2 Pedagogic principles

The pedagogic framework for this course is based around supporting flexible independent learners working individually to acquire practical data manipulation skills that are transferable to a range of research settings. The nature of the course material and the probable backgrounds of the prospective students lends itself to an activity-based online learning methodology.

The learning materials will be designed around a transparent and recognisable course structure that enables learners to be quickly aware of what is expected of them, plan their study time effectively, and move seamlessly from one unit to another. The proposed structure for your material is discussed in *Section 3: Learning Elements*.

Flexibility

Flexibility is important to the learners on this course. Students will be able to dip into the course, study at their own pace and build study times around work and family commitments.

Independent Learning

Students using the LIMMD learning material will be, for the most part, experienced learners who will have already developed successful study patterns and learning strategies, and as such, are able to work independently given the appropriate tools and feedback. The online learning material for this course will be designed for use *without* the additional tutor support and communication tools such as discussion fora, chat, email that one may expect to be associated with this type of learning (although there may also be the opportunity for some collaborative activities during the two timetabled face-to-face sessions). Therefore students on this course will place far more reliance on the material for guidance than their classroom counterparts.

As an author of online learning materials you must be aware that is part of your remit to write material that offers appropriate student support. There are a number of techniques they can use to support independent learning including:

Supporting various levels and approaches to study

Your material will be consistently structured and allow students to work through it in a sequential manner to cover all areas of the course. However, students will also be able to select at a glance areas of particular interest by highlighting facts and summaries. Unit overviews will be provided to enable students to acquire an holistic view of the materials to be studied.

You will provide guidance on alternative ways of using the material and completing activities. Material should contain suggestions/opportunities for users to work through resources more quickly by skipping over certain materials/activities (this should be possible where certain material is of

secondary importance) and for study over a greater time scale by including additional practical, research and reflective activities.

Testing understanding
Although the materials are not formally assessed, students must be able to judge their progress and understanding of the materials. The material that you write will include the tools to allow students to do this, and may contain self tests, opportunities for the student to compare their thoughts with the author's and reflective activities that specifically challenge common areas of misconception. Testing should be aligned closely to the unit's learning outcomes.

Provision of Feedback
Students using the LIMMD project material will, for the most part, not have the benefit of specific contact with you or other students using the material. It is therefore vital that you give ample and appropriate feedback so that students do not become confused about key concepts.

Consolidation
You should build in additional activities and resources that can be used by students to consolidate their learning out with the core study sessions. These additional exercises will enable students to develop deeper understandings and connections with the concepts to which they have been introduced, and will provide an opportunity for them to practice the skills they have acquired.

Information about the material
Wherever possible you should explain to students *why* they are being asked to undertake a specific task and provide as much feedback about the material as possible this may include:

- How long a specific task or activity is likely to take
- The relative importance of specific material or activities (whether they are core or additional)
- Difficulty level and whether prerequisite knowledge is needed (elementary skills or techniques that should be mastered before attempting certain activities).

Activity-based learning

Activity-based learning actively engages learners in authentic learning activities and to puts learners in the kinds of situations in which they need to use those skills.

Why take this approach?
Learning purely from trying to remember content by listening to lectures, viewing presentations or reading documents, will hardly ever assist learners learn much more than a shallow impression of the material. To help students reach deeper levels of learning, they need to have learning experiences that will allow them to learn by *practicing the application of principles and concepts in real-world*

contexts. Students who achieve these deeper levels of understanding are more able to transfer the learning to new environments.

Authenticity
The learning material will focus on examples adapted from authentic research questions. *It will explicitly relate these examples to 'live' data currently held within the range of macro and micro datasets by ESDS International*[1]. It is important to relate examples back to data held within ESDS International rather than from other sources. MIMAS can assist you to develop specific data sets as required.

Emphasis will be placed on producing examples that highlight the benefits of combining macro and micro datasets. Using this example-based approach will allow students to develop their own transferable and adaptable research skills.

Activities will be built into the material to encourage personal reflection on how ESDS resources could be used within students' own research activities and promote greater knowledge of the research tools and methods available.

Students may be better motivated to learn if the learning activity is meaningful and if the knowledge is useful and provides a means of achieving a desired goal. Activities may include case studies and other student centred activities based on topics that demonstrate theoretical concepts in an applied setting. Case studies are a good medium for encouraging students to carry out independent research outside of the lecture/tutorial environment.

Specifically challenging misunderstanding
Feedback from ESDS International macro data courses revealed a lack of understanding among students of how best to create links between international macro and micro data, with particularly poor use among researchers of the available survey microdata resources. This problem may be caused by a number of factors that the learning material will aim to address including:

- Problems in interpreting microdata
- Presentation of the data itself
- The perceived usefulness of survey data
- Data complexity

By concentrating on examples of successful macro and micro data linking, the learning materials will focus on the advantages of linking data types and equip students with the skills required to overcome some of the challenges.

[1] Please refer to the appendix "Use of databanks in teaching and learning: terms and conditions of use in a teaching context" to find out which datasets are available.

Example

Ronald Ingleheart linked micro data from the World Values Survey with aggregate data fro the World Bank to demonstrate the relationship between GDP and levels of personal wellbeing.

When creating materials for the LIMMD project, authors should have in mind the initial drivers behind the venture and try to focus their writing back to the project's aims and objectives see section one of this document *Project Overview*.