

Module 3: NBLTL

Basic Module – English

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As mentioned in the introductory video you have just seen, the intention to conjugate neuroscientific findings and language education practices does not mean that the two fields are alike. On the contrary, they are very different, and this aspect needs to be considered. However, before talking about the field of neuroscience, we can start by looking at a situation that is likely to be familiar to language teachers to establish a shared starting point.

Reading a book is better than selling a house: the story of Anna

Anna is a 12-year-old girl who attends the second semester of her first year in middle school. She is curious, friendly, and she enjoys reading fantasy novels. Anna likes studying English as a foreign language and she enjoys working with her teacher, Manuel, to the point where she has attempted to read simple novels in English and has been happy about the results, despite some obstacles due to her low language level. Given this, she was surprised when, after obtaining good grades in grammar and vocabulary texts, she struggled to carry out speaking activities like short student-teacher interactions or more articulated collaborative tasks.

A specific activity that posed difficulties was a speaking-focused task which had to be carried out in pairs in front of the rest of the class. It was while working on the house vocabulary and the forms “There is / there are” that Manuel proposed an activity based on role-play in which one student was supposed to be a realtor presenting a house on sale to the other student, the customer. The realtor would describe the building while the customer was supposed to ask questions. Naturally, the studied structures and vocabulary needed to be included in the exchange. Before acting out the dialogue in front of their peers, each pair had a few minutes to jot down some notes serving as an outline for what they wanted to say.

Anna and the student working with her were supposed to go third and she started to feel under pressure after seeing the first pair presenting their interaction while Manuel was constantly suggesting useful words and correcting grammar or pronunciation mistakes, even if he did so in a kind way. Her sense of anxiety increased when she began to perceive the general tension among her peers. She was aware that, despite the friendly and cooperative atmosphere that characterised her class, her friends wanted to be precise, and they were afraid of making mistakes, furthermore, Anna was convinced that she would be unable to cooperate with her partner while also monitoring her language production respecting the task directions. At this moment, her mind went back to her rather successful attempts at reading in English and she struggled to make sense of why now she could not

face these obstacles with the same positive and relaxed attitude as she had when reading her fantasy novels. Perhaps, it was because at home she was not being evaluated, or maybe because she had to rely mostly on grammar and vocabulary knowledge – two aspects of the English language she succeeded at learning.

Whatever the reason, she was not enjoying the present speaking activity and she knew she would not complete the task in a satisfactory way.

A space for reflection

Now that you have read Anna's story, read the following questions, and try to reflect:

- Anna's situation – both emotional and competence wise - is not rare to come across, have you witnessed similar cases in your classes?
- Think about your experience as a language learner, have you ever found yourself in Anna's situation? Alternatively, as a student, have you had friends who were in this situation?
- What, do you think, may be the cause of Anna's difficulties? Can we attribute them to Anna, or you think the obstacles she is encountering may not depend entirely on her – consider the activity, the participants, the role of the teacher.
- Can you think of any possible strategy you would adopt to help your students if you were in Manuel's position?

The described situation represents the starting point from which our journey begins. The next section will introduce the field of Neuroscience, to identify the possible links with language education, and to briefly present the recent approaches and theories which have attempted to incorporate neuroscientific findings in language educational practices.

1. Neuroscience and language: a change of perspective

This module, as said, wishes to focus on the embodied approach to language processing, however, this approach has only recently become central to neuroscientific research. For a long time, language processing was believed to be disembodied – separated from bodily experience. It was only at the end of the 20th century that, also thanks to the discovery of mirror neurons in monkeys, the interest grew in the possibility that language and the neural processes connected to its elaboration may be embodied – connected to our experience with the surrounding world.

1.1 The classical view of language

The debate on the brain-language relation has been going on for centuries and can be included in the larger question of the nature of human knowledge which has been of interest for philosophy since the times of the Ancient Greeks. The constant alternation among philosophical theories led to a moment in the late 19th century when the rise of experimental psychology freed the study of the mind from the monopoly of Philosophy (Thagard 2023 § 1). However, not even the field of Psychology has considered the study of the mind in a homogeneous way.

