TRANSFORM: Student-Centred Learning in Higher Education

Final Project Report

The University of Leicester

March 2019

Contents

1 Executive Summary

Student-centred learning in Sri Lankan universities has been initiated by the University Grants Commission (UGC) through the

- Sri Lanka Qualifications Framework (SLQF)
- Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions

Universities in Sri Lanka are thus working towards implementing student-centred learning to achieve the development of the 12 learning outcome categories of the SLQF, and the criteria set out in the Manual. These practices are being encouraged by the UGC to further enhance the employability of graduates.

The University of Leicester was commissioned by the British Council to carry out a pilot project to support the implementation of student-centred learning in the government universities of Sri Lanka.

The pilot project involved three phases:

- **Phase 1**: A baseline study to identify the current implementation of student-centred learning in universities; the experience of academics in using student-centred learning; the challenges they face in implementing; their professional development needs; and the learning experience of students
- **Phase 2**: The development and implementation of a pilot capacity building programme of four 4-day workshops to develop a group of academics from a range of faculties of 5 universities in Colombo, the South and East of the country
- **Phase 3**: The monitoring and evaluation of the pilot capacity building programme through classroom observation; and focus groups with participants and their students in the five universities
- **Phase 4**: Make recommendations for a national programme building on the learning and outcomes from the pilot programme

1.1 Phase 1: Baseline study

The baseline study found that

- The implementation of student-centred learning varies from university to university and faculty to faculty within universities
- Some faculties are using a wide range of student-centred approaches
- Students who are having a more student-centred learning experience are more highly motivated and higher achieving.

- The implementation of student-centred learning is sometimes not as effective as it could be. Learning experiences lack structure, do not apply the appropriate learning structures/models and are not suitably scaffolded
- Group sizes are too large for effective group work, group discussion, inquiry and problem-based learning. We would suggest group not exceeding 4 students per group
- Academic staff have the challenges of
    - Very large year 1 and in some cases year 2 classes
    - Teaching in fixed seat accommodation and large tiered lecture theatres
    - Students having had a spoon-fed passive learning experience at school
    - Rural students with poor English language skills
    - Lack of CPD in student-centred learning
- The current training for new academic staff does not include student-centred learning and there are few professional development opportunities for academic staff who entered the universities before these courses.
- There is thus a real need for capacity building in student-centred learning for all academic staff in universities

1.2 Phase 2: Pilot capacity building programme

The University of Leicester team developed a capacity building programme that would develop the expertise of a core group of academic staff from across all faculties of interested universities in a wide range of structured student-centred learning approaches that put into practice context-based learning, active learning, cooperative learning, inquiry-based learning, problem-based learning, constructivism and other contemporary learning theories and practices that would

- be appropriate for large groups
- be appropriate for all subject areas
- use contemporary work-based contexts for learning
- provide effective structures for learning, to progressively move the level 1 and 2 students towards more open-ended learning experiences
- fit into the existing lecture, tutorial and laboratory/studio-based structures
- exemplify good questioning techniques, group discussion techniques and other pedagogical practices that underpin student-centred learning
- provide classroom management and structures for effective learning
- develop the English skills of students
- effectively develop the SLQF 12 learning outcomes, provide opportunity to assess the outcomes and exemplify good practices in assessing the outcomes
- use blended media approaches

- provide structures that could be adopted for electronic learning

The capacity building programme was composed of three four-day workshops:

- **Workshop 1** (17 – 20 December 2018): Introduction to student-centred learning in higher education through a holistic model
- **Workshop 2** (5 – 8 February 2019): Active Reading, Active Writing and the 5E Learning cycle
- **Workshop 3** (5 – 8 March): Training the Trainers

1.3 Phase 3: Monitoring and Evaluation

The monitoring and evaluation of the pilot capacity building programme found that the participating academics had:

- developed their knowledge and understanding of the wide range of active, cooperative, inquiry-based, problem-based and context-based learning approaches
- been able to develop learning resources that effectively implemented the approaches using the writing frames provided by the exemplar resources used on the workshops. The quality of the learning resources developed was very high
- developed learning experiences that:
  - used real and relevant workplace-based contexts
  - executed the learning models and frameworks of the learning approaches and processes perfectly
  - involved the students in accessing materials to support the learning experiences through the LMS
  - involved the students in uploading the outcomes of the learning experiences onto the LMS
- implemented the use of the teaching and learning approaches effectively through the use of the learning resources with student class numbers from 24 to 25: year 1, 2 and 3 students and postgraduate groups; in courses from all faculties; in a range of learning environments, including large tiered lecture theatres
- used peer and tutor assessment using assessment rubrics developed for the specific learning outcomes
- along with their students identified the beneficial outcomes of using the student-centred approaches including the development deeper and broader understanding; greater retention; increased motivation and increased development of 21st Century, critical and creative thinking

The participants did face challenges such as time management; working in fixed furniture, tiered lecture theatres, students wanting lecture notes; classes with large numbers of students which they were able to overcome.

There were some challenges related to the learning environment cultural change that they have not yet overcome including colleague resistance and students only examination orientated and only interested in the lecturer conveying the knowledge they needed. These challenges will be overcome with time.

The pilot capacity building programme has thus been extremely successful.

1.4 Phase 4: Recommendations for the further development of the project

We would recommend a three-stage model to progressively capacity build the academic staff from all faculties in all 15 government universities.

1.4.1 *Stage 1: Supporting those faculties and universities who have World Bank or Asian Development Bank approved student-centred learning projects*

We are aware of a number of faculties who have secured World Bank funding or Asian Development Bank funding to support the implementation of student-centred learning across their faculties. To support these initiatives, we would recommend a professional development programme that adopts a capacity building model similar to that of the pilot programme. We would recommend a series of 5-day workshops to develop teams of academics from each faculty involved.

This would be a two-year project.

1.4.2 *Stage 2: Capacity building academic staff from the Staff Development Centres of all universities*

We would recommend a capacity building programme in student-centred learning for the academic staff from the Staff Development Centres, and other academic staff regularly contributing to their courses. We would suggest a series of four 5-day workshops similar to the model described above to develop their experience and expertise in student-centred learning so that they could then train both the new academics on the courses that they currently run; and other academics through a similar capacity building CPD programme.

We would suggest that this capacity building programme should be run for appropriate clusters of universities in Colombo and the different regions of the country to ensure maximum participation.

This would be a one-year programme.

1.4.3 Stage 3: Capacity building teams of academic staff from all faculties of all universities

We would recommend a national programme modelled on stage 1, that would run over a period of three years that would build the capacity of teams of academics in all faculties of all universities, thus supporting the implementation of student-centred learning in all university classrooms.

This would also be organised on a cluster basis, with each capacity building programme targeting a specific faculty.

Stages 1 and 2 could be delivered by the current project team from the University of Leicester, but we would suggest a larger team for Stage 3.

2   *Baseline Study Review*

2.1   Introduction

A needs analysis study was carried out to identify current UGC policies and initiatives designed to support developments in higher education in Sri Lanka. in particular with regard the development of students' learning experiences and the implementation of student-centred learning. The study was designed to investigate the current situation with regard the implementation of student-centred learning in universities to enable the identification of professional development needs. It also identified the need for a capacity building programme to further support the implementation of student-centred learning and the learning goals of the UGC.

2.2   Methodology

The study involved interviews with a deputy secretary general of the UGC, the Higher Education manager of the British Council and focus group interviews with the Vice Chancellors and deans of faculty from five universities, university teachers from four universities and students from three universities. We originally planned to interview 8 students from all four universities, but, in the time frame available, this was not possible. The interview and focus group schedules can be found in Appendix 1.

In addition to the interviews and focus groups, we planned to observe two learning sessions in each of the four universities. In practice, we were only able to observe one session in one university, due to logistical challenges. The observation schedule can be found in Appendix 2.

In addition to the interviews, focus groups and observations, we planned that questionnaires should be completed by the Vice Chancellor and deans in advance of the interviews/focus groups, that the teachers and four of each teacher's colleagues should also complete questionnaires in advance of the focus groups and that all final year students (of the teachers involved in the focus groups) should also complete questionnaires. Due to communication and logistical challenges it was only possible for those involved in the focus groups to complete questionnaires during or following the focus groups. Thus, the sample sizes were not sufficient to enable the data collected to be viable or reliable, however the responses on the questionnaires were used to supplement the focus group responses. The questionnaires can be found in Appendix 3.

The schedule for the study can be found in Appendix 4.

We have also read and made reference to the following two important documents, published by the UGC, that detail the expectations with regard the teaching and learning experience of students in universities in Sri Lanka:

- Sri Lanka Qualifications Framework (SLQF)
- Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions

It must be noted that in this report no specific reference is made to responses by individuals or their universities in order to ensure confidentiality.

The needs analysis study tools were developed to find the answers to research questions that focussed on the implementation of student-centred learning and the student learning experiences:

- What are the current policies and vision of the UGC with regard to higher education and the teaching and learning experience of university students?
- What are the current courses offered by the universities?
- How successful are the courses in developing high quality, employable students?
- What student-centred teaching and learning is currently being used and what is the experience and expertise of the teaching staff on the courses in using student-centred teaching and learning approaches?
- How effectively is student-centred learning being implemented?
- What challenges do the university teachers face and what are their needs?
- What is the current CPD provision with regard student-centred teaching and learning?
- What have been the students' learning experiences?

2.3 The Findings and suggested strategies and actions to address the needs

2.3.1 *What are the current policies and vision of the UGC with regard higher education and the teaching and learning experience of university students?*

2.3.2 *What are the current courses offered by the universities?*

Graduate employability is a priority for both the UGC and the universities. Employment difficulties exist for those studying humanities, social sciences and general sciences; and in universities outside Colombo. However, there are no problems for students studying engineering, medicine, computer sciences, IT and Agriculture, where there is 100% take up soon after graduation. The UGC is therefore introducing reforms, such as encouraging universities to introduce new industrially related undergraduate courses, to address these challenges.

One of the difficulties faced by the UGC is that the 15 government universities can only enrol about 31,000 of the 150,000 students per year achieving the minimum university entry requirements. Thus, the demands of parents and students cannot be achieved.

There is a growing number of private institutions, some as franchises from universities overseas which are providing about 12,000 places.

To address this 11 technology faculties have been established, providing a further 6,000 places, with a STEM bias, including Engineering and Medicine.

The UGC encourages student-centred learning, but it must be noted that universities are autonomous. However, using a US$100m World Bank project the UGC is encouraging universities to submit competitive bids for sustainable projects. World bank areas include: the expansion of STEM education (engineering, medicine, computer science and technology faculties/degrees), equipment and sustainable reforms in curricula for humanities, social science and general science. Competition for funding is by tiers, thus tier-one universities are competing with each other and tier two with each other and so on. The third area is research, which should be pragmatic, including more commercialisation. Proposals from universities, faculties and departments have already been submitted and are being evaluated. Some of the proposals are to support the implementation of student-centred learning.

The faulty standing committees, chaired by the elected deans, have industrial representation and make decisions with regard to teaching and learning experience which includes the introduction of student-centred teaching and learning. The UGC encourages movement towards it. Successful faculties can increase student numbers and thus recruit more staff.

The most important is aim is to produce able and employable graduates

Deans believe that student-centred learning develops the soft skills of students. To achieve the 12 Learning Outcome Categories, detailed in the SLQF, universities need to implement student-centred learning in the delivery of all courses. Also, the *Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education* specifies the use of student-centred learning in the criteria for Course/ Module design and in Development, Teaching and Learning, Learning Environment, Student Support and Progression, Student Assessment and Awards and in Innovative and Healthy Practices.

They also believe that

- proficiency in the English language is an important employability criterion. Obtaining the necessary level of capability can be a challenge for students from rural backgrounds
- employability is a key to engagement success - able graduates are employable graduates
- courses should align with the economy, such as introducing computing into arts and humanities courses

- the development of social, emotional and soft skills is very important thus it is crucial that the learning experience should be holistic

Four of the five universities involved in this study offered undergraduate degrees in all subject areas and had the full range of faculties, including Technology, Engineering, Medicine, Science, Agriculture, Humanities, Arts, and Business. One of the universities specialised in Engineering, Technology, Design, ICT and Architecture.

Three of the universities involved in the study also offered postgraduate degrees in all faculties.

2.3.3 *How successful are the courses in developing high quality, employable students?*

Whilst currently gaining employment can be challenging for students studying humanities and social science, there are no problems for students of engineering, medicine, computer science and ICT.

2.3.4 *What student-centred teaching and learning is currently being used and what is the experience and expertise of the teaching staff in using student-centred teaching and learning approaches?*

All students in Year 3 do a work placement which is assessed. The length of placement time varies from university to university, and from faculty to faculty, from 3 to 6 months. All students in Year 4 carry out a project. These two experiences are very positive and impressive.

Student-centred learning is being applied in all the universities as a result of the quality framework outcomes, but the extent of its use is very variable. Limited use is due to the limited experience of staff, with local PhDs and relatively little training.

In those universities where student-centred learning is being used the extent of use varies from faculty to faculty. There is extensive use of a wide range of student-centred learning including laboratory practical work, case studies, inquiry-based learning, problem-based learning, project-based learning, active writing and role play in medical faculties. English language teachers were also using the full range of group discussion techniques, active reading, active writing, role play and drama. Education faculties are also using a wide range of approaches, as they train their undergraduates and teachers who are attending in-service training courses in these approaches. Engineering and Architecture faculties are using studio/workshop sessions from Year 1 and project-based learning increasingly from Years 2 to 4. In science faculties the laboratory work is prescriptive in nature in Years 1 and 2. It is intended to develop the relevant laboratory skills. Then the students are involved in progressively more and more inquiry-based experiences in Year 3 and 4, leading to their project in Year 4. Similarly, in Agriculture, Marine and Environmental Biology, the students are involved in more prescriptive field

work in Years 1 and 2, but the experience becomes more and more inquiry and problem-based in Years 3 and 4, culminating in the research project in Year 4. In Agriculture the field experience is on the university farm and other farms.

In one university the design course was completely project-based from Year 1.

Student-centred learning is more extensively used by academic staff who have carried out their postgraduate studies abroad. They are also more extensively used in faculties and universities that have implemented outcome-based learning. Many of those faculties have invited academics from other countries to provide professional development in outcome-based learning for the academic staff.

In locally based situations the academic staff have learned from other colleagues in their university or when completing their postgraduate qualifications abroad. In many cases they have not had any formal development and training. As a result, they are not sure if they are applying the student-centred approaches correctly.

In addition to the Education faculty staff, there was one head of a Staff Development Centre who had developed a masters qualification based on Medical Education in the USA.

The deans and academics of some faculties admitted that they needed to introduce student-centred learning into their faculties and their staff needed professional development to support the implementation.

Academic staff in all universities are aware of outcome-based learning and assessment techniques such as peer assessment, but do not use them. It is for example, viewed as easier to assess students by examination rather than through other methods.

2.3.5   *How effectively is student-centred learning being implemented?*
All students in Year 3 do a work placement which is assessed. The length of time varies from university to university and from faculty to faculty, from 3 to 6 months.

From interviews with academic staff and students and the learning sessions observations we discovered that although student-centred learning is being used, the approaches are not structured, and although the academics maybe aware of learning philosophies, such as constructivism, they do not implement them. Thus, learning structures and models are not appropriate.

Students are asked to read something in advance of a tutorial and then required to discuss it. The discussion is not structured by an agenda of questions. Also, students are asked to read an article and then asked to make a presentation on it. Once again, the presentation is not scaffolded with a writing frame or questions which would provide structure to the presentation. This detracts from the effectiveness of the learning

experiences.

In other situations, students are asked to solve a problem, which maybe set in context, but the problem-based learning experience is not structured.

Instructions and questions are not planned or thoughtfully structured leading to confusion and in effective learning experiences.

Group sizes for group work discussion and problem-based learning were very large, with groups comprising 12 to 20 students. This led to reduced engagement, loss of interest and absenteeism.

Although those involved in the observed learning experience worked in smaller groups some were still not fully engaged.

The implementation of student-centred learning could be further developed and improved. Even those teachers currently using student-centred learning need professional development to be able to implement the approaches more effectively and to structure and scaffold the learning.

