e-Hoop - Unified e-Hoop Approach to Learning Differences

Structured Democratic Dialogue Report - Cyprus

Authors: Elena Aristodemou, Aliki Economidou

Editor: Yiannis Laouris

This report has been developed in the context of the e-Hoop project (www.e-hoop.info). The aim of the project is to create a universal, dynamic and adaptable e-Learning environment which educators can use, modify and expand. This will be achieved through the development of an open-source experimental platform, capable of hosting and delivering e-Learning material in the form of Learning Objects. The platform will meet specifications that will enable and facilitate the e-Hoop concept namely, the philosophy that all people are equal and have equal opportunities in learning.

The coordinator of the project is Cyprus Neuroscience and Technology Institute (CNTI), which is based in Nicosia, Cyprus. The partners of the project are: FAVINOM consultancies, New Technologies and Learning in Europe (NTL), Hellenic Open University (HOU), Youth Career and Advising Center (JKC) and Dafnord Association.

The project is part of the European Commission's Life Long Learning programme.

The content of this document belongs solely to the Cyprus Neuroscience and Technology Institute. The views expressed in this publication are those of the authors and do not necessarily express the European Commission.

Contents

INTRODUCTION

The Structured Dialogic Design co-laboratories are organized with aim to analyze the needs of the intended users with respect to their learning needs, as well as their needs with regards to the e-Hoop platform. The intention is to identify obstacles that prevent learners from benefiting maximally from their current educational institution due to differences (disabilities, socioeconomic background etc.), using the Structured Dialogic Design Process (SDDP).

Cyprus Neuroscience and Technology Institute (CNTI) organized on the 8th of February 2014 and 25th of March 2014 two co-laboratories in order to accumulate the collective wisdom of experts regarding the means that learners can be supported to generate learning content. The co-laboratory was attended by 12 national researchers.

METHODOLOGY: THE PROCESS OF STRUCTURED DIALOGIC DESIGN

The Structured Dialogic Design (SDD) process is a methodology which supports the generation of truly democratic and structured dialogue amongst teams of stakeholders. It is particularly effective in the resolution of complex conflicts, interests, and values, and in achieving consensus based on a common understanding and strategy. It is based on 7 complex systems and cybernetics axioms, and has been grounded both scientifically and empirically in hundreds of settings on a global scale for the past 30 years.

The Cyprus team has extensive experience in the application of the methodology. They have utilized it in many public debates in order to facilitate organizational and societal change. For example, they have utilized it in four European networks of experts. The Cost219ter[1] is a network of scientists from 20 countries (18 European, the USA, and Australia) who are interested in exploring the question of how Euro zone technologies and next generation networks can make their services more useful to people with special needs. The Cost298[2] network also aims to make ambient intelligence technologies more accessible to the wider public.

The scientific communities of Cost219ter and Cost298 utilized SDD in order to outline the obstacles which inhibit the application of the above technologies on a wider level. Based on the results of the SDD, they designed a corresponding strategy for the next 3 years. Insafe[3] is a European network of 27 Awareness Nodes who used SDD in many meetings in order to identify the inhibitors, produce a vision of the future, and agree on a plan of action. More relevant information is available on the CyberEthics Awareness Node website, available at www.CyberEthics.info.

The UCYVROK[4] network utilized SDD in order to determine the reasons for which young people in Europe do not participate in European programs. The results were presented to the European Parliament. The SDD methodology was also used in order to ease the dialogue between Greek-Cypriots and Turkish-Cypriots since 1994. This dialogue culminated in the creation of a peace movement. Many reports are still being utilized by the network, and are available on the program's page.

SDD was designed especially so that it can assist non-homogenous groups in tackling complex problems within a reasonable and restricted time frame. It facilitates the annexation of

---

[1] www.cost219ter.org.

[2] www.cost298.org.

[3] www.saferinternet.org.

[4] 4 http://ucyvrok.wetpaint.com.

contributions by individuals with vastly different views, contexts, and aspirations, through a process that is structured, conclusive, and the product of cooperation.

A team of participants, who are knowledgeable of a particular situation, generate together a common outline of ideas based on a common understanding of the current problematic situation and a future ideal one. SDD promotes the focused communication between participants and supports their ownership of the solution as well as their actions towards implementing it.

STRUCTURE AND PROCESS IN A TYPICAL SDDP CO-LABORATORY

When facing any complex problem the stakeholders can optimally approach it in the following way:

1. Develop a shared vision of an ideal future situation. This ideal *vision map* serves as a *magnet* to help the social system transcend into its future state.