In particular, the first half of the 20th century has been the stage of behaviourism which claimed that psychology should be considered as an objective natural science and insisted that it should exclusively focus on observable behaviour leaving out the study of abstract mental events locked away in the brain (Carlson et al. 2014, p. 36). Instead, a different conception of language processing is that of Noam Chomsky who rejected the behaviourist belief that language is a learned habit and affirmed that language is an innate mechanism. Chomsky believed that the mind of infants contained what he called the Language Acquisition Device and a format of possible grammar structures from which the child naturally constructs utterances based on the linguistic data to which he/she is exposed in the environment (Thagard 2023 § 1).

Relevant to the classical conception of language in the brain is also Jerry Fodor's theory centering on the idea that the mind is an assembly of modules that operate independently of each other. We will simplify Fodor's theory by mentioning the two main reasons why his theory is included in the classical view of language. Firstly, affirming that the brain functions thanks to independent modules is quite far from approaches that want to find similarities

between bodily experience – perception and action – and mental processes – cognition. (Fodor 1983: 59-88). Secondly, some of the features Fodor described as typical of modules are in opposition with the consequences of the discovery of mirror neurons that support an embodied view of cognition and language.

So far, we have spoken of the fields of psychology and cognitive science, but what about Neuroscience? Did the conception of language also evolve within this field? The answer is yes! Until the second half of the 19th century, each area of the brain was believed to carry out a specific function, this theoretical position is named “localisationism”. It was at this time that this view was replaced by “associationism” claiming that in our brain there are functional centres linked by connections that associate distinct functions – e.g. understanding and speaking. Relevant to this view are the experiments conducted by Paul Broca and Carl Wernicke who respectively tried to localise the areas where language production and language comprehension take place (Deacon 2019: 5-6). The conclusions they came to in terms of brain structure and in relation to the nature of linguistic deficits have been re-considered and transformed overtime until, with the advent of neuroimaging techniques – fMRI, EEG, PET, to name some -, their proposals have been defined oversimplistic (Hagoort 2013). Briefly, it is reductive to connect each brain area with only one function and it is not enough to study language in the brain by focusing on single word production as it is necessary to consider the various mechanisms going beyond production and comprehension (see. Kutas and Hillyard 1980 on semantic incongruity detection; Osterhout and Holcomb 1992 on syntactically inappropriate sentences). Nevertheless, this view of language and the brain has evolved and the current panorama on neuroscience and language looks at this topic in a different way.

1.2 The turn in cognitive neuroscience: language embodied

We have seen that the study of the mind and of the related processes has been central to various disciplines, however, what we want to focus on now is the way that mental processes are considered by cognitive science. The features attributed to cognition and the related theories since the late 20th century are at the origin of its name: 4E cognitive science.

The 4 E's which are believed to characterise contemporary cognitive science can be briefly presented by saying that mental processes are (Rowlands 2010)

- **embodied:** they are a reflection of the bodies in which they are contained
- **extended:** the way we manipulate, exploit, transform external structures in the environment constitutes part of our cognitive processes
- **embedded:** we can use external structures during a cognitive task to help us reduce the amount of work imposed on our mind because we shift some of the complexity of the task on the environment
- **enacted:** we construct our understanding of the environment by interacting with it since we are not passive recipients of information

The view we will discuss here centres on the first E – embodied – but the four E's are not separated, that is why all of them have been mentioned.

The label “embodied cognition” incorporates a variety of theories, however, they all agree that motor processes and perception – bodily experience - constrain cognition – mental processes. Some scholars give more importance to action, others to perception and yet others to both in the study of cognition. Once again, this view of cognition comes from the philosophical tradition and spreads to other fields including that of Neuroscience where it is supported by the research on canonical and mirror neurons (Borghi 2005; Borghi and Caruana 2015).

