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An Analysis and Guide for the Proposed Redesign of the ELS Curriculum in Saudi Arabia Public School using Advanced Organizers

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[redacted]

Husa Ali Alangari
[redacted]

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An Analysis and Guide for the Proposed Redesign of the ELS Curriculum in Saudi Arabia Public Schools using Advanced Organizers

Background

The purpose of this analysis is to provide an analysis and guide for the proposed redesign of the high school ESL curriculum in Saudi Arabia public schools. The analysis is intended to provide a basis for the selection of appropriate learning theories and practices in particular learning situations for foreign language instruction. A full scale analysis is beyond the scope of this assignment. This analysis will consequently review a small portion of language learning tasks while leaving open the potential for a future full scale analysis of the curriculum, teacher training and environmental factors that influence the learning situation.

Introduction

"Each theory provides a partial understanding of the real world of learning in much the same way that each window in an unknown house provides a partial view of what the inside of the house is like" (Reigeluth, 1984).

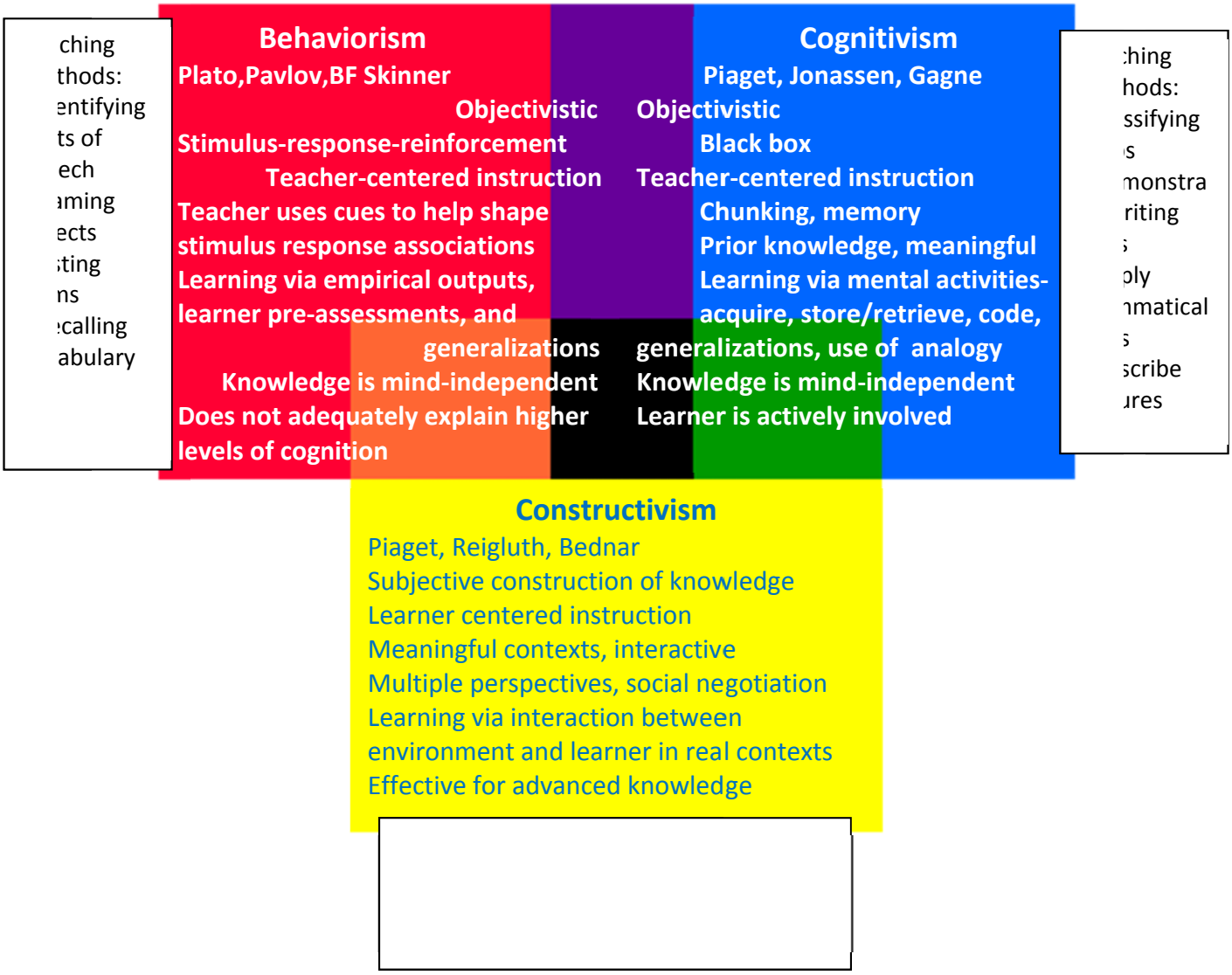
Even as we look through different windows in our study into learning theory, it is important to acknowledge that these theories are views that cannot fully describe the learning process. Over the evolution in the field many sub theories have come to be grouped or aligned with one of the three major theory bodies: behaviorism, cognitivism, and constructionism. These sub theories exhibit characteristics that align them to a greater or lesser degree with thee major theories. Some are hybrids that make them confusing to classify especially when contemplating cognitivism and constructions that share perception as a basis for the intake of knowledge. In an effort to clarify the learning theories we are presently concerned with, perhaps we must step back.