2. Define the *problématique*, also known as the wall of inhibitors i.e., develop a common and shared understanding of what are the obstacles that prevent the stakeholders' system from reaching its ideal state.

3. Define *actions/options* and produce a roadmap to achieve the goals.

The four phases are implemented using exactly the same dialogue technique. Each phase leads to similar products:

1. A *list* of all ideas and their clarifications [SDDP is a self-documenting process].

2. A *cluster* of all ideas categorized according to their common attributes [using a bottom-up approach].

3. A document with the *voting results* in which participants are asked to choose ideas they consider most important [erroneous priority effect = most popular ideas do not prove to be the most influential!]

4. A *map* of influences. This is the most important product of the methodology. Ideas are related according to the influence they exert on each other. If we are dealing with problems, then the most influential ideas are the *root causes*. Addressing those will be most efficient. If we deal with factors that describe a future ideal state, then working on the most influential factors means that achieving the final goal will be easier/faster/more economic, etc.

In the following, the process of a typical SDDP session, with its phases, is described in more detail.

First   The breadth of the dialogue is constrained and sharpened with the help of a *Triggering Question*. This is formulated by a core group of people, who are the Knowledge Management Team (KMT) and is composed by the owners of the complex problem and

SDDP experts. This question can be emailed to all participants, who are requested to respond with at least three contributions before the meeting either through email or wikis.

Second   All contributions/responses to the triggering question are recorded in the *Cogniscope II*™ software. They must be short and concise: one idea in one sentence! The authors may clarify their ideas in a few additional sentences.

Third   The ideas are clustered into categories based on similarities and common attributes. If time is short, a smaller team can do this process to reduce time (e.g., between plenary sessions).

Forth   All participants get five votes and are asked to choose ideas that are most important to them. Only ideas that receive votes go to the next and most important phase.

Fifth   In this phase, participants are asked to explore influences of one idea on another. They are asked to *decide whether solving one problem will make solving another problem easier*. If the answer is a great majority an influence is established on the map of ideas. The way to read that influence is that items at the bottom are root causes (if what is being discussed are obstacles), or most influential factors (if what is being discussed are descriptors of an ideal situation or actions to take). Those root factors must be given priority.

Sixth   Using the root factors, stakeholders develop an efficient strategy and come up with a road map to implement it.

FURTHER INFORMATION ON SDDP

You can begin your search on the Internet	Lovers of Democracy, Ozbekhan, Christakis, Club of Rome, SDDP, Cyprus Civil Society Dialogue etc.
Book by Aleco Christakis; A must for beginner or advanced practitioners	http://Harnessingcollectivewisdom.com
A Wiki for Dialogue community support	http://blogora.wetpaint.com
Institute for 21st Century Agoras	http://www.globalagoras.org
Lovers of Democracy; Description of the technology of Democracy	http://sunsite.utk.edu/FINS/loversofdemocracy/
New Geometry of Languaging And New Technology of Democracy by Schreibman and Christakis	http://sunsite.utk.edu/FINS/loversofdemocracy/NewAgora.htm
Cypriot applications with diverse stakeholders and complex situations: 1.Information technology in the service of peace building; The case of Cyprus. *World Futures*, (2004), *60,* 67–79 2. A systemic evaluation of the state of affairs following the negative outcome of the referendum in Cyprus using a structured design process. In: Systemic Practice and Action Research, 2009, 22:1, 45-75 3. The miracle of Cyprus - Civil Society Dialogue for Peace Revivial	http://www.informaworld.com/smpp/content~db=all~content=a725289197?words=laouris* http://www.springerlink.com/content/65025866mnk65p52/?p=4e796e7288eb4a6fa465fb901060a9ed&pi=0 http://www.civilsocietydialogue.net/

HOW CAN LEARNERS BE SUPPORTED TO GENERATE LEARNING CONTENT?

During the first session of the SDDP, the participants engaged in a structured dialogue focusing on the triggering question:

"What are typical obstacles that limit learners from benefiting maximally from their respective educational institutions of their differences?"

The participants of the SDDP produced a total of 50 ideas. All of the ideas are available on Table 1. The ideas were then organized into seven clusters:

Clusters:

Cluster 1: Different socio-political environment

Cluster 2: Exercises promoted by educators

Cluster 3: Different teaching methods

Cluster 4: Teachers' attitudes

Cluster 5: Societal values

Cluster 6: Structure and organization of the school and classroom

Cluster 7: Factors not taken into account

After having clustered all their ideas, the participants cast votes for the five ideas that they each felt were more important. The ideas receiving the most votes were:

Idea #26: (8 votes)

Idea #46: (6 votes)

Idea #23: (5 votes)

Idea #27: (5 votes)

Idea #49: (4 votes)

Idea #17: (3 votes)

Idea #18: (3 votes)

Idea #20: (3 votes)

Idea #16: (2 votes)

Idea #33: (2 votes)

Idea #39: (2 votes)

Furthermore, the following ideas received one vote and were structured with the others in the next step: Ideas #3, 5, 12, 31, 35, 36, 37, 38, 41, 47, 48 and 50.