1.2.1 Mirror neurons

Mirror neurons and the embodied view of cognition and language are strongly connected. Mirror neurons have been discovered at the end of the 20th century while scientists carried on the century-long investigation on the organisation and functioning of the motor system in the brain. As a matter of fact, throughout the 20th century, various studies on macaques and

humans tried to describe the relation between the motor system and action execution. The initial belief that every muscle was connected to one neuron was discarded thanks to experiments that led to the conviction that each neuron is responsible for more than one muscle (Hudson et al. 2017: 47). Soon after, research on the motor system demonstrated that neurons behave differently when initiating actions with different goals. For instance, a neuron that activates if I move my fingers to grasp an object does not activate if I use my fingers to scratch my arm (Rizzolatti and Luppino 2001). This discovery is at the basis of the claim that the brain contains pre-formed action chains that activate based on aim of my action. Where do mirror neurons fall into all this? What is so peculiar of them?

The discovery of mirror neurons in 1996 was of major importance to the study of the motor system in the brain, but not only. Mirror neurons were initially found in macaques but very soon their existence in the human brain was hypothesised. Interestingly, they were localised in the premotor cortex, partially corresponding to Broca's area in humans, justifying the claim that they may be related to language processing. What is special about this discovery is that mirror neurons do not only activate when performing an action, they also fire while observing others perform actions we are familiar with (Rizzolatti and Sinigaglia, 2008). Various experiments investigated the features of these types of neurons discovering, for instance, that the more familiar we are with an action, the stronger our mirror neurons activate when we see it (Buccino et al. 2004; Calvo-Merino et al. 2004, 2006), that they activate even if we can only see part of an action (Umiltà et al. 2001), or only hear the action in question (Kohler et al. 2002).

The mirror neuron system also appears to activate when we observe others as they feel specific emotions, and this enables us to somehow 'resonate' with the individual we observe. Different studies have tested the activation of neurons in different brain areas on the basis of the emotion which was being observed. In particular, feeling disgust and observing others as they experience it activates the anterior insula (Phillips et al. 1997; Wicker et al. 2003), experiencing and observing fear activates the amygdala (Phan et al. 2002), and perception and observation of pain-related emotional states activates the anterior cingulate cortex (Hutchinson et al. 1999).

1.2.2 Embodied perception and language processing

Before moving to the more familiar field of language education, it is important to understand how the 20th century neuroscientific findings you have just read about are relevant to an embodied conception of language processing. An interesting element worth of attention and presented within the broader discourse on mirror neurons is the process called ‘simulation’ thanks to which neurons activate even when we only observe or hear an action without performing it. It is defined as the off-line activation of neural networks in the absence of movement, and the intensity of neural activation without a motor response from the body is weaker than when we perform an action. As said before, the same mechanism also extends to situations in which we observe others experience observable emotions. What is most fascinating for language teachers, however, is that people also simulate when they read linguistic productions or hear someone speak, on the basis of the familiarity with the actions they are talking about (Borghi 2015, 34-35).

The body of research investigating the role of simulation in language processing has touched a variety of topics ranging from the way the motor system activates when we understand speech sounds, meanings and sentence structure (D’Ausilio et al. 2009), to the processing of semantics in the brain, with different types of neurons activating on the basis of whether we process nouns related to objects or action verbs (Borghi 2015: 35). Brain activation during experiments has led to the elaboration of the Semantic Somatotopy Hypothesis according to which reading verbs related to leg, arm, or hand movements – ‘kick’, ‘pick’ - activates different areas of our frontal lobe as if our brain contained a map reflecting the structure of our body and reacting in relation to the body part we move or read about (Pulvermüller et al. 2005; Hauk et al. 2004).

Moreover, simulation during language processing has also been demonstrated to take place when we read sentences that possess emotional meaning. When we read an emotion related sentence the reactivation of emotional bodily states can facilitate our language comprehension or inhibit it – if we frown while reading a positive sentence or word. Simulation during emotional language processing has been noticed to mostly happen at the sentence level, but also single words can trigger this process and the intensity of activation varies, once again, on the basis of how familiar we are with a specific word or expression and with the experience of the related emotional state, like with actions (Niedenthal 2007: 1005; Havas et al. 2007: 439-440).

