University of ULSTER

pbL Resource Centre (pbLRC)
to support and promote PBL at the University of Ulster

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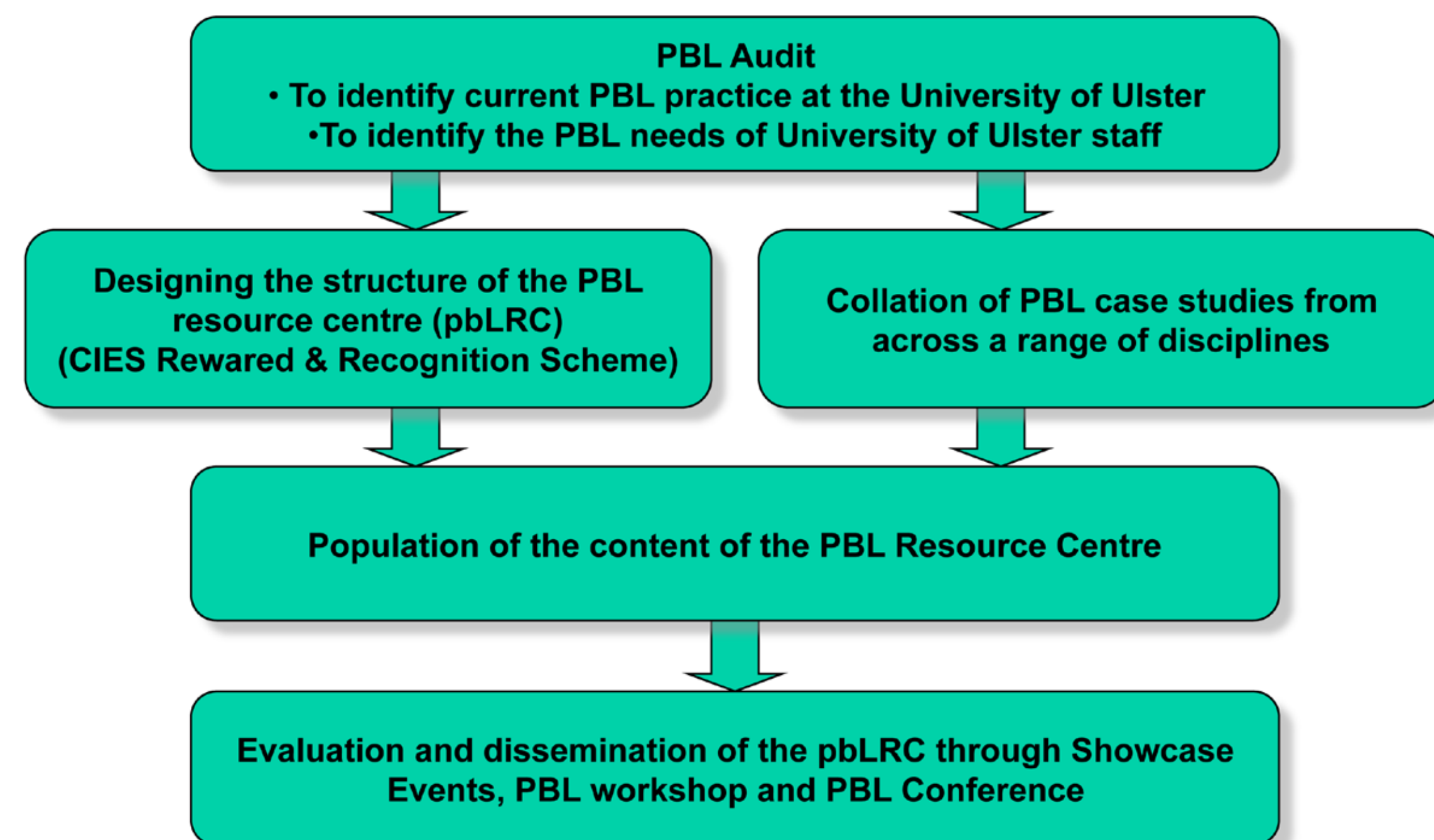Kay Hack — cj.hack@ulster.ac.uk