A total of 23 ideas received one or more votes. This is described scientifically by the parameter of spreadthink or divergence (ST or D respectively), whose value in this case is 39% of disagreement.

According to numerous studies, the average degree of spreadthink is 40%. Based on this we can conclude that the participants show slightly less divergence than average in their ideas regarding the issue. This suggests that the participants already demonstrate a reasonable amount of consensus and interpret the issue in the same manner.

The results of the voting procedure were used in order to select ideas for the following structural process. The participants were able to structure 23 ideas, which as mentioned before had received one or more votes. The resulting "Tree of Influences" demonstrates the basic ideas which could provide indications in answering the triggering question. The tree or map is constituted by 3 levels of influence.

TREE OF INFLUENCES

The tree of influences is made up of 3 different levels. The ideas on the lowest level are those with the greatest degree of influence. The participants agreed that the following ideas were the most important and that any action related to the subject of e-learning should take them into consideration:

Idea #27: The large number of students in classrooms (sometimes)

Idea #26: Improper and insufficient training of teachers

Idea #18: Teaching methodology

Idea #46: Overloading the cognitive load

Idea #49: Lack of individualized learning

Idea #23: Students' evaluation

In particular idea 27, the large number of students in classrooms, is the idea with the greatest influence and comprises level III of the tree. As can be seen on the map, the large number of students in the classroom influences the teaching methodology and the evaluation of students' progress, while it is also decreasing students' individualized learning. Additionally the teaching methodology utilized (idea 18), as well as teachers' improper and insufficient training (idea 26), which comprise level II of the tree, exert an influence on ideas 49 and 23 respectively.

Despite teachers' improper and insufficient training, being considered as the most significant obstacle - collected the majority of votes (8 votes) during the voting process- it is only found on level II on the tree of influences, along idea 18 the teaching methodology, which received 3 votes.

Notice that all three ideas (idea 46, 49 and 23) found on level I, belong to the same Cluster of obstacles namely, "Different teaching methods".

Idea 46 which is also found on the top of the tree, does not influence any of the ideas involved in the mapping process.