It is important to mention that to this day, the findings you have just read about are at the centre of various debates, but the body of research conducted with neuroimaging techniques has proposed interesting points of view and original approaches to a variety of fields, including education. Language processing appears to be embodied because our understanding of texts we hear or read appears to be supported by the activation of brain networks on the basis of our experience and this motivates the assumption that language processing is constrained by our body and our sensorimotor experience.

Look back... is everything clear?

Neuroscience may not be teachers' cup of tea. After reading this introductory section, try to answer the following questions to see if you have successfully acquired the essential knowledge to keep up with the next part:

1. Why, do you think, we decided to present all these neuroscientific data instead of simply starting with the field of language education?
2. What are the main differences between the classical view of cognition and language and the embodied one?
3. Emotions and actions, how are they connected by the mirror neuron system?
4. Why are discoveries on the brain so interesting for language experts?

2. The brain and language education: identifying connections

Before reading the next section, try to prepare yourself for what's coming. As we will see, setting the stage for new information is essential when learning according to brain functioning.

- How could neuroscientific findings enrich the field of language education?
- Think about Anna's story: how could Neuroscience help her? What methods or techniques could derive from research on the brain?

We have just introduced the concept of embodied language processing and we have mentioned the functioning of the reactivation of action and emotion-related brain mechanisms. Various scholars noticed the relevance of these neuroscientific discoveries for language education and tried to integrate these findings in language teaching.

2.1 A transfer is possible

The previous section introduced the process called simulation and defined it as the reactivation of the neural circuits involved in performing actions and experiencing emotions even when we are only observing someone else as they perform actions or experience emotions. Interestingly, we remarked that the intensity of neuron activation depends on how familiar we are with the action or emotion we observe in others. With this in mind, researchers have identified sensorimotor experience as the link between neuroscientific findings and language education. It is necessary to understand that all of the proposals which will be presented must be tackled with the awareness that Neuroscience and language education are two extremely different fields, therefore, the enthusiasm connected to novel proposals must always go hand in hand with caution because we are attempting to establish a dialogue between two very different 'worlds'.

Before focusing on the proposals from the past few decades, it is interesting to mention that the incorporation of authentic experience in language teaching cannot be attributed only to contemporaneity. Back in the 17th century, the pedagogue, John Amos Comenius, identified some principles which modern educational thinking is very familiar with. In his work, *The Great Didactic*, he mentioned the importance of teaching with the use of visual aids to stimulate as many senses as possible, and he insisted on the need to meet the language in contexts and deduce language rules instead of memorising decontextualised sentences.

Moreover, he promoted constant field trips to enable his pupils to gain direct knowledge of their surroundings and to promote motivation and self-engagement through direct sensory experience (Leek 2011: 226-228). Comenius's ideas are here just summarised, naturally, but it is fascinating to realise that centuries ago, someone had already identified these elements as central to education. Let's now focus on how and in what measure contemporary scholars try to include Neuroscience in language teaching.

The idea of constantly taking students on field trips sounds interesting but hardly feasible. Luckily for us, when we talk about “embodied” cognition, we do not necessarily need the body to be directly engaged because the reactivation of familiar experiences, sensations and emotions takes place even in the absence of movement. Our senses and our internal perception – affect, introspection – are sufficient to embodied activation (Barsalou 2020 § 1.1).

In their article from 2015 titled “Embodied language and the process of language learning and teaching”, Giovanni Buccino and Marco Mezzadri propose four procedural rules to incorporate learners' direct physical and emotional experience in their learning path:

1. The **content of teaching** should be selected or created in the **respect of learners' experience**
2. **If learners' direct experience does not support the language elements** which need to be taught, the teacher must **encourage** the development of the useful **sensorimotor experience** including techniques such as imitation learning or action learning.
3. **The pre-knowledge of pupils must always be verified** by the instructor when exposing learners to language material
4. **The consideration of individual experience ought to be extended to the emotional sphere.** It is necessary for the teacher to understand that each individual's direct experience with emotions is unique. Linguistically speaking, this understanding is necessary especially when teaching vocabulary since objective semantic fields flatten down the variety of emotional labelling that everyone of us subjectively attributes to the experiences we live and perceive in unique ways. Individual narratives must, therefore, become central to any experiential approach to language teaching.

