A REAL CLIL EXPERIENCE

A Real CLIL Lesson

Subject: Computer Science - Topics: How to plan a Database

Lesson Preparation

Lesson Delivery

Topics covered in class

Assessment

How plan a Database

Lesson Preparation

CONTENT:
Database design through the Entity-Relationship model

TEACHING AIMS:
To enable learners to understand E-R design model
To develop learners' abilities to plan a database

LEARNING OUTCOMES:
Know the objects that make up the E-R model
Be able to plan a dababase according to the E-R model

ASSESSMENT:
Can the learners identify entity and relationship?
Can the learners plan a database?
Can the learners cooperate in a groups?

How plan a Database

Lesson Preparation

LANGUAGE - Genres and main features:

Discussion:

- Introduction of the database
- Examples of database planning

Explanation:

- Definitions of Entity, Relationship and Attribute

Instructions:

- How to make an E-R Diagram

Persuasion:

- Summary with repetition
- Example of planning

ACTIVITY TYPES:

Interpreting data and information

Classification (Entity or Relationship?)

How plan a Database

Lesson Delivery

CLASSROOM LANGUAGE:

The language should be very simple and effective
Learners should be able to understand new concepts and definitions

TEACHER ACTIVITIES:

Create interest
Activate prior knowledge
Present new ideas
Help learners develop thinking and cognitive skills
Encourage creative talk
Encourage collaborative group work
Monitor learning
Scaffolding
Respond to learning needs
Consolidating learning

How plan a Database

Topics covered in class

Prior knowledge (Database's definition)
A database is an organized collection of data.
The data is information stored in mass storage media.

Databases can be analized throught three levels:
- Conceptual level
- Logical level
- Physical level

The Conceptual level refers to the first phase of the project.
In this particular phase there must be recognized real world's objects that must be considered (entity) and their relationship.

The Logic level indicates the description of the types of data to be used.

The Physical level describes the physical storage structures of database and file organizations used to store data on physical storage devices.

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Topics covered in class

The Entity-Relationship Model (Dr Peter Chen – 1976)

The conceptual model, which expresses the reality considered, can be designed in a graphic form by using the E-R diagram.
The E-R diagram shows three basic objects: entities, relationships and attributes.

Entities represent objects of the real world that you want to considered. Their graphical representations consist on rectangle figures.

Relationships among entities are graphically rapresented by using rhomb figures.

Attributes represent entities and relationships' properties and their graphical form is an ellipse.

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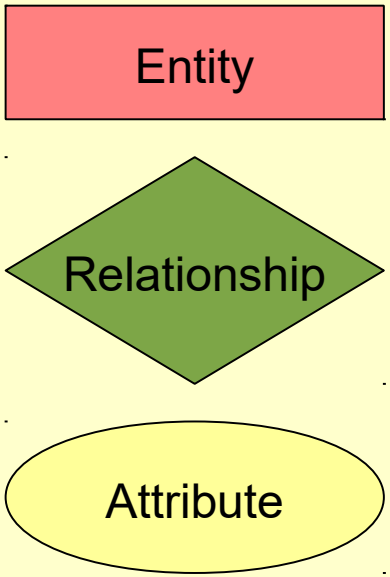
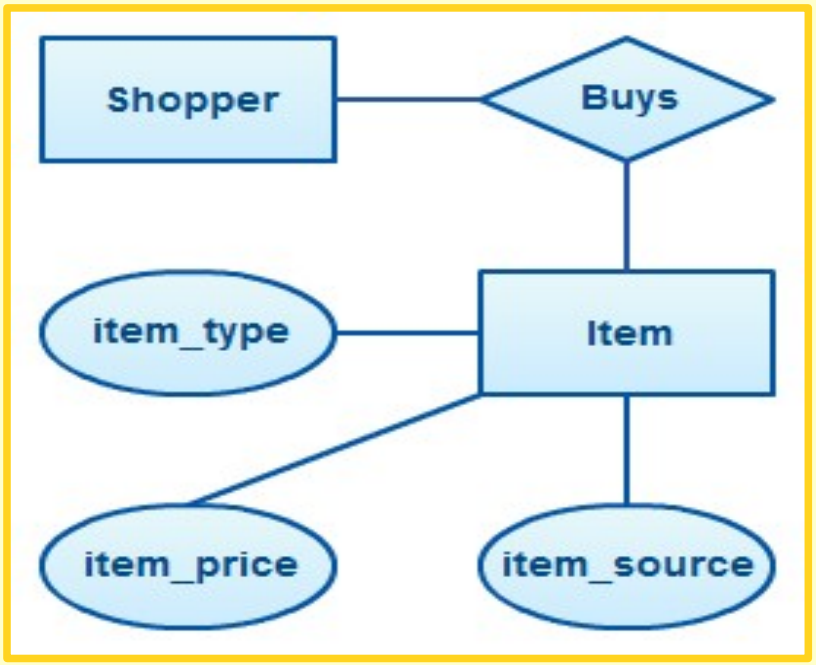
Topics covered in class

Graphical representations



E-R diagram example
with entity having attributes



Further information:

A fundamental kind of attribute is called Primary Key, this particular type of attribute indentify in an univocal way an entities' instance or record. The graphical representation is the same as a normal attribute but the attribute's name will be underlined.

How plan a Database

Assessment

FOCUS OF ASSESSMENT:
CONTENT and LANGUAGE
COGNITIVE SKILLS and COMMUNICATION SKILLS

TYPE OF ASSESSMENT:
FORMATIVE ASSESSMENT
SELF and PEER ASSESSMENT

TOOLS FOR ASSESSMENT:
Test with closed answers (for self-assessment)
Test with open answers
Exercise for design database
Oral questions


Thank you very much
for your attention