2.3.6   *What challenges do the university teachers face and what are their needs?*

All academics in all universities have very large classes in Year 1, and in some cases in Year 2, with as many as 400 students. The classes are taught in large tiered lecture theatres with fixed seats and tables. As a result, academic staff tend to use lecturing as their predominant teaching and learning approach. They also have tutorial sessions with students and, in science and engineering, laboratory or workshop-based sessions.

The class sizes reduce in Year 2 and are smaller in Year 3 and 4.

To improve the learning experience, the academic staff need professional development in implementing student-centred learning.

The students have had a very passive, 'spoon fed' learning experience at school. They are not used to taking responsibility for their learning, for asking questions or working in groups. They do not think for themselves or ask challenging questions. Student-centred learning can be a 'culture shock'.

Students from the rural areas have poor English language skills.

Facilities in some universities are basic and not conducive for student-centred learning and Wi-Fi connection can be a challenge.

Some universities find fieldwork a challenge due to the large student-teacher ratio, and the more rural universities experience difficulties in finding work placements for students. In some subjects it is difficult for students to do research projects in year 4 due to the lack of equipment and as a result undertake a literature-based project.

Rural universities also find it a challenge to provide seminars for staff and students, and links with industry are difficult to develop.

The outcome of these difficulties is a real need for professional development related to student-centred learning (and its associated assessment techniques together with the use of electronic learning and blended learning) to support the implementation of the quality framework and achievement of the 12 learning outcome categories. Recommended professional development should be in the form of capacity building for academic staff in all universities, particularly more rural institutions. The capacity building and continued support should include the development of teaching resources that effectively put into practice the student-centred approaches and their structures, learning models and scaffolds.

2.3.7   *What is the current CPD provision with regard student-centred teaching and learning?*

All the universities have a staff development centre that is responsible for providing training for new academic staff. The new staff have to complete a six-month training programme. The programme is for one-day per week to obtain a contract. The certificated course is run both by the Staff Development Centre itself and invited academics from the university. The new academics do not have to attend the course at their university, they can attend it at other universities.

This is the main professional development experience. In some cases, deans have invited academics from abroad to provide professional development in outcome-based learning. Some academics have also gained professional development through attendance at conferences, postdoctoral studies and attending courses in other countries.

In one university there are weekly seminars where staff share experiences.

In one university action research is used to evaluate learning experiences.

The course for new academic staff, we were informed, does not include student-centred learning.

There is a need to provide professional development in student-centred learning for the staff of the Staff Development Centres.

2.3.8   *What have been the students' learning experiences?*

The students interviewed from faculties where student-centre learning was widely applied and embedded were very complementary with regard their learning experience, including:

- its relevance

- solving real problems
- the quality of the placement experience
- their inquiry projects
- the research experiences
- professionally related experiences

However, other students expressed the following concerns:

- The lecture and textbook-based learning experience was demotivating, and the experience was not related or relevant to their future careers
- They would like more connection with professionals working in their field
- The lectures were out-dated and not current or contemporary
- They would like fieldwork experiences, because their course was mainly lecture-based
- The examples used in lectures were not related to their industry
- On the work placement they did not have a career/profession related experience, they just made the tea, answered the phone and did the photocopying
- The work placement was too short to carry out the two required projects
- The design-based approach was not appropriate for some units on the course
- The problems or projects given were not real and relevant
- The professional methods introduced were out-dated, and they were not introduced to the technology and software programmes now used in the profession
- It was a challenge finding a placement
- Group sizes are too large (20 students) for our studio experiences leading to some students not developing their understanding and not attending class and thus falling behind

2.4 Conclusions

Universities need to implement student-centred learning to effectively implement the 12 learning outcome categories of the quality framework and the criteria of the 'Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions'. They also need to implement student-centred learning to develop the 21st Century skills of the students, and thus improve their employability and better prepare for the world of work.

Students who are having a more student-centred learning experience are more highly motivated and higher achieving.

The implementation of student-centred learning is very variable, varying from university to university, and faculty to faculty. The implementation of student-centred learning is

sometimes not as effective as it could be. Learning experiences lack structure, do not apply the appropriate learning structures/models and are not suitably scaffolded.

Group sizes are too large for effective group work, group discussion, inquiry and problem-based learning. We would suggest group not exceeding 4 students per group.

Academic staff have the challenges of:

- Very large Year 1 and in some cases Year 2 classes
- Teaching in fixed seat accommodation and large tiered lecture theatres
- Students having had a spoon-fed passive learning experience at school
- Rural students with poor English language skills
- Not having had exposure to student-centred learning or professional development

The current training for new academic staff does not include student-centred learning and there are few professional development opportunities for academic staff who entered the universities before these courses were introduced.

There is thus a real need for capacity building in student-centred learning for all academic staff in universities and for the academic staff in the Staff Development Centres, who could then run programmes within their universities. We would suggest a capacity building pilot programme that supports the needs of academics in all universities in Sri Lanka, including how to apply student-centred learning with large classes in lecture theatres.

3 *The pilot Capacity Building Programme on Student-centred Learning in Higher Education*

3.1 Rationale

a) The pilot capacity building programme was designed to address:

The common challenges faced by all the universities in using student-centred learning with Level 1 students in particular and, to a certain extent, Level 2 students due to:

- the large size of the groups
- the students being in mixed discipline groups
- the English language skills of some students
- the students having been "spoon-fed" at school and thus not able to cope with more open-ended approaches
- the nature of the classrooms/lecture theatre facilities for the large level 1 and 2 groups
- the lack of training of the staff in student-centred learning approaches
- the lack of application of learning structures and scaffolds for learning and development of deep understanding and high order thinking when using student-centred approaches
- students not engaging in learning experiences
- students not participating fully in group tasks – 'freeloaders'
- poorly motivated students

b) Some of the areas identified by the baseline study, including that the Level 1 and 2 students were predominantly taught through lectures and tutorials; and in the case of science, engineering and other practical/design-based subjects laboratory or studio-based sessions that were:

- generally prescriptive in their nature – to develop the skills that the students would apply when carrying out their projects in Levels 3 and 4
- taught out of context or, when related to the future workplace, they were perceived by some students to be not representing a "real" or "relevant", or out-of-date
- organized with students working in large groups and so some students felt uninvolved and did not participate. They consequently found the learning challenging and possibly opted out of sessions
- perceived by some students to be not interesting and demotivating
- not structured to provide effective learning

c) Support the initiatives that some universities were already undertaking or planning, such as outcome-based learning and the use of blended and electronic methods

d) Meet the demand for continuing professional development in effective student-centred learning expressed by all academic staff in some universities, or specific faculties or individuals in other universities involved in the baseline study. Also, the professional development should build on and complement the certificated beginning of career training received by younger academic staff, which in most cases did not include student-centred learning

We thus, established a capacity building programme that would develop the expertise of a core group of academic staff from across all faculties of interested universities in a wide range of structured student-centred learning approaches that put into practice context-based learning, active learning, cooperative learning, inquiry-based learning, problem-based learning, constructivism and other contemporary learning theories and practices that would:

- be appropriate for large groups
- be appropriate for all subject areas
- use contemporary work-based contexts for learning
- provide effective structures for learning, to progressively move the level 1 and 2 students towards more open-ended learning experiences
- fit into the existing lecture, tutorial and laboratory/studio-based structures
- exemplify good questioning techniques, group discussion techniques and other pedagogical practices that underpin student-centred learning
- provide structures for effective cooperative learning
- develop the English skills of students
- effectively develop the SLQF 12 learning outcomes, provide opportunity to assess the outcomes and exemplify good practices in assessing the outcomes
- use blended media approaches
- provide structures that could be adopted for electronic learning

We also designed the programme to develop the questioning skills and group work, classroom and learning management skills. In addition, we worked on the participants' ability to develop teaching resources that effectively implemented the approaches and their capabilities to train other colleagues in these approaches.

The participants would be involved in basic action research and reflective practices to enable them effectively to evaluate the learning experiences.

We recommended that two staff from each faculty should attend the programme to enable them to work as reflective partners - to plan together, observe each other and reflect together.

The capacity building programme comprised three four-day workshops:

- **Workshop 1** (17 – 20 December 2018): Introduction to student-centred learning in higher education through a holistic model
- **Workshop 2** (5 – 8 February 2019): Active Reading, Active Writing and the 5E Learning cycle
- **Workshop 3** (5 – 8 March): Training the Trainers

3.2 Workshop Approach

During the hands-on, minds-on workshops the participants largely worked in groups of 4. Each workshop/session introduced the philosophies and developed understanding of the structures of learning and practices through hands-on exemplar activities. Sessions engaged participants in reflection, sharing ideas, feeding back, and question and answer sessions. The work developed by the groups during these sessions was put on their group display area to enable all work to be shared and valued. The participants were provided with many exemplar activities. They were also involved in developing their own outline or full teaching resources. In addition to developing their individual action plans for implementation, they were introduced to simple action research tools. They were organised into reflective practitioner groups to enable them to support each other during implementation as well as d to continue to reflect and develop together. This facilitated more effective implementation and embedding. Throughout the workshops the participants were introduced to strategies for organising the classroom to facilitate effective learning, questioning techniques and how to create a stimulating learning environment for large groups of students.

3.3 Programme Objectives

At the end of the capacity building programme participants were expected to:

- Organise their large classes for effective learning and thinking
- Use more effective questioning techniques for engaging all students
- Use a wide range of effective context, active, cooperative, inquiry and problem-based learning approaches designed to raise the motivation and achievement of students and develop their personal capabilities
- Develop their own teaching resources that effectively implement the approaches
- Use the resources as a basis to develop best practice in their classrooms
- Adopt context-based approaches to teaching and learning across a whole teaching experience to inspire and motivate students
- Implement a serial constructivist model effectively to construct the conceptual understanding of students
- Use the learning approaches to develop deep understanding, critical and creative thinking, 21st Century and employability skills (the 12 learning outcomes of the SLQF)

- Take away some comprehensive resources that put all the philosophies effectively into practice
- Implement their learning and to have worked as reflective practitioner groups
- Carry out action research to evaluate the implementation of these approaches
- Train colleagues in the approaches

3.4 The three pilot capacity building workshops

3.4.1 Workshop 1

This four-day workshop was designed to introduce the participants to student-centred learning through an holistic student-centred model. The model puts into practice context-based learning, active learning, cooperative learning and problem-based learning. It supports the participants as they develop similar learning experiences for students on their courses.

Objectives

At the end of the workshop participants will be able to:

- Organise their classroom for effective student-centred active learning and thinking
- Use more effective questioning techniques for engaging all students
- Use a range of effective student-centred active, cooperative, and problem-based learning approaches which are designed to raise student motivation and achievement and to develop their deeper understanding and 21st Century skills
- Use exemplar student-centred learning strategies and resources as a basis to develop best practice in their classrooms
- Adapt and develop their own teaching resources that effectively implement the approaches and the holistic student-centred model

Workshop Programme

a) **Day 1: Introduction to student-centred learning (SCL)** - hands-on experience of a holistic model designed to implement good practices and demonstrate how a whole topic can be taught through a variety of student-centred learning approaches. This day will introduce student-centred learning and the underpinning philosophies and practices through formal input and hands-on experiences; it will draw on insights from their use in a number of contexts.

Time	Activity	Approach and learning resources
09:00	**Student-centred Learning** Participants identify what they want to achieve from the workshop.	Individual and group activity Formal input through presentation

Time	Activity	Approach and learning resources
	An introduction to the philosophies, practices, characteristics and applications of student-centred learning	Day 1 PowerPoint presentation
09:45	**Ice-breaker** In groups the participants will be involved in a simple 'challenge activity' – building the tallest free-standing paper tower. They will reflect in their groups on the thinking processes involved in solving the challenge. They will then be introduced to the thinking process structure and approaches to supporting students through the process	Challenge activity, group discussion, and formal input to debrief, consolidate and extend the learning from the discussions Day 1 PowerPoint presentation
10:30	**Coffee**	
10:45	**Introduction to a holistic Student-centred Learning Model (SCL)** The participants will be introduced to a holistic Student-centred learning model that puts into practice context-based learning, active learning (including active reading, data handling, group discussion, and exemplary questioning techniques), cooperative learning, and problem-based learning that has been applied in many contexts and countries	Formal input through presentation Day 1 PowerPoint presentation
11:15	**Hands-on experience of an exemplar holistic SCL experience (Part 1)** The participants will be involved in a holistic student-centred learning experience to enable them to understand the model, how it works, how it engages students and how it develops deep understanding, the thinking and 21st Century skills of the students. The activity is designed to exemplify the practices of Active Learning, Cooperative Learning, Problem-based Learning, peer assessment and other good practices.	The participants will be involved in a holistic SCL activity Energy PowerPoint Energy Activity Sheets Energy Teachers Guide
12:30	**Lunch**	
13:30	**Hands-on experience of an exemplar Problem-based Learning experience (Part 2)** The exemplar holistic SCL experience will be continued.	The participants will be involved in a holistic student-centred learning activity. Energy PowerPoint Energy Activity Sheets Energy Teachers Guide
15:00	**Tea**	

Time	Activity	Approach and learning resources
15:15	**Hands-on experience of an exemplar holistic SCL experience (Part 3)** The exemplar Problem-based Learning experience will be completed. The participants will reflect on the experience. The practices, principals and approaches adopted will then be drawn out and emphasised	The participants will be involved in the holistic student-centred learning activity and then reflecting on and discussing the model. Energy PowerPoint Energy Activity Sheets Energy Teachers Guide
16:30	**Plenary** Drawing together insights from the day and setting up the tasks for Day Two. Complete Reflection for day 1	The participants will be involved in individual, paired and group reflection. There will also be questions and answers and a summary of the learning Day 1 PowerPoint
17:00	**Finish**	

b) Day 2: Reviewing Holistic SCL resources and developing the outline framework for a Holistic SCL learning activity

This day will involve participants in reviewing a range of existing holistic student-centred learning units and then developing an outline holistic student-centred learning activity that is appropriate for their particular needs. The development activity will be supported by short inputs during the day that target particular aspects of the holistic student-centred learning model and outline framework development process.

Time	Activity	Approach and learning resources
09:00	**Existing resource review** The participants will work in expert groups to review a holistic student-centred learning experience and feedback their learning to their home to identify common features, techniques and approaches. They will also identify those appropriate to their subject	The participants will work in groups to review and discuss the exemplars and give feedback. The models and approaches will be explained. Day 2 PowerPoint Exemplar SCL resources
09:45	**Holistic SCL outline writing workshop (1): Context and problem** Participants will work in subject groups to identify the curriculum focus for their holistic SCL activity, the topic, context and challenge/problem suitable for their particular circumstances. These will be produced as a display which grows throughout the day.	There will be a formal input by presentation. Participants will work in their subject groups identifying topic, context and problem Day 2 PowerPoint

Time	Activity	Approach and learning resources
	INPUT: What makes a convincing context and challenge/problem?	
10:30	**Coffee**	
10:45	**Holistic SCL outline writing workshop (2): Background, knowledge, understanding and skills** Participants will work in subject groups to identify the background knowledge, understanding and skills the students will need to solve the challenge/problem and how it will be introduced and developed in context. These will be produced as a display which grows throughout the day. **INPUT**: Developing the background knowledge, understanding and skills	There will be a formal input by presentation. Participants will work in their subject groups identifying the background knowledge, understanding, and skills Day 2 PowerPoint
12:30	**Lunch**	
13:30	**Holistic SCL outline writing workshop (3): Solving the challenge/problem and communicating the solution to the challenge/problem** Participants will work in subject groups to identify how the students may be engaged in solving the challenge/problem and communicating their solutions in context **INPUT**: Solving the problem and communicating the solutions	There will be a formal input by presentation. Participants will work in their subject groups identifying the background knowledge, understanding, and skills Day 2 PowerPoint
15:00	**Tea**	
15:15	**Holistic SCL activity review** Groups display their outline holistic SCL activity. The participants critique work from all the groups; collate any good ideas and approaches; and offer feedback to other groups.	Group displays, review and feedback
16:30	**Plenary** Drawing together insights from Day Two and setting up the tasks for Day Three. Complete reflection for day 2.	The participants will be involved in individual, paired and group reflection. There will also be questions and answers and a summary of the learning
17:00	**Finish**	

c) Day 3: Writing the Holistic SCL activities

This day will involve the participants in developing the full holistic SCL activities. The process will be supported by short inputs during the day that target particular aspects of the Problem-based Learning activity development process.