What do we mean when we refer to theory? Theory is, according to the Oxford English Dictionary, "a conception or mental scheme of something to be done, or of the method of doing it; a systematic statement of rules or principles to be followed" (OED, 1989). So too, learning theory is a set of constructed descriptive or prescriptive principles concerned with learning. They are schema that we use to arrange material "in organized structures that are amenable to change and that store knowledge in a more abstract form than our specific, concrete experience" (Robinson et al, p.26). The three major learning theories evolved as pre-eminent often through the force of an idea and a leading figure such as B.F. Skinner championing behaviorism, Jean Piaget's cognitive stage theory, or Jerome Bruner's persuasive movement into postmodern constructivism theory.

Rationale for Advanced Organizers

As we describe the three major bodies of learning theory, we will employ two "advanced organizers" to help illustrate the differences and similarities in the theories. The intended purpose of an advanced organizer is"for explaining, integrating, and interrelating the material they precede" (Subsumption theory, 2010). Developed by David Ausubel in the 1960's, an advanced organizer is based on "subsumption theory" a sub theory of cognitive schema theory "in which new material is related to relevant ideas in the existing cognitive structure on a substantive, non-verbatim basis" (p.1). An advanced organizer is an example of a practical application of a learning theory most closely aligned with cognitivism. The use of two advanced organizers offers multiple perspectives for the curriculum designers and may be seen as a practical application of constructivism.

Advanced Organizer #1



Supplementary Explanation Guide # 1

The preceding advanced organizer uses blocks of primary color to depict each of the major learning theories in an effort to convey to the curriculum designers the primacy of the three theory categories. Overlapping colors produce secondary colors that may be viewed as a theory derived from one of the three major theories. For example, we may want to show that behaviorism is derived from rationalism, schema theory is derived from cognitive theory, or that elaboration theory is derived from constructivism in an attempt to bring some order to the various derivative theories for the designers (Ertmer & Newby, 1993).

Behaviorism s a learning theory that proposes using a stimulus-response-reinforcement chain to shape the behavior of learners to respond with the correct answers. Information is considered objective and the instructor sets up the environment to maximize reinforcement cues thus shaping the learners behavior. For ESL language study, rote memorizations drills should be used to memorize basic elements of the language. This is an example where the primary body of learning theories employed should be behaviorist as higher levels of cognition are not required.

Cognitivism is a learning theory that proposes mental processes such as perception and memory are primary in the process of learning (Silber & Foshay, 2005, p. 371). Information is considered objective. Learning is occurs when prior mental structures are used to elaborate on, activate associations and hierarchies to order information. For ESL study, the instructor should focus attention on the new knowledge, link the information to prior language knowledge , organize the information using groupings or charts according to the appropriate criteria, design memorization drills to transfer the code information to long term memory and give learners feedback their progress (Silber Foshay, 2005).

Constructivism is a learning theory that proposes learners construct their own unique version of knowledge in interactions with the world. Learning is based in real-world context using case-studies and multiple perspectives. Additionally, constructivism includes internal reflection on existing mental models and social negotiation with the environment. It is suited for more complex cognition such as synthesis and evaluation processes. For the study of ESL, constructivism may not be as appropriate as behaviorism or cognitivism as learning language has much objective information and rules that must be followed contrary to a subjective approach (Mergel, 1998).

