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# CULTURAL ABLEISM IN POLAND DURING THE *IRON CURTAIN* PERIOD: LEARNED HELPLESSNESS AND THE NEED FOR REEDUCATION

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**Abstract:** The following article is written from the perspective of disability studies (Głodkowska, Pałowska 2017) and concentrates on cultural ableism as a dominant pattern present in Poland during the Iron Curtain (1945-1989). The authors are of the opinion that the conditions of forced functioning of the Polish society behind the Iron Curtain generated current and long-term effects formulating cultural ableism patterns. It should be pointed out that Polish academics (especially special pedagogues) mention the existence of transformation phenomena after the hardships of the past system, or sometimes are silent about the ideologisation, censorship and indoctrination of Polish society for 44 years, with Soviet concepts relating to disability. It happens also that the scholars cut off more or less strongly from the idea that in fact Soviet defectological thought was present or developed in special education. On the other hand, among the various long-term effects of being dependent on Soviet ideology and political supremacy, related to the construction of learned helplessness in many aspects of attitudes towards disability. The authors believe also that for some reason even in current Poland, speaking and thinking about disability corresponds with the cultural ableism effects and supreme slogan of Soviet defectology to "fit a man into the system" (Kalinnikova and Trygged 2014). The article was divided into sections in which the authors analyse the defectological concept of disability, normalization of cultural ableism towards the disabled people in times of the Iron Curtain. Then, there is discussion the issues of learned helplessness and the analysis of this phenomenon within the system and legal acts, and in the context of the segregation in the education system. The article ends with conclusions and implications for reeducation of normalized cultural ableism patterns.

**Keywords:** social sciences, education, defectology, learned helplessness, communism in Poland, Iron Curtain, normalization, and reeducation

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## INTRODUCTION

Poland has a complicated post-war history, because after the Second World War it was forced under the influence of the Soviet Union, in the so-called the eastern block and found itself behind the Iron Curtain, sealing it off from the Western culture. Governed by the communist authorities of the Soviet Union and Poland, country experienced social and cultural isolation lasting 44 years. The Iron Curtain it resulted with complexed effects as forced implementation of communist ideology in Poland and the creation of a new, privileged working class member - *homo sovieticus* (Tischner 1992). On the plans of socio-cultural life and issues related to disability, basically was implemented a dual policy of the Polish People's Republic (PRL) - forced involuntary *productivization* of war veterans - invalids (Brenk 2015) or social exclusion (Witkowski 1993) and isolationism and quasi amputation of disability issues from public discourse (Borowska-Beszta 2019). Although there is general silence in scientific literature written by special educators, or a statement about "attempts to instill defectology on Polish soil" (Lewowicki 1998) - according to the authors of the article a strong factor creating: laws, social policy towards disabled people, segregation in special education, rehabilitation, and paradigms of disability research was the concept of defectology which implemented resulted in cultural ableism.

Defectology as the dominant theoretical concept of disability and practice extremely developed in the Soviet Union, was also forced in Poland. In fact, defectology developed by Soviet specialists in social and medical sciences has also become a long-standing paradigm of Polish special education and other sub-disciplines, undertaking research on human disability. These problems are however underrepresented in Polish educational studies. It must be pointed out that much more often Polish disability researchers, special pedagogues emphasize all the constructive moments of development of the sub-discipline special education, care or support during the Iron Curtain, despite the "limiting conditions" of Poland's functioning under the totalitarian state with present indoctrination and censorship as rules. It should be added, that Polish academics are often silent about times of ideologization and de facto defectological indoctrination (including Parys

2011; Marcinkowska 2015; etc.). Sometimes they undertake cautious analysis (Kulbaka 2012; Marcinkowska 2015) of the special education system during 1945-1989 avoiding however clear statements on the politicization of special pedagogy, social pedagogy, education system, care or support for the disabled people. Critical but veiled words about delays in the development of the inclusive education system are expressed by Krause (2010) while writing "in Polish special education, the investigation into the normalization pattern of social integration has been delayed because of system" (Krause 2010, 10).

## DEFINING DEFECTOLOGY

Defectology means both, science and practice focused on defect and according to Byford (2017) the concept that was developed by L. Vygotski came originally from Germany, from 1912 (Byford 2017). Author continues that „concept and practice, in what came to be known in Russia as defectology (*defektologia*) – the discipline and occupation concerned with the study and care of children with developmental pathologies, disabilities and special needs. Defectology formed an impure, occupationally ambiguous, therapeutic field, which emerged between different types of expertise in the niche populated by children considered ‘difficult to cure’, ‘difficult to teach’, and ‘difficult to discipline’ (Byford 2017, 67). Kalinnikova and Trygged (2014) after McCagg (1989) write that “defectology then came to play a key role for the social care of mentally retarded children and resulted in the regulatory and legal institutionalization of this practice in the Soviet Union” (McCagg 1989 in: Kalinnikova and Trygged 2014, 241).

Defectology, as the dominant concept in the Soviet Union, has been described, among others by Grigorenko (1998). The author writes that “whereas the West became ashamed and embarrassed by the use of the word defective to describe individuals with disabilities, and replaced it with the word handicapped during the 1930’s, there was no going back for Soviet defectology. The term had become too well established, too widely discussed, too politically loaded, and too “Soviet”, as a result of the significant research and writing of Soviet psychologists and defectologists



(e.g., Vygotsky), to be discarded” (Grigorienko 1998 in: Kalinnikova and Trygged 2014, 194).