Time	Activity	Approaches and Learning resources
09:00	**Introduction** A brief review of issues and insights arising from Day Two. Introduction to the process for developing holistic SCL activities.	Formal input to summarise Day 2, address questions and issues arising from Day 2, and introduce the process for developing their complete holistic SCL activity
09:30	**Holistic SCL activity development workshop (1)** Participants will work in their subject groups to develop their holistic SCL activities. These will be produced in electronic form. **INPUT**: Learning Outcomes/Overview/Setting the scene and Brief	There will be a formal input by presentation. Participants will work in their subject groups developing their holistic SCL activities Day 3 PowerPoint
10:30	**Coffee**	
10:45	**Holistic SCL activity development workshop (2)** Participants will work in their subject groups to develop their holistic SCL activities. These will be produced in electronic form.	Participants will work in their subject groups developing their holistic SCL activities
12:30	**Lunch**	
13:30	**Holistic SCL activity development workshop (3)** Participants will work in their subject groups to develop their holistic SCL activities. These will be produced in electronic form. **INPUT**: Developing Background knowledge, understanding and skills	There will be a formal input by presentation. Participants will work in their subject groups developing their holistic SCL activities Day 3 PowerPoint
15:00	**Tea**	
15:15	**Holistic SCL activity development workshop (4)** Participants will work in their subject groups to develop their holistic SCL activities. These will be produced in electronic form. **INPUT**: Supporting Research and Problem Solving and Communicating the solutions. Assessing the students (groups and individuals through peer, self and tutor assessment) Writing the Lecturers Guides	There will be a formal input by presentation. Participants will work in their subject groups developing their holistic SCL activities Day 3 PowerPoint
16:30	**Plenary**	The participants will be involved in individual, paired and group reflection. There will also be questions and

Time	Activity	Approaches and Learning resources
	Drawing together insights from Day Three. Complete reflection for day 3.	answers and a summary of the learning
17:00	**Finish**	

d) Day 4: Implementation and Action Planning

The subject groups will complete their holistic SCL activities as far as possible, display them, review the holistic SCL activities displayed, provide feedback, and action plan implementation and evaluation.

Time	Activity	Approaches and Learning resources
09:00	**Introduction** Drawing together insights from Day Three and introducing the tasks for Day Four.	Formal input to summarise Day 3, address questions and issues arising from Day 3, and introduce the tasks for Day 4
09:30	**Holistic SCL activity development workshop (5)** Participants will work in their subject groups to continue developing their holistic SCL activities. These will be produced in electronic form.	Participants will work in their subject groups on their holistic SCL activities
10:30	**Coffee**	
10:45	**Exhibition** The subject groups present their holistic SCL resources to ensure all participants benefit from the work. Complete the reflection for Day 4	The groups exhibit their PBL activities, review and give feedback. Formal feedback from trainer
12:30	**Lunch**	
13:30	**Action planning** The participants will be introduced to action planning implementation and evaluating the outcomes of using the holistic SCL activities with their students through action research and reflective partners/groups. The groups will then develop their action plans	There will be a formal input by presentation. Participants will work in their subject groups developing their action plans Day 4 PowerPoint
15:00	**Tea**	
15:15	**Closing session** Summary of key insights from the workshop. An opportunity for delegates to ask questions of the trainers and peers. Complete Final Evaluation Form	Final reflections, question and answer. Day 4 PowerPoint Evaluation Form
17:00	**Finish**	

Workshop Description

a) Ice breaker

The ice breaker activity involved the participants in a challenge, to build the highest free-standing paper tower from 20 sheets of A4 paper and tape. The participants then reflected on the experience, identifying the knowledge, understanding and skills developed and employed when solving the challenge; and the thinking skills and processes involved. They were then introduced to a thinking model for tackling such challenges and how to support the students through such a challenge.

The participants really enjoyed the experience and valued the model introduced, particularly the idea of generating many solutions to the challenge; identifying the best solution as a team, planning the implementation and then evaluating the solution following the presentation of solutions by other groups. They liked the four-stage scaffolding and thinking model.

b) What do you want to achieve from the workshop?

The participants wrote individually on post-it notes the three most important things they wanted to achieve from the workshop. They shared their ideas with a partner and then with all members of their group before displaying them on a wall. The participants were asked to take responsibility for achieving their objectives. The trainers continually referred to them to ensure the needs of the participants were met.

The achievements for the workshop included:

- Understanding what student-centred learning is
- Different student-centred learning methods
- How to use student-centred learning with large class sizes
- How to use student-centred learning in their classrooms (lecture theatres)
- How to involve all students
- How to ensure all students participate and there are no 'freeloaders'
- How to involve students who are used to having lectures and lecture notes
- How to assess students
- How to involve students in peer assessment
- How to develop the deep understanding of students

c) An Holistic SCL model

This part of the workshop introduced the principles, practices, theories and characteristics of student-centred learning (SCL) in higher education. It then introduced the participants to an holistic model that has been successfully adopted and adapted by the trainers in other countries. The model has been designed to enable lecturers to teach whole topics in context and thus motivate and enthuse students to develop their knowledge and deep understanding. It involves students in applying their

understanding to solve real workplace-based challenges or problems.

The activity first introduced the participants to the learning outcomes, the route through the learning experience (including the jigsaw technique). It set the scene for the activity. The participants were working as a team in a company that was intending to tender for a contract to develop the 50-year sustainable energy policy and infrastructure for the state of Penang in Malaysia.

The participants were introduced to the context and the challenge through a memo from the company MD and a video sent to potential suppliers from the state of Penang Government office.

In their teams (home groups) the participants developed their knowledge and understanding of the current energy situation through interrogation of a research paper. This involved the participants in active reading, data analysis and data interpretation as well as group discussion.

Each participants in a group became an expert, one expert on each of the potential, sustainable energy sources (Hydroelectric, Wind, Solar and Biomass). The participants then moved to work in expert groups. The expert groups were given an agenda of questions that they had to discuss and research to find the answers. The questions exemplified good practice in structuring and ordering to take students progressively to higher and higher levels of thinking and deeper and deeper understanding through the use of graded questions from low to higher cognitive levels.

The experts then returned to their home groups then shared their experience and expertise, helping their home groups to understand each source of energy; how electricity was generated; Its potential generation capacity; environmental effect and its advantages and disadvantages.

The home groups, through structured group discussion, then decided which energy source to recommend to the Penang State Government. They prepared to present their case.

The groups presented their recommendations making their arguments through a PowerPoint presentation. Groups were involved in peer assessing the presentations using an assessment rubric.

The whole learning experience was scaffolded through the use of a PowerPoint that asked questions to facilitate learning at each stage in the learning process.

The participants were then reflected on the whole learning experience, fed back their views and asked questions of the trainers.

The series of sessions and the debrief enabled the trainers to introduce a structured,

holistic SCL model involving outcome-based, active and cooperative learning. The jigsaw technique exemplified good questioning and group discussion could be used with large groups. Contemporary work-based contexts for learning, including a real challenge to solve; used a blended media approach. In addition, English skills were developed. This would help deliver all 12 learning outcomes of the SLQF. Throughout the process, the trainers emphasized the practices and philosophies which would encourage learning in large class sizes, particularly in lecture theatre/passive learning environments.

d) Reviewing other holistic SCL resources

Through jigsaw technique the groups reviewed other similar teaching resources to identify models, structures and approaches appropriate for their subject.

e) Developing their own outline writing framework and whole holistic SCL learning experience

The participants were then taken step-by-step through the process of developing an outline and, in some cases, a complete teaching resource that effectively put into practice the holistic SCL model for part of a unit they would be teaching in January or at the beginning of the next semester. The participants generally worked as individuals on the development of their resource as all were teaching different modules. However, they did discuss and share their ideas in subject groups.

Some participants found this process quite challenging, particularly the development of a real and relevant context and how to introduce it in a realistic way. However, through facilitation form the trainers all participants from the wide range of subjects represented were able to develop an outline holistic SCL learning experience that adopted and/or adapted the model introduced by the trainers. This was a great success.

f) Action planning implementation and basic action research

The participants action planned the implementation of their teaching resource. They were also introduced to the 'reflective partners' approach and basic action research techniques. Following the workshop, the participants completed the development of the full teaching resource, piloted it with a group of students, worked as reflective partner groups and carried out basic action research to evaluate the learning experience.

The participants who were able to pilot between workshops prepared to report on and share their experience at the second workshop.

It must be noted that some universities or faculties were involved in examinations and intra semester breaks and thus not able to pilot their resources.

3.4.2   Workshop 2

This four-day workshop was designed to introduce the participants to active reading and active writing techniques, and which are suitable for use in higher education. The active learning process and the 5E Learning Cycle i.e. a serial constructivist model of learning adapted to put into practice context-based, active, inquiry-based, and problem-based learning. The participants would also be supported through the process of developing similar learning experiences for their own students.

Objectives

At the end of the workshop participants will be able to:

- Organise their classroom for effective student-centred active learning and thinking
- Use more effective questioning techniques for engaging all students
- Use a range of effective student-centred active, cooperative, and problem-based learning approaches, including active reading, active writing, the 5E Learning Cycle, which are designed to raise the motivation and achievement of students and develop their deep understanding and 21st Century skills
- Use exemplar student-centred learning strategies and resources as a basis to develop best practice in their classrooms
- Adapt and develop their own teaching resources that effectively implement the approaches and the holistic student-centred model

Workshop Programme

a)   Day 1: Sharing experiences and introduction to active reading and active writing approaches appropriate for use with Year 1 and 2 Higher Education students

This day will enable the participants to share their experiences of piloting the holistic SCL activity they developed during and following workshop 1, identify the learning from the piloting; and enable the facilitators to address any challenges, issues or problems encountered during the piloting. The participants will then be introduced to active reading and writing approaches and the underpinning philosophies and practices through formal input and hands-on experiences;

Time	Activity	Approach and learning resources
09:00	**Introduction** The participants will be introduced to the objectives and programme for the workshop. **Sharing experiences and outcomes from the trialling of the holistic student-centred learning experiences developed on workshop 1**	Formal presentation Workshop PowerPoint presentation Group activity presentations or exhibitions.

Time	Activity	Approach and learning resources
	The participants will be involved in setting up an exhibition to share the outcomes of the trialling of their learning experiences or in sharing in groups.	
10:30	**Coffee**	
10:45	**Learning and challenges from the trialling** The participants will discuss the learning and challenges identified by the different groups and the facilitators will address the challenges and issues raised	Group discussions and feedback Workshop PowerPoint presentation
11:30	**Introduction to Context-based Active Reading approaches appropriate for Higher education** The facilitators will introduce the participants to context-based active reading approaches they could use with their Year 1 and 2 students **Hands-on experience of an active reading activity** The participants will be involved in a context-based active reading activity and in reviewing other examples to enable them to understand the models, how they actively engage students and how they develop the thinking and deep understanding of the students. The activities are designed to exemplify the practices and will enable the participants to reflect on how they could adapt them to their learning programmes for students in Years 1 and 2	Formal input Workshop PowerPoint presentation The participants will be involved in an active reading activity and in reviewing other activities Exemplar activities
12:30	**Lunch**	
13:30	**Introduction to Context-based Active Writing approaches appropriate for Higher education** The facilitators will introduce the participants to context-based active writing approaches they could use with their Year 1 and 2 students **Hands-on experience of an active writing activity** The participants will be involved in a context-based active writing activity and in reviewing other examples to enable them to understand the models, how they	Formal input Workshop PowerPoint presentation The participants will be involved in an active writing activity and in reviewing other activities Exemplar activities

Time	Activity	Approach and learning resources
	actively engage students and how they develop the thinking, deep understanding and key skills of the students. The activities are designed to exemplify the practices and will enable the participants to reflect on how they could adapt them to their learning programmes for students in Years 1 and 2	
17:00	**Finish**	

b) Day 2: introduction to the 5E Learning Cycle and Contemporary Learning and Cognitive Philosophies

This day will introduce the participants to the 5E Learning Cycle and the underpinning philosophies and practices through formal input and hands-on experiences; it will draw on insights from its use in a number of contexts. The participants will also be involved in a jigsaw activity to review a range of 5E Learning Cycle exemplars to identify models appropriate for use in their subject.

Time	Activity	Approach and learning resources
09:00	**Introduction to the 5E Learning Cycle** The facilitator will introduce the participants to another learning approach that can be used for applying inquiry and problem-based learning and also employs a range of active learning approaches and effectively implements constructivist principals and the development of Higher Order Thinking **Hands-on experience of an exemplar 5E Learning Cycle learning experience (Part 1)** The participants will be involved in a 5E Learning Cycle learning experience to enable them to understand the model, how it works, how it engages students and how it develops the thinking and key skills of the students. The activity is designed to exemplify the practices.	Formal input Workshop PowerPoint presentation The participants will be involved in a Problem-based Learning activity Life Processes PowerPoint Life Processes Activity Sheets Life Processes Teachers Guide
10:30	**Coffee**	
10:45	**Hands-on experience of an exemplar 5E Learning Cycle learning experience (Part 2)** The exemplar 5E Learning Cycle experience will be completed. The participants will reflect on the experience. The practices and	The participants will be involved in the 5E Learning Cycle activity; reflecting through group discussion; the key learning with regard practices and approaches will be emphasised.

Time	Activity	Approach and learning resources
	approaches adopted will then be drawn out and emphasised	Life Processes PowerPoint Life Processes Activity Sheets Life Processes Teachers Guide
12:30	**Lunch**	
13:30	**Review of other 5E Learning Episode exemplars** The participants will review in expert groups an exemplar 5E Learning Episode and then share their review with their home group	The participants will be involved in a jigsaw activity to review other 5E Learning Episode examples to enable them to identify models that maybe appropriate for their subject Exemplar 5E Learning Episodes
17:00	**Finish**	

c) Day 3: Developing the outline framework for 5E Learning Episodes

This day will involve the groups/individual participants in developing outline 5E Learning Episodes. While the participants are developing their outlines, they will also be given feedback on their holistic student-centred learning resource. The activity will be supported by short inputs during the day that target particular aspects of the 5E Learning Episode outline framework development process.

Time	Activity	Approach and learning resources
09:00	**5E Learning Episode outline writing workshop (1)** Introduction to a structure to develop new 5E Learning Episodes presented. Participants will work in subject groups or individuals to identify the curriculum focus for their 5E Learning Cycle Episodes, the topic, context and problem suitable for their particular circumstances. They will be identifying what will happen in each Learning Episode of their Unit	There will be a formal input by presentation to introduce the process for developing an outline framework for their 5 E Learning Episodes Participants will work in their subject groups or as individuals. Workshop PowerPoint Presentation
10:30	**Coffee**	
10:45	**5E Learning Episode outline writing workshop (2): Identifying what will happen in each E stage of Episode 1** The participants will work in their subject groups. They will identify the student learning experiences in each stage of the 5 E Learning Cycle for Episode 1. These will be produced as a display which grows throughout the day.	There will be a formal input by presentation. Participants will work in their subject groups Workshop PowerPoint Presentation
12:30	**Lunch**	

Time	Activity	Approach and learning resources
13:30	**5E Learning Episode outline writing workshop (3): Identifying what will happen in each E stage of Episode 2 and 3** They will identify the student learning experiences in each stage of the 5 E Learning Cycle for Episodes 2 and 3. These will be produced as a display which grows throughout the day.	Participants will work in their subject groups Workshop PowerPoint Presentation
17:00	**Finish**	

d) Day 4: Developing the complete 5E Learning Unit, Exhibition, Implementation and Action Planning

This day will involve the participants in starting to develop their complete 5E Learning Cycle Learning Unit. The process will be supported by short inputs during the day that target particular aspects of the 5E Learning Episode development process.

The subject groups will display their outline/draft 5E Learning Cycle Learning Episodes, review the Learning Episodes displayed, provide feedback, and action plan implementation and evaluation through action research and reflective practices.

