TECHNOLOGY RESEARCH METHODOLOGY IN EDUCATION

RESEARCH PATHWAYS IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES

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Connected issues

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1. Reality

Concept:

Reality is everything that exists consciously (culture) or being conscious through your will (learning) or might observe spontaneously (empirical).

Examples:

- Any Centre belongs to the reality.

- Our ideas, concepts and cosmovision belong to the reality.

- Also, animate and inanimate things belong to the reality.

- Other upcoming knowledge and thoughts if they exist.

2. Problematic situation

Concept:

- It is the necessary current condition of reality that surrounds the object under study (lackness, deficiencies, wrongly working processes, routinely habitual events).

- The researcher gathers data or information quantitatively or qualitatively by means of a Matrix for Diagnosing the Reality (see 2.1).

KEY WORDS: words that frequently appear and emerge when describing the problematic situation. They are useful for data bases.

Example: Subtitles of any Language Centre scenario

- Inadequately teaching strategies when acquiring a new language

- Students of a foreign language use the new language inappropriately

- Diversity interests of students

- Misunderstanding of own skills

- Others

KEY WORDS: teaching strategies, foreign language use, acquiring skills, students' interests

2.1. Problematic situation: MATRIX FOR DIAGNOSING REALITY

INTERNAL ENVIRONMENT	EXTERNAL ENVIRONMENT OF THE OBJECT UNDER STUDY				
Language Centre ABC	Teaching strategies	Scenario	Accessibility		
Acquisition process	Does teaching strategies increase acquisition process?	Does the current scenario increase acquisition process?			
Own practice					
Own motivation					
Own skills					

3. Problem

Concept:

It is the abstraction of problematic situation, by contrasting concepts, theories, or experience that limit or impede reaching a desirable, feasible, sustainable state.

The parts of problem:

Deficiency: shortness; permanent need, lack, or weak processes

Limitation: something that restraint; the state of being limited (skills or processes) now

Example:
Deficiency: teaching strategies when acquiring a new language
Limitation: own learning techniques to acquire a new language in ABC
                      Language Centre

Statement of Problem:
There is a deficiency on teaching strategies when acquiring a new language that limits the students' own learning techniques in order to acquire a new language in ABC Language Centre.
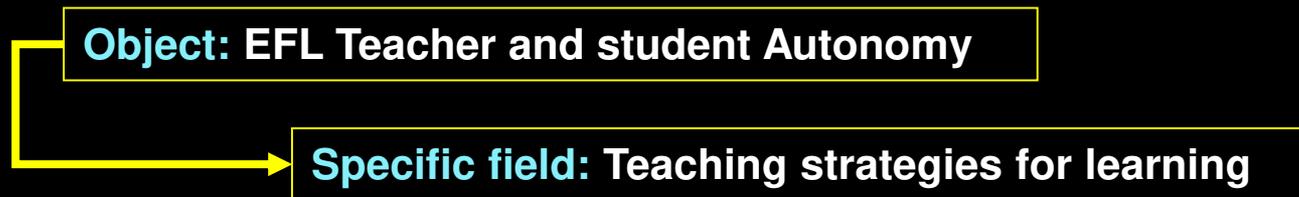
4. Object under study and Specific Field

Concept:

- **Object is the abstraction from the research problem through a systemic connection among the exogenous and endogenous elements.**

- **If the interacting mechanism among the intervening elements:**

    a) cannot be observed = it is a scientific research (scientific cognition)

    b) can be observed = it is a technological research (scientific practice)

Example:

See 4.1. for a proposed division of Didactics

Object: EFL Teacher and student Autonomy

Specific field: Teaching strategies for learning

4.1. Proposed division of Didactics

Area	Sub-Areas	Topics: Specific Fields
Didactics	**Linguistics in Teaching English to Speakers of Other Languages (TESOL)**	- Improving Indicators of the Quality of English Acquisition - Trends in English Resources for Strategic Achievement Gap of the Net Generation - Future Skill Demands in English as a second or foreign language
	Principles of Second and Foreign Language Acquisition	- Classroom practices and curriculum design - Describe and analyze school contexts - Teaching digital natives - Phonological Issues in Language Learning - Reading and Language Learning - Grammatical Development in Language Learning
	Sociolinguistics and Communication in the Classroom	- Methodologies that favor children's acquisition of English - Net Help for Solving Teaching-Learning English
	EFL Teacher and student Autonomy	- Attitudes, Orientations and Motivations in Language Learning - Language as a Complex Adaptive System - Teaching strategies for learning
	Material Development and Methods for TESOL	- Task-Based Language Learning - The impact of School Resources - Assessment Results to Improve Teaching and Learning

5. Objective of Research

Concept:

It is the desired or shifted situation (the new state) once human intervention is concluded.

Parts:

transitive verb + direct/indirect object + circumstances (place) + theory support (based on) + sustainable criterion

Example:

Design a teaching strategies for learning plan for acquiring a new language in ABC Language Centre based on multiple intelligences theory with a semester review of indicators.

6. Product or Concretion of Research

Concept:

It is the viewed impact or result after human intervention on reality. It emerges from the direct object of Objective statement.

Part:

        direct/indirect object

Example:

The teaching strategies for learning plan
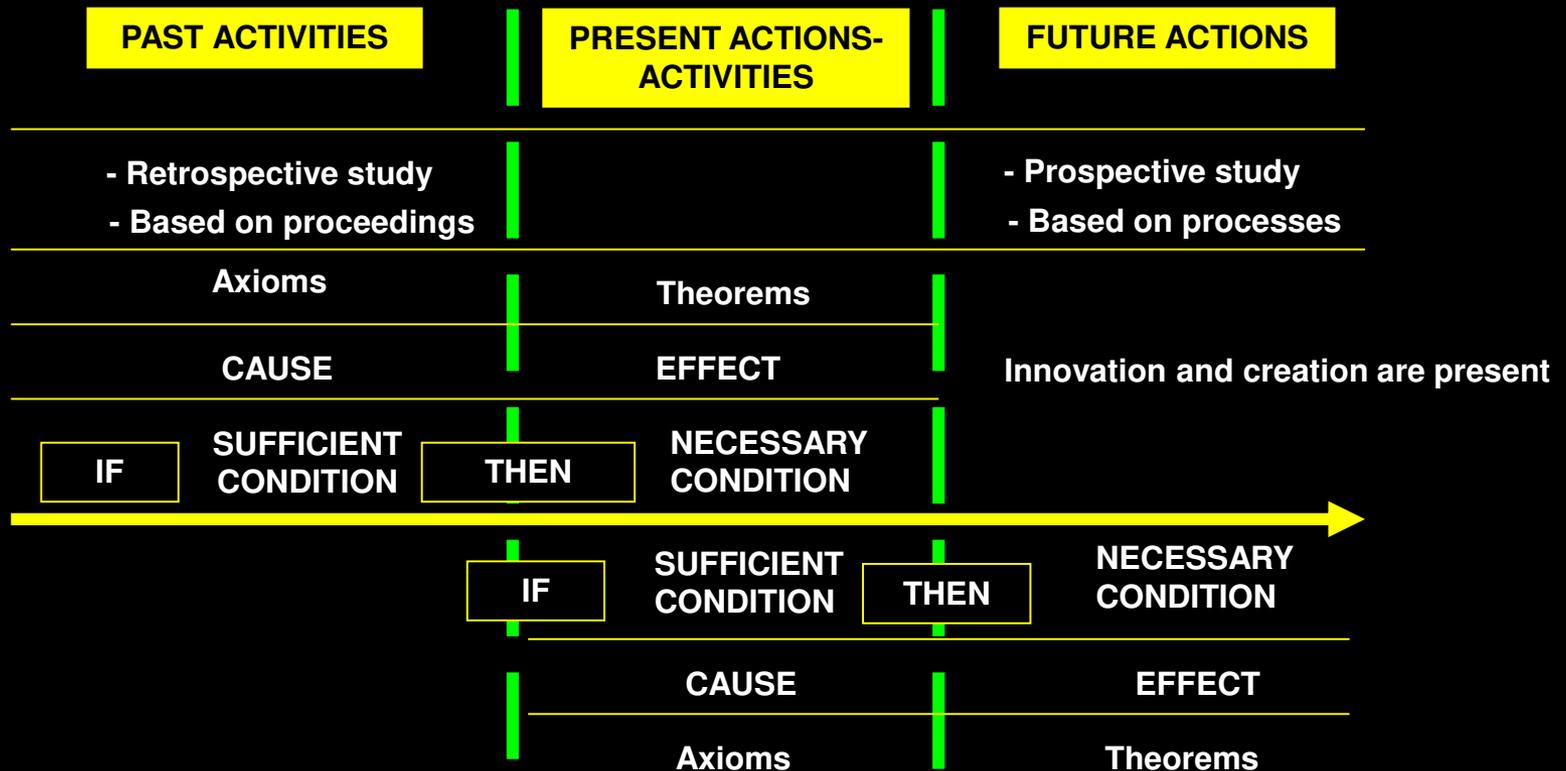
7. Inferential assumption

