Electronic Journal for Inclusive Education

Volume 2
Number 10 *Electronic Journal for Inclusive Education* Article 5
Vol. 2, No. 10 (Fall/Winter 2012)

Fall 2012

Student-Teachers' Metaphorical Perceptions of Dyslexia and Foreign Language Disabilities

Tsafi Timor
The Kibbutzim College of Education, tsafit@bezeqint.net

Running head: Student-Teachers' Metaphorical

Student-Teachers' Metaphorical Perceptions of Dyslexia and Foreign Language Disabilities

Dr. Tsafi Timor
tsafit@bezeqint.net
The Kibbutzim College of Education
Tel Aviv Israel

Keywords: Dyslexia, ESL, Foreign Language, learning disabilities

Abstract

There seems to be an ongoing controversy among researchers with regard to the existence of LD in foreign language (FLLD). It appears that most researchers favor the analogy of FLLD to obesity rather than to measles as both LD and obesity are conditions which reside on a continuum. The study examined EFL student-teachers' perceptions of FL learning problems with regard to the analogy to obesity and to measles from previous studies. The methodology was content analysis of an online forum as part of an academic course. Findings show that most student-teachers perceive FL learning problems as obesity because they find similarities in the diagnosis, treatment, characteristics and manifestations of both conditions. However, they show no clear-cut distinction between LD and FL learning problems, and consequently they perceive most FL learning problems as LD. Further research is recommended among EFL teachers in the area where language difficulties and learning disabilities overlap

Student-Teachers' Metaphorical Perceptions of Dyslexia and Foreign Language Disabilities

Does Disability in Foreign Language Learning exist?

The issue of definitions of learning disabilities (LD) is an unresolved issue as of to date (e.g. Lyon et al., 2001). However, a new type of disability has been suggested in the literature over the past several years both in the area of LD and foreign language (FL) acquisition (e.g. Hu, 2003; Reed and Stansfield, 2004). Sparks and Ganschow (e.g. Ganschow & Sparks,1987) have studied this issue for years although they have refuted their basic assumption overtime. At first they speculated that there was a link between language-based LD and difficulties in the acquisition of a FL, and have proposed the existence of a linguistic coding deficit hypothesis (LCDH) (Ganschow, Sparks, Javorsky, Pohlman, & Bishop-Marbury, 1991). According to this theory, students who demonstrate difficulties in FL learning have a problem in processing in at least one linguistic code in their native language (phonological, semantic or syntactic). Thus, deficits in L1 (native language) are the root of FL learning difficulties. Other researchers (e.g. Downey, Snyder & Hill, 2000) added more evidence to the link between phonological deficits and FL learning difficulties. The link between FL learning problems and LD had been suggested earlier by Dinklage (1971) who claimed that students who experience difficulties in FL had diagnosed or undiagnosed LD in L1.

In later studies Sparks & Ganschow (1993) found no differences on cognitive, native language and FL aptitude measures between LD students in secondary and postsecondary education and students with FL learning problems who were not classified as LD. Similarly, students who were identified with LD passed FL courses with no apparent difficulty whereas those who were not classified as LD failed or experienced problems in FL courses. Therefore, Sparks, Ganschow & Javorsky (1993) have concluded that there is no such entity as FLLD (Foreign Language Learning Disability) and have broken the almost obvious link between LD and problems in FL acquisition. They postulated that FL learning problems occur along a continuum of very strong to very weak FL learners. The dilemma around the

existence of FLLD is demonstrated in an analogy which appears in the literature and is presented below.

FL Learning problems: obesity or measles?

The argumentation around this analogy dates back to the 1980s (Stanovich, 1988, Ellis, 1985) and revolves around dyslexia and reading problems. Ellis argues that the question of prevalence of dyslexia and of obesity is equally irrelevant, because both dyslexia and obesity appear *along the continuum* which consists of arbitrary criteria, although dyslexia or obesity are real problems for those who suffer from them. Stanovich claims that converging evidence indicates that dyslexia is not a discrete entity but rather a graded continuum of reading problems, and that the formerly suggested "hump" near the bottom of the reading distribution (Rutter & Yule, 1975) which indicated a discrete pathology to many researchers, probably does not exist and appears to be an artifact. Further, he objects to clusters which result in discrete subtypes of dyslexia. Sparks (2006) supports the stance taken earlier by Stanovich (1988) and Ellis (1985) who have claimed that the proper analogy to FL learning problems is obesity and not measles and that FLLD can be defined only by arbitrary criteria. It appears that the above-mentioned researchers favour the analogy of reading disability to obesity primarily on the basis of the need for arbitrary criteria to define a condition which has no discrete entity but rather resides on a continuum.

