

THE IMPACT OF JIGSAW APPROACH ON READING COMPREHENSION IN AN ESP CLASSROOM

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Abstract. *This paper is aimed at identifying the effects of using the Jigsaw approach on reading comprehension, and in particular in an ESP classroom. While primarily focusing on the benefits, it considers potential drawbacks tested in an actual ESP learning environment. In fact, active or experiential methods of learning should be viewed as supplementing, not replacing traditional lecture mode. Among the major benefits is the fact that students can encounter a wider breadth of material than it might be possible if every individual is required to read all of the available sources. This paper presents the results of our ESP classroom experience implementing the jigsaw approach and its pedagogical implications. In terms of the underlying theoretical tenets relevant for the active learning techniques, constructivism as a learning theory has been taken into account.*

Key words: *jigsaw approach, experiential learning, reading comprehension, constructivist theory, traditional lecture mode and active learning, ESP vocabulary and texts*

1. INTRODUCTION

According to the American writer and futurist Alvin Toffler "the illiterate of the future will not be the person who cannot read, it will be the person who does not know how to learn".

Today, we can see a notable volume of research that highlights the benefits of cooperative or active learning methods. Namely, they underline the fact that they are experiential methods of learning (with the stress on creating positive learning environments, personal responsibility). In addition, it should be emphasized that there is no room for concern and that their role is primarily supplementing, not replacing traditional lecture mode.

In terms of the underlying theoretical tenets of the active learning techniques, constructivism as a learning theory should be mentioned, since according to it knowledge is not passively received from the world or from authoritative sources but it is constructed by individuals or groups trying to make sense of their experiential worlds. Following the work of Lev Vygotsky and Jean Piaget, knowledge is never neutral, and the ways in which knowledge is created and mediated are as dynamic and important as the knowledge itself.

This approach can be supported by yet another Chinese proverb "Tell me and I will forget, Show me and I will remember, Involve me and I will understand".

2. INSIGHTS INTO READING COMPREHENSION

The reliance on reading, as a cognitive process, for the intake of information has increased in the recent years. During the process of reading, the reader not only understands the ideas presented in the text, but also interprets and evaluates them. Lexical and syntactical knowledge of the language he/she reads and familiarity with the writing system and socio-cultural background are essential, but another important factor is an adequate level of cognitive development (Badrawi, 1994; Hassan, 1994). With the insufficient amount of these assets on the part of the reader anxiety is more probable to appear in the act of reading. Unlike speaking a foreign language, reading or silent reading is performed privately which gives an opportunity for reflection and reconsideration. In addition, as an individual act the "success" of reading does not depend on a dynamic construction of meaning by two or more participants as in speaking. Another possible obstacle is when a reader can decipher the words of a foreign language text, but not their sense, as a result of incomplete knowledge of the cultural material underlying the text (Saito, Garza & Horwitz, 1999; Chard, Simmons & Kameenui, 1995).

Therefore, for the ESP classroom in particular it is advisable that rich vocabulary input should be provided with both translation equivalents and the socio-cultural background of the words and phrases.

In terms of the theoretical foundation of reading comprehension, the following concepts should be considered: Inferencing, Ambiguity and Garden path sentences. It is important that language specialists are aware of them, especially when questions should be formulated in terms of implicit and explicit questions. The Inference Strategy is aimed at improving students' ability to comprehend reading passages and to improve their ability to respond to inferential questions as required in most of their subject-matter classes. It is generally believed that there are differences in the fact that we access the meaning of spoken and written words, but that the processes by which we achieve the comprehension of larger units (phrases, clauses, sentences) are common to both mediums (Eysenck and Keane 1995:303). There are potential lexical ambiguities in much of what we hear. Why do we not normally notice that, for example, 'Have you got enough time for this?' could equally well be 'Have you got enough thyme for this?'. Researchers have wanted to establish whether all the possible interpretations of a phonetic string are available at first, and then eliminated, or whether one interpretation is assumed (possibly the most frequent) and the other remain unretrieved unless there is a problem making the chosen one fit the context. There are accounts of research into lexical ambiguity in Garnham (1985), Aitchison (1994) and other authors. Ambiguity also occurs at the syntactic level. It entails two or more possible interpretations of the structure of a clause, as in 'Hubert saw his grandmother riding on a horse'. Semantic ambiguity is of interest because it can tell us how our grammatical and syntactic processing interact. If we decode the whole clause grammatically before we try to interpret it, then we shouldn't expect to find any evidence of the semantic context having resolved the disambiguation before the clause has ended. Garden-path sentences are so called because they lead us up the garden path by misleading us about their construction. They are significant because our problems interpreting them as grammatical appear to depend on our decoding strategy. The recognition of words is regarded an essential stage in comprehension, involving both perceptual and contextual information, which allow lexical access and the retrieval of the word from the mental lexicon. The immediate linguistic context in which a word occurs

is a clause or sentence, and the central issue in research into sentence comprehension is the relationship between the parsing of a sentence, the assignment to it of grammatical categories and structural relations, on the one hand, and its interpretation on the other. Lack of background information can induce shallow comprehension by otherwise competent readers.

3. CONSTRUCTIVISM

Constructivism is a learning theory which "posits that knowledge is not passively received from the world or from authoritative sources but constructed by individuals or groups making sense of their experiential worlds" (MacLellan and Soden as cited in Yilmaz, 2008, p. 162). Constructivist learning theory owes much to the work of Lev Vygotsky, Jean Piaget, and John Dewey, and acknowledges that "knowledge is never neutral, that the ways in which knowledge is mediated and created are as dynamic and important as the knowledge itself" (Hirtle, 1996, p. 91).