Concept:

- It is the retrospective or prospective relationship of a sufficient and necessary condition as logical cause-effect propositions. (See 7.1)

- IF (sufficient condition / axiom), THEN (necessary condition / theorem)

- Demonstrations are held on sufficient condition, the necessary condition will be the new state.

Example:

If a teaching strategies for learning plan for acquiring a new language in ABC Language Centre based on multiple intelligences theory with a semester review is put into practice, then students will be aware of their foreign language learning skills.

7.1. Inferential Assumption Scheme

PAST ACTIVITIES	PRESENT ACTIONS-ACTIVITIES	FUTURE ACTIONS
- Retrospective study - Based on proceedings		- Prospective study - Based on processes
Axioms	Theorems	
CAUSE	EFFECT	Innovation and creation are present
IF · SUFFICIENT CONDITION	THEN · NECESSARY CONDITION	

IF · SUFFICIENT CONDITION · THEN · NECESSARY CONDITION

CAUSE · EFFECT

Axioms · Theorems

RETROSPECTIVE CASE STUDY:

To explain teaching strategies for learning during 2005-2010

PROSPECTIVE CASE STUDY:

To design an innovative methodology of teaching strategies for learning during 2010-2011

8. Tasks of research

Concept:

- **Identifying the object and specific field**
- **Elaborating the proposal (plan, model, methodology, approach, strategy, process) based on a theory**
- **Validating the proposal**

<u>Example:</u>

- **Identifying the object and specific field (previously done)**
- **Elaborating the proposal (plan, model, methodology, approach, strategy, process) based on multiple intelligences theory theory**
- **Validating the proposal by experts**

9. Methods and Techniques for demonstrating the assumption

Concept:

A means or manner of procedure, especially a regular and systematic way of accomplishing something. Orderly arrangement of parts or steps to accomplish an end (The American Heritage® Dictionary of the English Language, 2009).

Example: (Cohen, 2002)

- Historical research
- Developmental research
- Surveys
- Case studies
- Correlational research
- Ex post facto research
- Experiments, quasi-experiments, and single-case research

- Action research
- Accounts
- Triangulation
- Role-playing
- The interview
- Personal constructs
- Multidimensional measurement
- The ethics of educational and social research

10. Purpose and Rationale of research

Concept:
- The impact in terms of the outcomes of learning in complex situations.
- Argue the reasons or importance of substantial gaps in our knowledge base on a number of issues
- The way the study enriches the knowledge of the specific field.