An examination of dictionary definitions for "obesity" and "measles" yields some additional criteria that enhance understanding of this analogy. These criteria are highlighted in the body of the texts below:

Obesity: *"The state of being well above one's normal weight. A person has traditionally been considered to be obese if they are more than 20 percent over their ideal weight. That ideal weight must take into account the person's height, age, sex, and build. Obesity has been more precisely defined by the National Institutes of Health (the NIH) as a BMI of 30 and above. (A BMI of 30 is about 30 pounds overweight.)The BMI (body mass index), a key index for relating body weight to height, is a person's weight in kilograms (kg) divided by their height in meters (m)squared. Since the BMI describes the body weight relative to height, it correlates strongly (in adults) with the total body fat content. Some very muscular people may have a high BMI without undue health risks. Obesity is often* ***multifactorial,*** *based on both* ***genetic and behavioral factors****. Accordingly,* ***treatment*** *of obesity usually requires* ***more than***

just dietary changes. Exercise, counseling and support, and sometimes medication can supplement diet to help patients conquer weight problems. *Extreme diets, on the other hand, can actually contribute to increased obesity. Overweight is a significant* ***contributor to health problems.*** *It increases the risk of developing a number of diseases"*
(MedicineNet.com)

The criteria which are included in this definition are: arbitrarity of measures for definition, causes, outcome, treatment.

Measles: *" An acute and highly contagious* ***viral disease*** *characterized by fever, runny nose, cough, red eyes, and a spreading skin rash. Measles, also known as rubeola,* ***is a potentially disastrous disease.*** *It can be complicated by ear infections, pneumonia, encephalitis (which can cause convulsions, mental retardation, and even death), the sudden onset of low blood platelet levels with severe bleeding (acute thrombocytopenic purpura), or a chronic brain disease that occurs months to years after an attack of measles (subacute sclerosing panencephalitis). During pregnancy, exposure to the measles virus may trigger miscarriage or premature delivery.* ***Treatment includes rest, calamine lotion or other anti- itching preparations to soothe the skin, non-aspirin pain relievers for fever, and in some cases antibiotics***. *Measles can often be prevented through vaccination. Also known as hard measles,* ***seven-day measles, eight-day measles, nine-day measles, ten-day measles****, morbilli"*
(MedicineNet.com)

The criteria which are included in this definition are: causes, outcome, treatment, duration.

Whilst Ellis (ibid.) and Stanovich (ibid.) relate in their analogy to dyslexia and to reading problems and this analogy was later on used by Sparks and Ganschow (1993) with regard to FL learning problems, it seems that some crucial factors of FL learning problems were left out. The factors which are presented below can enhance our understanding of this analogy.

Causes of FL learning problems

Empirical literature on FL learning problems relates to other factors of FL learning problems in addition to LD, such as *linguistic abilities* (e.g. Downey, Snyder & Hill,

2000). However, the fact that some students can score high results on the MLAT (Modern Language Aptitude Test) (Carrol & Sapon, 1959) which attempts to measure the cognitive and linguistic abilities associated with FL learning while at the same time experience difficulties in FL learning, indicates that other factors are equally related to FL learning (Castro & Peck, 2005). Indeed, difficulties in FL learning can also be attributed to *affective factors*, such as language anxiety or lack of motivation. MacIntyre (1995) identified anxiety as *a condition* that affects directly FL learning rather than as the outcome of language learning deficits, which was the stance taken by Sparks & Ganschow (1993, 1995). In addition, mismatches between *teaching and learning styles* can also influence learning difficulties (Ehrman, 1996). Castro & Peck (ibid.) argue that in FL learning the student needs to move between learning modalities because of the complex nature of language components. They found that students who rely on a *specific* learning style rather than on a variety of learning styles are less conductive to language learning. They postulated that "at-risk" students for FL learning are those with highly specialized learning styles and those with specific learning difficulties, and recommend that learning styles be included in testing measures of FL learning difficulties. Also, *expectations that teachers form* for their students in FL classrooms affect their performance (Tsiplakides & Keramida, 2010).