The scale of absurdities of implementing the thinking about disability during times of Soviet Union times was perfectly portrayed by Phillips (2009) and Borowska-Beszta (2012). Phillips (2009) writes: “this heritage might help to explain, on the one hand, the increasing number of children placed in institutional care, including children with disabilities. On the other hand, in spite of this development, there was a strong denial of the existence of citizens with disabilities until very recently. ‘There are no invalids in the USSR’ is a quote from the mid-1980s.” (Phillips 2009 in: Kalinnikova and Trygged 2014, 243). Interesting enough, Dunn and Dunn (1989) express the conclusion regarding the general specifics of social attitudes and isolation trends towards persons with disabilities in the countries behind the Iron Curtain. The authors write “historically throughout the former Soviet bloc, persons with physical and mental disabilities have been stigmatized, hidden from the public, and thus made seemingly invisible” (Dunn and Dunn 1989 in: Phillips 2009, 1).

Meanwhile, the scale of marginalization and isolationism of disabled people from public spaces in Poland is also indirectly indicated by Krause (2009). In the publication written 20 years after the change of the political system, the author notes that Polish special pedagogues and sociologists are more likely to write about the *presence* of people with disabilities in public spaces. Krause (2009) writes "in the publications of special pedagogy in recent years, attention has been paid to positive changes in Polish society related to the public existence of disabled people's problems, adoption of Western standards of co-existence with these people, increased tolerance in the disappearance of vulgar marginalization and exclusion"(Krause 2009, 11). The author continues, that "the effects of activities that approximate the problem of disability of the working population are therefore going well beyond ‘non-marking’. Particularly noteworthy is the widespread increase in natural empathy towards this group of people, manifested not only by the reaction to institutional initiatives and organized activities, but also by the civic reaction to phenomena that were previously not tolerated in society "(Krause 2009, 11). Krause (2009) notes an increase of public empathy

towards the disabled people in Poland 20 years after Poland in 1989 got the political independence from Soviet Union. In addition, Kilar (2017) writes after Krause (2010) "at present there is also an emancipation paradigm, e.g. subjectivity and autonomy, which abolished the instrumental treatment of disabled people. Although Maria Grzegorzewska said that "there is no cripple, there is a human being", then the *political actions of that time* did not allow to reflect this statement in practice. It was only after the political changes that people with disabilities were treated with dignity"(Krause 2010 in: Kilar 2017, 37).

It can be assumed that the phrase "political changes of that time" refer to the period 1945-1989, and the mentioned "changes" concerned independence from the Soviet Union. The above fragment, however, illustrates both: the scale of isolation and the scale of the slow pace of social and cultural changes in Poland after the past system and ableism in activities towards disabled people behind the Iron Curtain.

Continuing the threads of development, the concept of defectology forced in Poland for 44 years, the authors of this article think that this phenomenon inevitably penetrated and infected the language of the press, the scientific language of researchers in various disciplines (from the humanities to the social sciences through medical sciences) giving them ableist shape and dimension.

It should be added, that during 1945-1989 in Poland were established scientific defectological institutes and names of university structures, having the word defectology in their names. The ableist word "defective children" was implemented in the language of communist authorities (e.g. Kawalec 1973). The Minister of Labor and Social Affairs in the years 1972-1974 - Wincenty Kawalec (1973) uses the official terminology underlining the defect in disabled population. The author writes "while some social activists, encountering every day the repercussions of the growing phenomenon of defective children, with great difficulties in bringing up these children, preparing them for protection of motherhood and work family and adaptation to social life - they saw the need to develop research and ventures more determined and coordinated and referring to the crippled population in different age groups "(Kawalec 1973, 48-49). It is worth noting that in the language of pedagogues (including Kawula,

Wyrembek 1986, Sierankiewicz 1999) the ableist term "defective children" was also normalized, while the special educator Doroszewska (1989) used another term with ableist thread - "oligophrenic children." Despite official positions, including pedagogues, special educators (as M. Grzegorzewska) about the objection of the defectology concept in general - the scale of implementing defectology on Polish special education, care, support grounds, according to the authors of this article, was in fact profound. Defectology not only has been implemented effectively in Poland behind the Iron Curtain, but also its negative effects including cultural ableism are felt and noticeable to this day in Poland.

There are more examples illustrating this regularity, but the linguistic background and image is visible even in the content statement in the article by Parys (2011), which refers to literature of special educators and academics written in the 80's and 90's until 2005 in Poland. The author indicates the assumptions of special education, especially strongly accented, according to the author. Parys (2011) writes "on the basis of the analyzed sources it should be stated that special education is: one of the basic branches of general pedagogy; theoretical and practical science; science referring to people who *deviate from the psychophysical norm*, and thus separate from the general population, being the subject of special pedagogy interactions; science, the subject of which are specific interactions taken against people with deviations from the psychophysical norm; science building theory, which is the basis for sub-disciplines dealing with particular types of disability; form of shaping social awareness "(Parys 2011, 22).

It is not difficult to notice in the above phrases emphasizing defectological interpretation of the definition of the subject of special education in the 80's in Poland as people *deviating from the norm*. Defectological language relics, however, one can also find in contemporary works quoting literature of the 80s regarding the problem of disability in a direct or indirect way referring to it. Tytko (2016) quotes in the chapter extensive and slightly astounding pronunciation fragments from Chlewinski (1989), in which the author writes, among others: "a healthy, well-built child with no physical or mental defects has a better chance of acquiring good character traits than a sick, weak and defective child (e.g. deaf, defective)"

(Chlewinski 1989, in: Tytko 2016, 302). The above selected examples of penetration of defectology and its normalization in the scientific language, theoretical content of general education or special education in Poland are the starting point for considerations of helplessness phenomena. The authors of this article think, that 44 years of forced learning by Polish society that a *defect* is something that should be prioritized and highlighted in pedagogical procedures shaped the culture and developed cultural ableism in Poland.

