# "Lexipontix": Developing a Structured Stuttering Therapy Programme for School Age Children.

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# No 1: "Lexipontix" Developing a Structured Stuttering Therapy Programme for School Age Children

### No2: Does it ring a bell?

Has it ever happened to you?

Children to be able to speak fluently in the therapy but unable to generalize? (Resistance to change/ generalize). Children to be "bored" of therapy after some time? (Loss of motivation). Parents to feel unable to help, to be trapped to unhelpful roles such as urging for the use of speech techniques, to challenge therapy and the skills of the clinician? (The medical model of doing therapy). Children to perceive speech techniques as part of the problem rather than part of the solution? (Lack of purpose and understanding). Children to be oversensitive to listener's evaluation, to be shy or to make unhelpful thoughts about communication despite their progress in fluency? (Increased speech anxiety). Clinicians, to feel devalued, frustrated and depowered by the lack of progress?

### No 3: Here comes "Lexipontix"!

"Lexipontix" proposes an alternative approach to stuttering therapy for school age children.

### No 4: Here comes "Lexipontix"!

It is a structured stuttering therapy programme based on

- Cognitive Behaviour Therapy (Beck, 1967).
- Parent-Child Interaction Therapy (Zisser & Eyberg, 2010; Kelman & Nicholas, 2008).
- Solution Focused Brief Therapy (De Shazer,1985; De Shazer et al, 2007; Berg,1999).

• Fluency Shaping and Stuttering Modification (Ingham & Andrews, 1973; Ryan, 1974; Webster, 1979; Van Riper, 1971; Van Riper, 1973).

### No 5: Axes for development

There are certain axes over which the therapy programme has been developed:

- Therapy addresses the overall stuttering experience of the child as this is described by the components of a modified International Classification of Functioning (ICF) model (Yaruss, 2010; WHO, 2001).
- Child, parents and therapist are equal partners of a therapeutic alliance, actively engaged in therapy. (Collaborative Therapy: Anderson & Gehart, 2007).
- Therapy is about making sense, exploring and understanding, finding alternatives and producing meaningful changes (Fry & Cook, 2004; Fry & Farrants, 2003, Botteril, 2011).

### No 6: Programme Structure & Content

The programme develops in two phases. Phase A lasts for 12 weeks. Then progress is assessed and additional therapy may be proposed according to individual needs in phase B. The programme consists of <u>a core structure</u> and several optional <u>modules</u>. Modules are distinct entities of inter-related clinical tools and practices adjacent to the core structure. This adaptable modular structure provides the programme with the necessary flexibility to meet individual needs.

We decided to build up the therapy programme on a theme, on a back-story that explains the circumstances, to create characters and to simulate the stuttering experience in a way that enhances understanding. To empower the "characters" with "Allies", "Tools", "Missions" and "Experiments" which are used for exploration and understanding towards (aiming at) "communication restructuring".

### No 7: Definition of Communication Restructuring

We define communication restructuring as the therapeutic process that leads a person:

- to reconstrue his communicative role
- to alter the definition of communicative success and failure
- to respond in a functional and meaningful way to the demands of a communicative event

### No 8: Superheros against Lexipontix in a therapy arena - Assumptions

Looking for a character to simulate "stuttering" in our story we made the following assumptions:

- The stuttering character is to be kept under control through cognitive restructuring rather than being fought or eliminated. This is compatible to the nature of stuttering and the CBT orientation of the programme.
- The stuttering character should represent both external "threats" as well as internal. The latter takes into consideration the organic and personal factors of stuttering the former the impact of environmental and communicative variables on stuttering
- Children of this age are familiar and often empathize with fictional characters.
   We preserved the role of the superhero for the CWS. As therapy progresses the child is empowered to identify her own "super" role to therapy, her "super powers", potentials and skills which she uses against the "archenemy" stuttering character: "Lexipontix".

### No 9: Superheros' Characteristics

Traditionally, superheroes possess certain features that led us to the decision of creating such a character:

- superheroes possess extraordinary powers or abilities, skills and advanced equipment. In therapy the child is empowered to identify and develop his innate powers and abilities and s/he gradually builds up his armory of "red tools" (tools for thoughts and emotions) and "yellow tools" (which are tools for speech).
- Like Superheroes, the child uses these powers/tools
  - a. to counter day-to-day threats namely the experience of stuttering.
  - b. to combat threats against humanity (that is his own shelf) by super villains, such as the moments of stuttering themselves. Often, one of these super villains will be the superhero's archenemy that is represented in our theme by "Lexipontix".
- Most super-heroes have a supporting cast of recurring characters or superhero teams, friends or co-workers. We preserved this role for the therapeutic alliance.
- Superheroes fight enemies repeatedly and this in accordance to the recurring incidences of stuttering corresponding to recurring invasions to "the factory of mind". for which I'll talk in a minute.
- A headquarters or base of operations, is represented by the "control center" in our theme.