Context of Study

The study relies on an analysis of a forum which consists of 49 student-teachers. The forum and asynchronous task dealt with the topic of *"Learning Problems or LD in Foreign Languages" (FLLD)* as part of an academic course on learning disabilities, and the main objective was to encourage independent learning of this topic via online tools. The asynchronous task took 5 weeks with 6 phases each of which had a deadline for online submission. The first 4 phases involved **an individual learning process** which included elaboration of the article "Is there a Disability for Learning a Foreign Language? (Sparks, 2006). In Phase 5, the participants had to conduct a **collaborative forum discussion** as a post-reading task on a dilemma brought up in Sparks' article. Phase 6 involved **personal reflections** on the process. **The analysis of data was conducted on Phase 5.**

The research questions were:

1. Do student-teachers perceive FL learning problems as obesity or as measles?
2. What were the main arguments brought up by the student-teachers in their answer to question 1?
3. Have the student-teachers referred to language/ FL-related arguments OR to LD-related arguments?

The assumptions underpinning these questions were:

1. Student-teachers would be able to see their similarity between FL learning problems and obesity more than to measles based on the knowledge they have gained in the course.
2. They will mainly bring up arguments which are related to LD which they have learnt in the course.
3. They will also relate to language or FL-related terminology and arguments as they are EFL teachers.

Goal of Study

The study examines EFL student-teachers' perceptions of FL learning problems and LD with regard to the analogy to obesity and to measles that appears in previous studies. The goal of the study was to gain a full picture of their perceptions on issues of LD and FL teaching and learning as part of an academic course on LD for EFL teachers. The study served as an **evaluative measure** for the lecturer of the course (author of this paper).

Methods

Methodology: Due to the interpretive nature of the study the qualitative paradigm has been chosen, because it allows for an understanding of a phenomenon in its entirety and for the creation of individual profiles within a group. Content analysis was conducted which is based on reading and evaluation (Cohen, Manion, & Morrison, 2000).

Research Population: The group of student-teachers consisted of 4th year students from the English Language Education Department. These students are already full-time English teachers in Elementary Schools and Junior High Schools.

Procedures: The class was divided by the researcher into 10 discussion groups each consisting of 5 students. The researcher was "present" in all phases of the task, and occasionally offered feedback to individual participants on the forums. This study refers to **Phase 5,** where participants had to conduct an online group discussion with the following instructions: *"Start a group discussion regarding the following statement**: "FL learning problems is obesity, not measles"** (Sparks, ibid.: p. 545, middle column). First, form your own opinion within the context of the article, and then react to 3 comments of your fellow students".*

Analysis of Findings: Content analysis was conducted on the student-teachers' answers. In **Research Question 1** three content categories were elicited from the individual answers: 1. FL learning problems are like *obesity* (Category "O"); 2. FL learning problems are like *measles* (Category "M"); 3. FL learning problems cannot be considered as a disease; Undecided answers (Category "N": Neutral). The findings are presented in percentages. In **Research Question 2** all the arguments which explain the perceptions of the student-teachers (O/M/N) were clustered in content categories and presented with the number of times they appear in the student-teachers' responses, with examples of their quotes.

Findings

Research Question 1*:* Do student-teachers perceive FL learning problems as obesity or as measles?

55 out of 60 student-teachers (92%) perceived FL learning problems as obesity and not as measles. 5 student-teachers (8%) did not agree with the analogy of FL learning problems to a disease or were undecided in their answers. None of the student-teachers perceived FL learning problems as measles.

***Research Question 2*:** What were the main arguments brought up by the student-teachers in their answer to question 1?

The content analysis conducted on the student-teachers' answers has yielded several content categories of arguments which are presented below with the number of occurrences of the argument in the text.

Main categories for "FL learning problems are like obesity":

Category 1:

Issues of Diagnosis (appeared **19** times in their answers)

1. *Multiplicity of causes:*

   *"FL problems are more of **a set of symptoms** and result from **a set of complex causes** not necessarily LD based. Obesity is caused by many different causes which cannot be defined with great accuracy";*

   "*Obesity **factors** as well as FLLD factors **are varied**. Factors can be psychological, genetic or even physical*".