#### IRON CURTAIN AND NORMALIZATION OF CULTURAL ABLEISM

Below, the author analyze the relationship between culture, social life in the imposed conditions of Marxist ideology including developed defectology and cultural ableism. This section discusses the actions taken by the then authorities as well as short-term and long-term effects of cultural ableism, covering the times after 1989 in Poland. The authors intend to emphasize on the one hand the actions of Polish People's Republic (PRL) communist government implementing defectology concept and the causes of related to particular features and dimensions of cultural ableism on political, economic, social, cultural and educational levels.

It should be noticed that in the complexed situation of Poland, the state since the end of Second World War in 1945 was colonized and economically and ideologically dependent from the Soviet Union. Those times human disability was officially connected to the concept of defectology and at the same time much incompatible with the Marxist doctrine and the of working-class man ideals, measured by utility. One of the clear mechanisms of cultural and political control of disability by the communist authorities was, on the one hand, *isolationism* from public spaces, and on the other hand, *productivization* with accompanying simultaneous indoctrination. Poland is a country located in Eastern Europe and until June 4, 1989 was behind the Iron Curtain, which meant in practice a significant limitation of access to world trends concerning positive, humanistic disability attitudes. Moreover, the authors want to highlight also the censorship as a regular instrument of authorities in communist Poland, which was present in press, public media

and scientific publications. These features everyday practice also regulated and delayed any worthy trends concerning disabilities from Western countries.

The problem of the situation of Poland and Poles and the creation of a model of a *new working man* describes in details Michalewska-Pawlak (2010). Speaking of disability issues behind Iron Curtain, the systemic situation of ableism and, in principle, the exclusion of disability matters from open public discourse in Poland, is demonstrated also by the difficulties as blocking of official activities of Parents' of Disabled Children Circles (Borowska 2014) for children and youth with intellectual disabilities. Acceptable, in the Polish public discourse, despite the hypocrisy and contempt for disability from the communist authorities, was to present in press, media people with physical disabilities (war invalids and veterans) who achieved a supernatural norm working in factories. Those men were subjected to so-called *productivization* and, at the same time, indoctrination with Marxist ideology, what explains Brenk (2015). For groups of Poles with intellectual disability, profound and multiple disability, and mentally ill, what means, people who could not be indoctrinated, was assumed a different type of social oppression and silent hatred as: exclusion, institutionalization and symbolic amputation of disability problems from discourses and public spaces (Borowska-Beszta 2019).

The ableist approach of communist authorities to disability in Poland was properly characterized by Witkowski (1993). The author emphasized that for decades Polish society was not accustomed to everyday contact with people with disabilities in places such as shops, offices and other (Witkowski 1993). This situation developed the problem of learned helplessness and delayed possibility of learning by able-bodied citizens about the communication, cooperation, and approach to disability.

The authors of the article believe that, despite specialist literature in social sciences (special education, social pedagogy, and pedagogy of care)

gives a rich overview of successes, and officially undertaken steps for citizens with disabilities and their families in PRL (e.g. opening and developing segregation schools, stationary institutions) care, support, registration of some associations having as members people with disabilities) - the 44-year time of the Iron Curtain normalized the cultural ableism. This pattern which included attitudes: unacceptability, distance or supremacy towards disabled citizens in Poland have been unfortunately normalized for years designing ableist culture. Among the key elements of the infamous heritage and axis of action of both Marxist ideologization, defectology concepts, the authors of the article indicate details and features of normalization of cultural ableism:

- normalization of the defectological concept of disability focusing social attention on defects not potential or rights (lack of social model of disability);
- normalization of exclusion and the position on social peripheries for people with disabilities;
- normalization of social supremacy attitudes and lack of acceptance of disability members of the society's dimension real and virtual (hate speech, hate crimes);
- normalization of lack of developed proper skills of communication with people with disabilities and their families, especially the most excluded and isolated groups in stationary institutions in the times of the PRL (learned helplessness);
- normalization of low expenditures on institutional support with simultaneous lack or low expenditures on the independent life of adults with disabilities, normalizing the taboo of sexual life and entering into marriages by adults with disabilities, especially intellectual disabilities.

Table 1. Normalization of cultural ableism behind the Iron Curtain in Poland

Activities of communist authorities in the People's Republic of Poland (PRL)			
Cultural levels of ableism	Aspects of impact	Forms of ableism present during PRL	Forms of ableism as long-term effects of normalization of negative cultural patterns in Poland after 1989 until today
political	<ul style="list-style-type: none"> <li>▪ defectology as the only conceptualization of disability</li> <li>▪ censorship</li> <li>▪ productivisation</li> <li>▪ isolationism</li> <li>▪ indoctrination</li> </ul>	ableism: <ul style="list-style-type: none"> <li>▪ instrumentalism</li> <li>▪ marginalization</li> <li>▪ utilitarianism</li> </ul>	ableism: <ul style="list-style-type: none"> <li>• normalization of the defectological approach to disability</li> <li>▪ normalization of complexed effects of exclusion</li> <li>▪ normalization</li> <li>▪ non-acceptance of people with disabilities and/or their needs for independence</li> <li>▪ normalization of utilitarianism towards people with disabilities</li> </ul>
economic	<ul style="list-style-type: none"> <li>▪ low expenditures to support families with disability members</li> <li>▪ funds for institutional support;</li> <li>▪ lack of expenditures to promote the model of independent living</li> </ul>	ableism: <ul style="list-style-type: none"> <li>▪ dominant institutionalization and segregation</li> </ul>	ableism: <ul style="list-style-type: none"> <li>▪ strong-established normalization of the belief that low financial outlays are the norm</li> <li>▪ normalization of the belief that outlays on disability were and will be problematic for the state</li> </ul>
social	<ul style="list-style-type: none"> <li>▪ defect as a source of shame and social stigma</li> <li>▪ preferred access to mainstream public spaces for non-disabled people</li> <li>▪ construction of groups of people socially, submissive and excluded</li> <li>▪ construction of legal and systemic barriers for families</li> </ul>	ableism: <ul style="list-style-type: none"> <li>▪ defectological and medical model of disability</li> <li>▪ disability is not exposed in public spaces</li> <li>▪ taking children away from generational families for placement in stationary institutions</li> <li>▪ reduction of social knowledge about the daily needs of families and people with disabilities for a dignified life</li> <li>▪ social stigmatization, exclusion</li> </ul>	ableism <ul style="list-style-type: none"> <li>▪ well-grounded defectological image of disability</li> <li>▪ well-established normalization of the belief that public real space (or symbolic) is intended for non-disabled people</li> <li>▪ normalization of the belief that segregation facilities are the best solutions for families</li> <li>▪ normalization of life barriers for families and people with disabilities</li> <li>▪ normalization of lack of social competences to communicate to non-disabled members of society with people with disabilities and their families</li> </ul>
cultural	<ul style="list-style-type: none"> <li>▪ pressure towards the institutionalization of children,</li> </ul>	ableism: <ul style="list-style-type: none"> <li>▪ isolation and exclusion</li> </ul>	ableism: <ul style="list-style-type: none"> <li>▪ normalization of the segregation trend</li> </ul>