### No 10: The Therapy Theme

The name "Lexipontix" is a combination of the words "lexis" (word/lexicon) and "pontix" (mouse). It means the mouse of the words or lexicon.

### No 11: The Factory of Mind

"Lexipontix" tries to intrude in the "factory of mind" in order to "invade" the factory or "sabotage" the factory machines. There are four interrelated factory machines that work synergistically in communication, before, during and after a communicative event: "The machine of thoughts", the "lab of emotions", the "body sensors" and the "machine of actions and words". These machines correspond to the well known CBT concepts: "Thoughts", "Emotions", "Somatic reactions", and "Behaviours" that form Beck's cognitive model. Part of the factory of mind is the "control centre". This is the central control panel of all the machines, it receives and sends information to them, and it regulates their functioning, production and interrelation.

### No 12: Therapy aims

Therapy aims to empower the child to gain, retain, maintain or regain control over the "control center" of the factory. In this way Lexipontix is kept under control and his invasions have no significant impact on the functioning of the factory of mind. The child gradually experiences a rationalized and harmonious relationship with her stuttering and stuttering is not a worrying threat any more.

### No 13: Interpretation of the stuttering event

Stuttering occurs when Lexipontix:

- is trying to intrude into the factory of mind That is anticipating a stuttering event.
- sabotages any of the factory machines and that is experiencing a stuttering event)
- invades the control centre of the factory That is communicative outcome of a stuttering event such as avoidance of a word or a speaking situation Let us move on and discuss what therapy involves.

### No 14: The PCI component of Lexipontix

Building up therapeutic alliances

- Interaction Strategies
- family/alliance strategies
- o external alliances

PCI, - Parent Child Interaction Therapy principles are used to help the child and the family to make use of their own potential. Through PCI they reduce the pressure that is imposed on child's speech making use of indirective interaction management practices such as letting the child lead in play. Special time is introduced to family routine for the above purposes as well as for preparing the ground for family board games that are gradually introduced in therapy. Special time also contributes to the strengthening of the alliance relationships and builds up a safe and desensitized environment for practicing speech techniques. Yet, therapist gets additional information on individual strengths and family dynamics and communication at an early stage in the programme.

Family strategies such as building confidence through praise and turn taking are also introduced. Openness about stammering is gradually built up right from the beginning.

By exploring their own cognitive cycles both the child and parents, enhance their knowledge on stuttering adding to stuttering identification. The child progressively recruits more members in the alliance and makes use of them in her missions.

### No 15: The CBT component of Lexipontix

CBT is a form of psychotherapy which was originally developed by Aaron Beck (Beck, 1967). CBT has helped us to understand the links between a person's thoughts, feelings, physical reactions, and consequently on their behaviour. Helping CWS understand how their negative automatic thoughts (they will think I am stupid if I stutter) affects how they feel (anxious, fear) which has physical consequences (sweaty palms, raised heart rate) which in turn affects a person's behaviour (increased stuttering or avoiding words).

### No 16: CBT Clinical Practices in LXPNTX. Red Tools - Core Structure

Lexipontix is based on CBT theory.

In the core structure of the programme the CBT component involves:

- identification of feelings and attitudes
- identification of Negative Automatic Thoughts (NATs)
- initial processing of NATs by means of "talking back" talking back has been developed as one of the "red tools" of the programme.
- identification and challenging of cognitive distortions

### No 17: CBT Clinical Practices in LXPNTX. Red Tools - Modules

Games and therapy activities have been developed to reach these aims as well as certain clinical tools such as Socratic questions, worry meters, rating scales, description and challenging of vicious circles, exploring for alternatives, experimentation, progressive exposure and so on.

Certain CBT clinical practices have been developed as autonomous clinical tools and modules. These are:

- problem solving
- behavioral experiments
- talking back
- reframing of NATs by means of modification

### No 18: Speech control component of LXPNTX. Yellow Tools - Modules

In Lexipontix we adopt a stand point that focuses on functional speech control:

- Speech techniques are used to serve certain communicative demands and to enhance functional communication.
- Speech techniques are used in purpose and to produce meaningful results.
   Contrastive production (talking using the technique and the anti-technique), guided self-reflection following the "missions" (that is speaking with a technique in a communicative situation after planning), behavioural experimentation and progressive exposure are part of the process.

Both fluency shaping and stuttering modification techniques are included in the programme. Each technique constitutes an independent module.

### No 19: Administration: Core structure and optional modules

Here is a schematic presentation of the core Structure & Modules of the programme. The blue parts are the PCI components the Red parts are the CBT modules and the Yellow parts the Speech control modules.

### No 20: Development of the Programme (slide up during speaker change)

We will know move on to speak about the development of the programme

### No 21: Methodology - Steps of development

- review of literature and of available clinical practices.
- external review and consultation on CBT components.