Time	Activity	Approaches and Learning resources
09:00	**Introduction** Introduction to the process for developing the complete 5E Learning Cycle Learning Episodes.	Formal input to introduce the process for developing their complete 5E Learning Cycle Learning Episodes
09:30	**5E Learning Cycle Learning Episode development workshop (1)** Participants will work in their subject groups to develop their Learning Episodes. These will be produced in electronic form.	There will be a formal input by presentation. Participants will work in their subject groups developing their Learning Episodes Workshop PowerPoint Presentation
10:30	**Coffee**	
10:40	**5E Learning Cycle Learning Episode development workshop (2)** Participants will work in their subject groups to develop their Learning Episodes. These will be produced in electronic form.	Participants will work in their subject groups developing their Learning Episodes
12:30	**Lunch**	
13:30	**Exhibition**	The groups exhibit their completed 5E Learning Cycle Learning Episodes, review and give feedback.

Time	Activity	Approaches and Learning resources
	The subject groups present their finished resources to ensure all participants benefit from the work.	Formal feedback from trainers
15.00	**Coffee**	
15.15	**Action planning** The participants will be introduced to action planning implementation and evaluating the outcomes of using the Learning Episodes with their students through action research. The groups will then develop their action plans. **Closing session** Summary of key insights from the workshop. An opportunity for delegates to ask questions of the trainers and peers. Complete Final Evaluation Form Presentation of certificates	There will be a formal input by presentation. Final reflections, question and answer. Workshop PowerPoint Presentation
17:00	**Finish**	

Workshop Description

a)   What do you want to achieve from the workshop?

Participants identified three learning objectives, discussed them with another group member and then the whole group, before writing them on a note to be posted on a wall. Participants took responsibility for achieving their objectives and removed the notes as they did so. Trainers referred to the notes to confirm that objectives had been achieved.

The achievements for the workshop were very similar to those from workshop 1 but included understanding the learning cycle and learning models and how to apply Bloom's Taxonomy in developing higher order thinking and deep understanding.

b) Sharing experiences and lessons learned

The workshop enabled all groups to share the outcomes of their action research and their experiences of using their draft holistic SCL activity that they developed during and following workshop 1. In their groups the participants identified the successes, benefits, challenges and problems associated with the implementation. These are outlined in the Monitoring and evaluation section (Section 4 of this report)

The workshop facilitator addressed problems, issues or challenges that arose from the piloting; and provided feedback on the draft holistic SCLs developed by individual participants.

c) Active Reading

The participants were introduced to a range of active reading techniques, including models and structures to involve students in interrogating text from a range of different sources, for example papers, articles, letters and diary entries. The aim was to develop their deep understanding of their students through real contexts for learning. This was done through a jigsaw technique activity, so experts developed their understanding of one possible solution and shared it with their home group.

It must also be noted that when debriefing the activity, the facilitator emphasized the active learning process (preparation, briefing, action, debriefing, follow-up) which progressively takes students to higher levels of thinking and understanding.

The participants were also introduced to the range of Active Reading techniques they could use to develop the English capabilities of their students.

d) Active Writing

Using a simulation activity, the participants were involved in a hands-on experience of an active writing activity that adopted a model suitable for higher education. The participants role-played teams of journalists working for the biggest newspaper in the world, in the year 2053. Following a briefing by their editor, they received a press release from a group of researchers claiming a new research breakthrough. They devised questions to ask at the press conference held to mark the discovery. During the simulated press conference, they asked questions of the researcher about the breakthrough and received the press information pack They used a writing frame, with a deadline, to write their newspaper articles.

The different groups then peer-assessed the articles of the other groups.

Once again, the management of such activities with large groups in passive learning environments was emphasized. Management issues might include: that group size should be limited to four members; students should discuss in pairs and then share in groups of four; groups should only peer-assess the work of four other groups (which and this could be achieved through the LMS or through wall displays). It was also emphasized that peer-assessment should be confidential. Methods for tutor assessment in these situations were discussed.

The facilitator then introduced the participants to other models and structures through exemplar activities.

e) 5E Learning Cycle

The participants were introduced to the 5E Learning cycle, a serial constructivist model that can be used with context, inquiry and problem-based learning. The model was introduced using hands-on exemplars. Different subject teams were involved in

different learning experiences appropriate for their subject.

Each group presented both the overall outcomes of the learning experience and what happened at each 'E' in their 5E Learning experience.

Considered views of the usefulness of the 5E model were developed through facilitator debriefing and participant reflection.

f) Developing their own outline writing framework and whole holistic SCL learning experience

The participants were then taken step-by-step through the process of developing their own 5E Learning Episodes, for part of a unit they would be teaching in February.

The facilitator provided feedback on the draft 5E learning cycle SCL activities which had been developed by each participant.

Participants were asked to action-plan for a pilot study of their draft resource. They should also record and prepare to report on the action-research and evaluation of their resource.

3.4.3 *Workshop 3*

This four-day workshop enabled participants to share their experiences of implementing their 5E Learning Episode through an exhibition of the curriculum materials use, evaluation outcomes and examples of student work. They were then introduced to role-play structures for dealing with controversial issues and finally trained as trainers. This included the development of a 2-hour awareness building session on SCL and a full training programme to run at their home faculty. They worked in university teams on these tasks.

Participants brainstormed the differences between working as a teacher of students and working as a trainer of university colleagues. The aim was to identify new skills and the different approaches needed for the different audiences. A central issue was handling the different expectations of the different groups and how to address the potential anxieties and apprehensions of teachers attending a training course on Problem-based Learning and the 5E Learning cycle. The participants were introduced to solutions, including creating a climate for active participation, a positive atmosphere, constructive environment, topic related empathy, the benefits of group cohesion and the leader's role. They planned and presented a short awareness-building session on Problem-based Learning and the 5E Learning Cycle. Participants peer-reviewed the presentations and developed a detailed full training programme on Problem-based Learning and the 5E Learning Cycle. They also developed a training pack and action-plan for the dissemination of the training programme.

Objectives

Participants will have:

- shared their experiences of implementing their active reading or active writing or 5E Learning Episode through an exhibition of the curriculum materials, evaluation outcomes and examples of student work
- developed an understanding of the use of Role Play techniques to deal with controversial issues
- brainstormed the differences between working as a teacher of students and working as a trainer of teachers
- identified new skills and the different approaches needed and how to address the different expectations
- brainstormed the possible anxieties and apprehensions of teachers attending a training course on Student-centred Learning
- been introduced to approaches to overcome these anxieties, including creating a climate for active participation, the atmosphere, environment, empathy, group cohesion, the leader's role and other basic pointers
- planned and presented a short awareness building session on Student-centred Learning in Higher Education
- peer reviewed presentations
- planned in detail a full training session on Student-centred Learning in Higher Education
- carried out further peer review
- developed a training pack
- action planned their dissemination workshop, implementation and research programme

Programme

a) Day 1: Sharing experiences and introduction to Training as Trainer

This day will enable the participants to share their experiences of piloting the 5E Learning Cycle Unit that they developed during workshop 2, identify the learning from the piloting. Facilitators will address any challenges, issues or problems encountered during the piloting. The participants will then be introduced to Role Play approaches for dealing with controversial issues before being introduced to working as trainers and developing a two-hour introductory training session on SCL.

Time	Activity	Approach and learning resources
09:00	**Introduction** The participants will be introduced to the objectives and programme for the workshop.	Formal presentation Workshop PowerPoint presentation

Time	Activity	Approach and learning resources
	Sharing experiences and outcomes from the piloting of the 5E Learning Cycle Units developed on workshop 2 The participants will be involved in setting up an exhibition to share the outcomes of the piloting of their 5E Learning Cycle Units.	Group activity presentations or exhibitions.
10:30	**Coffee**	
10:45	**Learning and challenges from the piloting** The participants will discuss the learning and challenges identified by the different groups and the facilitators will address the challenges and issues raised	Group discussions and feedback Workshop PowerPoint presentation
11:30	**Using Role Play to deal with controversial issues** Participants will be introduced to a structured role play method for dealing with controversial issues through a hands-on experience of the whole process, demonstration of the Fisherman's Ring Technique; and introduction to other Role Play models and approaches through exemplar activities	Greenhouse Effect Role Play – a hands-on experience Group discussions, debriefs and formal inputs Workshop PowerPoint presentation
12:30	**Lunch**	
13:30	**Introduction to training as trainers** The groups will brainstorm the differences between "Working as teachers of students" and "Working as trainers of teachers" Groups will share their ideas and the facilitators will give feedback and make a formal input. The groups will then brainstorm the anxieties or apprehensions of a colleague. The groups will once again share their ideas. The facilitators will then make a formal input on 'Creating a climate for active participation' **Developing an introductory training session on SCL** The participants will either work in university teams to plan and develop a two-hour introductory training session on SCL	Group discussions, debriefs and formal inputs Workshop PowerPoint presentation Formal input followed be participants working in university groups Workshop PowerPoint presentation
17:00	**Finish**	

b) Day 2: Presenting the two-hour training sessions and starting to develop a full training programme

This day will involve the university teams in presenting their two-hour introductory training sessions and in starting to plan and develop a full training programme on SCL for their faculties.

Time	Activity	Approach and learning resources
09:00	**Introduction** A brief review of issues and insights arising from Day Two. Introduction to the process for developing the complete SCL training programme.	Formal input to summarise Day 2, address Questions and issues arising from Day 2, and introduce the process for developing their complete SCL training programme Workshop PowerPoint Presentation
09:30	Group presentations of the introductory training sessions Groups will present their introductory training sessions on SCL and the facilitators will give feedback and emphasise key recommendations	Group presentations, discussion, feedback and formal input by presentation. Workshop PowerPoint Presentation
10:30	**Coffee**	
10:45	**The workshop leader role** The workshop facilitators will make a formal input on the workshop leader role **Developing a full training programme for your faculty I** The participants will work in their university groups to plan and develop a full training programme for their faculty on SCL. The participants will need to think about how they will organize and structure the programme in addition to the content. The programmes will be developed electronically	There will be a formal input by presentation. Participants will work in their university groups Workshop PowerPoint Presentation
12:30	**Lunch**	
13:30	**Developing a full training programme for your faculty II** The university groups will continue to develop their training programmes	Participants will work in their university groups
17:00	**Finish**	

c) Day 3: Presenting the full training programme and starting to develop the training pack

This day will involve the university teams in presenting their full training programme,

editing it following feedback and starting to develop their training packs for the programme.

Time	Activity	Approaches and Learning resources
09:00	**Introduction** A brief review of issues and insights arising from Day Two.	Formal input to summarise Day 2, address Questions and issues arising from Day 2
09:30	**Group presentations of full training programme** Groups will present their full training programmes on SCL and the facilitators will give feedback and emphasise key recommendations	Group presentations, discussion, feedback, and formal input by presentation. Workshop PowerPoint Presentation
10:30	**Coffee**	
10:45	**Developing a training pack 1** The university teams will start to develop their training packs, including Programmes, PowerPoint Presentations, Activities, Resources and Leaders' Guides	Participants will work in their university groups
12:30	**Lunch**	
13:30	**Developing a training pack 2** The university teams will continue to develop their training packs	Participants will work in their university groups
17:00	**Finish**	

d) Day 4: Exhibition of training packs, feedback and action planning dissemination training

The university groups will complete their training packs, display them, review the displayed training packs, provide feedback, and action plan implementation of the dissemination training.

Time	Activity	Approaches and Learning resources
09:00	**Introduction** A brief review of issues and insights arising from Day Three.	Formal input to summarise Day 3, address Questions and issues arising from Day 3, and introduce the tasks for Day 4
09:30	**Developing a training pack 3** The university teams will continue to develop and edit their training packs and start to display the materials [Evaluation interviews will be carried out during the afternoon]	Participants will work in their university groups
10:30	**Coffee**	

Time	Activity	Approaches and Learning resources
10:45	**Exhibition of training packs** Exhibition of training packs Review and feedback [Evaluation interviews will be carried out during this session]	The university groups exhibit their completed training packs, review and give feedback. Formal feedback from trainers
12:30	**Lunch**	
13:30	**Action planning dissemination and Workshop Evaluation** The university teams will action plan their dissemination training **Closing session** Summary of key insights from the workshop. An opportunity for delegates to ask questions of the trainers and peers. Complete Final Evaluation Form Presentation of certificates	There will be a formal input by presentation. Participants will work in their university groups developing their action plans Final reflections, question and answer. Workshop PowerPoint Presentation
17:00	**Finish**	

Workshop Description

a)   Sharing experiences and lessons learned

The workshop enabled all groups to share their experiences of using the 5E Learning Cycle Episode which they had developed during and following workshop 2. They also shared the outcomes of their action research. In their groups the participants identified the successes, benefits, challenges, and problems associated with the implementation. These are outlined in the Monitoring and evaluation section (Section 4 of this report). Identifying such difficulties is important because it promotes the development of strategies for overcoming them.

The workshop facilitator then addressed any problems, issues or challenges that arose from the piloting; and provided feedback on the draft 5E Learning Cycle developed by the individual participants.

b) Using Role Play to deal with controversial issues

The participants were involved in a hands-on experience of a Role Play activity, 'The Greenhouse Effect', that exemplified a tried and tested model. The activity implemented the active learning process. It took the participants through the process of getting-into-role within their role groups, the action to be taken, debriefing and follow-up phases. It also brought students out-of-role and allowed them to communicate how, and why, their views had changed. They described their individual recommendations following the experience. The activity used a committee model. The participants were also introduced to the Fisherman's Ring technique, TV debate and court-room models

through exemplars.

c) Training as trainers

The participants brainstormed the differences between working as a teacher of students and working as a trainer of colleagues. They identified new skills and the different approaches needed in different situations. They discussed how the expectations of their colleagues differed from students' and how to address this. They brainstormed the possible anxieties and apprehensions of teachers attending a training course on SCL and were introduced to approaches to overcome them, including creating a climate for active participation, the atmosphere, environment, empathy, group cohesion, the leader's role and other basic pointers. They planned and presented a short awareness building session on SCL and peer-reviewed presentations. Following a full training session on SCL they carried out further peer-review. They started to develop a training pack and action plan for their own dissemination workshop. This process was facilitated by the workshop leader.

4   *Evaluation of Capacity Building Workshops*

4.1   Evaluation Methodology

The complete Capacity Building Pilot Programme was evaluated through the Monitoring and Evaluation visits made to the participating universities (for the methodology, outcomes and conclusions please refer to Section 4 of this report), but in addition to the visits the workshops were evaluated through a questionnaire completed by 36 of the participants at the end of Workshop 3.

The questionnaire (Appendix 4) was divided into two sections. The first section required the participants to tick in an appropriate box to show whether they strongly agreed, agreed, were not sure, disagreed or strongly disagreed with each statement that related to the objectives of the three workshops. The second section asked the participants to answer a series of questions that involved them in describing what they had learned and enjoyed; what they would use; what was most useful; and any other comments about the workshop.

4.2   Questionnaire Section 1 Results

a)   100% of the participants agreed or strongly agreed with the following statements:

- I have developed an understanding of the active learning process
- I have developed an understanding of questioning techniques
- I have gained knowledge and understanding of the different active reading techniques for developing students' knowledge and deep understanding
- I will use active reading approaches with my students
- I have gained knowledge and understanding of the different active writing techniques for developing the students' capability to communicate their deep understanding
- I will use active writing techniques with my students
- I have gained knowledge and understanding of different group discussion techniques to help students develop, share and modify their ideas
- I will use group discussion techniques with my students
- I have gained knowledge and understanding of the use of the jigsaw technique, as a cooperative learning technique, for developing the deep understanding and high-level thinking of students
- I have gained knowledge and understanding of the use of contexts to motivate and enthuse students
- I have gained knowledge and understanding of the 5E Learning Cycle to develop students high level thinking and deep understanding of students
- I will apply the 5E learning cycle in my classroom
- I have developed my knowledge and understanding of problem-based learning for developing the deep understanding and high order thinking of students

- I will use problem-based learning in my classroom
- I understand what student-centred learning is
- I have developed an understanding of the benefits of using student-centred learning
- I have adapted/developed some teaching resources that apply the approaches to use in my classroom
- I have gained first-hand experience of being involved in activities that illustrate the above teaching and learning approaches during the workshop
- I have gained knowledge and understanding of some new student-centred teaching and learning approaches that I can use in my teaching
- I will pilot the use the teaching resources that I have adapted/developed with a group of students
- I have enjoyed the workshops

b) 97.2% of the participants agreed or strongly agreed with the following statements:

- I will use jigsaw techniques with my students
- I will apply context-based learning in my classroom
- I have developed an understanding of how the active learning, 5E learning cycle and problem-based learning models implement the levels of thinking identified by Bloom's taxonomy
- I have gained understanding of how all the student-centred approaches develop the soft skills of the students
- I understand how to use all the student-centred approaches in the classroom
- I have developed an understanding of the challenges of implementing student-centred learning and how to overcome them
- I would like to continue to be trained by the project [meaning?]

