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Challenging Assumptions
Looking In, Looking Out

Attention as a crucial factor in second foreign language learning

Margarita Foster
Tohoku University

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Understanding the way in which learning occurs inside the brain has been one of the greatest challenges in many fields related to education, but now new technological advances are opening the secrets of the working brain. These discoveries emphasize attention to activate the brain, making the role of input crucial to attract the high level of attention necessary to learn. However, the input coming from textbooks is not always sufficient to attain the high levels of attention that lead to optimal stimulation for the brain, so the aim of this paper is to present some supplementary classroom activities to enhance students' attention and to promote active learning.

学習が脳の中でどのように起こるのかを理解することは、教育に関わる多くの分野における大きな挑戦である。現在、テクノロジーの進歩により活動中の脳の秘密が解き明かされつつある。そうした発見は、大脳を活性化するための注意の役割を強調し、そこでは学習の達成に必要な高いレベルの注意を引き出すために、大脳に与えられる入力情報の役割が重要であることが指摘されている。しかし、語学のテキストから与えられる入力情報は、大脳刺激を最適にするような高いレベルの注意を喚起するには必ずしも十分でない。ここでは、それを補うための、学生の注意のレベルを高め積極的な学習を促進するために用いている授業内活動を紹介する。

Entender la manera en que ocurre el aprendizaje en los engranajes del cerebro ha sido uno de los grandes retos en varias disciplinas relacionadas con la educación. Y son los últimos avances tecnológicos, los que están haciendo posible desvelar los secretos del cerebro mientras éste está en actividad. Esos descubrimientos hacen hincapié en la atención, y por ello, el tipo de estímulo que se presenta es fundamental para poder mantener los elevados niveles de atención que son necesarios para aprender. Sin embargo, los estímulos que se reciben a través de los libros de textos no siempre reúnen los requisitos para alcanzar una óptima estimulación cerebral. Considerando esto, el objetivo de este trabajo es presentar algunas actividades suplementarias que pueden implementarse en el aula, y que actuarían como estrategias para atraer la atención de los estudiantes, al mismo tiempo que se promueve el aprendizaje activo.

Studying the literature about brain research is an exercise of awareness and respect. Phenomena such as neuroplasticity and neurogenesis have enormous implications because these words mean that research in the last three decades has found empirical evidence showing that some parts of the brain are able to handle the job of other specialized parts of it, and can generate new neurons from stem cells (Begley, 2007). This means that the adult brain is not the fixed structure that it was previously thought to be, and that it is possible to increase or neutralize some of its activities. This opens not only a path toward the treatment of physical and mental disorders but also a wide door of potential for harnessing the best of the brain's capabilities to enhance learning.

New noninvasive technologies such as TMS (transcranial magnetic stimulation), PET (positron-emission tomography), and fMRI (functional magnetic resonance imaging) have enabled detailed examination of the structure and function of the brain while it is working, and results have shown that while the brain is paying active attention to some kind of activity, there is a reorganization leading to physical changes due to the increasing activity of new synapses in particular areas (Begley, 2007). These discoveries emphasize attention as the primary way to activate the brain. Activation is thought to lead to a series of steps, such as associations with previous experiences, constructing meaning from the input, elaboration of information, memory formation, and functional integration (Jensen, 2000), all of which are part of the active learning that facilitates the work of the brain.

For language learning, these findings emphasize the importance of searching for good ways to attract attention

and maintain it for sufficient time to enable students to learn more effectively. This implies a significant challenge to teachers, so the objective of this paper is to present some ideas to maintain attention through classroom activities that could be helpful to enhance the brain's attention.

The role of input and foreign language acquisition

Brain research informs us that there is a natural prioritization process considering the large number of stimuli that each student receives. So the fundamental role of the input which precedes learning is to be good enough to focus attention. Motivation, necessity, or novelty, among others, can help focus on given information. However, in order to optimize the acquiring of information and allow long-term memory formation, it is necessary to maintain high attention levels.

Some variables that convey a strong message to maintain attention levels during the learning process come from sources such as meaningfulness, active learning, and the functional use of learned material. In this case, meaningfulness implies associations, connections, and comprehension of grammatical rules, where understanding of grammatical features means going through effective mediators of learning like concept-based diagrams, appropriate feedback, and self-explanation of grammatical uses (Neguerela & Lantolf, 2007). Active learning implies participation in explicit and implicit activities with significant challenges that should not be too easy or too difficult to prevent later learning. In addition, the functional and social use of the learned material means that its wide use for communication should be a constant reinforcement.