   "Obesity cannot be classified as an infection, as well as there is no disability that can be called FLLD. There are many different reasons causing obesity (unlike measles which is caused by a virus): excessive food, lack of physical activity, genetics, medical reasons, etc. Similarly, there can be many reasons causing FL problems: deficiency in syntactic, morphological, semantic or phonological, low motivation, high levels of anxiety or poor native language skills"

2. *Difficulty in the diagnosis process:*

   *"Obesity is **a gradual progress**, which cannot always be easily **identified.** Similarly, problems in FL cannot be easily diagnosed by pointing on one specific factor. Instead, they should be seen as a process which includes different stages and many influencing factors".*

Category 2:

Issues of Treatment (appeared **31** times in their answers)

1. *Lifelong struggle:*

   *"FL learning problems is an **ongoing struggle** like obesity, nothing that one lesson, one technique, or one "medicine" can fix";*

   *"FLLD and obesity problems can follow a person throughout his **whole life";***
2. *Individual Educational Plan:*

   *"Each student needs an **individual educational plan** to help with the outer symptoms as well as the internal learning problems".*
3. *"No quick fix":*

"FL learning problems are very similar to obesity with respect to diagnosing them correctly, then having to convince the parents and find a solution ***without having one-fix-all cure****".*

"In both cases there is ***no instant method*** *to cure the problem as in case of measles".*

4. *Support from the environment*:

   "As someone with obesity needs the help of the doctor, a dietician or a trainer to change his way of life, so an individual with LD needs ***specialists*** *and teachers who can help him work out how to study and how to cope with the condition he has".*

   "The learner's ***support system*** *(parents, teachers, remedial experts, etc.) can be compared to nutrition advisors, gym instructors, or medical support".*

5. *Change in learning/life style and continuous maintenance:*

   "In most cases obesity can be treated by ***changing one's life-style*** *and eating habits, but the tendency never goes away. LD, unlike measles and more like obesity it is not contagious and can be treated by* ***changes in learning life-style****. Much like obesity, the LD will follow the learner for the rest of his learning career".*

Category 3:

Characteristics of FL learning problems and Obesity (appeared **19** times in their answers)

1. *Social-Emotional consequences:*

   "Both obesity and FL problems are a social issue, *but whereas education to the public is done with regard to obesity, there are no programs explaining what children with LD go through on a daily basis and how they have to struggle to stay afloat in class".*

2. *"Blaming the victim":*

   "A person who is sick with measles is never found at fault. However, ***obesity,*** *although it does have genetic factors,* ***is often blamed on the individual:*** *"If the person knew how to eat better, knew to exercise, if they just wanted to be healthy, then he would not be obese". Similarly,* ***often students with learning problems are blamed for their difficulties****. Many times, they are thought of as lazy, and the attitude is that if they just work harder, they should be able to do*

better. Blaming both obese and LD children does not help them and can lead to mistreatment and a worsening condition".

3. *Manifestations of LD:*

   "Both LD and FL learning problems ***manifest themselves in so many different ways and varying degrees*** *of intensity. Thus, FLLD and LD are closely related to obesity".*

   "Measles has one ***cause*** *and a uniform* ***way of demonstration****, whereas LD and obesity have multiple causes and many ways of demonstration".*

4. *Prognosis:*

   "Obesity is a ***changeable*** *condition and results come from different reasons, as opposed to measles. Similarly, FL learning problems do not derive just from LD but from a number of sources and can improve".*

   "Obesity and LD ***are manageable*** *and can be overcome although they will always remain in the background. Children with FL learning problems will have to* ***study differently*** *from other learners and deal with obstacles that other people don't encounter, but with proper help and guidance* ***they can succeed*** *just like obese children who try hard".*

Research Question 3**:** Have the student-teachers referred to language/ FL-related arguments OR to LD-related arguments?

Only one student referred to FL language terminology in his argument:

> *"Similarly, there can be many reasons causing FL problems: deficiency in* ***syntactic, morphological, semantic or phonological,*** *low motivation, high levels of anxiety or* ***poor native language skills****"*

Discussion

The present study evolved around EFL student-teachers perceptions of LD and FL learning problems.

Research Question 1 shows that the majority of the group (92%) perceived FL learning problems as obesity**.**

Research Question 2 offers the main categories of arguments they brought up: Treatment (31 times), Diagnosis (19 times), Characteristics of LD and Obesity (19 times).