In the case of each of the above statements above, 1 participant was 'not sure' whether they agreed or disagreed with the statement.

c) 94.4% of the participants agreed or strongly agreed with the following statements:

- I have gained knowledge and understanding of the use of role play for teaching about controversial issues
- I will use role play techniques with my students
- I will use all the teaching and learning approaches with my students.

In the case of each of the above statements above, 2 participants were 'not sure' whether they agreed or disagreed with the statement. In the case of the first two statements, the two participants both missed the session on role play.

d) 97.2% of the participants agreed or strongly agreed with the following statement:

- I will now be able carry out action research to evaluate the outcomes of using the teaching resources I have been given

In the case the statements above, 1 participant disagreed with the statement.

4.3 Questionnaire Section 2 Results

The participants answered the questions as follows:

a) What have you learnt on the workshop?

- The participants commented that they had learnt the following student-centred learning approaches:
    - Questioning techniques
    - All the active reading techniques
    - All the different active writing techniques
    - All the group discussion techniques
    - All the roleplay techniques
    - Jigsaw technique (cooperative learning technique)
    - Context-based learning
    - 5E Learning Cycle
    - Problem-based learning
- They also made the following comments:
  [I would like more about]:
    - Different ways for conducting SCL sessions
    - Techniques to develop students' deep understanding
    - Grouping [working] techniques
    - Motivation techniques
    - Ideas for eliciting activities
    - Effective assessment techniques
    - How to follow-up/extend learning
- I have received an extensive array of techniques on SCL-based teaching and learning
- How to implement outcome-based education by using student-centred learning.
- Different techniques for SCL and these can be combined with cooperative learning through jigsaw technique to improve learning and make the learning experience more effective
- SCL is new to me, so all the methods were new
- I have developed different aspects of SCL through this series of workshops
- These workshops helped me to develop deep understanding of the concepts of SCL

- These workshops are great, and they provide an opportunity to acquire new and varied learning modes
- Basically, learning how to overcome the challenges I have had so far in doing SCL
- The idea of scaffolding the learning of the students is very important
- Differentiation between SCL, OBL and PBL
- Though I have been using SCL earlier I did not have a complete understanding. Now I do!
- How to structure and scaffold SCL experiences
- All aspects most interesting
- What is SCL and how it is practiced within a classroom in higher education
- What is SCL
- How to use SCL
- How to develop SCL activities
- How to evaluate
- Different approaches to use SCL
- How to give students an interesting and thorough learning experience
- Teaching method of Dr Mark impressed
- How assessment is done

b) What did you enjoy?

- The way the facilitators conducted the workshop was fantastic. It was clear, simple and I learnt a lot
- The presentation of material and hands-on activity sessions, as well as the opportunity to collaborate with other academics in other universities
- All the activities and the whole progress
- I enjoyed jigsaw technique
- I enjoyed all the learning experiences. They were all well planned
- Active participation
- Interacting with peers; learning the problems others have faced and getting ideas how to overcome them
- The accommodation
- The clarity of the explanation and the pace at which it was conducted, making it so easy to follow and consolidate
- Being able to apply these in the lecture room and get feedback
- Food
- The way Dr Mark conducted the workshop and activities

c) What will you use?

- Active reading

- Active writing
- Group discussion
- Case study
- Jig saw technique
- Problem-based learning
- Student-centred learning
- 5E learning cycle
- Role play
- Most of the methods and teaching materials I received and gained from the workshop
- I will cultivate the experiences I have gained at the workshops to enhance the quality of undergraduates
- Preparation of our own material to implement with my students

d) What was the most useful part of the workshops?

- Hands-on experiences during all the sessions
- Practical sessions
- Constructive feedback from the facilitator
- The activities
- The break sessions for tea and lunch where I had the opportunity to discuss with Mark and other academics
- Stressing the key structures and points about SCL over and over
- Given time gaps to apply the techniques between the workshops (capacity Building)
- I think everything we discussed was important
- Developing the structure for SCL
- The on-site visit
- Group work, practical experience and the comments and feedback we received from the facilitator
- Being able to develop the skills to structure and scaffold these types of learning experiences and resources
- Developing understanding through hands-on experience
- Interactivity of the facilitator
- Active learning
- How to debrief activities
- Evaluation methods
- Given the skills to develop our own material for all the approaches
- Developing the skills to implement the SCL methods

e) Additional comments

- The three 4-day workshops allowed the progression of ideas and knowledge as well as connections between colleagues
- This is one of the best workshops I've ever attended, and it was very enjoyable and effective. Thank you very much
- Thank you for a wonderful and useful practical knowledge and understanding you given us
- Very good workshops!
- The way the workshop was arranged was really good
- Please consider doing these workshops outside Colombo as well
- It is good to know that a continuous supportive system exists
- Need to implement these new techniques (SCL) to entire faculty and university via the staff development centre who do not do this currently as they do not have the expertise or background
- Please try and finish the workshops at 4pm in the future as we have to go back to complete administrative work
- Very well-organized workshop. One that I have enjoyed and learnt a lot
- It would be good if the British Council could coordinate future continued activities so that different universities do not repeat the same thing. Instead if we could organize activities in coordination so that the maximum benefit could be achieved
- Please provide further theoretical background to these techniques
- Was a very effective workshop which gave us hands-on experience on how effective SCL is and this encouraged us to conduct our lessons in a SCL manner
- The time taken for some activities was too long, we could save some time and reduce the number of days
- I would like to keep in contact with Mark and the British Council and carry on the good work!
- Need another workshop for extending SCL for research activities
- Would be important to have further refreshment and experience in the future
- Excellent work. Thank you so much!
- Mark is wonderful. He made us work and follow-up effectively
- Better to give an overview of the complete three workshop programme on the first day of the first workshop
- Organise more workshops for every individual university for curriculum development
- I am expecting to have more training on this in the future!

- I really appreciated the moderator who conducted the sessions with great concern
- Thank you for the opportunity given by the British Council and give our gratitude to the resource person
- We will expect more workshops like this in the future
- I have had training on SCL in the past but was not able to implement it. Now I can because I understand the methods and how to implement them as a result of the hands-on experiences and the support in developing our own activities
- I was aware of some of the methods before but did not know about the structures and scaffolds for ensuring effective learning. This has been the best training I have had on SCL
- I originally thought that we were using too much time doing the hands-on activities during the workshops. I now understand how important that was in helping us to develop our understanding and ability to implement in our classrooms

4.4 Conclusions

The participants developed knowledge and deep understanding of the all the student-centred learning approaches that were introduced during the workshops. They particularly developed their understanding of the learning structures and scaffolds used to ensure effective learning and the development of deep understanding by the students. They felt that this was achieved through the use of hands-on exemplar activities; additional exemplar teaching resources that applied the approaches effectively; the support provided when they were involved in the development of their own resources effectively to implement the approaches both from the exemplar resources and the facilitator. They expressed an intention to implement the approaches in their classrooms. They felt that they now had the ability to do this as a result of the support they had been given.

They were very complementary with regard the organisation of the workshops and their structure. Hands-on, active experience, the interaction with others; the opportunity to share experiences and to learn from and exchange views with participants from other universities, were particularly valued. They were also complementary with regard the delivery of the workshops and the exemplar teaching resources that they felt emphasised good practice.

They appreciated the capacity building model adopted by the pilot, including the visits and feedback received for further development.

The participants were very grateful to the British Council for organising the capacity building programme and want the programme to continue to support their development and those

of their colleagues in their faculties, university and staff development centres through a coordinated programme.

From the facilitator's point of view participants were very motivated and keen to take part in the experience. Although they came from many different backgrounds and organisations, they all found something of value. Some participants had used similar teaching methods before but said that the comprehensive overview presented helped them to understand the context of these methods which would make their application more effective in future.

Although not reported above, we discussed the usual reservation about having time to implement these ideas, especially in the context of large class sizes. These issues were addressed by the facilitators and practical methods of overcoming these difficulties were provided. Most participant felt that they would be able to use the techniques in future.

Requests for continuing study programmes strongly suggests a firm commitment to these methods. Once-off programmes like this one often have less impact than they should because follow up support is not forthcoming. The facilitators have been at pains to provide the development experience to encourage sharing and cascading to other members of staff at home institutions. Continuing peer-support groups were discussed.

Although participants were from different backgrounds, the survey results show that the methods described are applicable in many different situations, even technical areas which might not be expected to be amenable to student-centred-learning.

Some participants found working together in small groups a novel experience, but observations showed a great willingness to participate and the views expressed above show that the experience was both enjoyable and professionally appreciated.

Unfortunately, one facilitator had to drop-out after the first workshop, for reasons beyond his control. However, this did not impact upon the experience and participants did not remark on the lack of input.

The workshops have been extremely successful and have achieved a great deal with regard the professional development of the participants. The participants have enormously valued the programme and want it to continue.

5 *Monitoring and Evaluation*

5.1 Methodology

We visited the 5 universities involved in the project to observe a class being taught by one of the workshop participants using the approaches introduced on the workshops; hold a focus group interview with the academics from the university participating in the project; hold focus group interviews with students who had experienced learning experiences with the academics when they had applied the approaches; and meet with the deans of the faculties with participating academics.

We were able to observe classes in four of the five universities; it was not possible to carry out an observation in fifth university because the relevant faculty was closed for student study leave. In some cases, the focus groups were very large and so the participating academics or students discussed the focus groups in small groups and gave answers as a group rather than as individuals.

5.2 Case studies of observed good practice

During the visits we observed very effective implementation of the various student-centred learning approaches introduced on the workshop in different learning environments, with different numbers of students, different year groups of students and in different faculties. Summary case studies of the good practices observed are described below:

5.2.1 *Case Study 1: Engineering*

This learning session on forces and structures was the first engineering session for the new Year 1 Engineering intake. There were 250 students in a tiered lecture theatre on a hot afternoon.

The lecturer introduced the students to the context and problem. Due to its design a building was in danger of collapsing and the students had to identify a how the building's structure could be modified to prevent its collapse. To emphasise the dangers, the lecturer showed two dramatic videos of a suspension bridge breaking up and a beam bridge under construction collapsing.

The lecturer then elicited the ideas of the students by asking them how they could prevent the building from collapsing and one student drew a solution on the board.

The lecturer then distributed the teaching resources and introduced the students to the activities. The students had to read an article introducing them to the forces of compression and tension involved in structures; the use of concrete, reinforcement and support beams in structures.

The students had a series of questions to discuss in pairs which encouraged them to interrogate the article for understanding to find and discuss answers to the questions.

The questions progressed perfectly from low to high cognitive and in progressively developing the students' deep understanding.

The lecturer debriefed the paired discussions by asking different pairs for then emphasized the key points using diagrams and a sponge pipe.

The students then had to solve the problem by applying their new knowledge and understanding by discussing in pairs and then pairs sharing and modifying their ideas with the pair in front or behind them. As a group of four the students then drew their solutions on A3 paper and annotated them to explain how the solution worked.

Groups of students were invited to the front of the room to draw their solutions on the board before the lecturer gave feedback by discussing each solution and then gave feedback.

This learning session exemplified good practice in carrying out student-centred learning with a large group in a lecture theatre.

The session was planned by a team of participants from the university coming from different faculties who have worked as a reflective practitioner group. This was an excellent learning experience, thoughtfully planned and effectively implemented. The learning experienced exemplified good practice with regard the use of student-centred learning with large groups of students in a tiered lecture theatre. Every student in the lecture theatre was engaged in the learning throughout the session!

5.2.2   *Case Study 2: Sociology*

The session on for Year 3 students on 'Conflict Analysis: Theory, Technique and Practice' involved the lecturer in introducing the context; and then concepts, with students' views being taken. The students also carried out further research to develop their understanding of the different roles.

The students were then divided into groups of 5 and basic conflict scenarios and roles. Each group was asked to work together to create the narrative for a 'Tele-drama' depicting the scenario to enable them and those observing the performance to become familiar and understand the dispute/conflict and the roles that different individuals have in the process.

The groups researched and developed it for homework using hand-outs, and internet. The groups performed their dramas during the next session with the audience trying to identify the different roles in the conflict. The audience also peer assessed the performance with regard the development and depiction of the roles during the drama.

This learning experience effectively implemented the 5E Learning Cycle involving the 5 stages of Engage, Explore, Explain, Elaborate and Evaluate.

5.2.3 Case Study 3: Information Technology

This three-hour learning session involved for year 3 students was on Enterprise Business Systems. The lecturer introduced the students to the learning objectives and then introduced the students to the context. The students were consultants working for a consultancy firm that was working for a company that needed them to provide guidance to select appropriate enterprise business systems through the identification of customer and business values, potential challenges and trends in the industry.

The students were involved in a jigsaw activity. In their home groups of four students the students watched a video an information system used by Walmart, they were then involved in a structure group discussion using a structured agenda of questions that progressively involved the students in higher and higher levels of critical thinking with regard different information systems.

Each student in the home group was then allocated a different enterprise system that they would research and become expert in by working with other experts on the same system. Each expert group had an agenda of 8 questions to research and discuss to develop their expertise.

The experts then returned to their home groups and shared their expertise by discussing the same questions for each of the different enterprise systems. As a home group they had to produce a poster to summarise their understanding of the different systems. They then had to identify the most appropriate system for the company they had been assigned to provide consultation by their CEO.

The home group then had to write a report for the CEO following a writing frame provided by the lecturer.

Throughout the session the lecturer facilitated and managed the learning experience extremely effectively through questions and the teaching resource produced. The students used the internet and LMS for their research and to access appropriate articles and papers.

5.2.4 Case Study 4: Agriculture

During this 2-hour learning session for 2nd Year students on Plant pathology and disease management the lecturer introduced the students to the outcomes, the route through the learning experience and the expected outcomes before introducing the students to the context through a memorandum from the Department of Agriculture. The memo invited the students to a farmer awareness programme on field crop diseases at which they wanted the students to develop posters on leaf rust disease to help build the awareness of the farmers and help them to better control and deal with the disease.

The lecturer provided an agenda of questions for the students to discuss and find answers from a technical extract and a diagnostic guide. Thus, involving the students in structured active reading and group discussion before developing their awareness building posters for the farmers. The questions also provided the scaffold for the development of the poster. The questions were perfectly structure progressing from low to high cognitive questions and progressively developing the deep understanding of the students.

The learning session was in a flexible tiered lecture theatre with movable chairs, with each tier being sufficiently deep to enable two groups to work comfortably sitting in a circle or working on the floor, as many chose. The students worked in 6 groups composed of 8 students.

The students worked very cooperatively on the active reading, discussion and poster development tasks. The learning activity was very effectively facilitated by the lecturer, who questioned the groups to challenge their understanding. The lecturer was also effectively supported by her support staff.

The groups had to display their posters and were then involved in peer assessing the posters of other groups using an assessment rubric developed by the teacher.

At the end of the session the teacher debriefed the students through questions, emphasized key points and also encouraged the students to give feedback on the posters they had assessed.

This was a very well-planned student-centred learning experience. The teaching resources were well designed and developed providing the necessary learning structures and scaffolds leading to an extremely successful learning experience. The classroom was very well managed and organized and the learning experience appropriately and effectively facilitated. All the students were completely engaged in the learning experience.