Considering this, to engage the brain's attention networks, the role of input is central because it comes mainly from the material used in the class. The role of input has been examined by VanPatten and Leese (2007) in the light of several theories. Language inputs devised so far include Text Enhancement (highlighting of specific grammatical structures), Input Flood (providing various approaches to mark a specific grammatical point), Input/Output Cycles (processing semantic and pragmatic information to construct meaning), Recasts (immediate feedback to correct ungrammatical responses), and Structured Input (replacing incorrect answers to make better form-meaning sentences). However, Structured Input is the only one that has been researched to examine its long-lasting effects (*ibid.*), and has the advantage of attracting attention to the form of the structure to find mismatches in a given answer. Presenting a choice of several sentences pushes the learner to readjust him- or herself to find the correct answer.

All these input options provide a framework for learning, and their usefulness is clear. However, beyond their usefulness, looking to factors such as novelty, meaningfulness, challenge, and feedback as keys to enrich study (Jensen, 2000), the question that arises is, how useful is the input that textbooks offer? The advantage of using textbooks is that they can be used as self-study material to consolidate learning after the class and allow some continuity of study. Some have good grammatical explanations in the first language, while others have many exercises and games for pairs of students. On the other hand, the disadvantage of using textbooks is that most of them present the language as unintegrated blocks, and students

lose interest, practice sometimes becomes dull and repetitive, and most of the time the textbooks dominate the class. Also, dialogs sometimes are unreal and do not use actual language. So, they do not fulfill expectations for real social communication (Encina, 1994).

Therefore, when a teacher looks for a suitable textbook it is useful to search for materials that facilitate active learning with group practice, activities that bring some novelty, highlights to help targeting specific points, challenging exercises, visual and hearing support, sheets of correct answers to ensure immediate feedback, diagrams of grammar explanations in the first language, and actual topics that attract the interest of students. Since most textbooks do not provide such a wide variety of input, supplementary classroom activities must be used to fill the gaps.

Classroom activities: emphasis on attention

Below, some activities that the author uses in Spanish classes are introduced. As active learning is one of the keys to attract and maintain attention, these activities aim to force the students to maximize their attention on the language. Students are required to practice Spanish in groups and individually while working before, during, and after the class. On the first day of classes, students receive a written explanation of the system of points allocated for each semester. These points are obtained through performance in examinations and group and individual activities. A maximum of 10 points can be obtained for the best group presentation, six for the second group, and three for the third group, according to decisions made by all students. Eight points is the maximum for examinations. One or two points

are given for individual activities, depending on their quality. Examinations and points for individual activities are given by the teacher.

This system of points becomes a good reinforcement for self study since students who accumulate 60 points in a semester are given the grade *A* without taking the final examination. If students reach 50 points they are given *B*, but they can take the last examination to improve their grade. Two weeks before the end of the semester, students who did not accumulate at least 50 points receive special attention to prepare for the final examination which includes both oral and written tasks. This system of points is a very important source of motivation, and it is even possible to observe that some students push their friends to participate actively in classes.

Students were asked their opinion on this kind of evaluation system, and most of them reported that it is interesting, gives them the opportunity to learn through Spanish topics that they can choose themselves, and forces them to study to help their group to accumulate points.

All the following activities have been made for 1st-year university students of Spanish classes.

Procedure for group activities

Active learning happens when students participate as the main agents of their own learning. So, the opportunity to become involved in activities that encourage the use of learned material in writing, performing, creating, communicating, or evaluating, among others, means that students can process the information while doing and practicing.

Thus, considering the importance of active learning as one of the keys to attract and maintain attention, the following activities aim to encourage students to maximize their attention on the target language.

Group activities challenge students to write original presentations, to figure out ways to be understood by other students, to look for new vocabulary, to memorize dialogs, and to perform in front of the class what they have learned. Students also receive feedback from their teacher before the presentation, when they present a preliminary draft, and from other students after the presentation when it is evaluated.

Performing on a given topic

The main objectives are to work as a team, to use only Spanish to create original sketches, and to perform them in front of other students. Each group of three students is given 8 to 10 minutes for a performance. Each group makes five to seven performances in a year, and there are topics such as “the strangest supermarket in which the most bizarre things are sold” or “We, after 10 years,” and so on. Anything that is funny, interesting, and original is fine. In addition, students have to present a draft at least one week before the presentation, and the teacher has the opportunity to correct errors and give feedback.

During the presentation, students must speak only in Spanish and may use movements, gestures, or any kind of costume or materials necessary for their performance.

After all presentations are finished in a class, each group is evaluated by another group. The evaluations are given orally in Spanish or Japanese. The rule of the evaluations

is to speak 1 or 2 minutes about two positive points of the presentation, and make at least one point for future improvement. Also, the teacher evaluates the evaluators and gives two points to the best evaluator group. After the oral evaluations, each group has to write on a chart written on the blackboard a pre-determined number of points for what they consider the top three groups.

Performing as teachers

In this activity, groups of three students prepare a Spanish lesson of 5 to 7 minutes. These lessons have been taught previously and this activity helps to consolidate what has been learned. The group can use any kind of materials that they consider adequate for teaching, for instance, handouts, games, or diagrams.