- peer review
- clinical trial
  - detailed therapy notes
  - o written reflection
  - o consumer feed back
- evaluation questionnaire
- clinical feedback on clinical application of therapy components by external therapists

Based on literature review and evidence based clinical practices, an *assessment manual*, a *therapy manual* and a number of *board games* were designed.

- 1. A certified CBT trained, clinical psychologist was involved as an external consultant and reviewer regarding the CBT components.
- 2. "Lexipontix" was presented in two teams of fluency specialists. Feedback was processed and the programme refined accordingly.
- 3. A trial period of clinical implementation followed involving-five families. Data was collected in every session by means of detailed therapy notes and extensive written reflection on
  - the content, the timing and the flow of the session.
  - the handouts, materials and forms used in terms of language and linguistic understanding
  - the degree of motivation and engagement
  - the alliance and its role in the session
  - the understanding of the simplified "abstract" CBT concepts used
- An evaluation questionnaire was designed and given to parents at the end of 12 weeks to assess certain parameters of therapy and material used.

### No 22: Issues emerged and management

A number of issues emerged during the development phase and action was taken for their management. We selected to discuss three of them. These are related to:

- the structure of the programme
- the red tool called Negative Automatic Thought Modifier (NAT-M) and
- the need of linking assessment findings to the selection of modules.

### No 23: Providing flexibility

So, the **1st issue to be dealt** was the need of flexibility.

The preliminary step-by-step structure of phase-A was inflexible and firm giving little room for tailoring according to individual needs. Although, the firm structure was

homogeneous, easy to administer and easy to research, the need of adaptability and flexibility was acknowledged right from the beginning.

So this was changed towards a modular structure as it appears in the slide

### No 24: Core Structure Aims

A firm structure was preserved for the first five sessions to serve specific aims namely:

- setting up the alliance
- introducing and implementing the PCI component
- introducing the concepts, the jargon and the back-story of the programme
- exploration of cognitive cycles
- identification and challenging of NATs

The first 5 sessions constitute the "core structure" of the programme that is followed by a period of 7 sessions for the application of selected "modules".

### No 25: Reframing NATs – "NAT-Modifier"

**The 2nd issue** we bring into discussion is that the Negative Automatic Thought-"Modifier", the CBT tool for the reframing of NATs, was found difficult to use with the younger children.

NAT-M deals with changing "dysfunctional" or "unhelpful" thoughts. The use of NAT-M is taught through board-games especially designed for this purpose.

Although the process is fun, younger children generally meet significant difficulty in the conceptualization of this process probably due to developmental issues (Cook & Botterill, 2009).

### No 26: Reframing NATs - "NAT-Modifier"

The process of reframing Negative Automatic Thoughts initially involved a sequence of 5 steps:

- 1. Identification of the Automatic Thought
- 2. Exploration of supporting evidence
- 3. Search for alternative explanations (counterattack)
- 4. Visualization of the worst possible realistic outcome.
- 5. (Modification) Replacement of NAT with an alternative more empowering thought which makes sense!

This 5 step sequence added to the complexity of the task. This was evident especially in children younger than 10 years, as the NAT-M game appeared less fun for them. Therefore, NAT-M tool needed simplification to become more child-friendly.

An additional problem was noticed for certain children being influenced by the presence of their parents. They frequently appeared to rationalize their answers, trying to comply with their parents' thoughts and expectations.

In addition, rationalization was also seen as a result of psychological stress coming out from the process of identification itself.

Actions were taken to address these issues:

### No 27: NAT-M: Introduction criteria

The Negative Automatic Thought –Modifier was removed from the core structure and maintained as an optional module.

Criteria were set to the introduction of this module:

- 1. Children to be able to think about thinking (metacognitive skills).
- 2. Children to comfortably talk about their NATs without getting stressed
- 3. Children to have enough preliminary practice in exploring thoughts, differentiating them from feelings and eliciting NATs.
- 4. Children to demonstrate ability in responding to their NATs by talking back to them.

### No 28: NAT-M: Simplified procedure

Following our CBT consultant suggestions, we simplified NAT-M into a (simpler) three step procedure:

- 1. Identification of the automatic thought
- 2. Search for alternative explanations (Counterattack)
- (Modification) Replacement of NAT with an alternative more empowering thought which makes sense!

### No 29: NAT-M: Supportive Actions

To deal with the rationalization in the presence of parents issue, emphasis was decided to be placed on aspects such as:

- 1. At an early time in the programme:
  - to build the child's confidence
  - to let the child lead the alliance
  - to help parents to act as listeners
  - to acknowledge to each member of the alliance the role of the expert on his own NATS

Further decisions were:

2. To reassure the child that there are no "right" or "wrong" answers nor a single or exprected answer.

- 3. To acknowledge the child as the possessor of the "real" answer.
- 4. To acknowledge parental expertise in areas other than the child's core beliefs.
- 5. The arrangement of sitting position during therapy as a means of differentiating the participation of each member of the alliance.