	<ul style="list-style-type: none"> <li>▪ adolescents and adults with disabilities</li> <li>▪ lack of positive and realistic images of people with disabilities in the dominant culture</li> <li>▪ lack of positive patterns of participation of people with disabilities in the dominant culture</li> <li>▪ transmission of distorted cultural knowledge about disabled people and their families</li> <li>▪ linguistic stigmatization (defectology transmitted in language)</li> </ul>	<ul style="list-style-type: none"> <li>▪ degradation of the personal dignity of disabled people and members of their families</li> <li>▪ cultural tabooing of the disability issue</li> <li>▪ treating disability as a "margin" or "pathology" with which there is a need to fight</li> <li>▪ silence about the needs of people with disabilities regarding: (a) intimate relationships (b) sexual needs, (c) the fulfillment of maternal and paternal roles, especially for people with intellectual disabilities (d) life styles</li> <li>▪ instrumental or offensive language for people with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ normalization of concealments on the problems of everyday life of people with disabilities and their families.</li> <li>▪ normalization of fear of a person with a disability</li> <li>▪ normalization of stereotypes and dislike</li> <li>▪ normalization of cultural taboos: sexuality and procreation of people with disabilities (especially intellectual)</li> <li>▪ normalization of the trend of dependence of disabled people in environments</li> <li>▪ normalization of disability as a personal tragedy, unhappiness and shame</li> <li>▪ normalization of the language emphasizing the defect, instrumental and labeling people with disabilities</li> </ul>
educational	<ul style="list-style-type: none"> <li>▪ defectology and biological determinism</li> <li>▪ instrumentalism</li> <li>▪ dominant segregation in education (exclusion)</li> <li>▪ social education informational, censored or on supernatural, heroic work achievements of Polish WW2 invalids and veterans</li> </ul>	<p>ableism:</p> <ul style="list-style-type: none"> <li>▪ defectological model of disability</li> <li>▪ lack of social knowledge about disability and the needs of people with disabilities and families</li> <li>▪ 44 years gap in shaping attitudes of acceptance towards disabled people and their families</li> <li>▪ delay by approx. 44 years of implementing inclusive education at every stage of education</li> </ul>	<p>ableism:</p> <ul style="list-style-type: none"> <li>▪ defectological model of disability in education</li> <li>▪ normalization of lack of social knowledge regarding attitudes of dignity and respect, and towards disabled people and their families</li> <li>▪ normalization of social attitudes of unacceptability, aversion, supremacy and distance towards people with disabilities</li> <li>▪ normalization of the attitude of the supremacy of subject teachers and the reluctance of teachers in public schools</li> <li>▪ standardization of the treatment of students with disabilities in mainstream schools as a "problem"</li> </ul>

Source: own study

## DEFINING HELPLESSNESS

Helplessness is a phenomenon that remains in the field of interest of many scientific disciplines, such as: psychology, sociology, pedagogy, philosophy or medicine. Most often it is defined as an

objective or subjective state that happens in a given situation and can affect every person at every stage of his or her life. It is characterized by "the inability of the subject to find a way out of a difficult situation, which manifests itself in the interruption of the current action or undertaking an action that

does not lead to the result expected by him. This feeling may appear regardless of the actual or apparent inability to achieve the goal and is related to the inability to deal with this situation" (Polak 2012, 9). Helplessness occurs in the process of gaining life experience and is a lack of ability to cope with a difficulty accompanied by feelings of helplessness and passivity (Gajdzica 2008, 86). It can be considered as an individual feature, a reaction to a difficult situation or the effect of attitudes of a group/society towards an individual (Kudlińska, Kacprzak 2011). Reveals the moment the individual receives conflicting messages, the environment does not provide feedback or lacks proper reinforcements, both positive and negative (Kaja 1997).

Human can experience helplessness in many areas and moments of his life. Sędek (1991) listed two types of events that can cause this condition. The first are recurring problems that lower the motivation for further action (e.g. difficulty finding a job), the second is sudden events that have no impact, and which change the reality of a person (e.g. death of a loved one). The concept of Rotter (1966) seems to be important in terms of powerlessness, in which the author distinguishes the so-called internal and external placement of the sense of control. The first one appears when the individual sees that his action depends only on himself and he has control over it, and the second in a situation where a person has the conviction that everything that happens around him depends only on other people or from the case and he has no control over it. In the literature one can meet different types of helplessness:

- social - it arises as a result of impossibility of fulfilling roles and expectations connected with them, which determine not so much the individual as the society (Gajdzica 2008, 88);
- psychological - when a person does not believe that he has an influence on his life situation, because according to him everything depends on fate and a bit of happiness (in: Kudlińska, Kacprzak 2011);
- moral - resulting from loss of axioormative (Mariański 2005);
- systemic, in which the unit searches for the reasons for the lack of influence on its own life in external factors, especially those

related to state institutions, systemic and social changes (in: Kudlińska, Kacprzak 2011);

- intellectual - created when the student is not able to meet school expectations (Sędek 1995; Ciżkowicz 2009).