Example:

A teaching strategies for learning plan will help the way students acquire a new language by means of a process called meta-cognition of skills. Here, students find their own skills in order to sustain their lifelong learning. It is important to make sense of the relationships between cognition-skills for building models and analyses that will be applicable in a range of contexts. In a way, …

11. The State of the Art

Concept:
- Systematic analysis of data and information for featuring the object under study by using key words and updated databases (see 11.1).
- Analyze the way other authors treated the axioms or theorems you are discussing to characterize the object under study.
- Social and natural complex fields are described, where the researcher performs its critical and analytical practice, communicative and argumentative skills.
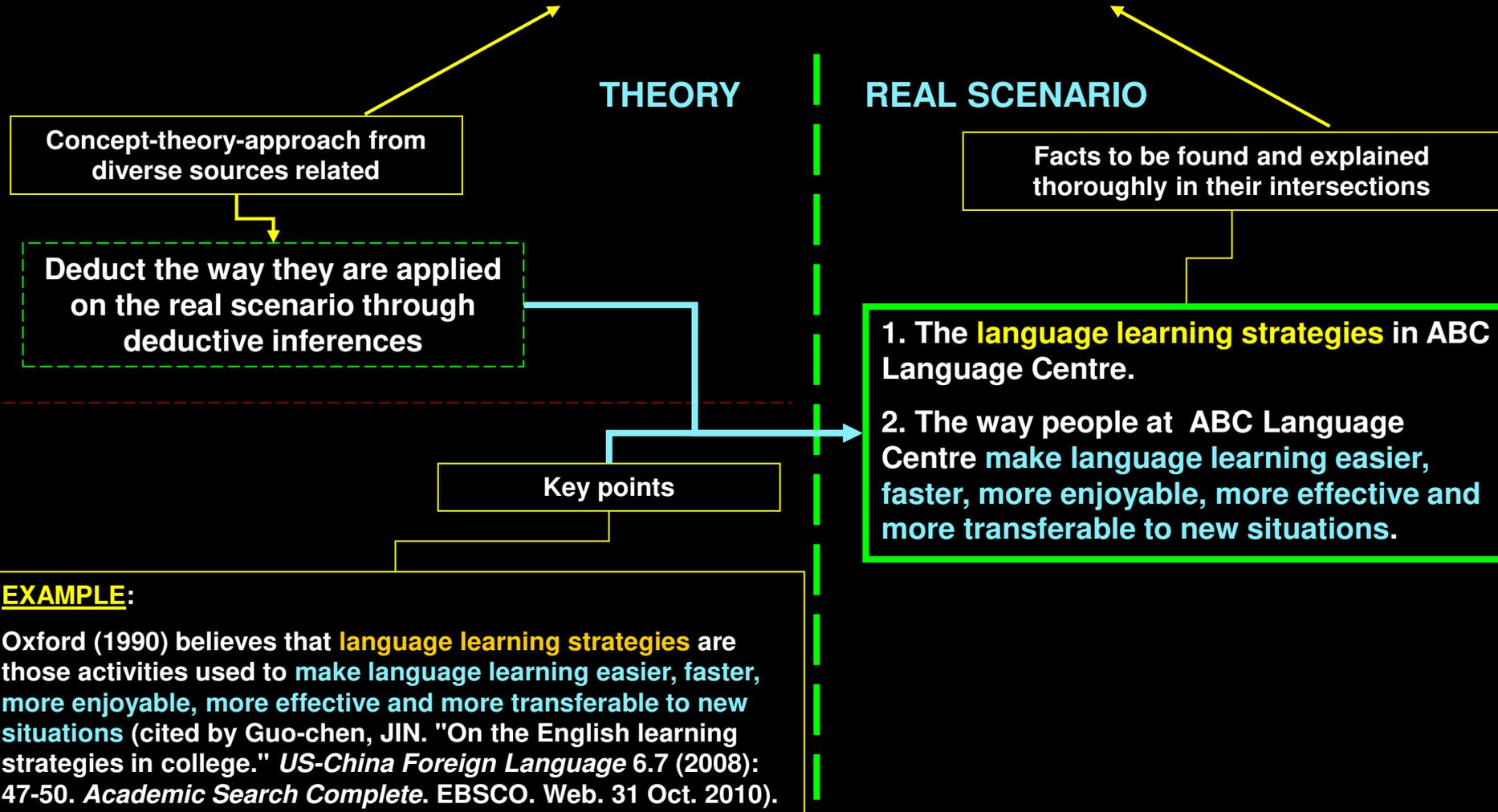
EXAMPLE:

"Oxford (1990) believes that language learning strategies are those activities used to make language learning easier, faster, more enjoyable, more effective and more transferable to new situations" (cited by Guo-chen, 2008). For this reason…

11.1. The State of the Art (Tool)

Object of research: EFL Teacher and student Autonomy (Field of study)

Specific field - topic: <u>teaching strategies for learning</u> in <u>ABC Language Centre</u> (Minor area)

THEORY | **REAL SCENARIO**

Concept-theory-approach from diverse sources related

Deduct the way they are applied on the real scenario through deductive inferences

Facts to be found and explained thoroughly in their intersections

1. The language learning strategies in ABC Language Centre.

2. The way people at ABC Language Centre make language learning easier, faster, more enjoyable, more effective and more transferable to new situations.

Key points

<u>EXAMPLE</u>:

Oxford (1990) believes that language learning strategies are those activities used to make language learning easier, faster, more enjoyable, more effective and more transferable to new situations (cited by Guo-chen, JIN. "On the English learning strategies in college." *US-China Foreign Language* 6.7 (2008): 47-50. *Academic Search Complete*. EBSCO. Web. 31 Oct. 2010).

12. Conceptual framework

Concept:
- **It is the ideal solution. Conceptual framework: fusion of critical thinking, logic reasoning, creative thinking + State of the Art.**
- **A connection between the objective and methods is established to solve the problem.**
- **The outcome is innovative or creative.**

EXAMPLE:

Students can command their learning experiences qualitatively thus making "language learning easier, faster, more enjoyable, more effective and more transferable to new situations" (Guo-chen, 2008) if they direct the nature and quality of learning provision as much as on the number of hours or years spent in schooling. To move beyond these skills requires consideration of educational contexts (the level and type of education); educational content (the curriculum and pedagogy); and the ethos of educational settings.

13. Factual framework

Concepts:
- Justify and explain the methodology to have the problem solved.
- Statistics may efficiently contribute to turn a theory-conceptual situation into factual: variables appear.
- Some statistical solved problem could coincide with the variables under study, thus facilitating the viability to verify the facts.
- Not only adequate experimental or semi-experimental tests, but also logic demonstrations are recommended to validate the Conceptual Framework.

EXAMPLE:

A review of the public objectives of education will be done. The criteria and measures that are used to monitor progress are:

• Strengthening the knowledge base: analyzing social outcomes, policy indicators and other measures, and the application of cost-benefit analyses.

• Enriching data analysis: construction and application of longitudinal data, experimental designs, biographical analysis and in-depth studies of learning processes are high priorities.

• Exploring the implications for pedagogy, assessment and qualification systems: how learning achievements of different kinds are recognized and valued.

14. References

Concept:
- A person or thing to which a linguistic expression refers (The American Heritage® Dictionary of the English Language, 2009)
- Referencing is necessary to avoid plagiarism, to verify quotations, and to enable readers to follow-up and read more fully the cited author's arguments (APA Referencing, 2010)

EXAMPLE:

Guo-chen, J. (2008). On the English learning strategies in college. *US-China Foreign Language*, *6*(7), 47-50. Retrieved from Academic Search Complete database. October 31, 2010.

The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved. Retrieved from http://www.thefreedictionary.com/referent

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