### No 30: Looking for a treatment guide

**The last issue** we wish to address is related to the link between assessment and treatment. The assessment procedures initially used in "Lexipontix" was comprehensive and thorough. However, it emerged the need of linking assessment findings to the selection of modules and to the timing of introducing modules.

The programme includes a plethora of therapy procedures, activities and games that make it look like a labyrinth. In addition, flexibility and justified selection for the modules were necessary in order for the programme to meet individual needs. To help the process of formulation and individualization of the programme a smart assessment tool was necessary.

### No 31: A Dynamic Compass: The formulation chart

A modified ICF model was used to indicate areas of assessment as well as to present schematically the interrelated components of stuttering experience in a holistic perspective. We labeled this schematic representation: "formulation chart"

We used color coding to all assessment instruments to help with mapping data from the assessment instruments onto the "formulation chart"

### No 32: Route planning

By functionally relating elements of the intervention programme, to the "formulation chart" the "path" to the appropriate modules becomes readily apparent.

For example high score in the Communication Attitude Test or comments and narrations indicative of negative attitudes recorded in assessment interviews, highlight the need for CBT modules. High counts in stuttering behaviours – that is involvement of "body functions"- point towards engagement of more speech techniques modules. Heightened involvement of environmental factors, related to parental behaviours, point to an increased need for implementation of PCI modules.

On-going assessment information can be also incorporated in this process of forming a guiding "formulation chart".

A further step may be, to set criteria for selecting modules according to the data recorded in the "formulation chart" but, for the time being, the selection of modules is a clinical decision.

### No 33: Lexipontix in Clinical Action

Summing up...Lexipontix is the first structured intervention produced by fluency clinicians in Greek language. It is still at an experimental phase. It is well-supported theoretically and it is clinically relevant. It is fun and addresses the needs of the whole family. It is brief and goal-directed, comprehensive but also flexible, easily tailored to meet individual needs. It is supported by a "smart" assessment process that indicates the appropriate modules for each child and includes all the necessary material, forms and games.

### No 34: Lexipontix future

Two single subject studies are on their way. They will provide some very preliminary data concerning clinical effectiveness. The next step is to implement therapy with more children and families to document outcomes.

Our intention is the programme to be published on-line as an open source resource, hopefully within 2014.

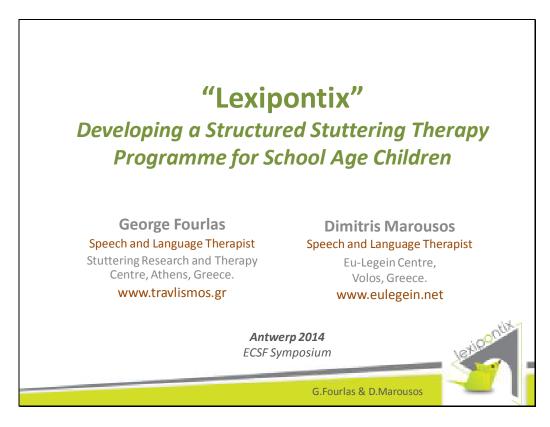
### No 35: Thank you

### No 36 & 37: References and Bibliography

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# Here comes "Lexipontix"!



"Lexipontix" proposes an alternative approach to stuttering therapy for school age children.

G.Fourlas & D.Marousos

### Slide 4

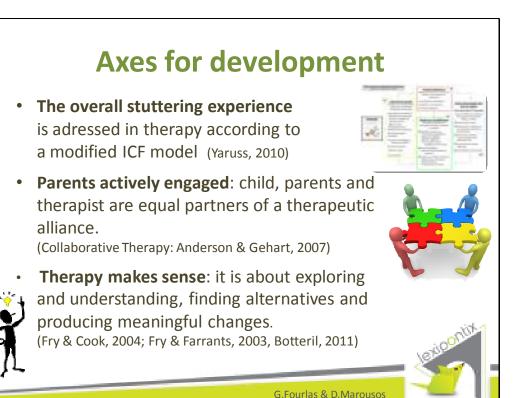
# Here comes "Lexipontix"!

"Lexipontix" is a structured stuttering therapy programme based on:

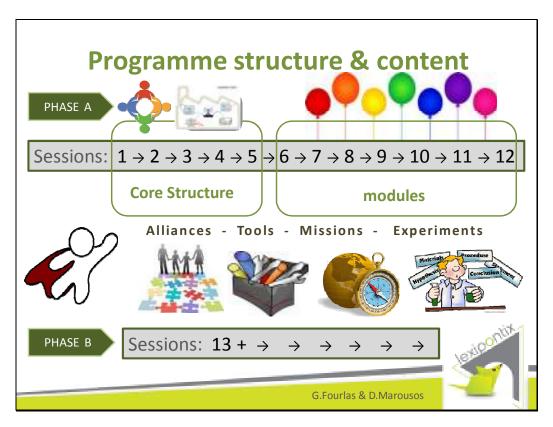
- Cognitive Behavioural Therapy (Beck,1967)
- Parent-Child Interaction Therapy (Zisser & Eyberg, 2010; Kelman & Nicholas, 2008).
- Solution Focused Brief Therapy (De Shazer,1985; De Shazer et al, 2007; Berg,1999)
- Fluency Shaping and Stuttering Modification (Ingham & Andrews, 1973; Ryan, 1974; Webster, 1979; Van Riper, 1971; Van Riper, 1973)