Features of PBL

Problem Based Learning (PBL) is a student centred approach that promotes engagement in meaningful learning and encourages students to learn in context. PBL develops skills in acquiring, communicating and integrating information and aims to develop and strengthen reasoning and communication skills.
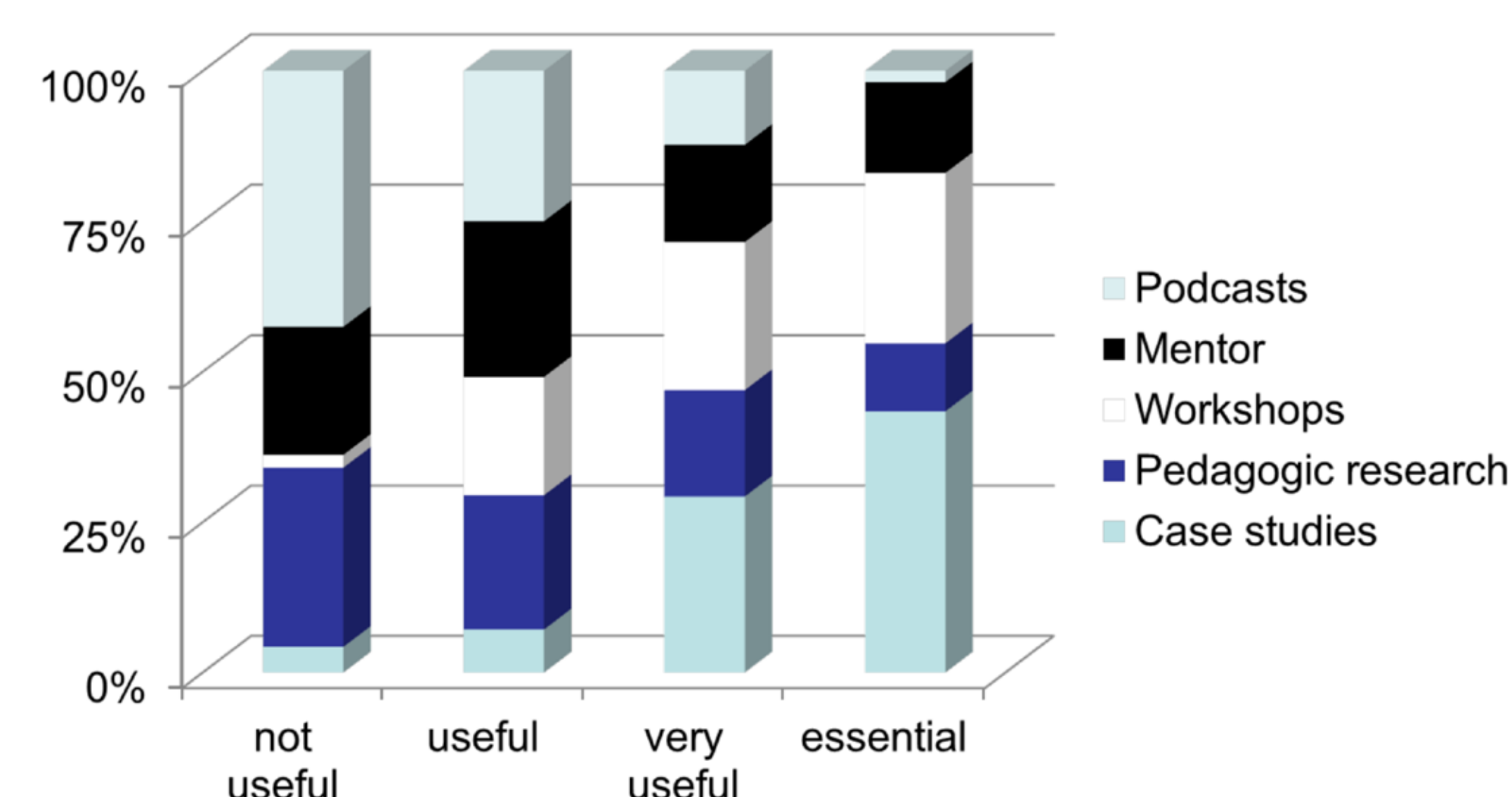
Project Overview

- The transition from traditional instruction to a problem based approach to learning requires many changes for educators and for students
- The overall aim of this project was to develop a Problem Based Learning Resource Centre (pbLRC) to facilitate the transition to PBL

PBL Audit
- To identify current PBL practice at the University of Ulster
- To identify the PBL needs of University of Ulster staff

Designing the structure of the PBL resource centre (pbLRC) (CIES Rewared & Recognition Scheme)