Gajdzica (2008) also introduces a distinction between universal helplessness (a permanent human trait) and a partial one (a condition that appears in some social situations).

Helplessness occurs in people for several reasons. It can be constructed as a result of social relationships and stereotypes that other people give to the individual or as a consequence of stigmatization, especially in socially excluded or threatened with exclusion. People who are marginalized perceive themselves as inferior, rejected, deprived of faith in achieving success. They explain the lack of skills and causative abilities. With time, they start to lose responsibility for their actions to other people, seeing in them the source of their failures. They manifest attitudes of dependence, passivity and indifference. They lose their motivation and cease to perform their duties, hoping that others will do it for them. Helplessness can also be an effect of institutional strengthening. Individuals showing their weakness can gain a lot for themselves, because they "enter" themselves thanks to their helplessness in many legal documents, thus meeting the statutory criteria and thus receive additional profits (Kudlińska, Kacprzak 2011, Urbanowicz 2012, Chrzęszcz 2016).

However, the repetition of helplessness is a danger. This may lead to so-called learned helplessness (Kaja 1997). It is "the state in which an individual fall, subjected to constant failure on the part of external circumstances, which he cannot influence in any way. Thus, he is learning in a certain way helplessness and passivity as a permanent element of behavior and thinking in difficult situations" (Jasiński 2014, 118). Learning helplessness reduces motivation, willingness to act, generates feelings of helplessness, fear, loss of control and hope, and sometimes it can even lead to depressive states (Kaja 1997). There are several theories explaining the phenomenon of learned helplessness. The first of these is the original Seligman model (1975, 1993). According to her assumptions, man does not see the connection

between his behavior and the consequences. Over time, he begins to think that he has lost the sense of control, which in turn generates anxiety (emotional deficit), reduced motivation to act (motivational deficit) and inability to understand his position (cognitive deficit). Another is the attributional concept of Abramson, Seligman and Teasdale (1978). Here, it is assumed that the key styles of attribution are key in creating a state of helplessness. It depends on them whether and to what extent man will experience learned helplessness after experiencing the situation of losing control. There is also an informational model of Kořta and Seđka (1993), in which the authors describe the formation of the learned helplessness syndrome in a slightly different way. In their opinion, in a situation when a difficulty arises, a person usually looks for constructive solutions and implements them. However, when the problem seems to be unsolvable and the individual has a sense of lack of control, then he does not make any intellectual effort and is introduced into the so-called "cognitive exhaustion", which in turn gives rise to learned helplessness (Jarmakowski 2009).

#### IRON LEARNED HELPLESSNESS AS A CONSEQUENCE OF SYSTEM AND LAW 1945-1989

After the Second World War, the Universal Declaration of Human Rights was passed (December 10th, 1948). It contains a provision that every person, regardless of any differences, has the same rights (<http://www.un.org/en/universal-declaration-human-rights/>). This document drew the world's attention to the fact that socially excluded people also have their rights. This was even more clearly seen in the Declaration of Rights of Persons with Disabilities, which was signed on 9. Dec.1975. It was emphasized that disabled people cannot be excluded from social life, they deserve respect and the right to dignified life, care and help, as well as protection against discrimination (<https://www.ohchr.org/en/professionalinterest/pages/rightsofdisabledpersons.aspx>).

In subsequent international legal acts it was pointed out that disability is not only an individual problem that requires treatment, therapy or care, but a social issue that requires the involvement of the whole society in the process of changing the environment and integration of people with disabilities (International Classification of

Functioning, Disability and Health 2001). The social policy of European and American countries has begun to change the approach to the issue of disability. Activities aimed at including people with disabilities into the society were taken and encouraged to socialize them. The key point was special education, elimination of architectural barriers, employment, care and social assistance (see: Kolwicz, Radlińska 2015).

Meanwhile, the legal and systemic situation in Poland after 1945 was slightly different. Until 1989, there was a socio-political system in Poland that incapacitated citizens, caused people to lose control over reality (in: Kwiecińska-Zdrenka 2004). The inability to satisfy their needs generated helplessness and addiction to social support. The model of social welfare proposed at that time was based mainly on human deficits (defects), not on its potential. These actions prevented the individual from developing his personality, regaining strength and maintaining control over his life (Kaczmarek et al. 2011). It must be added that the Second World War took many people from their relatives, thousands of them did not have shelter, there was poverty, diseases, many people were afraid, left out, lost and threatened. At this moment, the most important thing should be the action of a rescue character, because: "The social order is to provide the needed assistance in the most accelerated, most common way. The rescue usually comes from the outside, it does not count with anything other than necessity imposed by fate" (Radlińska 1961, 339-340). However, the then socialist power had different priorities. The problems of the excluded were hidden because the system assumed that the citizens of the country are coping with everything, are satisfied with life and can achieve all the planned goals. There was no room for man's weakness, his non-resourcefulness or passivity. This does not mean that these people have disappeared, just nobody cares about their fate. These people were marginalized and suffered in loneliness. In this group, socially isolated people were also disabled, because their needs and problems were not recognized. There were even ideas to close social welfare institutions, because according to the then authorities, too few people required support (Brenk 2017, Zielińska 2013).