First, students make a random choice of a specific grammatical topic and they have to prepare a class about it. One week before the presentation, they have to present the draft to the teacher for grammatical corrections. As in the group activity mentioned above, there are also oral and written evaluations by other groups and by the teacher.

Brain research shows that experience shapes the functional capabilities of the brain (Begley, 2007), and group activities seem beneficial not only because they enhance attention but also because they stimulate the brain's abilities to explore new strategies of learning in a task that is highly demanding.

In addition, experience in performing these group activities is beneficial because students have the opportunity to become accustomed to speaking in public, focusing on correct grammar through feedback before the presentation,

searching for new vocabulary, explaining grammatical rules, committing to memory dialogs, and communicating interesting and creative ideas to others. Moreover, students have the opportunity to study and discuss their work together outside the class and to think about the best way to make a good presentation in Spanish which other students can understand and value. In addition, they have the opportunity to make new friends.

Procedure for individual activities

The main objective of introducing individual activities in the class is to give students the opportunity to study by themselves at their own pace.

First, students are encouraged to participate actively in the class. The teacher poses many kinds of questions and students have to raise their hands to answer. If the answer is correct, they obtain one point. This activity encourages them to prepare the next class and be able to answer questions.

Second, students are also encouraged to present voluntary homework, which consists of writing something in Spanish. They can choose any topic to write about: translations of Japanese fairy tales, personal experiences, recipes, songs, news, sports, biographies, reports on travel, art, history, science, and so on. Students receive one or two points according to the quality of their work.

These individual activities allow students to study at their own pace while they enjoy looking for a topic that is most interesting for them. Some students, after 7 months of studying Spanish, have advanced sufficiently to write two pages per week using advanced Spanish. It also motivates

students to ask the teacher after the class about grammatical rules that they need in order to write their reports.

It is hard work for the teacher to correct many different kinds of homework every week, but it is worthwhile because students receive the feedback and motivation that is necessary for learning.

Discussion

Certainly every living organism has to learn in order to survive and maintain their pool of genes in this world. However, in the case of human beings, it is more complicated because it seems that in order to survive it is also necessary to make a good choice to pick out the best of the huge amount of information that surrounds us. Thus, maintaining high levels of attention toward stimuli for a long time is not easy, especially if the effort does not seem to pay good dividends quickly in the immediate future.

In the case of learning foreign languages, the amount of energy used is very high, and it involves many frustrations not only from continual mistakes in communication but also from the social implications that those mistakes might bring. It is very important to be aware of these factors while teaching.

On the other hand, teaching is a professional occupation in which everyone starts from the lowest levels, since everyone has to begin formal education early in life, and through all those long formative years the pupil destined to be a teacher had the opportunity to experience by him- or herself the best ways to learn while grasping the methods of the good and not so good teachers who teach him or her.

Those experiences mark our way to teach future generations, but in order to make progress, as an individual teacher it is important to remain open to approaches that promise to improve one's effectiveness. Taking the time to read about new areas of research is important, and the present paper provides one example of how new research about brain functioning can be applied effectively on a practical everyday level. Here, new information about the importance of attracting and maintaining attention to optimize active learning was used to inform methods for learning a foreign language.

The new evidence about the brain's capabilities to learn should continue to improve our methods of teaching, giving more emphasis to active learning as the best way to engage brain attention. Every day, teachers and students learn something new and these shared experiences should allow synchronization between them because the teacher is a person who not only teaches but also inspires students to learn by themselves, beyond the classroom, and that is when the real learning starts.

Margarita Foster is a part-time lecturer at Tohoku University. She lives in Sendai, and her studies include psychology and criminology, in universities in Bolivia, Japan, and Spain. Currently her research interests are juvenile delinquency and resilience.

References

- Encina, A. (1994). *¿Cómo ser profesor/a y querer seguir siéndolo? Principios y práctica de la enseñanza del español como segunda lengua; libro de referencia para profesores y futuros profesores [How to become and want to continue to be a teacher. Principles and practice of the teaching of Spanish as a second language; reference book for teachers and teachers-to-be]*. Madrid: Colección Investigación Didáctica.
- Begley, S. (2007). *Train your mind. Change your brain. How a new science reveals our extraordinary potential to transform ourselves*. New York: Ballantine Books.
- Jensen, E. (2000) *Brain-based learning. The new science of teaching and training*. San Diego, CA: The Brain Store.
- Neguerela, E. & Lantolf, J. P. (2007) *Concept-based instruction and the acquisition of L2 Spanish*. In R. Salaberry & B. Laffort (Eds.), *The art of teaching Spanish. Second language acquisition from research to praxis* (pp. 79-102). Washington DC: Georgetown University Press.
- VanPatten, B. & Leeser, M. (2007). *Theoretical and research considerations underlying classroom practice. The fundamental role of input*. In R. Salaberry & B. Laffort (Eds.), *The art of teaching Spanish. Second language acquisition from research to praxis* (pp. 55-77). Washington DC: Georgetown University Press.