Collation of PBL case studies from across a range of disciplines

Population of the content of the PBL Resource Centre

Evaluation and dissemination of the pbLRC through Showcase Events, PBL workshop and PBL Conference

Determination of PBL activity at the University of Ulster

- An audit of PBL activity at the University of Ulster was carried out in March 2010
- All academic staff were sent an email with a link to an on-line questionnaire
- 80 responses were received (~15% of academic staff)
- 50 respondents use or regularly use PBL

Audit of academic staff at the University of Ulster

Legend: Podcasts, Mentor, Workshops, Pedagogic research, Case studies

X-axis: not useful, useful, very useful, essential

Respondents were asked to frate the usefulness of various resources which may be used to support PBL activity
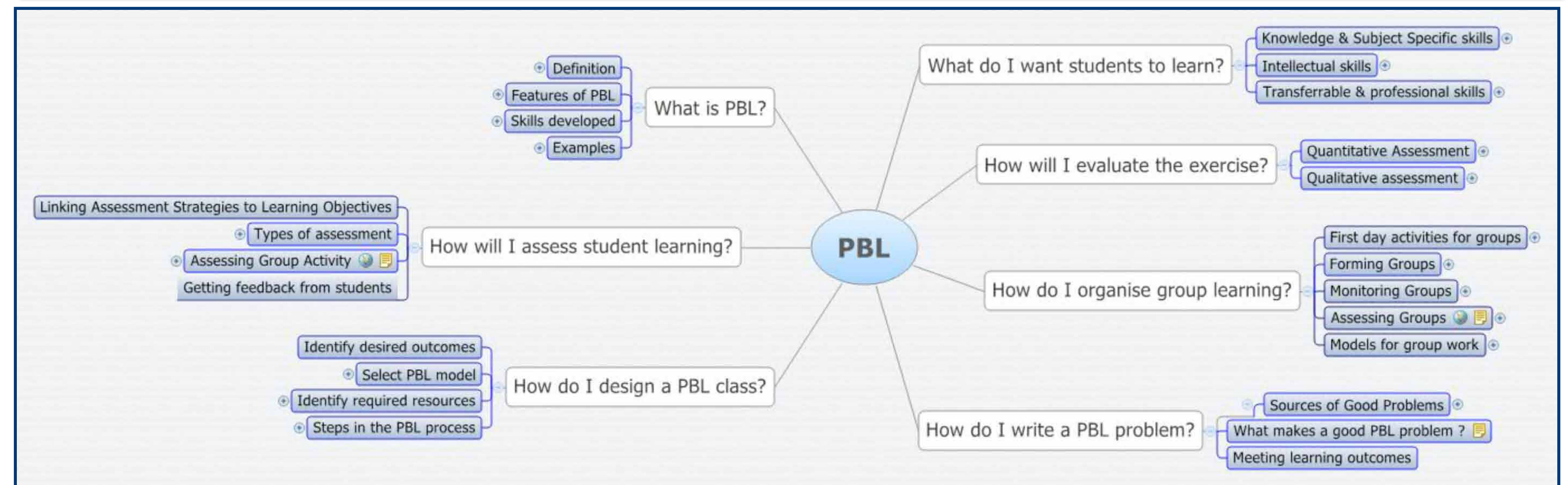
Aims of the pbLRC

- To provide a management and support facility to promote and foster creativity in curriculum design and delivery
- To provide information on key features of designing and delivering a PBL class.
- To provide developmental tools to facilitate the different pedagogic approaches to PBL

Development of pbLRC

- The design was based on 7 questions staff might ask when planning a PBL activity.
- The initial structure of the resource centre was developed at the CIES Reward and Recognition workshop.
- XMind (www.xmind.org) was used to structure and share the ideas generated.