In the post-war years, until 1990, the Act on Social Care of August 16, 1923 was in force in Poland (Journal of Laws 1923, No. 92, item 726).

It is worth noting that such an important document, which was valid for 67 years, had only 3 pages. It concerned the care that was defined as "satisfying the vital necessities of those people who have permanently or temporarily their own material means or their own work and cannot do so, as well as preventing the creation of a state above the defined one" (Journal of Laws of 1923 No. 92, item 726). This legal act is mainly about care and not help, and the etymology of these words is fundamentally different. Help is given to a person who temporarily remains in a difficult and important situation, shows willingness and self-activity to solve this problem, the helper is not responsible for the person he or she is helping, and the relations between the parties are relatively symmetrical (Dąbrowski 2006; Winiarski 2015). The care is long-term, the dependency is dependent and dependent on the carer who takes full responsibility for the person he or she looks after (Dąbrowski 2006). This means that the Act was addressed mainly to helpless people who were helpless, who had difficulty in independent existence and often became dependent on the care they provided.

The Act imposed the obligation to provide care especially for abandoned children (orphans) and endangered pathologies, homeless people, prisoners after serving their punishment, alcoholics, beggars, tramps, prostitutes, also provided protection of motherhood, support for care institutions and "care for the elderly, invalids, crippled, incurably ill, mentally handicapped and generally unable to work" (Journal of Laws 1923, No. 92, item 726). This last record shows how stigmatizing nomenclature has functioned for years in legal records. The concept of an invalid concerned a person who is "partially or completely unable to perform employment due to permanent or long-term impairment of the body's fitness" (Journal of Laws 1982 No. 40, item 267). Work in socialism was one of the highest values, obligatory for everyone, including for the excluded. The Act of 1923 clearly indicated that care consisted of, among others, on restoring lost or reduced work capacity (Journal of Laws 1923 No. 92, item 726).

During the first decade after the war, private and church institutions as well as charities were liquidated. Only state institutions remained (Brenk 2017). Changes in care did not take place until the beginning of the second half of the twentieth

century. At that time, in the 1960s, social organizations began to play a greater role, including Society for Counteracting Disability (Brenk 2017) or grassroots initiatives, like the circles of parents of children with mental disabilities (Borowska 2014). In 1959, a social guard was appointed by a resolution of the Council of Ministers. His tasks were focused on undertaking activities that would improve the living conditions of the children, support children deprived of their parents' care, take measures to eliminate the problem of alcoholism and prostitution, provide care to the elderly and support families in the event of illness, disability or death of a member who he kept it financially (MP 1959 No. 32, item 145). Unfortunately, this profession was not appreciated, people performing them worked socially and did not receive remuneration, but only reimbursement of costs incurred (e.g. for commuting). In 1960, the Ministry of Health and Social Welfare was established, thereby combining care activities of a medical and social character. It was justified by the fact that the recipients of both these forms of care are the same people, among whom the elderly and disabled were predominant (Brenk 2015).

After the political transformation, on November 29, 1990, a new Act was prepared, this time on social assistance (Journal of Laws No. 87, item 506). Help is defined here as an institution of the social policy of the state, whose aim is to "enable people and families to overcome difficult life situations, which they are unable to overcome, using their own means, abilities and rights" (Journal of Laws No. 87, item 506). Emphasis was placed on strengthening the individual and its environment, on mining and developing their resources. This act allowed for the development of the social assistance system and reaching out to people who for various reasons could not cope with life, that through appropriate support they could independently exist and cope with their own problems, which were often accompanied by helplessness.

#### IRON LEARNED HELPLESSNESS AND SEGREGATION IN EDUCATION SYSTEM 1945-1989

Below, the authors analyze the relationships of learned helplessness as a result of the implemented and developed segregation educational model. The



countries of Eastern Europe were economically and economically dependent on the Soviet Union and were in the years 1945-1989 behind the Iron Curtain, acting as an impediment to the progress and development of positive implementations and inclusion solutions for people with disabilities and their families. The Iron Curtain and its' consequences discussed above caused a forced situation of learned helplessness in parts of society with people abled-bodied and those with disabilities. The same learned helplessness concerned, in our opinion, the growing up numbers and educated in segregation people with disabilities as well as generations of teachers, educators who still today claim that segregation education conditions better meet the needs of children and youth with disabilities. Not infrequently, the teachers still mean protecting disabled children and youth from failures in social situations and harassment in public or integration schools in Poland.

Interestingly, it is not often in the publications of Polish special educators to find critical remarks about in-depth analyzes of the ideological policy dimensions of the state towards the disabled people. The background of the real attitude of the communist authorities to the disabled citizens was clearly described by Brenk (2015), revealing the hypocrisy of the communist authorities of the PRL, concerning the masked contempt for the disabled people and, on this basis, building the state's social policy towards people with disabilities. The author linked the actions of the state with the then promotion of super heroes of war veterans - invalids working out 150% or over 200% of the norm while working in factories.

The scale of concealment and the taboo of disability in the time of the Iron Curtain can be seen in Zarębska's (2008) report, citing Lewowicki (1998) that "the communist authorities were unfavorably looking at the pedagogical activity associated with Western European patterns. It was argued that in socialist society there is no problem of care for people with disabilities, and therefore the activity on this land does not make sense. In this way, many specialists were dismissed from work, and special pedagogy and related areas of activity were subject to restrictions. In this place people tried to transplant defectology, discipline practiced in the Soviet Union "(Lewowicki 1998, for Zarębska 2008, 154). An interesting and

cautious formulation of Lewowicki (1998) indicates that only "attempts were made to transplant defectology" - which actually existed and was grounded in the Polish segregation system of education of students with disabilities.