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Slide 6



## **Definition of Communication Restructuring**

The therapeutic process that leads a person

- ✓ to reconstrue his communicative role
- ✓ to alter the definition of communicative success and failure
- ✓ to respond in a functional and meaningful way to the demands of a communicative event





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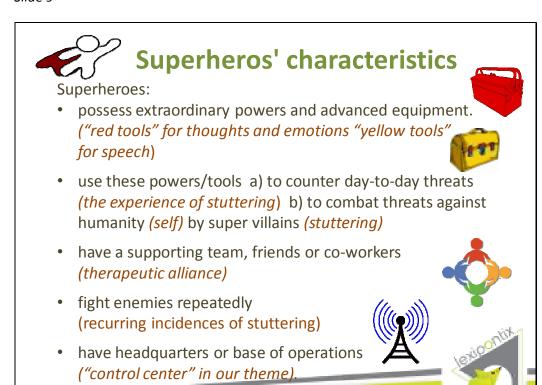
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# Superhero against Lexipontix in a therapy arena - Assumptions

- The stuttering character is to be kept under control through cognitive restructuring rather than being fought or eliminated.
- The stuttering character should represent both external as well as internal "threats"
- The child is empowered to identify her "super powers" against "Lexipontix" the "archenemy" stuttering character

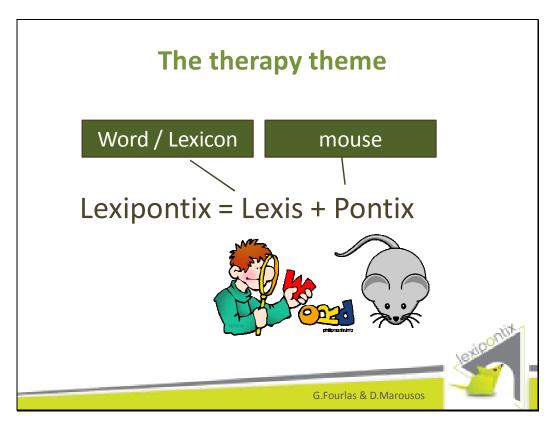


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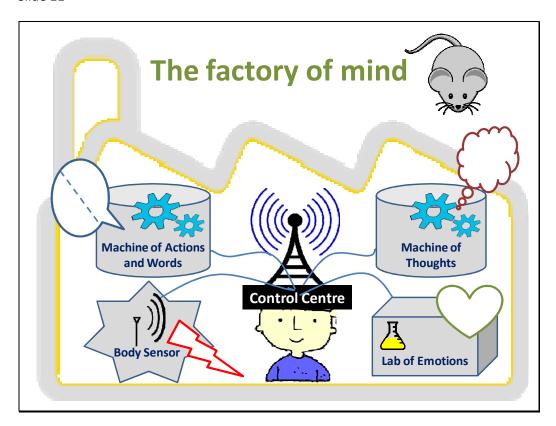