5.3 Outcomes from Participant Focus Groups

a) **What learning, understanding, skills, and professional development have you gained from the training?**

The participants commented that they had:

- Developed knowledge and understanding of new student-centred teaching learning approaches, including
    - Questioning techniques
    - Group discussion techniques
    - The range of Active reading techniques
    - A variety of Active writing techniques

- Cooperative learning (Jigsaw technique)
- Role play and drama
- 5 E Learning cycle
- Context-based holistic student-centred model
- Problem-based learning

- Those who had some training or experience of student-centred learning added that they had
  - Learnt the structures for using all the student-centred techniques listed by the others, because that had not been introduced to them before
  - Learnt the learning models for effectively implementing the techniques such as the Active Learning process, the 5E Learning process and the Problem-based learning process
  - Learnt how to scaffold the learning experiences through questions
- They had developed understanding and skills to implement student-centred learning with large classes of students in tiered lecture theatres
- They had developed their understanding and skills to organise students into small groups and facilitate learning more effectively, including large classes of students
- They have developed the understanding and skills to more effectively question students and involve students in group discussion, including large classes of students in tiered lecture theatres
- They had developed their understanding and skills to tutor assess and involve students in the peer assessment of groups, teams and individuals
- They have developed the understanding and skills to develop suitable assessment rubrics for assessing group and individual presentations, report or other active writing technique outcomes and problem-based learning solutions
- They have developed the understanding and skills to involve students in evaluation
- Developed my understanding and skills to write learning materials that effectively apply the different student-centred

b) Which student-centred learning approaches have you applied, in which subjects and with which year groups of students?

All of the student-centred learning approaches introduced on the workshops have been applied, including

- Questioning techniques
- Group discussion techniques
- The range of Active reading techniques

- A variety of Active writing techniques
- Cooperative learning (Jigsaw technique)
- Role play and drama
- 5 E Learning cycle
- Context-based holistic student-centred model
- Problem-based learning

They have been used with Year 1, 2 and 3 students in class sizes varying in number from 24 to 250 in the following subject areas:

- Engineering
- Science
- Mathematics
- Agriculture
- Medicine
- Business
- Management
- Economics
- Japanese
- English literature
- Performing Arts
- Religion
- Education
- Sociology and Psychology
- Library studies

c) What successes have you had?

- Developing a holistic student-centred learning experience that used a real and relevant context; involved the students in developing their knowledge and understanding through jigsaw technique, and included research, data analysis and structured group discussion; and finally involved the students in solving a real business problem. Developing the Tutor Guide to go with the Learning resources that included the time for each stage in the learning experience leading to better time management
- Jigsaw technique engaged students in working effectively with students from outside their normal friendship groups. This proved to be a really positive experience for the students, the students would not normally work with others outside their groups and it has led to integration of groups who would not normally work together
- Jigsaw technique made the students take more responsibility for their learning and their developing their knowledge and understanding in their

expert groups so that they would not let their home group down. The development of responsibility was very significant

- Students became so interested and engaged that they did not miss classes and they arrived punctually for their classes. Thus, a rise in student motivation
- It improved student and lecturer relationships
- Using pair and structured small group discussion techniques with a large class of students in a large lecture theatre
- Use of real-world problems
- Quality of student presentations
- Using the LMS for students to access articles for reading before, during and following classroom sessions
- Students uploading their presentations, reports, handbooks and other products of learning onto the LMS for assessment
- Group and individual assessment within the same learning experiences
- Using peer assessment effectively with the students
- Students working at a high cognitive levels
- Students using their own presentations and compilation of notes they have used in the learning experiences instead of relying on the tutor lecture notes
- Students appreciating the extensive preparation the tutor had put into developing the learning experience
- The high levels of involvement of the students in the learning experiences
- Peer learning leading to students helping each other to not only develop their deep understanding but also their English language capabilities
- Active involvement of all students
- High self-
- motivation of lecturers
- Self-development
- Improved creative thinking
- Effective management of large groups
- More articles could be covered

d) What have been the benefits for your students of using the approaches

- Peer learning
- High cognition
- High levels of student involvement in and responsibility for their learning
- Full engagement in the learning experiences
- High levels of attendance and punctuality
- Development of deeper understanding and broader understanding
- Increased development of critical and creative thinking skills

- Increased development of team working skills
- Increased development of cooperative learning skills
- Increased development of problem-solving skills
- Increased development of leadership skills
- Increased development of communication skills
- Increased development of English language capabilities
- Increased levels of knowledge retention
- Increased ability to apply the knowledge and understanding
- Students involved in solving real problems relating to their future careers
- Students involved in real community and society problems
- Utilising the strengths of different group members
- Development of competitive mind set
- Students have less opportunity to copy
- Active involvement of all students
- Self-motivation
- Life log learning
- Increased curiosity

e) What things did you find challenging? How did you overcome those challenges? Were there any challenges you were not able to overcome?

- Lack of critical thinking was overcome through more effective facilitating and peer learning
- Students wanting lecture notes was overcome by giving homework reading tasks and post class videos; student recognising that they had developed the equivalence of the notes through the products of the learning experience; and groups compiled a book of the notes they used in the learning experience to complete the task
- Students concerned if they had 'covered everything' was overcome by providing past paper questions so they could see that they had covered everything
- Students being new to concept areas was overcome through more effective facilitating
- Time management of the learning experiences was overcome through the more accurate allocation of time when planning the learning experiences and when writing the tutor guide introduced by the facilitators; using different evaluation techniques instead of presentations
- Infrastructure issues were overcome by adapting the technique to suit the facilities
- Additional resources required, such as flip chart paper and additional printing was overcome by planning ahead

- Some students being resistant to change was overcome by taking small steps forward in introducing student-centred learning
- Making sure learning outcomes are met was overcome by making the students aware of the learning outcomes as suggested by the facilitators
- Problems with team cohesiveness were overcome by having smaller groups – the facilitators suggested groups sizes of a maximum of four students

Some unresolved challenges included

- Policy decision regarding cadre
- Converting some staff
- Fixed timetables
- Distances between classrooms
- Fixed seating in classrooms
- Other lecturers support
- Meeting deadlines/time management

f) What further help and support do you need to support your professional development and to support the implementation of student-centred learning in your faculty/university?

- We need training in student-centred learning in laboratory sessions
- We need training in research-based learning
- We need further development and support in the development of learning resources and tutor guides, editing and design of the resources – over a significant period of time
- We need further development as trainers
- We need you to train all our faculty academic staff

g) What further comments would you like to make, or advice do you have for the project?

- All academics in all universities require this training
- Coordinate the training programmes to ensure most effective use of resources
- Run regional/zone-based training to involve all universities across the country
- The training of all staff from every Staff Development Centre in every university as they are responsible for training new staff on the 6-month accredited course carried out in the first year as a new academic. They do not train in student-centred learning currently as they do not have the background
- We really appreciated having facilitators who were so experienced in student-centred learning, implementing in their own classrooms, developing

learning resources and running similar national projects across Asia. The use of the hands-on experiences and provision of exemplar resources, writing frames, facilitating and feedback made such a major contribution to our very successful professional development and capability to implement in our classrooms. You ran your workshops in an exemplary way. Thank you

5.4 Outcomes from Faculty Dean Meetings

The deans interviewed from technology, engineering and business faculties were very pleased that their staff had been involved in the capacity building programme because implementation of student-centred learning and/or the continued implementation of outcome-based learning are priorities for their faculties.

The technology faculty has Asian Bank funding to develop a new sustainable purpose-built facility to underpin student-centred learning across all the faculty courses. The dean would like this project team to develop other academics in the faculty and to support the academic staff in the development of comprehensive teaching resources. This would be achieved in a similar way to the national projects the team have run in Malaysia, Thailand, Brunei, India and Ecuador. The dean and his team would also like advice on the design of the student-centred classrooms and facilities in the new building. The team are also keen to carry out research on the implementation of student-centred learning in the faculty, including comparative research with academics involved in similar projects currently being run in other countries, as well as with academics from the University of Leicester in the UK. They would like this research to lead to publication in journals, conference proceedings and books.

The dean of engineering would like the team to develop the faculty academics to support the implementation of outcome-based learning as he recognizes that student-centred learning is the vehicle for achieving that aim. He would also like the team to develop and support the academic staff in the development of comprehensive teaching resources to support effective and sustainable implementation of student-centred learning across the faculty.

The deans of both business faculties, who both have secured World Bank funded projects to support the implementation of student-centred learning, would like their academic staff to experience the same capacity building programme as experienced by the participants on the pilot programme. One of the deans would also like the trainer to be based in the faculty for a follow-up period of 6 weeks to support and advise the academic staff as they develop their learning resources and experiences; and implement them in their classrooms. The deans and their teams also wanted advice on the design of student-centred classrooms as part of a classroom renovation programme to support the implementation of student-centred learning as part of their World bank projects.

All the deans would like reading lists to support the continued professional development of academic staff and their research in student-centred learning.

5.5 Outcomes from Student Focus Groups

a) When your teacher used the student-centred learning approaches with you what did he/she do differently or new?

- Very different to the one-way communication of the normal lecture experience
- Better relationship and interaction with the teacher through, for example, questions from teachers and from students
- Better relationship with their peers developed through group work and jigsaw technique
- Developed greater knowledge and understanding and explained it to their peers through the structure of the jigsaw technique
- Time is better managed and saved as they learn from each through the jigsaw technique
- The 5E Learning method helped them to engage better in groups, learned and develop greater and deeper understanding
- Problem-based learning experiences engaged them in solving real problems. This motivated them to carry out extensive research because they really wanted to solve the problem
- These experiences helped to develop their soft skills, such as presentation skills, including their skills of explanation
- They developed a better understanding of their peers and the skills and qualities of them. This led to greater sharing of resources
- Role play helped to develop English speaking skills very effectively
- They forget what they did in their morning lecture before the afternoon, while they remembered everything from the student-centred experience because they enjoyed the interactions and acquiring more knowledge
- The experience was more relevant to their future careers and was better preparing them for this
- They felt that they were solving real problems
- They were working in teams as they would in the work place
- They were helping each other to develop understanding
- They were working cooperatively with other students who they would not normally work with because they really wanted to develop their understanding, this was encouraged by the jigsaw technique learning experience

- They worked really well in teams helping those members of the team who were less confident in English to develop their English skills. This would not be possible in the lecture learning experience
- They do not tend to listen in the lecture theatre. They record the lecture and then make their notes from the recording when they go home, whereas during the student-centred learning they are learning throughout the experience and are involved and engaged with it.
- They do not need to revise the learning because student-centred learning is retained more effectively

b) What were the effects or benefits for you?

- Makes things easier to understand
- They listen to each other in their groups and develop their understanding to a higher level than in lectures
- Development of communication skills, speaking, writing and pronunciation
- Development of leadership skills and qualities
- Greater development of vocabulary and language skills
- Develop better social skills and confidence
- Better retention of knowledge
- Greater and broader understanding
- Solving real problems and developing problem solving skills
- Development of team working skills
- Development of patience and cooperation
- Development of English skills
- Improved time management skills
- Improved collaboration with other students
- Development of greater knowledge and understanding
- Better preparation for the work place
- Improving employability

c) Were there any challenges or problems?

- Working to the deadlines and thus, time management
- Due to the tight schedule they were not sure that some 'experts' had gained the full expertise required for the 'home group' to gain the full understanding necessary to make the right decisions when solving the problem
- They were concerned that the assessment was too subjective
- They were not sure they had covered everything they needed for the examination

5.6 Outcomes from Participant Action Research

The following comments were compiled from feedback from students of some of those who took part in the programme:

a)   I like the method of learning

- The student-centred method allows me to find information for myself and with friends
- By working together, the method saves time
- By actively participating the session was engaging and not boring
- The method makes things easier to understand
- The process of research makes the process more interesting
- Working ingroups is fun and interesting
- Everybody gets a fair chance to give their views
- Sharing ideas means you have access to more ideas
- Discussion with others embeds the knowledge more
- Never felt sleepy
- Individuals are involved in groups which makes sharing easier
- Makes things easier to remember
- As all members participate, the final outcome is more reliable
- The process is active and not passive, more enjoyable
- The intellectual level of conversation is higher than usual
- Collectively we can search more sources
- Together we can handle more information
- We could be involved in the teaching
- Makes understanding better
- Not a lazy method
- Helps sort out what is important in a lecture
- Could concentrate throughout
- We need more time to complete the work
- Discussion clarifies concepts
- Makes you want to find out more

b) I don't like this method of learning:

- Takes a long time and is time-wasting
- It was difficult for experts to teach something they had just learned
- It was difficult to explain concepts. I think formal lecturers are more effective for me.
- I found it difficult to learning about other topics
- Wasted more time in collecting information and writing reports
- Working outside our curriculum is not relevant

- It was more useful than formal lectures
- By everyone giving effort we all learn more
- We collected more information
- We did not feel sleepy
- Facts were more memorable
- Time is not wasted as we are reading many books
- Self-learning is improved
- We can share other people's knowledge
- Takes place in a relaxing atmosphere
- Concentrating all the time during lectures is difficult
- Can repeat discussion of difficult parts until you understand them
- I am not motivated to study at home, this method makes me do it
- Discussion with our friends was enjoyable
- Cover more clinical issues
- It was not more useful than formal lectures
- Formal lectures are more useful because nothing is missing
- We forgot things after a month and had no lecture note to refer to
- Easy to take hand out notes then go to a book
- More information is learned from formal lectures
- Difficult to know what is the most important information
- Anatomy is not suitable for this method, but other topics are
- With this method we did not get basic notes
- When madam teaches it is easy and concentration is high
- A lecturer is more reliable and accurate
- Normally only one lecturer is required but this method needs two, so is time wasting
- No summaries given as in lectures
- Difficult to understand teacher's point of view
- Lectures are less time consuming and do not depend on others
- Not everyone contributes equally, and I contributed more than others
- People write a lot of unnecessary stuff
- We missed some points
- We found difficulties in finding information and that wasted time
- Preparation time was not enough
- Time was adequate for the learning process
- There was enough for referring and discussing
- There was enough time for collecting information
- Time was adequate for this
- The time was not adequate for the learning process
- If the time allowed were 3 – 4 hours, it would be adequate

- Had no time to consider other topics and we had to rely on others points whether right or wrong
- The experts may not have time to get all the information
- If there were more time this would be effective
- Takes too much time to find the answer
- Even two days required

c) Free comments about this learning method

- Good, useful
- Thank you please continue
- More suitable for some topics than others
- Discussion improves knowledge and is more useful
- Well programmed, but time not enough
- Good if everybody contributes equally
- Good method but need to do once in two weeks
- Good, but we do not know which are the more important to discuss
- Takes more time than a formal lecture
- It would be better if you gave notes
- Better to teach for the exam, most time wasted in this method and important facts are missed
- This method depends upon the people involved; some can teach well other can not
- Would be better if we could get topics in advance
- If one person makes a mistake it affects others as well
- Lectures are better for MCQs
- This method is not as good as lectures
- In the expert group there was not enough time
- The time allowed was higher than it should be, group assessment of reports is not necessary, but getting the ideas of others is useful
- Should be lectures to understand the topics
- Can be implemented for small sub-topics, but formal lecturers are more useful for major topics
- The method would be good if notes were provided, but making assignments was unnecessary
- Self-evaluation is good

5.7 Feedback Summary

The above comments were drawn from student feedback as part of the action research conducted by course participants. Overall it shows that these methods were appreciated, but there were a considerable number expressing doubt, particularly with respect to the

amount of time spent on each activity. Students felt that lectures were more efficient at conveying concentrated information.

Many students liked these methods of learning, quoting higher levels of engagement, greater autonomy and freedom whilst learning and the positive benefits from interacting with others. Many felt it and easier way to learn and retain knowledge. Discussion permitted a wider range of views to be understood and to be covered within the time frame. More people could contribute to the process and everybody had an opportunity to air their views.

The main issue for those who did not like these methods was time wasting. Several though that assessment wasted time and there was not enough time for experts to accumulate the necessary information and explain it to their home groups. Writing reports and collecting irrelevant information wasted time. One person objected to working on topics unrelated to their curriculum.