Let's now look at two experiments that empirically demonstrated that direct physical and emotional experience is important to language learning.

DESIGN: Schmidt et al. in 2019 conducted an experiment on 104 primary school Swiss children who were required to memorise 20 animal names in French.	DESIGN: Driver in 2022 conducted an experiment on individuals who were either foreign language learners or heritage language learners of Spanish with heterogeneous linguistic and cultural backgrounds. They were required to read emotion-laden texts (one positive, one negative, one neutral) on topics such as ethnicity, race, and identity, which they were expected to be directly familiar with.
RESEARCH QUESTION: Does vocabulary-related physical activity could facilitate memorisation?	RESEARCH QUESTION: Is emotion-related word acquisition affected by emotional involvement with the presented topic?
RESULTS: The participants who associated to each animal name an action specific to that animal memorised the terminology more easily than those who did not or who associated random actions to each lexical item. The downside was that this exercise required a very high cognitive effort on the part of the learners.	RESULTS: the activation of emotions and vivid sensations could facilitate vocabulary acquisition even with learners with heterogeneous cultural backgrounds. Furthermore, researchers remarked that a text which may seem neutral to the instructor may not be so for some learners.

2.2 The integration of neuroscientific findings in current approaches

After reading about the general lines to follow when wishing to teach a foreign or second language in line with neuroscientific evidence, let's conclude this introductory section by taking a look at the language education approaches that include learners' direct experience and their emotional dimension.

2.2.1 Communicative Language Teaching

Communicative Language Teaching, or the Communicative Approach, was initially proposed in the 1970s and has evolved up to the present day where it remains influential in current teaching trends. Central to this approach is the notion of communicative competence which considers communicative functions more important than the mastery of linguistic structures. Fluency and accuracy are put on the same level and learners' mistakes are tolerated rather than immediately corrected.

In line with this, a syllabus able to develop learners' communicative competence does not simply specify a list of vocabulary and structures to be acquired but also pays attention to the purpose for which the learner needs to acquire the target language, the settings in which pupils will use the learned elements, and the social role they will be playing when speaking in authentic situations (Richards 2006: 9-10). Next to the four macro-skills – listening, reading, writing, speaking – a functional syllabus should also specify the functions that learners are expected to be able to carry out when using the language outside of the classroom.

Interesting to our discourse is TAP, a principle proposed by Segalowitz (2010) which claims that it is easier to retrieve learned language elements when they have been learned in a context similar to the one in which language is actually used. Once again, evidence from cognitive neuroscience is at the basis of this assumption as findings indicate that the brain records data together with the context in which it is presented. The context in relation to which language data is learned appears to be of extreme importance for communicative competence to effectively develop.

If you think back to Anna's story, you will now notice that her teacher, Manuel, had indeed proposed to take part in a communicative situation, however, the roles the students were supposed to play – a realtor and a person looking for a house – was far from any social role they might be attributed in real life.

A communicative approach to language teaching is in line with an embodied view of language and its acquisition. The brain is indeed involved in principles and theories incorporated by Communicative Language Teaching. For instance, Oller's 1979 concept of Expectancy Grammar is related to cognitive processes as it emphasises the centrality of learners' cognition when they make guesses based on context-induced situations and try to predict future input – what the lesson will be about, especially in terms of contents (Pouralvar 2019). Another theory that has been incorporated in language education is Frame System Theory which claims that cognitive structuring in our brain works according to 'frames', a type of knowledge connected to familiar and recurring scenes, a stereotype of certain events. It is then evident how even this theory can support the necessity to propose activities to prepare learners before exposing them to texts by proposing activities able to activate their 'frames' (Kun et al. 2015).

Naturally, thinking again about Anna's story after all of these considerations it is evident that her difficulties in carrying out the activity may also derive from the lack of adequate preparation for the task. Actually, in the narration no mention was made of activities to elicit her previous knowledge, encourage predictions or activation of mental frames.