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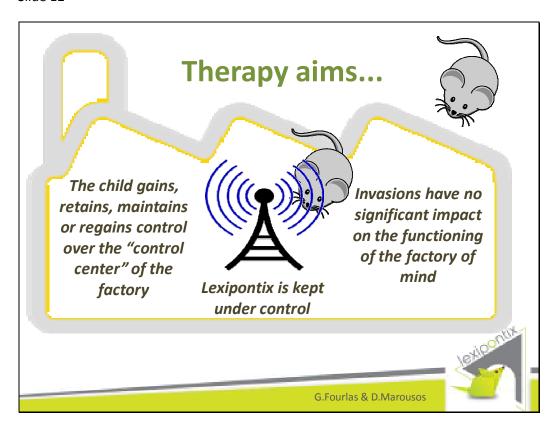
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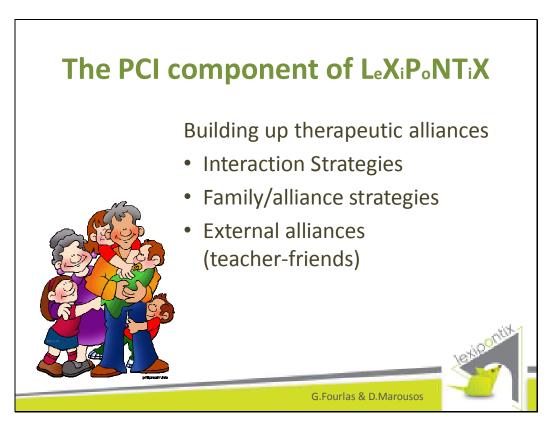
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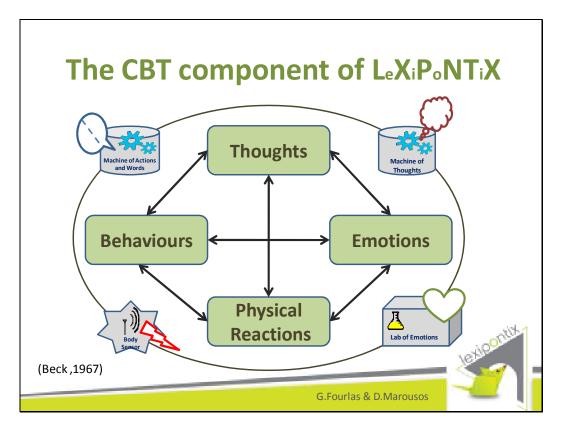
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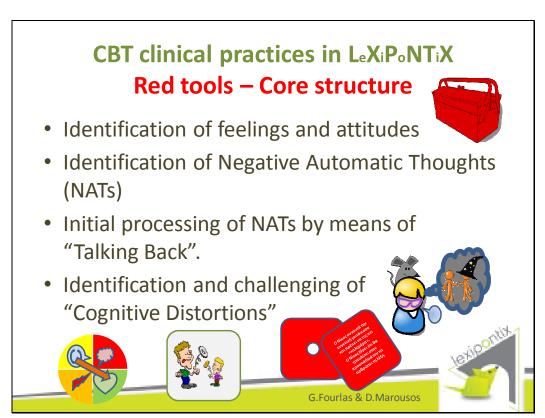
# Interpretation of the stuttering event Stuttering occurs when Lexipontix: is trying to intrude into the factory of mind (anticipating a stuttering event) sabotages one of the factory machines (experiencing of a stuttering event) invades the control centre of the factory (communicative outcome of a stuttering event)

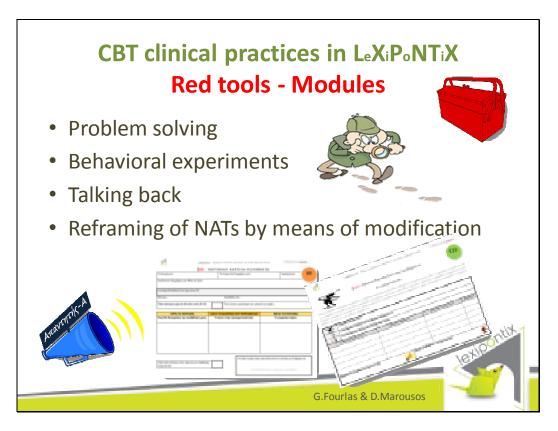


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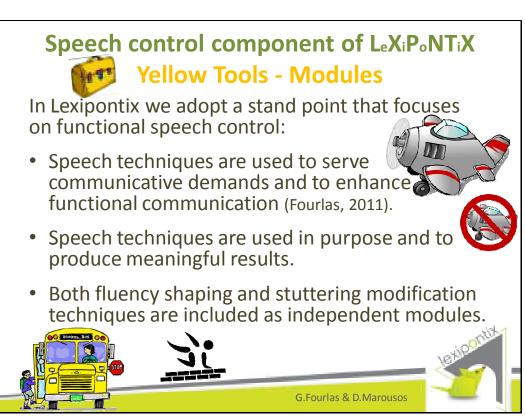


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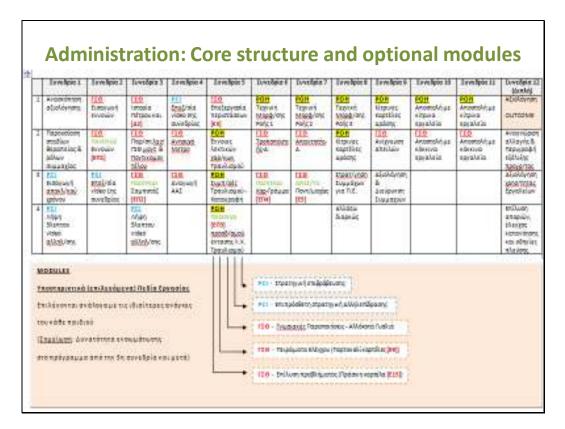