Kulbaka (2012) analyzing the education system of the disabled students, illustrates the constant planned development of Polish segregation in special education, after Second World War 2, only cautiously mentions certain difficulties, but does not directly associate them with the disorder censored in Poland in public space, as Witkowski pointed out (1993). Kulbaka (2012) assumes own points of analyzing of government documents as "without going into geopolitical deliberations" (Kulbaka 2012, 209). According to the author, the reconstruction of the education system for thousands of children was a priority for the state after WW2. The author analyzes in detail and systematically the strategy of the 1940s, in relation to: appointing probation officers, reactivating or setting up new special education centers, surrounding education and care of neglected children, mentioning that "in 1948, under the influence of changes on the Polish political scene and progressive politicization of many areas life, regress began in special education" (Kulbaka 2012, 210). Then, Kulbaka (2012) writes that "many of the reorganizations carried out in the 1950s were not favorable for special education" (p. 210). The author also notices the progressive ideologization and politicization of Polish education and states that it has had negative consequences for its development. Subsequently, he analyzes all the constructive activities of the then government towards the development of special (segregation) education.

For one of the advantages of the educational system being built, Kulbaka (2012) mentions the restoration by the Ministry of Education to special schools in 1956 the method of work centers, forbidden by the communist authorities in 1955. The author does not give an answer as to why this method originating in France was officially banned in 1955 by the communist authorities of the PRL. Subsequently, the author analyzes in detail the steps of creating a special education system in the PRL in the 1960s, creating a detailed portrait of the organization of special education in segregation through the actions of the Ministry of Education, and gradual inclusion of a group of students with

various disabilities. The criticism of the author, is associated with difficult school premises, architectural barriers and access to education for people with various disabilities. Against this background, Kulbaka (2012) indicates quite an interesting relationship that "these inconveniences were tried to mitigate by creating special classes for children with disabilities at primary schools. These actions were permitted by the Act of 1961 and a separate order of September 1961" (Kulbaka, 2012, 210).

The success, according to Kulbaka (2012), was the coverage of 50% of children with disabilities in the 1960s. Summarizing data from the book by Kulbaka (2012), one can learn about systemic and planned implementations of building special education system in Poland after the Second World War, creating also academic centers and educating staff at university levels. Against this background, one can see a paradox of communist authorities thinking, concerning the initiation of the first common educational spaces of non-disabled and disabled children in mainstream schools. Well, it turns out that the initiation of common spaces was dictated by the housing difficulties of segregation schools and these "inconveniences" were solved at the level of the Ministry of Education regulations, creating special classes in public schools. The author analyzes, in turn, the construction of a special education system in Poland from the 1970s and 1980s, indicating success in introducing special pedagogy to university programs, creating research institutes.

In conclusion, Kulbaka (2012) writes that "scientific achievements of Polish scholars in the field of special education belonged to the most advanced in the bloc of socialist countries and were appreciated in Western Europe" - here, however, the author did not indicate what scholars and whose works were particularly appreciated " (Kulbaka 2012, 216). As a certain achievement of Polish special education Kulbaka (2012) pointed out that in the 80s 75% of children with disabilities were pursuing education in special schools.

Most interesting in the context of this article and worth attention is the critical remark the author made when describing the general state of the situation of people with disabilities in Poland in the 1980s. Kulbaka (2012) writes that "data from the mid-1980s of the twentieth century officially indicated 3.5 million disabled people who were

struggling with numerous problems of everyday life, including architectural and communication difficulties, as well as social problems caused by specific attitudes antipathy towards the disabled " (Kulbaka 2012, 219). The author concludes that significant changes in the system of special education in Poland resulted in political changes in Poland in 1989 (Kulbaka 2012, 219).

The above data, but especially the reading of Kulbaka (2012), indicate the planned and systematic activities of the PRL authorities towards creating structures of the special education system, but what should be emphasized is the segregation system. Interestingly, but without deepening of the issue of the state of isolation and exclusion of children and youth from the mainstream education, in mainstream schools is characterized by Apanel (2016). The author notes that the integration trend has been propagated in Poland in the 1970s by Aleksander Hulek, while the author draws attention to the helplessness of parents of children with disabilities who did not agree to the isolation of own children in a stationary setting, suggested by the authorities, they themselves organized support in homes. A full picture of the attitude of the communist authorities to the students and their education is expressed by the author in words: "however, they still encountered large social barriers that were caused by the segregation approach of educational services to disabled children. The management staff and employees of educational institutions were convinced that only special institutions can ensure proper conditions for children with disabilities. Parents who did not want to give their consent to putting the child in the establishment were accused of bad will and misunderstanding of his good" (Apanel 2016, 108). The author is convinced that both then educators and decision-makers of educational services were characterized by biological determinism at the time, delaying the implementation of integration or inclusion in education system in Poland. Moreover, in this short picture one can see the hypocritical manipulation of parents of disabled children by communist authorities during Iron Curtain period.

#### CONCLUSION AND IMPLICATIONS: NEED FOR REEDUCATION

In the context of the above-mentioned content and formed cultural ableism patterns in Poland, the

authors note the need for social reeducation of able-bodied Poles about the disability issues. There would be a need for extended social campaigns aimed at re-educating the able-bodied part of society about disability. The years of forced dependence and colonization by Soviet Union and implemented defectology, resulted in cultural ableism. Unfortunately, it caused a lot of lack of opportunities for the Polish society to learn positive approaches to disability. The authors think, that Iron Curtain long-lasting effect strongly delayed many worthy solutions with improving the quality of life of disabled people and their families. Moreover, the Iron Curtain long-term effect as normalized cultural ableism delayed self-advocacy movements and actions of Polish people with disabilities and limited for years the autonomy and rights of families having members with disabilities.

