students’ learning experiences, making them self-initiated learners.

Another way to incorporate affective learning in class is to do away with the assumption that all students have the same level of motivation and learning ability. Instead, gain students’ confidence and trust by addressing their doubts and fears in the learning process. Lecturers who open themselves up to students are often appreciated and respected. This can be achieved through sharing of personal experiences and treating students as equals. Such interactions make students’ learning experiences meaningful and communicate to students that they are not just passive recipients of knowledge, but active partners in the learning process.

Another critical factor to consider in the philetics of teaching is the classroom’s ‘climate’ and whether it is conducive for student-teacher interaction. The psychological distance (rather than the physical distance) between students and us matters in promoting student-teacher interaction in class. For example, we may be teaching in a small tutorial room but the atmosphere can be cold and tense. In creating a classroom climate conducive for student-teacher interaction, we may wish to consider the following:

References
I scrutinise the students’ faces as they enter the classroom one by one: I see a cheerful face eagerly scanning the room for someone familiar, a timid face looking for a seat at the back of the room, and a nonchalant one looking around blankly. These students, with different personalities and learning styles, are expected to learn the prescribed course content. And as their teacher, I am expected to be learner-centred in the delivery of the same.

How will I teach them if I do not know how they learn (Dunn & Griggs, 2000)? McCombs and Whisler (1997) cite two important factors for a learner-centred teacher to consider: (1) characteristics of the learners and (2) teaching practices. Students learn differently and appreciating their differences will help me teach them better. There are three ways in which students differ and these differences affect the way they learn:

1. Learning styles (i.e. characteristic ways of taking in and understanding information),
2. Approaches to learning and orientations to studying (i.e. surface, deep or strategic approach), and
3. Intellectual development (i.e. attitudes about the nature of knowledge and how it should be acquired and evaluated) (Felder & Brent, 2005, p. 58).

Teaching Students with Different Learning Styles

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As a learner-centred teacher, I must take these differences into consideration and address them by employing various teaching strategies, while providing a learning environment that encourages students to take charge of their own learning (Weimer, 2002) at the same time.

Learner-centred Teaching

A learner-centred teacher is sensitive to the learners’ “heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs” (K.L. Brown, 2003, p. 50). In addition, as the learning context is as important as the course contents and methods of instruction in learner-centred teaching, the teacher should not only concentrate on covering the course content and materials but must “first consider learner-related factors such as students’ needs, prior knowledge, talents, interests, social orientations, linguistic abilities, and cultures” (D.M. Brown, 2003, p. 100). As a teacher who learnt through the traditional lecture method, I have to make a conscious effort not to teach students the way I was taught previously by keeping abreast of learner-centred teaching methods that address various learning styles.

Learning Styles

The way a student begins “to concentrate on, process, internalize, and remember new and difficult academic

References

information” (Dunn & Griggs, 2000, p. 9) defines his/her learning style. Learning style theories recognise the individual differences (e.g. cognition, emotion, physiology, sociology) that affect learning. Research also shows that teaching methods that match students’ learning styles can improve their academic performance significantly (Giordano & Rochford, 2005). For example, based on her research, Dodds (2004) reports that “informing economic students of learning styles and appropriate study methods appears to increase exam scores and provides confidence in the choice of study methods” (p. 355).

Teaching Style

While research shows that greater learning occurs when teaching and learning styles match, Felder and Brent (2005) say that the teacher is not expected to tailor-fit his/her teaching style according to students’ preferences. For example, if a teacher is inclined towards meeting the needs of students with a particular learning style, other students with different learning styles will feel left out. Also, students who are consistently taught through their dominant learning styles will not know how to learn using their less preferred learning styles. Thus, teachers should adopt a balanced teaching style to help more students learn effectively and become more flexible in the way they learn. To this end, a learner-centred teacher must employ different teaching methods to address students’ varied learning needs.

In my teaching, I use the following learner-centred strategies to help students with different learning styles learn and encourage them to be responsible for their own learning:

- Involving students in the planning of a unit of study, including how they should be assessed, and, if there is a paper to be submitted at the end of the unit, students and I agree on the submission deadline. Getting students involved in making such decisions helps them take ownership of the course.
- Asking students ‘What if’ and ‘What do you think’ questions during lectures to capture students’ attention and jump-start class discussions.
- Getting students to share (in groups or individually) poetry and prose that reflect or relate to principles or theories taught in class.
- Getting students to work in groups of three (each student taking on the roles of the moderator, reporter or recorder within the group) to ensure equal participation from every student.
- Getting students to role play certain characters or dramatise a situation. When this method is used, students are usually required to write a reflection on the dramatisation.
- Using visual aids such as pictures, diagrams, flowcharts and films to complement lectures.
- Pointing out how a topic is connected to other topics in the same course or with topics in other disciplines to help global learners see the ‘big picture’ and presenting information in a logical progression of small steps to help sequential learners understand a lesson.

Knowing how students learn encourages me to apply a variety of teaching strategies appropriate to different learning styles so that students may learn when I teach.