Although most of the descriptors did not receive any votes nor can be found anywhere in the Tree of influence, this does not mean that they are not important or that they should not be taken into account.
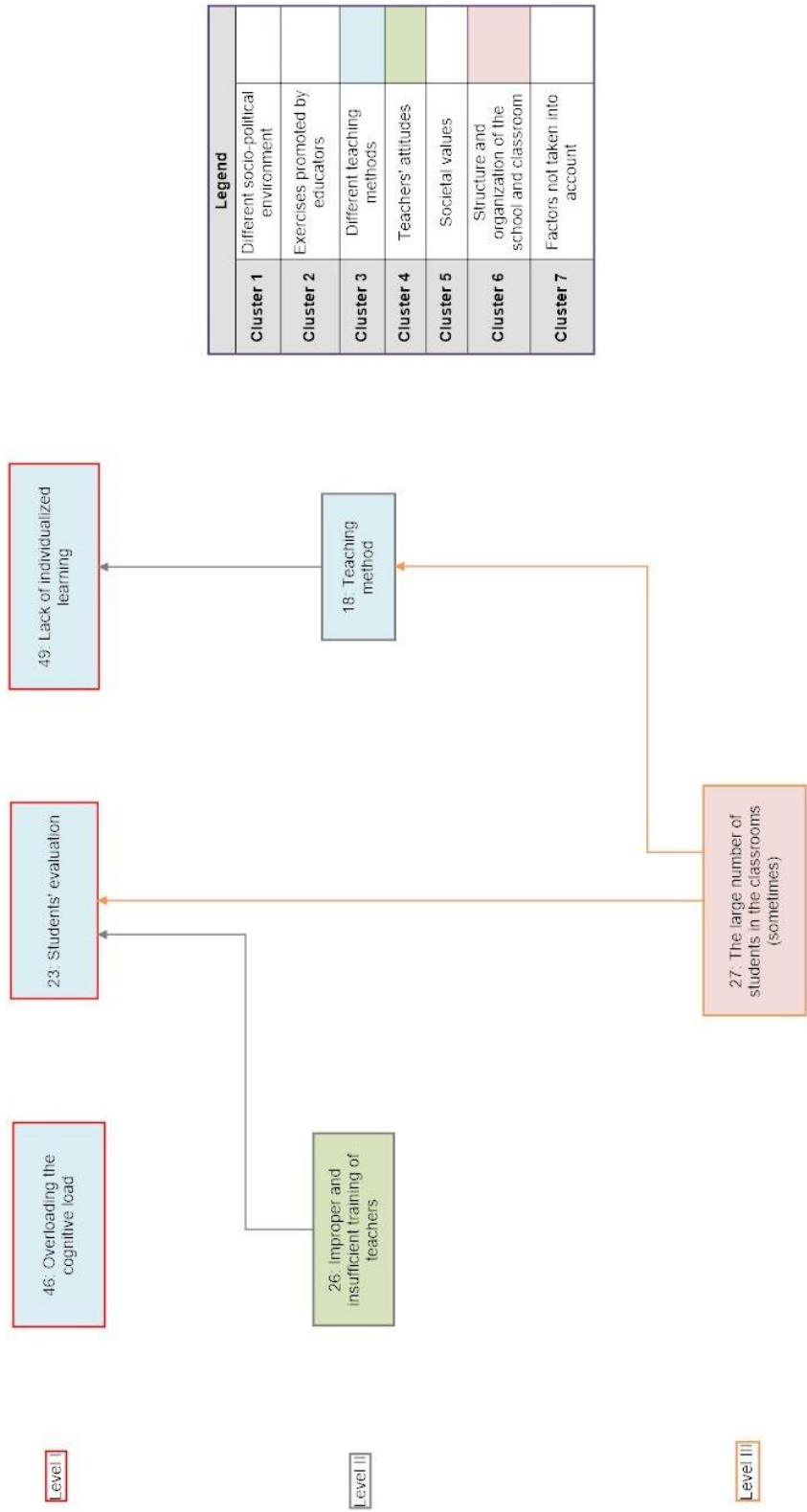
Legend	
Cluster 1	Different socio-political environment
Cluster 2	Exercises promoted by educators
Cluster 3	Different teaching methods
Cluster 4	Teachers' attitudes
Cluster 5	Societal values
Cluster 6	Structure and organization of the school and classroom
Cluster 7	Factors not taken into account

49: Lack of individualized learning

18: Teaching method

23: Students' evaluation

27: The large number of students in the classrooms (sometimes)

46: Overloading the cognitive load

26: Improper and insufficient training of teachers

Level I

Level II

Level III

CONCLUSIONS

The goals of the co-laboratory were achieved in the following ways:

1. One list of factors was generated in response to the Triggering Question;

2. The factors were clarified in plenary, thus enabling participants to achieve a better understanding of the views of other members and greatly expand their own horizons regarding positives of internet use;

3. The actors were clustered in an interactive manner, thus providing opportunities for further and deeper clarifications of salient distinctions between separate ideas. The process is crucial for what we call "evolutionary learning" (i.e., during the process participants "lose" connection to their own personal ideas and stereotypes in favor of a collective and shared thinking);

4. Participants voted for the factors that they considered most important. They subsequently managed to "structure" all these ideas and produce one influence map for the Triggering Question. It must be noted that co-laboratories rarely manage to "structure" all ideas that receive votes;

5. An influence map has been produced for the Triggering Question, containing 8 ideas in the form of Trees of Influence;

6. The participants had time to discuss the influence map and in general agreed that the arrows in the map made sense to them.

7. More importantly, the structured dialogue process empowered the participants to identify and understand the obstacles that limit learners from benefiting maximally from their educational institutions.

TABLE 1:

Ideas for the obstacles that limit learners from benefiting maximally from their educational institutions

1: Each individual's learning pace

2: The socioeconomic substructure

3: Different learning types (e.g. visual, auditory)

4: Students from diverse backgrounds

5: Racism and psychological problems

6: The external characteristics of each student

7: Mental learning problems

8: Teacher's lack of knowledge

9: Students' diverse interests

10: Culture

11: Background knowledge

12: The structure – classroom organization

13: Different religions

14: Family status

15: Societal environment

16: The role of the teacher

17: Linguistic problem

18: Teaching methodology

19: School's technical and physical infrastructure

20: Time and money for educators' training

21: The amount of help that each student requires differs

22: Lack of values

23: Students' evaluation

24: Authoritative relationships educators - students

25: The management of the school

26: Improper and insufficient training of teachers

27: The large number of students in classrooms (sometimes)