Compare with formal lecturers these methods were more engaging, held interest for longer and prevented people from becoming sleepy. Respondents appreciated the opportunity to hear of others' views and discussions often clarified misunderstandings. Knowledge retention was improved, and questions could be repeated until the answers were clear. One individual admitted to being unmotivated to work at home, but this approach where outcomes are required helped focus attention and effort.

With respect to formal lectures, people found it easier to concentrate for longer using these methods. A wider range of topics could be discussed to suit the needs of the project in hand and more information overall could be collected because more people were involved.

On the other hand, several participants preferred formal lectures, quoting time efficiency, only concentrating on relevant issues and the ability of the lecturer to explain subjects well. Lecturers will cover all necessary topics while these methods will miss some subjects. People thought that lecturers tended to be more reliable and more accurate. Notes were normally given out by lecturers which made it easier to subsequently refer to books. Some thought that these methods required two teachers, but one lecturer could cover the same material in the same time, which was more time-efficient.

Although many thought that the time allowed for the exercises was adequate, other felt that more time would have been appreciated. Some recommended that some topics would require two days to be dealt with effectively.

The free comments section of the feedback allowed both positive and negative comments. As might be expected with such a new experience, some liked it whilst others did not. Those who supported the method lied its freedom, self-motivation and initiative required. They though learning was easier and retention greater. Discussions potentially involved everyone and allowed more diverse topics and views to be expressed. Those who did not

support the systems thought that they took too long to deliver and were relatively inefficient in communicating knowledge. They tended to be orientated to examination success.

In general, the sessions were appreciated as innovative teaching methods although there were some reservations with respect to detailed specific issues.

5.8 Overall Conclusions from the Monitoring and Evaluation

The monitoring and evaluation of the pilot capacity building programme found that the participating academics had:

- developed their knowledge and understanding of the wide range of active, cooperative, inquiry-based, problem-based and context-based learning approaches
- been able to develop learning resources that effectively implemented the approaches using the writing frames provided by the exemplar resources used on the workshops. The quality of the learning resources developed was very high
- developed learning experiences that:
  - used real and relevant workplace-based contexts
  - executed the learning models and frameworks of the learning approaches and processes perfectly
  - involved the students in accessing materials to support the learning experiences through the LMS
  - involved the students in uploading the outcomes of the learning experiences onto the LMS
- implemented the use of the teaching and learning approaches effectively through the use of the learning resources with student class numbers from 24 to 25: year 1, 2 and 3 students and postgraduate groups; in courses from all faculties; in a range of learning environments, including large tiered lecture theatres
- used peer and tutor assessment using assessment rubrics developed for the specific learning outcomes
- along with their students identified the beneficial outcomes of using the student-centred approaches including the development deeper and broader understanding; greater retention; increased motivation and increased development of 21st Century, critical and creative thinking

The participants did face challenges such as time management; working in fixed furniture, tiered lecture theatres, students wanting lecture notes; classes with large numbers of students which they were able to overcome.

There were some challenges related to the learning environment cultural change that they have not yet overcome including colleague resistance and students only examination orientated and only interested in the lecturer conveying the knowledge they needed. These challenges will be overcome with time.

The pilot capacity building programme has thus been extremely successful.

6 _Recommendations for the future development of the TRANSFORM: Student-centred Learning in Higher Education project_

The pilot capacity building project has been such a success, and already has had significant impact in the classrooms of those participants who have implemented the student-centred learning approaches, that we would recommend a staged programme progressively to build capacity within the academic staff from all faculties in all 15 government universities. The programme would support the effective implementation of student-centred learning in all university classrooms and thus support universities to achieve the desired 12 learning-outcome categories of the UGC's Qualification Framework and the criteria of the UGC's 'Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions'.

We would recommend the following stages:

6.1 Stage 1: Supporting those faculties and universities who have World Bank or Asian Development Bank approved student-centred learning projects

We are aware that a number of faculties have secured World Bank funding or Asian Development Bank funding to support the implementation of student-centred learning. To support these initiatives, we would recommend a professional development programme that adopts a capacity building model similar to that of the pilot programme. We would recommend a series of 5-day workshops to develop teams of academics from each faculty that:

- Progressively introduces them to the full range of student-centred learning approaches appropriate for use in higher education, including:
  - classroom management
  - questioning techniques
  - structures for implementing the approaches
  - the learning models that underpin effective implementation
  - scaffolding of learning experiences
  - peer, self and tutor assessment
  - assessment of groups and individuals
  - development of assessment rubrics
  - use of LMS and electronic learning
  - application of blended media
- Provides hands-on experiences of these approaches to enable the development of deep learning and professional reflection, through the use of tried and tested exemplar activities
- Enhance their skills to develop their own teaching and learning materials that effectively implement the approaches

- Develop the participants' capability to carry out action research and work as reflective practitioner groups to evaluate the outcomes of the implementation of these approaches in their classrooms
- Develop the participants to train other academic staff in their faculty and university This would include mentoring, supporting and monitoring techniques

The participants should implement and evaluate the use of the approaches and their materials between workshops and produce reports for sharing at the start of the next workshop.

The trainers should advise or mentor the participants when they are developing their teaching and learning materials and observe them implementing these plans to provide further feedback and professional development. Thus, the trainers should provide in-country follow-up support.

We would recommend that there should be a series of writing workshops for the participating teams of academics, leading to the development of comprehensive teaching and learning materials to support effective implementation of student-centred learning across all courses in the participating faculties. The teaching and learning materials should be edited by the training team and professionally graphically designed. This could be done by the UK team. This model has been adopted by this team on national projects it has run in other countries. The editing and designing can be done by the team in the UK.

The action research carried out by the participants should lead to publication in academic journals, periodicals, conference proceedings, and books. The participants could also carry out comparative research with academics in the UK and other countries where the team are running similar projects.

We would suggest that, if possible, this programme should be run as a coordinated programme across the universities/faculties that have the secured funding. This would be a two-year programme.

6.2 Stage 2: Capacity building academic staff from the Staff Development Centres of all universities

We would recommend a capacity building programme in student-centred learning for academic staff from the Staff Development Centres and other academic staff regularly contributing to their courses. We would suggest a series of four 5-day workshops similar to the model described above. The intention would be to develop their experience and expertise in student-centred learning so that they could then train both new academics and other academics through a similar capacity building CPD programme.

We would suggest that this capacity building programme should be run for appropriate clusters of universities in Colombo and the different regions of the country to ensure maximum participation.

This would be a one-year programme.

6.3 Stage 3: Capacity building teams of academic staff from all faculties of all universities

We would recommend a national programme modelled on stage 1, that would run over a period of three years that would build the capacity of teams of academics in all faculties of all universities, thus supporting the implementation of student-centred learning in all university classrooms.

This would also be organised on a cluster basis, with each capacity building programme targeting a specific faculty.

Stages 1 and 2 could be delivered by the current project team from the University of Leicester, but we would suggest a larger team for Stage 3.

The above stages would lead to the development of large sustainable teams of experts in all faculties of all universities who would develop all academic staff in their faculties through capacity building programmes and provide follow-up support. The implementation would be supported by the teaching and learning materials developed on the programmes, with the academics working as reflective practitioner groups, that regularly share their action research.

We would recommend an annual conference for the participants in the programmes in order to share the outcomes of their action research and to promote the wider application and publication of their research.

We would also recommend accreditation of the programme through an academy of teaching and learning in higher education. Through their achievements, participants would gain fellowship of the academy, a postgraduate certificate or diploma.

7 *Appendices*

7.1 Appendix 1: Baseline study interview and focus group schedules

a) British Council team

- What are the current Ministry of Higher Education/UGC policies and what policies are related to this project?
- How successful have they been in implementing them?
- What support do they need to implement them?
- What is the British Council currently doing in Sri Lanka, at what levels and scale?
- What government policies are you supporting?
- What programmes/projects are you currently running and have run in the past to support these policies?
- How have they been evaluated?
- What have been the successes, challenges and failures of those projects?
- How successful have they been in embedding and having sustainable effect on classroom practices? On what evidence is that based?
- What factors/strategies help to ensure a successful sustainable education project in Sri Lanka?
- What is your vision with regard the TRANSFORM project?
- What do you hope it will achieve? What are your targets/KPIs for the project?
- How do you expect to achieve those goals?
- What role and involvement would you want and expect the British Council and British Council staff to have in the TRANSFORM project?
- What resource do you (and the Ministry of Education) expect to commit to the project and over what time scale?
- Is the project a national project or restricted to certain areas?
- Is there anything else you think is important to mention?

b) University Grants Commission (UGC) team

- What is your vision for higher education in Sri Lanka?
- What policies have you introduced recently and plan to introduce to help you to achieve your vision?
- How do you think these policies will help you to achieve your vision?
- What policies have you introduced recently and plan to introduce in the future with regard student-centred learning?
- How is the implementation of the policies being managed?
- How do you expect these policies will be introduced in universities across the country?
- What are the time scales and targets?

- How will implementation and success be evaluated?
- What levels of attainment are you expecting?
- What do you think will be the challenges that universities, teachers and students will face implementing these policies?
- What support are you providing or plan to provide to address these challenges (such as professional development, coaching mentoring, etc)?
- What resources are you providing or plan to provide to address these challenges (such as teaching and learning resources or textbooks etc.)?
- What initiatives or projects do you have in place or plan to support these policies?
- What have been the successes, challenges, and failures of these initiatives/projects so far? Why?
- What factors and strategies help to create a successful and sustainable education project in Sri Lanka?
- How are they evaluated?
- Where do you think universities, teachers and students are currently in achieving the policies? On what evidence is this based?

c) VC and Deans Group Interview

- The use of student-centred learning is being encouraged in Higher Education in Sri Lanka. What will be the outcomes of using student-centred learning?
- What is the current paradigm with regard teaching and learning in your university?
- What student-centred learning approaches are being used?
- What is the university policy with regard teaching and learning and student-centred learning?
- Does the university have a strategic plan for implementing pedagogical change?
- Does the university provide professional development for teachers in pedagogy?
- What has been achieved so far with regard implementing student-centred learning?
- What have been the successes? In which faculties? Why have they been successful?
- What have been the challenges and what further challenges will you face?
- How can the challenges be overcome?
- What are the resource needs for implementing student-centred learning?
- How can the resource needs be addressed?
- What are the professional development needs?

- What models of professional development would you recommend? (Please suggest type of professional development, length of programme. number of staff, phases, timescales etc.)
- What strategies, procedures or approaches do you need to go through to engage more teachers in pedagogical change?
- What incentives, recognition or accreditation should/could be provided to encourage more teachers to be involved in pedagogical change?
- What support does the university need to implement student-centred learning?
- What support could the TRANSFORM project provide?
- We would like to start a pilot project in December, would you be able to provide 8 staff to be involved in the pilot capacity building programme?
- How is the learning experience evaluated?
- Are staff involved in action research? How are the outcomes disseminated?
- What challenges do you face with regard students?

d) Teachers Group Interview

- Please introduce yourselves and tell me what you teach and how long you have been teaching.
- What teaching and learning approaches do you use? Please refer to your answers on the questionnaire
- How successful are the approaches you use in developing the deep understanding of the students, the employability and employability skills of the students? Please explain why.
- How do you make the teaching and learning experiences for the students relevant to the professions and careers related to your subject and how do you prepare them for those professions?
- How do you assess the students?
- What student-centred learning approaches do you use? What have been the outcomes of using the approaches? What are the challenges of using student-centred learning? How could they be overcome?
- What support do you need to be able to introduce more student-centred learning into your teaching?
- What student-centred approaches would you like professional development in? Why would you like professional development in these approaches? Please refer to the list in the questionnaire.
- What type of professional development would be most appropriate?
- What recognition or accreditation or incentives would you like for doing the training and implementing in your classroom?

- What could be done to encourage and support more teachers to use student-centred learning on their courses? What support, resources, strategies, systems and processes should be used to achieve greater use of student-centred learning?
- Do your work in teams when you developing your teaching and learning experiences? Do you carry out action research and share the outcomes of your research?

e) Students Group Interview

- What teaching and learning approaches do the teachers use on your course?
- How well does the learning experience develop your interest, enthusiasm and motivation? Which learning experiences help to develop your interest and enthusiasm for the subject?
- How well does the learning experience develop your deep understanding of the subject? Which learning experiences best develop your deep understanding of the subject?
- How well does the learning experience develop your employability and employability skills? Which learning experiences best develop your employability skills?
- How well does it prepare you for your chosen career/profession? Which experiences help to make the subject relevant to the profession and prepare you for the profession?
- Which learning experiences should be used more on the courses? Why? Please refer to the list on the questionnaire.
- How are you assessed on the course?
- What types of assessment should be used more? Why? Please refer to the list on the questionnaire
- Are you involved in giving feedback on your learning experience? What form does this take?
- Do you have any other ideas about how the learning experiences could be further developed?

7.2 Appendix 2: Learning session observation schedule for Scoping and M&E

University:

Lesson:

Teacher:

Year Group:

Observation questions	Observation comments
How was the classroom organized?	
Were the students organized effectively for small group work/discussion?	
Were the learning outcomes clearly communicated? How?	
Did the teacher engage the students by setting the learning in context? How?	
Did the teacher elicit the ideas of the students? How?	

Observation questions	Observation comments
Was the learning experience well planned and what resources were used?	
Did the teacher effectively brief the students/introduce the learning experience?	
What teaching and learning approaches were used?	
Were the students actively involved in the learning?	
Did the students understand what to do?	

Observation questions	Observation comments
Could they do what was expected of them?	
How effectively did the students work in groups?	
Did they communicate effectively in English?	
How effectively did the teacher facilitate the learning?	
How effective was the teacher's questioning of the students? (progression low to high cognitive, open ended questions, etc.)	

Observation questions	Observation comments
How did the teacher engage the students in thinking and responding to questions? What approaches were used?	
Did the teacher encourage and facilitate inquiry-based learning? How?	
Did the students apply their new knowledge, understanding and skills? How?	
Were the students involved in synthesizing and reasoning? How?	
Were the students involved in evaluating their learning? How?	

Observation questions	Observation comments
Did the learning experience achieve the desired outcomes?	
What methods of assessment were used?	

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7.3 Appendix 3: Baseline study questionnaires

1. University Teacher Questionnaire

Introduction

We have been commissioned to carry out a pilot project to support the implementation of student-centred learning in higher education in Sri Lanka. Before commencing the project, we are carrying out a baseline study to identify the current teaching and learning experiences in universities across the country. We would be very grateful if you could spend about 20 minutes to complete the following questionnaire. Thank you.

Name:

University:

Courses you teach:

Faculty:

How long have you taught in the university sector?

Do you have a teaching qualification? If yes, please provide details of the qualification.

PLEASE NOTE: The researchers will keep all the information you provide confidential. We will not refer to individuals or specify institutions when reporting the outcomes of the research.