With regard to **diagnosis**, the student-teachers presented a number of arguments which supported the analogy to obesity:

1. The identification of the problems involves a process which is not easy. That is why in the case of measles, *a clear distinction* of whether one has them or not can be drawn, whereas with FL problems it is much more difficult.
2. There are many factors which contribute to FL problems and to obesity.

It can be seen that the student-teachers understand that the diagnostic process is gradual and multifactorial, and all factors which relate to the individual need to be examined carefully.

With regard to **treatment,** the student-teachers presented a number of arguments which supported the analogy to obesity:

1. Both "diseases" involve a lifelong struggle.
2. There is no "quick fix" or instant method to cure FLLD or obesity.
3. The treatment involves support from the environment and also a professional, multi-disciplinary support system.
4. The student-teachers' arguments indicated that unlike measles which involves a *specific* treatment such as vaccination or cream, obesity as well as LD/FLLD require a *more comprehensive* and *multi-professional* treatment with recommended changes in the patient's lifestyle.

With regard to the **characteristics of FL learning problems and Obesity**, the student-teachers presented a number of arguments which supported the analogy to obesity:

1. Both "diseases" have a social relevance by the arbitrary measures which involve the definitions and are determined by social norms and involve social education to enhance awareness.
2. Both involve emotional aspects.
3. The individual with FL problems and obesity is often and wrongly blamed for his condition.

4. Both manifest themselves in a variety of ways and along a continuum with varied degrees of manifestations..
5. Both are changeable and manageable conditions.

The student-teachers' answers indicate that they have gained knowledge on LD-related issues such as social-emotional aspects. As they are familiar with Ecological Models of understanding learning difficulties, they understand that the integration of *within-child factors* and *environmental factors* should be considered. Also, as a result of the Ecological Models, they have also developed an optimistic prognosis.

Research Question 3 indicates that *only one student-teacher referred to language/ FL-related arguments* in support of the analogy of FL learning problems to obesity. However, it is noteworthy that even when they used the term FL learning problems in their answers, **the content almost always refers to LD**. This means that there is no clear-cut distinction for them at this point between LD and FL learning problems, and consequently they perceive most FL learning problems as LD.

Conclusions and Recommendations

The main conclusions of the study are:

1. EFL student-teachers have gained solid knowledge on LD in their education which obviously will contribute to their profession as teachers and educators.
2. They use the terms LD, FLLD, FL problems *interchangeably* in all their answers, indicating that although they demonstrate good knowledge of LD, they have not as yet formed a distinction between LD and FL learning problems. Therefore, further teaching and elaboration of these related issues should be done in order to enhance their knowledge as EFL teachers on other factors which contribute to FL learning problems.

The limitation of the study is first and foremost semantic, because the dilemma was phrased as a statement rather than a question: “FL learning problems is obesity, not measles” (Sparks, ibid.: p. 545, middle column), which was presented as evidence-based in the article, and this could have created a bias in the student-teachers' responses. It is also possible that the collaborative online discussion has also created a bias among participants who had read their peers' views, although researchers stated

that active participation contributes to deeper knowledge and to self-direct learning (e.g. Birenbaum & Feldman, 2002).

Further research is recommended among EFL teachers in the area where language difficulties and learning disabilities overlap.

Bibliography

Birenbaum, M., & Feldman, R. A. (2002) The Online forum as a teaching and learning tool in Higher Education: worldwide teachers evaluations, *Al Hagova: Journal for Teaching in Higher Education, 1*, pp. 34-37 (Translated from Hebrew)

Carrol, J., & Sapon, S. (1959, 2000), Modern Language Aptitude Test (MLAT), San Antonio, TX, Psychological Corporation.

Castro, O., & Peck, V. (2005) Learning styles and foreign language learning difficulties, *Foreign Language Annals, 38*(3), pp. 401-409.

Dinklage, I. (1971) Inability to learn a foreign language. In G. Blaine & C. McArthur (Eds.) *Emotional problems of the student*, pp. 185-206. New-York Appleton-Century-Crofts.

Downey, D., Snyder, l., & Hill, B. (2000) College students with dyslexia: Persistent linguistic deficits and foreign language learning. *Dyslexia, 6,* pp. 101-111.