28: Incorrect running of "ZEP" schools

29: Relationships between educators and parents

30: Classes of students' with mixed capabilities

31: Hesitation for drastic measures

32: Students have different confidence levels

33: Information explosion

34: Massification of students

35: The evaluation of teachers –issue of permanency

36: Teaching methods

37: Stereotypes – attitudes promoted by teachers

38: Lack of flexibility in the classroom

39: Improper use of technology in the learning process

40: Misconceptions of students on various subjects

41: Learning bullying

42: Students' access to means available differ

43: Wrong role models

44: Students' diverse needs are not taken into account

45: Teachers' ideological beliefs

46: Overloading the cognitive load

47: Exclusion of foreign students

48: Lack of cooperation between educators

49: Lack of individualized learning

50: Educators' lack of interest

TABLE 2:
Clusters of factors that appear to limit learners from benefiting maximally from their educational institutions

Cluster 1: Different socio-political environment

1: Each individual's learning pace

2: The socioeconomic substructure

4: Students from diverse backgrounds

13: Different religions

14: Family status

15: Societal environment

17: Linguistic problem

Cluster 2: Exercises promoted by educators

5: Racism and psychological problems

6: The external characteristics of each student

16: The role of the teacher

37: Stereotypes – attitudes promoted by teachers

41: Learning bullying

45: Teachers' ideological beliefs

47: Exclusion of foreign students

Cluster 3: Different teaching methods

18: Teaching method

23: Students' evaluation

38: Lack of flexibility in the classroom

33: Information explosion

34: Massification of students

46: Overloading the cognitive load

49: Lack of individualized learning

Cluster 4: Teachers' attitudes

8: Teacher's lack of knowledge

20: Time and money for educators' training

24: Authoritative relationships educators - students

26: Improper and insufficient training of teachers

29: Relationships between educators and parents

31: Hesitation for drastic measures

35: The evaluation of teachers –issue of permanency

50: Educators' lack of interest

48: Lack of cooperation between educators

Cluster 5: Societal values

10: Culture

22: Lack of values

43: Wrong role models

Cluster 6: Structure and organization of the school and classroom

12: The structure – classroom organization

19: School's technical and physical infrastructure

25: The management of the school

27: The large number of students in the classrooms (sometimes)

36: Teaching methods

42: Students' access to means available differ

38: Lack of flexibility in the classroom

39: Improper use of technology in the learning process

Cluster 7: Factors not taken into account

1: Each individual's learning pace

3: Different learning types (e.g. visual, auditory)

7: Mental learning problems

9: Students' diverse interests

11: Background knowledge

21: The amount of help that each student requires differs

30: Classes of students' with mixed capabilities

32: Students have different confidence levels

40: Misconceptions of students on various subjects

44: Students' diverse needs are not taken into account

FACILITATORS

Dr. Yiannis Laouris is a neuroscientist and systems engineer, currently working as Senior Scientist and Chair of the Cyprus Neuroscience and Technology Institute (CNTI). His team of about 20 runs over 15 research- and social intervention European funded projects, focusing at the interface of science and society. He promotes the application of broadband technologies as tools in peace building and to bridge the digital, economic, educational and inter-personal divides in our planet. He was the Founder of a chain of computer learning centers for children (www.cyber-kids.com) which expanded in 7 countries and received numerous prestigious awards. His contributions in systems science applications were also recognized by the Hellenic Society for Systemic Studies who honoured him with their 2008 Award. He is a senior SDDP Facilitator and has several publications about the theory of the science of dialogic design. Laouris has about 50 papers in peered reviewed journals, half of which in neuroscience, a quarter in applied systems science and peace, and the rest in IT-children and neuroscience of learning.

Mrs. Katerina Fotiou joined the Cyprus Neuroscience and Technology Institute in July 2012. She holds a BSc in Computer Science from Aristotle University of Thessaloniki. Katerina is an experienced programmer in various computer languages and has extensive experience in programming smart phones. She is member of the IT team of the organization. Her main task is in the programming of mobile device based Apps for the third generation Cogniscope^{TM} and for "intelligent" educational games. Her responsibilities also include the development of all theorganization's websites and electronic infrastructure.

THANKS

The Knowledge Management Team who organized the SDD co-laboratory would like to thank the representatives of the various stakeholders for the time, enthusiasm, and wisdom which they dedicated to this dialogue.

PARTICIPANTS

Anastasia Kkoufou
Anna Pavlina Charalambous
Antria Nikolaou
Christos Konstantinou
Despo Nikolaou
Despo Spyrou
Katerina Philippou
Maria Orfanou
Natasa Patsalidou
Stavria Aggeli
Stella Lambis
Vasilis Stylianou

The participants are the sole advocates of the views expressed in this document.