References


Student-led Tutorials

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Background
In teaching Singaporean students, I found one major mystery-cum-problem: students seem too shy to answer my questions during the tutorials and lectures. In order to understand and solve this mystery-cum-problem, I spoke to some of my colleagues and students. Some of the more probable explanations were as follows: Students in Singapore have a sense that teachers are to be revered, and few students wish to be seen ‘showing off’ by answering questions in class.

Most Singaporean students in NUS have been conditioned to conform to such ‘normative’ classroom behaviour by the local education system before entering the university. Students’ lack of participation in tutorials was confirmed by a recent study done by a group of NUS professors. According to Lu, Park, Sim, and Vigneron (2003), while most students prepare for tutorials by reading lecture notes and/or textbooks, and by trying to answer some or all of tutorial questions, their discussion participation in tutorials is “disappointingly low”. In the study, only 34% of students were engaged in tutorial discussions and only 15% reported that they volunteered to solve questions in tutorials.

After reading the report, I began to think of ways to create a more conducive class environment for teacher and students to interact with one another. In the meantime, I attended the 3-day Professional Development Programme—Teaching (PDP-T) organised by the Centre for Development of Teaching and Learning (CDTL) at NUS. Among the talks by various NUS faculty who have won teaching awards, I could still vividly remember the lectures by Professor Alex Ip from the Department of Biology who shared about his struggles to improve his teaching and how he succeeded. He highlighted that NUS was moving from the old paradigm of teacher-centred lecture mode to the new paradigm of student-centred interactive mode. The idea of student-led discussion has been supported by academics around the world. For example, in 2003, McKeachie, Pintrich, Lin and Smith argued that the most effective method of teaching is that of “student teaching other students” (Ip, 2003). Likewise in 2003, Spencer suggested replacing instructor-led lectures with discussion-based classes in which the professor is a facilitator of student discussions (Szeto, 2005).

The idea of student-led discussion inspired me to devise a method called the student-led tutorial in which students lead discussions and pose questions to fellow students. By getting students to play the tutor’s role, I hoped to help students develop initiative and motivation in learning.

Conducting the Student-led Tutorials
I divided the whole tutorial class into groups of about four students each. Since student-student interaction and integration is a prerequisite for increasing interaction between teacher and students, I intentionally mixed students from different years, majors and gender in each group. By this, I hoped to bring about collaborative learning as students with different strengths, knowledge and skills learn from one another.

A tutorial leader was appointed in each group and his/her duty was to lead tutorial discussions using the questions I posted on the Integrated Virtual Learning Environment (IVLE) about two days before the tutorial.

The group leaders had to meet before the tutorial sessions to discuss the questions and other matters such as deciding the sequence and who will be in charge of which discussion question.

The tutorial groups could also consult me to discuss their preparation for tutorial discussions or related tasks. Members of each group took turns being the scribe so that a summary of tutorial discussions could be posted on the IVLE’s discussion forum after each tutorial.

To prevent freeloaders, I incorporated peer-review and peer-grading after each tutorial session. My role in the tutorials was that of a discussion facilitator, observer and resource person. When the discussion did not flow well, I provided some hints and prompt students to answer at least partially. At the beginning of each tutorial, I identified the objectives of tutorial discussions and provided clarification of some concepts. At the end of each session, I commented briefly on that day’s tutorial.

Collateral Benefits
In addition to the goal of increasing interaction in class, getting students to lead discussion also helped to develop in the following areas:

• Cooperation: This method facilitates small-group learning and interaction, and promotes teamwork as students have to meet outside class hours to discuss how to lead the discussion in tutorials.
• Confidence: As students develop a sense of belonging to a group, hopefully, the shyer ones would feel more comfortable speaking up.

• Leadership: By playing the role of a discussion leader, students can develop leadership qualities and skills.

• Communication skills: Students can develop academic argumentation skills as well as communication skills as they discuss the tutorial questions among themselves.

Outcomes
Tutorial became more interactive and students were more involved in the learning processes. With their professor on the sidelines, students seemed to feel comfortable expressing radical, unique and even ‘funny’ ideas. The following were some favourable student feedback:

• “Dr. Shim is very creative in the way he teaches.”

• “Dr. Shim encourages us to break out from our shells and participate more in discussions.”

• “He gives students total freedom in conducting the tutorials.”

• “He makes tutorials and lectures very lively and interesting.”

Reflection
After implementing the student-led tutorial method for a few consecutive semesters, it seemed that the method lost its novelty; only a few students continued to participate in the tutorial discussion. Eventually, this affected the tutorial leaders, causing them to lose the motivation in taking the lead.

There could be many reasons why the method did not work. One is that I had failed to increase students’ motivation in learning the subject and participating actively in discussions. The continuous assessment (CA) marks allotted for tutorial participation could be too insignificant. I also did not ask students for feedback on how to improve this method or allowed students to ask questions and discuss tasks they wanted to perform. More importantly, I may have failed to display my enthusiasm in teaching the subject and this could have been reflected by my facial expression and gestures which affected my students consequently.

In the end, the professor’s attitude matters. If I had cared about my students and their academic progress, and enjoyed interacting directly with students, this student-led tutorial method might have been more successful.

References