Please refer to the following glossary for student-centred learning approaches in higher education when completing the questionnaire:

Student-centred learning approach	Description
Open enquiry or Investigation	Learners plan and carry out the whole enquiry or investigation themselves
Problem-based learning	Learners develop and applying their knowledge and understanding to solve a real problem
Context-based problem-based learning	The problem is set within a real and relevant workplace context, to enable students to gain a real understanding of how their subject knowledge, understanding and skills are applied to solve

Student-centred learning approach	Description
	problems in their future profession
Inquiry-based learning	Learners carrying out an activity and develop their own ideas and explanations through the learning experience
5E Learning Cycle	This serial constructivist model can be used to engage learners in developing deep understanding of the subject in context, and at the same time engage them in inquiry-based learning to solve real world problems
Research-based learning	Learners carrying out research on a topic and communicate their understanding to a specified audience through an appropriate real and relevant method of communication
Context-based research-based learning	Students carry out research in a real and relevant workplace context, to enable students to gain a real understanding of how their subject knowledge is applied to in their future profession
Cooperative learning	The most common technique is jigsaw technique where learners start an activity in home groups, then divide into expert groups, carry out a task in an expert group to develop their 'expert' knowledge, understanding and skills before returning to their home group and share their expertise to enable the home group to apply all their expertise to carry out a task or solve a problem
Group discussion	The structured techniques enable learners to discuss questions, develop, share and modify their ideas and answers. Group discussion techniques include brainstorm, 'think pair share', small group discussion agendas, circle or rounds technique, hot seat, fishbowl, fisherman's ring, nominal group technique etc.
Active Reading	Learners are given a directed task related to text that involves them in interrogating the text for understanding and then reconstructing and applying their understanding
Active writing	Learners develop and communicate their understanding of a topic through a real and relevant method of communication, such as a newspaper article, blog, poster, presentation, report etc.
Micro teaching	Learners teach a group of class members a small topic

Student-centred learning approach	Description
Peer review	Group members or the class review and feed back to other class or group members on a piece of written work, investigation, research or presentation
Mentoring	One learner helps another learner to understand a topic that they do not understand or that is new to them, or helps them to develop a skill
Simulation	Learners are given a real workplace experience to develop their knowledge, understanding and professional skills
Role Play	Learners are engaged in a workplace scenario in role to apply their subject knowledge and understanding

Q1. Please put a tick in the appropriate box to indicate how frequently you use the following teaching and learning approaches in the learning experiences you provide

Please refer to the glossary of terms when completing the table

Teaching and Learning Approach	Very frequently	Frequently	Sometimes	Rarely	Never
Lecture					
Textbook					
Prescriptive practical tasks, experiments, or lab tasks					
Open enquiry or Investigation					
Problem-based learning					
Context-based problem-based learning					
Inquiry-based learning					
5E Learning Cycle					
Research-based learning					
Context-based research-based learning					
Cooperative learning					
Group discussion					

Teaching and Learning Approach	Very frequently	Frequently	Sometimes	Rarely	Never
Active reading					
Active writing					
Individual presentations					
Group presentations					
Micro teaching					
Peer review					
Mentoring					
Simulation					
Role Play					

Q2. Please put a tick in the appropriate box to indicate how confident you feel to effectively use the different teaching and learning approaches

Please refer to the glossary terms when completing the table

Teaching and Learning Approach	Very confident	Confident	Little confident	Not confident	Cannot use
Lecture					
Textbook					
Prescriptive practical tasks, experiments, or lab tasks					
Open enquiry or Investigation					
Problem-based learning					
Context-based problem-based learning					
Inquiry-based learning					
5E Learning Cycle					
Research-based learning					
Context-based research-based learning					

Teaching and Learning Approach	Very confident	Confident	Little confident	Not confident	Cannot use
Cooperative learning					
Group discussion					
Active reading					
Active writing					
Individual presentations					
Group presentations					
Micro teaching					
Peer review					
Mentoring					
Simulation					
Role Play					

Q3. Please put a tick in the appropriate box to indicate how frequently you use the following assessment strategies on your course

Assessment strategy	Very frequently	Frequently	Sometimes	Rarely	Never
Unit/Module tests					
Written assignments					
Open scientific inquiries, investigations, or projects					
Group projects					
Tutor assessed group discussion					
Group presentations					
Individual presentations					
Peer assessment					
Self-assessment					
On-going course work					
Observation of Teaching practice in a 'real school'					
Tutor assessed					

Assessment strategy	Very frequently	Frequently	Sometimes	Rarely	Never
learning diary or reflective journal					

Q4. Please put a tick in the appropriate box to indicate whether you strongly agree, agree, disagree, strongly disagree, or are not sure about the following statements

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
The students on my course are highly motivated					
The students are enthused by the course					
The students are very interested in the subject					
The students develop good subject knowledge on the course					
The students develop deep understanding of the subject on the course					
The students achieve high levels of attainment on the course					
The students develop all the professional skills for careers related to the course					
The students develop good problem-solving skills on the course					
The students develop good team working skills on the course					
The students develop good leadership skills					

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
on the course					
The students develop good communication skills on the course					
The students develop good ICT skills on the course					
The course does not develop the employability of the students					
The majority of students secure employment in professions related to the course					

Q5. Please put a tick in the appropriate box to indicate whether you strongly agree, agree, disagree, strongly disagree, or are not sure about the following statements

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
I carry out action research to evaluate my teaching and learning					
I have published articles on the research I have carried out on the teaching and learning experiences					
I work with colleagues to plan my teaching and learning					
I should use more student-centre leaning experiences					

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
on my course					
I would like professional development in student-centred learning approaches for higher education					

Have you had any professional development in student-centred learning? If yes please provide details of the professional development, including the mode/model (online and/or face-to-face), length of the course, content, accreditation, effectiveness etc.

Thank you for contributing to our research.

UNIVERSITY OF LEICESTER

2. Student Questionnaire

Introduction

We have been commissioned to carry out a pilot project to support the implementation of student-centred learning in higher education in Sri Lanka. Before commencing the project, we are carrying out a baseline study to identify the current teaching and learning experiences in universities across the country. We would be very grateful if you could spend about 20 minutes to complete the following questionnaire. Thank you.

Name:

University:

Course:

Faculty:

Year group:

PLEASE NOTE: The researchers will keep all the information you provide confidential. We will not refer to individuals or specify institutions when reporting the outcomes of the research.

Please refer to the following glossary for student-centred learning approaches in higher education when completing the questionnaire:

Student-centred learning approach	Description
Open enquiry or Investigation	Learners plan and carry out the whole enquiry or investigation themselves
Problem-based learning	Learners develop and applying their knowledge and understanding to solve a real problem
Context-based problem-based learning	The problem is set within a real and relevant workplace context, to enable students to gain a real understanding of how their subject knowledge, understanding and skills are applied to solve problems in their future profession
Inquiry-based learning	Learners carrying out an activity and develop their own ideas and explanations through the learning experience

Student-centred learning approach	Description
5E Learning Cycle	This serial constructivist model can be used to engage learners in developing deep understanding of the subject in context, and at the same time engage them in inquiry-based learning to solve real world problems
Research-based learning	Learners carrying out research on a topic and communicate their understanding to a specified audience through an appropriate real and relevant method of communication
Context-based research-based learning	Students carry out research in a real and relevant workplace context, to enable students to gain a real understanding of how their subject knowledge is applied to in their future profession
Cooperative learning	The most common technique is jigsaw technique where learners start an activity in home groups, then divide into expert groups, carry out a task in an expert group to develop their 'expert' knowledge, understanding and skills before returning to their home group and share their expertise to enable the home group to apply all their expertise to carry out a task or solve a problem
Group discussion	The structured techniques enable learners to discuss questions, develop, share and modify their ideas and answers. Group discussion techniques include brainstorm, 'think pair share', small group discussion agendas, circle or rounds technique, hot seat, fishbowl, fisherman's ring, nominal group technique etc.
Active Reading	Learners are given a directed task related to text that involves them in interrogating the text for understanding and then reconstructing and applying their understanding
Active writing	Learners develop and communicate their understanding of a topic through a real and relevant method of communication, such as a newspaper article, blog, poster, presentation, report etc.
Micro teaching	Learners teach a group of class members a small topic
Peer review	Group members or the class review and feed back to other class or group members on a piece of written work, investigation, research or presentation
Mentoring	One learner helps another learner to understand a

Student-centred learning approach	Description
	topic that they do not understand or that is new to them, or helps them to develop a skill
Simulation	Learners are given a real workplace experience to develop their knowledge, understanding and professional skills
Role Play	Learners are engaged in a workplace scenario in role to apply their subject knowledge and understanding

Q1. Please put a tick in the appropriate box to indicate how frequently the lecturers on your course use the following teaching and learning experiences

Please refer to the glossary of terms when completing the table

Teaching and Learning Approach	Very frequently	Frequently	Sometimes	Rarely	Never
Lecture					
Textbook					
Prescriptive practical tasks, experiments, or lab tasks					
Open enquiry or Investigation					
Problem-based learning					
Context-based problem-based learning					
Inquiry-based learning					
5E Learning Cycle					
Research-based learning					
Context-based research-based learning					
Cooperative learning					
Group discussion					
Active reading					

Teaching and Learning Approach	Very frequently	Frequently	Sometimes	Rarely	Never
Active writing					
Individual presentations					
Group presentations					
Micro teaching					
Peer review					
Mentoring					
Simulation					
Role Play					

Q2. Please put a tick in the appropriate box to indicate how frequently the following assessment strategies are used on your course

Assessment strategy	Very frequently	Frequently	Sometimes	Rarely	Never
Unit/Module tests					
Written assignments					
Open scientific inquiries, investigations, or projects					
Group projects					
Tutor assessed group discussion					
Group presentations					
Individual presentations					
Peer assessment					
Self-assessment					
On-going course work					
Observation of Teaching practice in a 'real school'					
Tutor assessed learning diary or reflective journal					

Q3. Please put a tick in the appropriate box to indicate whether you strongly agree, agree, disagree, strongly disagree, or are not sure about the following statements

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
I have been highly motivated by the course					
I am enthused by the course					
I am very interested in the subject					
I have developed good subject knowledge on the course					
I have developed deep understanding of the subject on the course					
I have achieved high levels of attainment on the course					
I have developed all the professional skills I require for careers related to the course					
I have developed good problem-solving skills on the course					
I have developed good team working skills on the course					
I have developed good leadership skills on the course					
I have developed good communication skills on the course					
I have developed good ICT skills on the					

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
course					
The course has not developed my employability					
I will seek employment in a profession/career related to the course					
I am confident I will secure employment in my chosen career					

Thank you for contributing to our research

3. Senior Leadership Team Questionnaire

Introduction

We have been commissioned to carry out a pilot project to support the implementation of student-centred learning in higher education in Sri Lanka. Before commencing the project, we are carrying out a baseline study to identify the current teaching and learning experiences in universities across the country. We would be very grateful if you could spend about 30 minutes to complete the following questionnaire. We would also be grateful if you could provide your responses in both paper and electronic form. Thank you.

Name:

University:

Position:

PLEASE NOTE: The researchers will keep all the information you provide confidential. We will not refer to individuals or institutions when reporting the outcomes of the research.

Q1. The use of student-centred learning is being encouraged in Higher Education in Sri Lanka. Why do you think it should be used?

Q2. What is the university policy with regard student-centred learning?

Q3. What is the university strategy for implementing student-centred learning?

Q4. Do you have a strategic plan? (Please provide the plan as an attachment)

If you do not have a strategic plan, please answer the following questions:

Q5. What are the resource needs for implementing student-centred learning?

Q6. How can the resource needs be addressed?

Q7. What are the professional development needs?

Q8. What models of professional development would you recommend? (Please suggest type of professional development, length of programme. number of staff, phases, timescales etc.)

4. Faculty Dean Questionnaire

Introduction

We have been commissioned to carry out a pilot project to support the implementation of student-centred learning in higher education in Sri Lanka. Before commencing the project, we are carrying out a baseline study to identify the current teaching and learning experiences in universities across the country. We would be very grateful if you could spend about 30 minutes to complete the following questionnaire. We would also be grateful if you could provide your responses in both paper and electronic form. Thank you.

Name:

University:

Faculty:

PLEASE NOTE: The researchers will keep all the information you provide confidential. We will not refer to individuals or institutions when reporting the outcomes of the research.

Q1. The use of student-centred learning is being encouraged in Higher Education in Sri Lanka. Why do you think it should be used in your faculty?

Q2. What student-centred learning approaches are used in your faculty?

   a. On which courses are they used?

   b. How are they used?

   c. What have been the outcomes of using the student-centred approaches?

   d. Which approaches have been most successful and which least successful? Why?

   e. What have been the challenges of implementing student-centred learning? Why?

   f. How have you overcome the challenges?

Q3. How are the learning experiences of students evaluated?

   a. Do teaching staff carry out action research? (Please provide details)

b. Are the outcomes of the research shared and published? (Please provide details)

c. Do teaching staff plan learning programmes/experiences in teams? (Please provide details)

7.4 Appendix 4: Capacity Building Workshops post-workshop questionnaire

We would be grateful if you would spend a few minutes to complete this questionnaire that refers to your experience on this workshop.

Please put a tick in an appropriate box to show whether you strongly agree, agree, are not sure, disagree or strongly disagree with each statement.

Statement	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
I have developed an understanding of the active learning process					
I have developed an understanding of questioning techniques					
I have gained knowledge and understanding of the different active reading techniques for developing students' knowledge and deep understanding					
I will use active reading approaches with my students					
I have gained knowledge and understanding of the different active writing techniques for developing the student's capability to communicate their deep understanding					
I will use active writing techniques with my students					
I have gained knowledge and understanding of different group discussion techniques.to help students develop, share and modify their ideas					
I will use group discussion techniques with my students					
I have gained knowledge and understanding of the use of role play for teaching about controversial issues					
I will use role play techniques with my students					
I have gained knowledge and understanding of the use of jigsaw technique as a cooperative learning technique for developing the deep understanding and high-level thinking of students					
I will use jigsaw techniques with					

Statement	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
my students					
I have gained knowledge and understanding of the use of contexts to motivate and enthuse students					
I will apply context-based learning in my classroom					
I have gained knowledge and understanding of the 5E Learning Cycle to develop students High level thinking and deep understanding of students					
I will apply the 5E learning cycle in my classroom					
I have developed my knowledge and understanding of problem-based learning for developing the deep understanding and high order thinking of students					
I will used problem-based learning in my classroom					
I have developed an understanding of how the active learning, 5E learning cycle and problem-based learning models implement the levels of thinking identified by Bloom's taxonomy					
I have gained understanding of how all the student-centred approaches develop the soft skills of the students					
I understand what student-centred learning is					
I understand how to use all the student-centred approaches in the classroom					
I have developed an understanding of the benefits of using student-centred learning					
I have developed an understanding of the challenges of implementing student-centred learning and how to overcome them					
I have adapted/developed some teaching resources that apply the approaches to use in my classroom					
I have gained first-hand experience of being involved in activities that illustrate the above teaching and learning approaches					

Statement	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
during the workshop					
I have gained knowledge and understanding of some new student-centred teaching and learning approaches that I can use in my teaching					
I will pilot the use the teaching resources I have adapted/developed with a group of students					
I will now be able carry out action research to evaluate the outcomes of using the teaching resources I have been given					
I would like to continue to be trained by the project					
I have enjoyed the workshops					
I will use all the teaching and learning approaches with my students.					

What have you learnt on the workshops?

What did you enjoy?

What will you use?

What was the most useful part of the Workshops?

Additional comments

7.5 Appendix 5: Monitoring and Evaluation Focus Group and Interview Schedules

7.5.1 *Participants involved in the project*

- What learning, understanding skills and professional development have you gained from the training?
- Which student-centred learning approaches have you applied, in which subjects and with which year groups of students?
- What successes have you had?
- What have been the benefits for your students of using the approaches?
- What things did you find challenging? How did you overcome those challenges? Were there any challenges you were not able to overcome?
- What further help and support do you need to support your professional development and to support the implementation of student-centred learning in your faculty/university?
- What further advice do you have for the project?

7.5.2 *Dean of Faculty*

PLEASE NOTE that although the following interview schedule was developed for use with the deans, the conversations tended to focus on the future needs of the faculty and further help and support required by the faculty.

- How has the project helped to develop staff in your faculty?
- What has been the effects/benefits for your students who have experienced the student-centred learning experiences?
- What have been the benefits to your teachers who have been trained as part of the project?
    - Development and retention of knowledge
    - Development of understanding
    - Application of knowledge and understanding
    - Development of skills
    - Team work
    - Effectiveness in carrying out Inquiry
    - Effectiveness of problem solving
    - Effectiveness of communication
    - Interest, Motivation and Enjoyment
    - Other outcomes
- What developments have happened in your faculty as a result of the teachers being involved?
- What have been the benefits to the faculty?
- What have they applied/used in their classrooms?

- How has the project supported the development and implementation of student-centred learning?
- What things has the faculty found difficult or challenging implementing the project? How did you overcome those challenges? What could the project do to overcome those challenges in the future?
- What problems did you face implementing the project? How did you overcome those problems? What could the project do to overcome those problems in the future?
- What further support and professional development do you and your staff need in the future to support the further development and implementation of student-centred learning?
- Do you have any further advice for the project?

7.5.3   *Students*

- When your teacher used the student-centred learning approaches with you what did he/she do differently or new?
- What were the effects or benefits for you?
- Were there any challenges or problems?