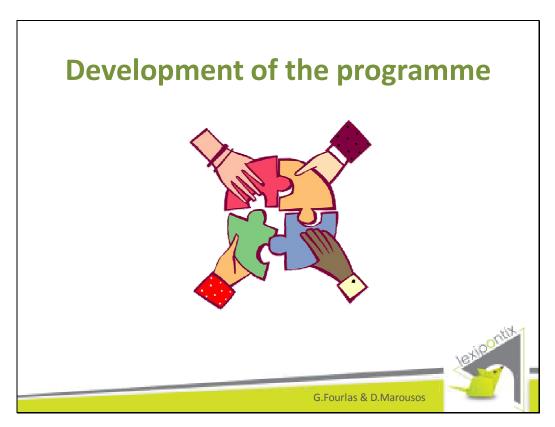
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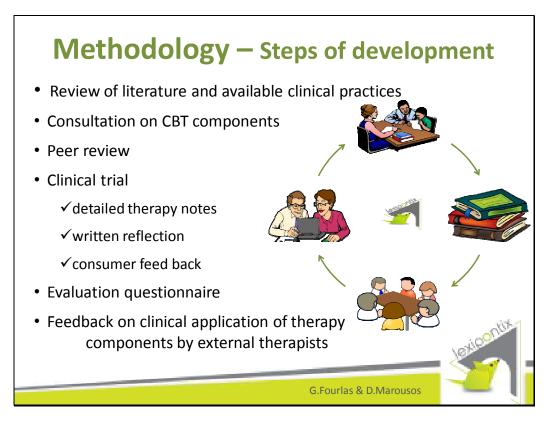


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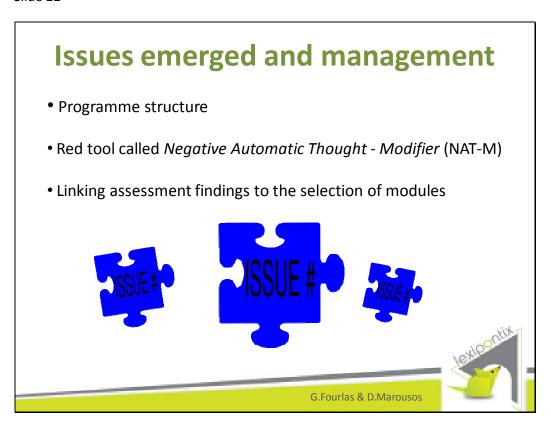


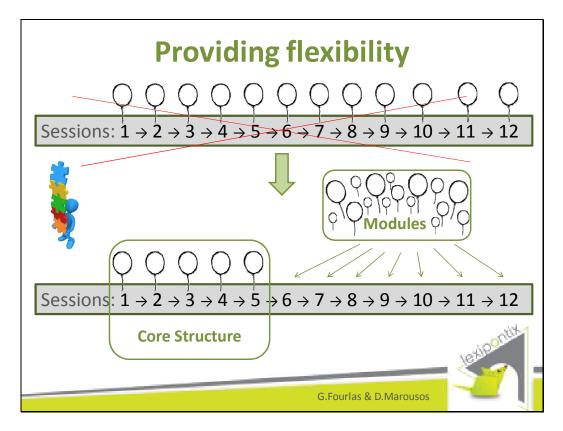
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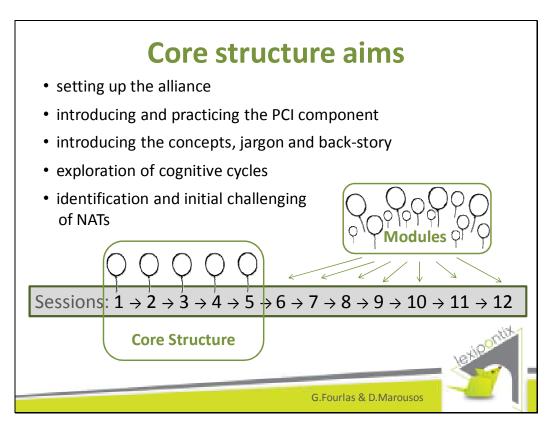


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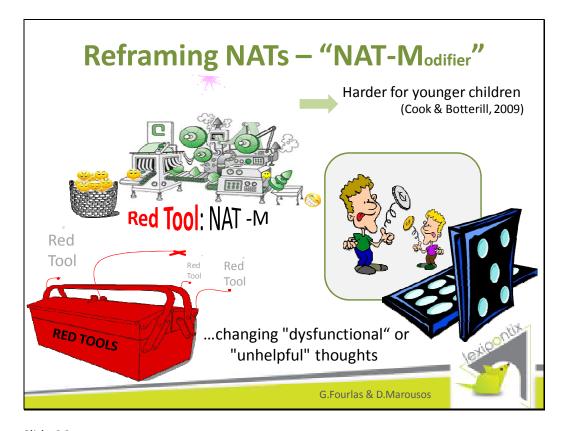