The proposed redesigning of the ESL curriculum for high school students in Saudi Arabia will require many people from different parts of the educational system such as administrator, teachers, and cultural ministers. Therefore, a second advanced organizer is provided to offer another perspective on the advantages and disadvantages of using certain learning theories for particular learning situations.

Advanced Organizer #2

	Behaviorism	Cognitivism	Constructivism
Basis:	Observable changes in behavior	Thought process behind the behavior	Generate knowledge from experience
History:	Traced back to Aristotle	Traced back to ancient Greeks, Plato, & Aristotle	Evolved from Piaget and Bruner's work on cognitivism
Definition:	Worldview that operates on a "stimulus-response" principle.	Aims to learn how and why people learn through a cognitive process	Humans generate knowledge from experience
Proponents:	B.F. Skinner Ivan Pavlov John B. Watson	Robert Gagne David Merrill Charles Reigeluth	Jean Piaget Lev Vygotsky
Instructor Role:	*Focuses on specific goals and objectives *Controls and directs learning *Selects and manages stimuli *Reinforces desired responses and discourages undesirable ones	* Creates proper conditions for learning *Monitors progress *Asks questions that can help refine thinking *Facilitates learning	*Facilitates, not teaches, learning *Provides guidelines *Creates environment *Continuous dialogue with learner
Learner Role:	- Passive - Responds to stimuli - Learner starts off with a clean slate (i.e. *tabula rasa*)	- Active learning - Learner receives information, stores it, codes it, and retrieves the information. Uses prior information to build knowledge.	- Constructs info -Learner brings past experiences and cultural factors to a situation
Occurrence of Learning:	• Learning is a passive process Learning occurs when there is change in observable performance;	• Learning is an active, social process Learning focuses on the students' learning	• Learning is an active, social process Learning occurs when the mind filters input, along

	when a proper response is demonstrated due to a specific environmental stimulus	processes of how information is received, organized, stored, and retrieved by the mind; learner is an active participant	with prior knowledge and environmental influences, from the world to produce its own unique reality
Influences on Learning:	• Environmental conditions • Arrangement of Stimuli • Consequences	• Environmental conditions • Instructional explanations, demonstrations • Practice with corrective feedback • Mental activities that lead up to response • Learners code, transform, store, and retrieve information	• Learner, environment, and the specific *interaction* between the two • Action is viewed as "an interpretation of the current situation based on an entire history of previous interactions" (Clancey, 1986) • Learning should occur in realistic settings
Role of Memory:	-Not typically addressed by behaviorists -Forgetting attributed to non-use of response over time	-Given prominent role in learning -"Learning results when information is stored in memory in an organized, meaningful manner"	-Learner elaborates on and interprets information -Memory is always "under construction"
Transfer:	Application of learned knowledge in new ways or situations; a result of generalization	Function of how information is stored in memory, as when a learner understands the application of knowledge in different contexts	"Learning always takes place in a context and that the context forms an inexorable link with the knowledge embedded in it" (Bednar et al., 1991)
Types of Learning:	Stimulus-Response associations Discriminations Generalizations Associations Chaining	Reasoning Problem-solving Information processing Simplification Standardization	Three Stages of Knowledge Acquisition: 1. Introductory 2. Advanced 3. Expert

Instructional Design Strategies/Tools:	* instructional cues * practice * reinforcement	* "chunking" information	*Units of information cannot be isolated or divided up
Key Words:	• Classical Conditioning • Operant Conditioning • Stimulus – Response	• Black Box • Information Processing • Information Mapping • Mental Models • Internal Processing • Schema	• Problem-Based Learning • Learning as experience • Inquiry-based learning

Supplementary Explanation Guide # 2

Using behaviorism in teaching ESL is the more widespread, traditional way of teaching in Saudi Arabia public schools. Some of the behaviorist techniques or methods are: identifying parts of speech, naming objects, listing items, and recalling vocabulary. It is useful in recalling items or words needed for the lesson. For example, in a grammar lesson, students will underline the parts of speech in a given sentence – one line under the subject, two under the verb, and so on. This is just the students recalling the parts of speech, something they already know and practiced. Behaviorism is most useful with lessons involving listing items already memorized (e.g. writing out the present, past, and past perfect irregular verbs).

In applying cognitivism, it would involve more of a thought process. For example, in one of the grammar lessons, students are asked to change a sentence from active to passive. In doing so, students will go through a process of bringing the object first, then move on to verb tense, and then the subject. This cognitivist approach can be applied to classifying verbs, demonstrating writing skills, describing pictures in the lesson, and so forth.