It is evident that together with methodological and procedural innovations, Communicative Language Teaching has brought with it a new conception of learners who are considered as autonomous and diverse individuals who do not passively take in information from the instructor. This new vision of learners and the consequent new look on the role of the language teacher is a central element of Humanistic Approaches.

2.2.2 The Humanistic Approaches

Humanistic methods entered the field of language education since the 1960s and their central feature is that of attributing to affective components the same importance that cognitive skills have when learning a language. When adopting a Humanistic Approach:

The student	The teacher
Is considered holistically, not simply on the basis of the language he/she produces but as the person who he/she is.	Needs to promote a pleasant learning experience while also limiting learners' negative emotions and fear of speaking in front of others.
Needs to enjoy the learning experience and not simply to acquire language.	Must develop empathy toward learners.

Putting learners at the centre does not simply mean paying attention to the way learners prefer to learn but also ensuring their well-being. However, as it happens in every kind of interpersonal relationship, the emotional dimension of each participant should be considered. This means that in a humanistic perspective, even the teacher needs to be considered holistically and not simply in relation to learners. Teachers may not be the central element of classroom activities, however they need to learn to recognise and manage their emotions to serve the learning process by accepting that their feelings are going to affect their teaching practice and that they need to regulate them and make sure they are in the right frame of mind to guarantee a learning experience that is positive, motivating and free of anxiety for everyone (Arnold and Foncubierto 2021: 39).

One more theory which deserves to be mentioned is Long's Interactional Hypothesis. It was proposed in 1996 and it revolves around the idea that adjustments and meaning negotiation during interaction favour language acquisition. In this way, the topic and message proposed by the student is maintained and the acquisition of appropriate linguistic forms is facilitated since the student is not preoccupied with meaning and is intrigued by the effect that the idea he/she wanted to communicate has on the interlocutor – the teacher (Long 1996: 452).

In Anna's story, even the student-teacher relationship is commented upon and it does not seem to be in line with a humanistic perspective. Manuel, the instructor, is defined as a kind teacher, however, his interaction with the students does not seem to focus on their emotions as he is said to only correct mistakes and suggest appropriate forms. Moreover, as we said, all this is happening while students produce language on a topic they haven't chosen but that they have been assigned.

The Humanistic approaches incorporate various theories and methods but all of them agree that learners must be holistically considered and that the well-being of all the participants in the learning context must be ensured. The previous section has insisted on the relevance of emotions to language acquisition but specified the participants' roles and 'duties' is not sufficient, in order to implement a humanistic perspective-based learning environment, some specific methodological features should be mentioned.

The multitude of humanistic methods proposed during the past decades cannot be adequately presented in this module, therefore, only some interesting proposals will be mentioned by means of an example. For instance, the language teaching methodology inherent in the Natural Approach proposed by Krashen and Terrell in 1983 incorporates principles which are in line with the Humanistic perspective. Along with principles resembling Communicative Language Teaching since they insist on the importance of developing communicative competence and on the primacy of language meaning over form, some of the principles of the Natural approach strongly consider the emotional dimension of learners. As you will notice, they are all interconnected: (Mezzadri 2015; Krahne 1985; Arnold and Foncubierta 2021)

- **Acquisition is not learning:** *acquisition* is a natural and unconscious process thanks to which we permanently retain the language we have 'acquired' while *learning* is a conscious process which can only function as a tool to support *acquisition*. In light of this, language is truly acquired by the learner when he/she unconsciously creates language material starting from exposure to similar material in an authentic communicative context.
- **The Monitor Hypothesis:** direct instruction – the explicit teaching of forms and structures – in particular if proposed outside of a meaningful context, is thought to activate the 'accuracy mechanism' of learners – the Monitor - and to limit language acquisition.

- **The Affective Filter Hypothesis:** negative or positive affective factors in the learning environment can block or support language acquisition.