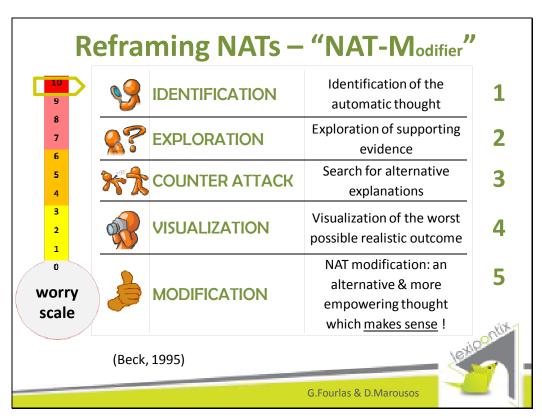
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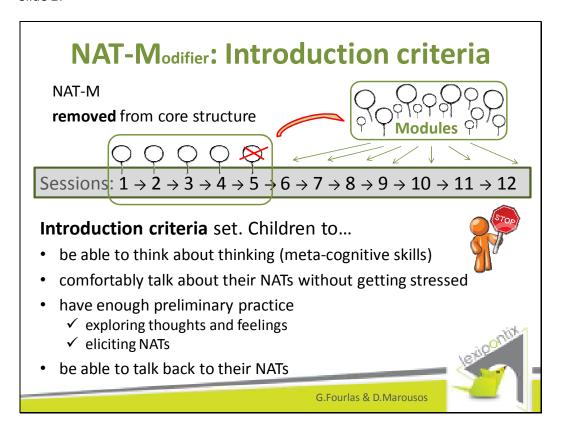


Slide 25

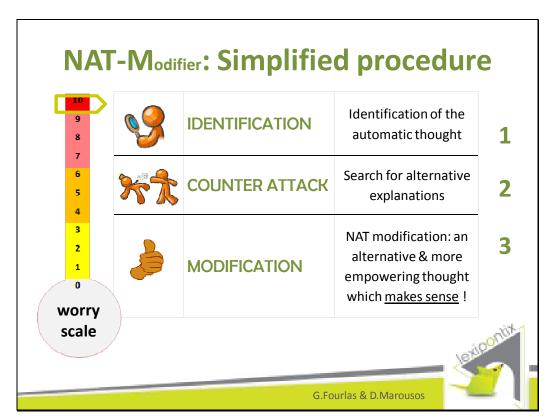


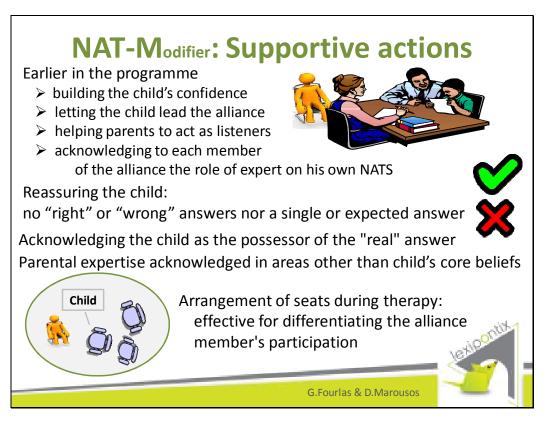
Slide 26





Slide 28

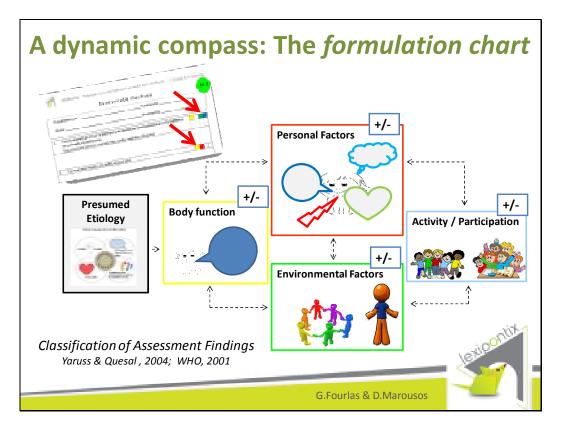




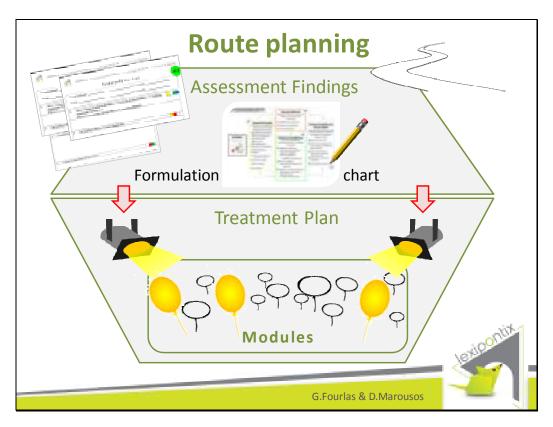
Slide 30



Slide 31



Slide 32



# LeXiPoNTiX in clinical action

### Lexipontix is...

- the first structured intervention programme in Greek language
- addressing the overall needs of school-age CWS
- theoretically supported
- clinically relevant
- fun
- addressing the needs of the whole family
- brief
- goal-directed
- flexible, easily tailored to meet individual needs
- supported by a "smart" assessment process





G.Fourlas & D.Marousos

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