Ellis, A. W. (1985) The cognitive neuropsychology of developmental (and acquired) dyslexia: A critical survey, *Cognitive neuropsychology, 2*, pp. 169-205.

Ehrman, M. E. (1996) *Understanding second language learning difficulties*. Thousand Oaks, London, New Delhi: Sgae Publications.

Ganschow, L., & Sparks, R. (1987) The foreign language requirement, *Learning Disabilities Focus*, *2*, pp. 115-123.

Ganschow, L., & Sparks, R. (1993) Foreign language learning disabilities. Issues, research and teaching implications, In S. Vogel, & P. Adelman (Eds.), *Success for college students with learning disabilities,* pp. 283-320. New-York Springer.

Ganschow, L., & Sparks, R., Javorsky, I., Pohlman, I., & Bishop-Marbury, A. (1991) Identifying native language difficulties among foreign language learners in college: A

"foreign" language learning disability? *Journal of Learning Disabilities, 24,* pp. 530-541.

Garrison, D. R. & Anderson, T. (2003) *E-learning in the 21st century: A framework for research and practice,* New York: Routlegde Falmer.

Hu, C. (2003) Phonological memory, phonological awareness, and foreign language word learning, *Language Learning, 53,* pp. 429-462.

Lyon, R., Fletcher, J., Shaywitz, S., Shaywitz, B., Torgesen, I., Ward, F., et al., (2001) Rethinking learning disabilities, In C. Finn, A. Rotherham, & C. Hokanson (Eds.) *Rethinking special education in a new century*, pp. 259-289, Washington DC: Thomas Fordham Foundation.

MacIntyre, P. D. (1995) How does anxiety affect second language learning? A reply to Sparks and Ganschow. *Modern Language Journal, 79,* pp. 90-99.

McLoughlin, C. & Luca, J. (2002) A learner-centered approach to developing team skills through web-based learning and assessment. *British Journal of Educational Technology, 33*(5), 571-582.

MedicineNet.com http://www.medterms.com/script/main/art.asp?articlekey=4607

Norton, P. (2005) Scaffolding online learning: The ART of mentoring. *Paper presented at the Conference of Society for Information Technology & Teacher Education,* March 1-5, 2005, Phoenix, AZ, USA.

Reed, D., & Stansfield, C. (2004) Using the Modern Language Aptitude Test to identify a foreign language learning disability: Is it ethical? *Language Assessment Quarterly, 1,* pp. 161-176.

Rutter, M., and Yule, W. (1975) The concept of specific reading retardation, *Journal of Child Psychology and Psychiatry, 16,* pp. 181-197.

Sharan, S. (Ed.) (1994) *Handbook of cooperative learning methods.* Westport: CT: Greenwood.

Sparks, R., Ganschow, I. & Javorsky, I. (1993) Perceptions of high and low risk students and students with learning disabilities about high school foreign language courses, *Foreign Language Annals, 26,* pp. 491-510.

Sparks, R., Ganschow, I. (1993) Searching for the cognitive locus of foreign language learning problems: linking first and second language learning, *Modern Language Journal, 77,* 289-302.

Sparks, R., Ganschow, I. (1995) A strong inference approach to causal factors in foreign language learning: A response to MacIntyre. *Modern Language Journal, 79,* pp. 235-244.

Sparks, R. (2006) Is there a disability for learning a foreign language? *Journal of Learning Disabilities, 39*(6), pp. 544-557.

Stanovich, K. E. (1988) The right and wrong places to look for the cognitive locus of reading disability, *Annals of Dyslexia, 38,* pp. 154-176.

Tsiplakides, I. & Keramida, A. (2010) The relationship between teacher expectations and student achievement in the teaching of English as a foreign language, *English Language Teaching*, *www.ccsenet.org/elt*

Dr. Tsafi Timor is a lecturer at the Kibbutzim College of Education in the English Language Education Department and in the Program for Postgraduate Diploma in Education, where she is also a pedagogical instructor. Her research interests are EFL teaching and learning, teacher education and pedagogy, and the inclusion of students with learning disabilities in mainstream education. Tsafi is also a psycho-educational diagnostician of learning disabilities and difficulties, with special expertise in learning disabilities in EFL.

Contact details for the Editors: Dr. Tsafi Timor

Affiliation: Kibbutzim College of Education, Technology and the Arts

Tel-Aviv, Israel

tsafit@bezeqint.net