Constructivist teaching is based on the belief that learning occurs during learners active involvement in a process of meaning and knowledge construction as opposed to passively receiving information. Learners are in fact makers of meaning and knowledge. Constructivist teaching is believed that it fosters critical thinking and creates motivated and independent learners. Constructivist group learning can be found in jigsaw activities. Learners actively engage in collaborative, concurrent discussion and project-based or problem-solving work with peers, they share and compare the results of their group work.

4. BENEFITS OF JIGSAW APPROACH

As an active learning technique, the major benefit of the jigsaw approach is that it could be integrated into a number of classroom activities that are structured so that everyone does not have to read an entire work or even segments from the same work. It is important not to overdo things. It is better to do a few things at once than too many. In addition, it is adaptable to a wide variety of curricular settings, and teachers will find it useful in a number of respects. Among the important outcomes in the jigsaw approach is that it involves discovering processes in applying findings and contributes to the development of the higher order thinking skills, such as analysis, synthesis and evaluation as well as elements of argumentation and critical thinking. It is believed that the percentage of what they read and retain is higher. Active learning therefore is regarded as equal to better learning since students retain more of the information. It creates positive learning environment and implies more individual responsibility, encourages cooperation and peer teaching. Students can encounter a wider breadth of material than might be possible when every individual is expected to read independently all of the available sources. Additionally, focusing on one element of the text encourages close reading.

5. POTENTIAL WEAKNESSES OF JIGSAW APPROACH

In addition to the advantages, jigsaw approach has its limitations. Peer teaching as cooperative learning is learner driven, so it may be disadvantageous for both shy students and dominant students prone to competition based learning. Therefore, teachers must make sure that students with poor study skills do not present an inferior report to the jigsaw group. To avoid dominant and bright students becoming bored they should be assigned roles such as leaders of the group, although this role should be assigned on a rotating basis. However, jigsaw approach allows time, space and practice for the less articulate and less skillful students to learn the material and supplies an opportunity to make use of the more adept students as models regarding organizing and presenting their report.

Since many students, unfortunately, are not used to tasks where they are responsible for their own learning and making their own connections, they may react negatively or become frustrated the first time or two you use this.

6. EXPERIMENT

Based on the assumption that by applying this method, students can encounter a wider breadth of material than it might be possible if every individual is required to read all of the available sources, and having in mind that our future professionals should be equipped not only with the linguistic knowledge but also with the knowledge of the world, we have decided to apply this approach in an English for specific purposes classroom – at the Faculty of Political Sciences and International Relations.

The analysed topic was relating to presidential elections in the USA, powers of the presidency, constraints and related topics. The subjects of the study were divided into experimental and control group, consisting of equal number of students. The experimental group was instructed to read several passages using the Jigsaw approach. The control group read the same passages individually. The subjects of both groups were exposed to the same questions after reading each passage to check their comprehension.

A range of materials related to the topic in the lesson was identified. The selections were of varying difficulty and sophistication. Four different sections were selected. The class was organized into cooperative groups of 4 people. Both experimental and control groups consisted of 16 members. Then, students read their selections independently. They were encouraged to underline important information, to jot down notes, create a summary of key points or draw a concept map. The students who read the same selection were required to meet together as a new group and compare their notes, summaries or discuss concepts and information they found essential. The final piece of the jigsaw exercise consisted of meeting of the original group. Individual group members shared information related to each selection. The remaining members of the group were expected to absorb new information, which was assessed during the evaluation of the unit.

7. RESULTS AND PEDAGOGICAL IMPLICATIONS

Both experimental and control group were given lists twelve questions divided into six explicit and six implicit questions.

The experimental group performed better in both explicit and implicit questions, while control group relying on direct factual information demonstrated better performance in the explicit questions, while when interviewed afterwards they said they needed time to navigate through the text and infer the correct answer following the indirect pathways in it.

Both groups were interviewed after the test to check whether the path to the correct answer was straightforward or complicated. As expected, because of the repetition primarily and varied ways of presentation of the same material/section, experimental group exposed to jigsaw approach performed better.

To allow a more balanced basis for the analysis of the tests, the explicit and implicit questions were divided into two types: multiple choice questions and questions that require a more lengthy and narrative explanation. The latter are more subtle and at times quite difficult to analyze, but although anticipating this difficulty we decided to include this type of questions in the test, to see the extent of analytical and synthetic skills.

Indirectly, it served as a useful feedback for us in terms of design of Reading comprehension lessons and the related exercises.

The results of the exercise showed that for lengthier reading passages or demanding topics – which is the case with the ESP material, jigsaw approach is far more efficient method.

However, we could identify from our experience the following:

- the number of questions per exercise should be limited to not more than four, if it covers narrative questions only, requiring implicit information;
- factual or more explicit questions should not be mixed with the implicit ones – trying to provide variety;
- to master the topic, which is the primary aim of the ESP classroom it is more structured that these two types of questions are divided into separate exercises;
- indirectly they are prepared how to learn in other subjects.

Compared with traditional classroom, jigsaw approach has its advantages, although that does not mean that the traditional teaching methods should be derided.

However, our ESP classroom experience implies that students should be provided during the pre-reading part of the lecture with input on vocabulary and technical terms in particular, notions and concepts they cover (applying traditional mode of lecturing). Translation equivalents proved as preferable because of the fact that the scope of the concepts is not always and necessarily identical in both languages. Active learning methods should be applied for longer structures – texts – focusing not only on new vocabulary, but also on cohesive devices, implied messages that require inferencing as a reading strategy. Students should be directed to ask for clarification of some aspect of the material that they do not fully understand or about applying course material to practical contexts.

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