In the final decade of the 20th century even neurobiological research contributed to investigate learners' emotional dimension and its role in language acquisition and emphasised the importance of both cognition and affect for sustained deep learning. Interestingly, in 1994, John H. Schumann proposed a more detailed explanation of the affective filter. He described the way we interact with external stimuli from a neurobiological and psychological perspective. Briefly, at first our emotional memory system decides whether the stimulus is novel and pleasant, then it evaluates whether we can cope with the situation to satisfy our needs, control it, or at least adjust to the outcome of the event, finally, we evaluate whether the stimulus is compatible with our self-image – based on our internal standards – and our social image – based on the expectation of the others. In the light of this, the affective filter is not simply an element that we raise or lower, instead, for a language learner it includes what he/she prefers or dislikes when evaluating the target language and the learning environment. (Schumann 1994: 234).

The emotional dimension of learners must therefore be considered in all steps of the language lesson and learning path, but it appears to be more than just a variable in the learning process. As said, teachers need to learn and regulate their emotions, but even students need to develop socio-emotional competences. The latter need to be adequately fostered and include the ability to identify emotions and the relative causes and consequences, to express emotions in a socially acceptable manner, to manage stress and to use emotions to increase the effectiveness of thinking, decision making and actions (Gay et al. 2022).

In Anna's story, affective filters seem not to be under control as she feels anxious and it seems that she is not trained to give priority to meaning over form. The attention to learners' use of the structure which is being practiced – there is, there are – seems to be pervasive and neither Anna nor her peers seem to be able to control their emotions. Finally, the activity appears to be everything but pleasant for them.

2.2.3 Fostering well-being and autonomy: the Neurolinguistic Programming

Acquiring language is important, but so is psychological and emotional well-being. Various humanistic factors have been said to be at play in language acquisition, confidence, anxiety, interest, the way learners see the relationship between the target language and their goals and whether learning is perceived as personally meaningful. Activities based on authentic communicative contexts must be proposed by the instructor, affective filters and monitors must not be raised, competences should be acquired, however, one final thing learners must be able to do before learning anything is learning to know themselves.

Neurolinguistic Programming (NLP) may well provide a framework and a set of strategies for learners and teachers to get to know themselves and to foster autonomous learning. NLP is an interpersonal communication system developed in the 1970s and it includes a set of strategies, techniques, and patterns which can be used for effective communication, growth, and personal change. It is hard to summarise what NLP is, but three central elements may clarify what it claims.

- **The mind and the body are connected:** when communicating, our body reveals much about what is going on in our brain
- **Language is a mirror of the inner being:** if you pronounce the sentence ‘It was a black day, everything looked hopeless, I couldn’t see her anywhere.’ I clearly understand that you are using the visualising part of your brain.
- **We possess powerful internal programs:** some of us prefer to learn starting from the details to then go up and achieve an overview while others prefer to go from a panoramic view to a more detailed one. These are just two examples of the many programs which rule us, but it is important to understand that they both rule our perception of the external world – e.g. looking at a landscape – and our learning experiences. Learners should gain familiarity with their learning programs, and so should teachers. Teachers should be aware of the internal programs of their students as proposing abstractions and generalisations to a detail-loving learner may impair him/her from succeeding even in an ideal learning environment.

Various activities and techniques can enable learners, and teachers, to become familiar with their internal programs both to increase academic success and to create learner-instructor empathy. To quote NLP practitioners, the central claim of NLP is that ‘we are not

the victims of the world we see; we are the victims of the way we see the world', and awareness of the way we work can ensure success and well-being (Hedayat et al. 2020; Baker and Rinvulcri 2005).

Anna seems completely unaware of the way she works. She realises something is out of place and she is full of questions concerning her learning experience. She may benefit from gaining consciousness regarding her internal programs so that she and her instructor could work in harmony to improve her experience.

Concluding reflection

Neuroscience has been inserted in language education in different ways. Try to reflect on what you have learned using the following guiding questions:

1. Think back to your hypotheses on the inclusion of neuroscientific findings in language education, did you guess?
2. Were you familiar with some of the approaches/methodologies presented here?
3. Do you disagree with some of the approaches/methodologies presented here? Why?
4. Is there anything you read about that struck you? Did it do so negatively or positively? Why?