Development of pbLRC content

What is PBL?
- Definition
- Features of PBL
- Skills developed
- Examples

What do I want students to learn?
- Knowledge & Subject Specific skills
- Intellectual skills
- Transferrable & professional skills

How will I evaluate the exercise?
- Quantitative Assessment
- Qualitative assessment

How will I assess student learning?
- Linking Assessment Strategies to Learning Objectives
- Types of assessment
- Assessing Group Activity
- Getting feedback from students

How do I organise group learning?
- First day activities for groups
- Forming Groups
- Monitoring Groups
- Assessing Groups
- Models for group work

How do I design a PBL class?
- Identify desired outcomes
- Select PBL model
- Identify required resources
- Steps in the PBL process

How do I write a PBL problem?
- Sources of Good Problems
- What makes a good PBL problem ?
- Meeting learning outcomes

The branches provide links to more in-depth information, suggested resources and theoretical background
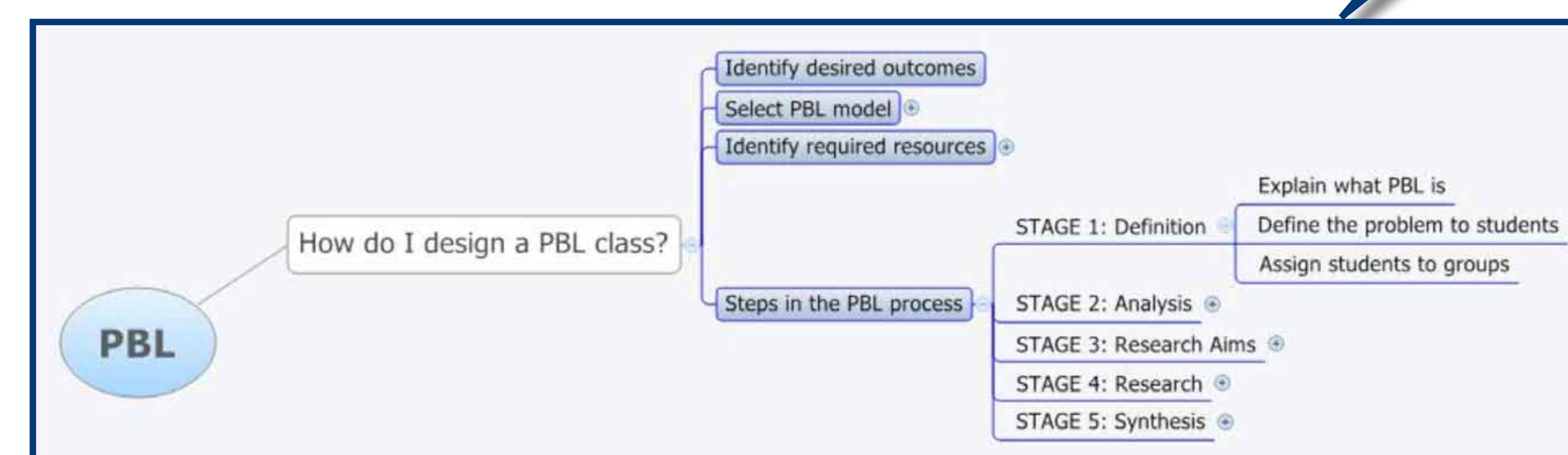
PBL > Steps in the PBL process > Stage Two> Analysis

Organize ideas and prior knowledge A broad discussion to find out what the students already know should be carried out, and this is facilitated by the teacher. Ideas on how to address the problem could be initiated by the instructor to encourage students to begin their research.

Students brainstorm the research problem Students should discuss the research problem within their groups and draw on each other's knowledge. Xmind, ePorfolios or other on-line tools for sharing ideas and brainstorming could be introduced at this stage. Students should attempt to define the main research problem.

Question driven resource which provides pedagogical background on teaching using PBL

Teaching Plan tool to help design teaching activities

Links to Pedagogical Papers, Case Studies and Resources that may be useful in PBL activities

Workshop Feedback

"obtaining information about the PBL resource site"

"working through the case study"

"looking forward to adding to and using case studies from the repository "

"hearing about other staff experiences"

"information on the background to PBL "

"website is an excellent resource"

"learning more about the pedagogy of PBL"

A workshop was held in March 2010 to disseminate information on PBL and promote the PBL resource centre

Conclusions and Reflections: Response to audit

Feedback received from the University PBL questionnaire and following the PBL Workshop

- Staff were interested in case studies and workshops to support PBL activity
  - Promoting the use of the Practice Exchange Repository for sharing case studies
  - Aiming to list more PBL case studies on resource centre

Conclusions and Reflections: Evaluation of Resource Centre

- PBLRC encapsulates information staff want to share
- Staff like the ' question driven' structure
- Some feedback indicated that the final design was not easy to navigate or easy to find information
  - Work with Access & Distributed Learning to find better way to present or navigate information