Constructivism is probably the most difficult to apply in that ESL learners at this level have knowledge of the real world, but would have to translate it first. This is a bit difficult for them at this level of ESL. Nevertheless, it can be applied. For example, the K-W-L technique is quite a useful, constructivist method. Students are given a chart like the table below.

K What I **K**now	**W** What I **W**ant to Know	**L** What I **L**earned

Saudi Arabia has oil and it is an OPEC country.	What other countries are in OPEC?	Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, the United Arab Emirates, and Venezuela.

Students would be sent to the library or go online to find the answers. They already know Saudi Arabia is an OPEC member, but they would find out what other countries were members (this was part of a Unit 1 lesson about Oil). The constructivist method would be useful in allowing students to find out new knowledge about previously known information.

Conclusion

The use of advanced organizers in the proposed redesign of the ESL curriculum for high school students in Saudi Arabia has many advantages. The format presents the essential elements of the three major learning theories in an easily useable format that the curriculum designers can use to reference in their efforts.

All three theories behaviorism, cognitivism, and constructivism can be used in the ESL classroom. For example, learning theories derived from behaviorism might be best used in the design of teaching basic language rules such as grammar and spelling because they are the building blocks of the language and are not subjective. It is a stimulus –response-reinforcement chain that can be employed to elicit the correct response of objective information. Another example might be for learning theories derived from cognitivism. They might best be used where the curriculum asks students to memorize a list of words or similar language rules. Cognitivism suggests that there are limits to memory and that presenting the information in chunks or according to a hierarchy may be a way to optimize the learning of such information. Lastly, learning theories that are derived from constructivism are optimal for tasks that require a higher level of cognitive processing such as elaboration and problem-based learning scenarios. Constructivism might best be used when conducting conversation practice or writing a response to an essay question in English Learner elaborates on and interprets information. Here, the curriculum designers might use the advanced organizers to see that constructionist theory is a perspective that can help them shape curriculum experiences that encourage students to higher levels of cognition. Students might be encouraged to develop English language narratives about their past experiences and their environment in the construction of their version of knowledge (Ertmer & Newby, 1993).

Finally, it must be said that even as the advanced organizers present the three major learning theories each theory can still only “provide a partial understanding of the real world of learning” for the curriculum designers. Their task is challenging and it is likely there are no absolute answers. Which theory is best? And how do we evaluate which is best? Perhaps, there real answer is: It depends (Reigeluth, 1984).

Appendix A

Glossary of Key Terms

1. **Black box**: Theory that views the mind as a "black box" where input-output can be observed and measured quantitatively, but ignores the thought process that occurs in the mind.
2. **"Chunking":** To make use of information by organizing/grouping items into smaller units to aid the learning process (?). This process improves the learner's ability to retrieve information.
3. **Classical conditioning**: Concept in behavioral learning theory. A technique used in behavioral training where a stimulus that results in a emotional response is repeated with another stimulus that does not result in an emotional response, when repeated the second stimulus will eventually result in the same emotional response. Often defined as "learning by association".
4. **Information mapping**: Developed by Robert E. Horn, it is "a technique of dividing and labeling information for easy comprehension, use, and recall".
5. **Information processing**: A observable change of information (processing).
6. **Inquiry-based learning**: Involvement that prompts learning. Involvement in learning helps the learner to possess the skills and attitudes needed to seek solutions to problems while building knowledge.
7. **Internal processing**: An internal change of information.
8. **Mental models**: An explanation of someone's thought process of real world problems. These models shape our behavior and how one can approach a problem or carry out a task.
9. **Operant conditioning**: Defined as the "use of consequences to modify the occurrence and form of behavior". Contrary to classical conditioning, in operant conditioning there is no need for a stimulus.
10. **Problem-based learning**: A student-based strategy where students collaborate to solve problems and contemplate their experiences. Teachers are the facilitators in learning.
11. **Schema**: A mental way of coding experience that includes an organized way of perceiving cognitively and responding to a complex situation or set of stimuli.
12. **Stimuli**: Events in the environment that influence behavior. Something that could trigger activity.
13. **Stimulus-Response**: Predicts a quantitative response to a quantitative stimulus.
14. **Sub theory**: A theory based upon a larger theory.

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Constructivist image →