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## Designing an e-learning curriculum for spelling on the basis of cognitive approach

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### Abstract

The advances in information technology have brought dramatic changes to the means and methods of learning, making it possible to learn everywhere and every time. In line with educational transformations, e-Learning has gained additional significance. Educational CDs and multimediasoftware have triggered substantial changes in education (Zandi, 2009). Given the importance of language skills in every academic level, especially the primary level, the proper instructions of these skills should be a concern to educational authorities. Writing, as it plays a crucial role to sustain language, is of significance importance and should be heeded (Birjandi, 2002). While the direct instruction of spelling on the basis of psychological principles is highly recommended in today's educational systems, spelling is still assumed to be an assessment instrument rather than an educational one in Iran's curriculum. Investigating the educational texts and reliable websites, the present study aims to plan an e-learning curriculum for spelling based on cognitive approach. Key

Keywords: Curriculum, E-learning, Cognitive Approach, Spelling.

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## 1. Introduction

Spelling is a complex skill demanding a process in which speech sounds, via the mental orthographic images of the uttered terms, are transformed into the written forms. Put it differently, speech sounds, through sensory-auditory channel are passed into the short-term memory to be preserved there by means of mental images and to be finally matched in long-term memory. Having been matched, speech sounds appear in the written forms on the paper. The present study makes use of cognitive approach to plan an e-learning curriculum for spelling. The term cognitive alludes to the mental processes controlling one's behavior. As the name implies, cognitive learning is mostly associated with mental processes rather than with one's manifest behavior (Yarmohammadian, 2012). The learner, as he receives the data, is a major figure in this story. Our capability to percept, recollect, and reason, organized in a complicated system, is called cognition (Zvfn, 2005). Information processing theory, emphasizing the deep examination of mental worlds, evolved out of cognitive approach. According to information processing theory, the data of sensory system, received via visual and auditory perception are channeled to the short-term memory to be manipulated and duly processed, there. The received data would then be interpreted in accordance with the learner's reservoir of knowledge and experiences, to be later transferred to the long-term memory and to be preserved in the proper slots. Thus, memory, as the theory runs, plays a crucial role in learning spelling skill.

## 2. Literature reviews

Examining the influence of Internet on second language acquisition, English in this case, Hillary and realized that student's academic performance would demonstrate a significance advance, if Internet come to their help (Hillary, 2000).

Dylakal who made use of an experimental method, taught English via Internet for an entire semester. The satisfactory exam results revealed that students' language skills and pronunciations improved due to the use of Internet (Zandi, 2010).

Oscar conducted a research on the influence of computers on writing skills and concluded that it would exercise a considerable effect on this very skill, like-wise insisted on the positive effect of computer's program on language acquisition, speaking skill, reading comprehension, and writing skill

The Application of Cognitive Approach in Spelling:

Cognitive theory is an internal processing, embracing memory, thinking, remembering, recognition, motivation and meta-cognition. Data to be processed, are first transferred to the sensory memory, then to short-term, and finally to long-term memory. Given, individual differences play a notable role in learning, different methods should be implemented

- Considering the cognitive development of learner according to Piaget's stages of cognitive development to plan a curriculum fitting students level of development (Olson, 2010)
- Learner's interactions with internal and external environment, fashioning his reservoir of knowledge.
- Designing a multi-form content( text, image, or audio file) in consonance with different visual and auditory styles
- Designing an interactive content using games, educational drills, and puzzles
- Designing various learning activities.
- The application of question-centered approach, making use of tests, games, and puzzles.
- Implementing various teaching and learning methods in consonance with learners' different styles of learning.

- Using predictive testing for each lesson and encouraging students when the learning takes place (Birjand, 1999).

The e-learning curriculum design for spelling is comprised of three major parts:

1. Educational design including 1. need recognition, 2. audience analysis, 3. prerequisites 4. goal setting, 5. motivating the audience (Samuel, 1999)
2. Presentation: 1. How is the design presented 2. Sounds 3. Pictures
3. Communication, reinforcement, and Guidance: The means to communication, backup facilities, and technical management (Afzal Nia, 2004).

### 3. Conclusion and future directions

The results of the application of cognitive approach in e-learning curriculum are listed as follows:

1. The implemented strategies should increase students' concentration, so that the data could be transferred to the active memory (Conole, 2004).
  - Important information should be placed at page center.
  - Important information should be highlighted or underlined, making it possible for learner to easily notice the point and concentrate well.
  - Learners should be informed of the importance of the due course so that they could pay attention to every detail.
  - Content's level of difficulty should be adjusted to learner's cognitive level. This aids the learner to pay heed to and connect data.
2. The implemented strategies should aid learners to retrieve information from long-term memory and perceive new data (Qmrany, 2010).
  - Pre-organizers should be used to activate current cognitive structure. It additionally helps learner to connect the details of the lesson (Meyer, 2007)
  - Learners should be provided with conceptual models, aiding them to retain current mental models. The conceptual models should also provide due structure for learning every details (Saif, 2009)
  - Pre-tests should be made use of to activate learner's expectations as well as their current knowledge structure (Time, 2005)
  - It is vital to divide data into pieces to avoid excessive load in the process of active memory. Provided information pieces should not exceed five or nine items per page (Delaware, 1998).
3. Deep processing strategies should be promoted to facilitate the transfer of data to long-term memory. The due strategies entail analysis, combination, and evaluation. Data transmission strategies such as games and simulations should also be used.
4. The content of e-learning curriculum should entail various activities in consonance with learners' different styles of learning. It is an opportunity for learners to select proper activity consistent with their preferred learning style (Gall, 2007)
5. Data presentation should be adjusted to learners' different capabilities in information processing. Information should be presented in written, oral, or visual forms so that the deciphering would readily take place (Karen, 2009).
6. Learners should be intrinsically motivated to learn and also encouraged according to cognitive strategies.

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