According to the authors of this article, due to many complexed factors formulating the cultural ableism pattern as: social and systemic censorship in Polish society during communism, quality of accessible knowledge about disability, implementation of defectological model of disability, planned isolationism of the disabled people, normalization of various oppressions, have been rejecting for years from public understanding the real needs of independent life of the disabled citizens. The complexed factors preserved the attitudes of unacceptability in the Polish mainstream and distance towards people with disabilities.

Unfortunately, there is in Poland permanent preference for social niche for the disabled people, segregated and located on the periphery of social life. The long-term effects of Iron Curtain and cultural ableism, were related to general exclusion of the disabled Poles from equal opportunities access to: mainstream spaces, education areas, cultural facilities (Więckowski 2005, Borowska-Beszta 2019) and employment opportunities.

Although permanent activities have been undertaken since 1989 to reduce the huge gap between life and its quality for socially privileged and disadvantaged groups in Poland, there is still a lack of knowledge of the able-bodied Poles about the rights of people with disabilities. Moreover, today in 2019 despite the 30 years since the change of the political system in Poland to a democratic state in 1989, Poles still express the lack the

knowledge about proper, respectful attitudes towards people with various disabilities in everyday situations. Reeducation should therefore, cover all aspects of normalization of cultural ableism, indicated in table 1. The particular attention of pedagogues at all levels of education should be paid to the consolidation of negative patterns of thinking about disability in Poland as well as behavior towards it manifested also online in Internet. Particularly cumulative activities should include social reeducation of the unfortunately normalized following forms and aspects of cultural ableism as:

- defectological model of disability in Poland;
- effects of exclusion (normalization of harassment, hatred, bullying and low level of social knowledge about the respectful treatment of people with disabilities and behavior towards them in reality and online);
- non-acceptance of equal social opportunities for people with disabilities (low level of knowledge about the rights of people with disabilities);
- utilitarianism in attitudes towards people with disabilities and the effects of "productivisation" trends;
- social knowledge about the regularity of expenditure on institutionalized disability in the absence of financing for the independent living of adults with disabilities;
- tabooing the spheres of independent living of adults with disabilities, including: sexuality of adults with disabilities, especially with intellectual disabilities;
- privileged groups in the mainstream with simultaneous devaluation of groups and environments of people with disabilities, whose best place (the safest) is located, for example, in segregation facilities;
- silence about everyday hardships and lack of support for families with profoundly and multiple disabled members;
- the learned helplessness of able-bodied citizens towards the disabled, and on the other hand the normalization of learned

helplessness of disabled citizens who are limited in undertaking the self-advocacy activities;

- social fears, fears of people with a profound and multiple disability, the stigma of a citizen dependent on the system;
- *defective* and contemptuous language (hate speech) about disability (including the language of politicians, e.g. J. Korwin Mikke (2016) expressing fears of accessing "morons" to integrative education, believing that this will be "a drudgery for this moron";
- excluding students with disabilities from the public-school system and treating students with disabilities in mainstream schools (all levels in Poland) as a troublesome problem that must be solved, and not as students who should be given equal opportunities and education,
- negative attitudes of supremacy towards disabled Poles in real life and virtual media, social networks.

Among the important reeducation activities in Poland there would also be constant work on eliminating the effects of implementing the thinking about disability in terms of the Soviet, defectological model of disability implemented in Poland in various scientific disciplines. At this point, the authors of the article indicate constant presence of the cultural ableism in language as expressed by Polish professionals in social sciences. It is worth paying attention to the peculiar language of the perspective of disability in the andragogical publication from 2011, encouraging the creation of a *defectological professiology*, as the study of work and employment of people with disabilities. The authors write that "perhaps they will be created in the future (as departments): children's professiology, youth professiology, students' professiology, occupational professiology, professiology of retirees and pensioners, defectological professiology dealing with the professional development of people with physical and mental disabilities" (Czarnecki and Kowolik 2011, 14).

In view of the above, the authors of this article hope to stimulate further discussions on the needed

changes and reeducation issues concerning cultural ableism normalized for 44 years in Poland.

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# REFLECTION ON EFFECTIVE ENGLISH LANGUAGE TEACHING AND LEARNING METHODOLOGIES IN HIGHER EDUCATION: IDENTIFYING SOURCES OF UNIVERSITY TEACHERS' BELIEFS AND REQUIREMENTS FOR IMPROVEMENT

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**Abstract:** The purpose of carrying this study is to examine the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, the potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, as well as the main requirements for improving effective English Language Teaching and Learning Methodologies in higher education. Key participants in purposeful sampling consist of fifty (50) university teachers (4 assistant professors, 16 lecturers, and 30 language teachers) from the English Language Institute, University of Jeddah. All the participants had a teaching experience of 3-6 and above. An eight question semi-structured interview and a seventeen, three-point opinion survey statement survey were administered to the participants. The findings of this study indicated that there are four identified themes, namely the university teachers own experience as language learners, Experience of what works best in their classes, Teaching methods, and Established practice. it was found that new methods of teaching English at the university level is crucial. Additionally, motivating students, trusting their abilities, and caring of them are required. Moreover, university teachers should take their professional development into consideration. This will be through conducting research in this field of specialty. Lastly, there should be rapport between and among university teachers and their students.

**Keywords:** English language teaching practice, higher education, sources of University teachers' beliefs.

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## INTRODUCTION

Some researchers (e.g. Shulman, 2005; Turner-Bisset, 2001) assume that teaching in higher education is the result of the subject-matter knowledge and intuitive decisions based on teachers' experiences and beliefs about how the subject-matter should be taught. However, teachers' beliefs, as Zheng (2009) remarked, are significant ideas in comprehending teachers' thought processes, teaching methods, and learning to teach. They have a greater effect than the teachers' knowledge on planning their lessons, on the types of decisions they adopt, and on classroom practice. Teachers' beliefs identify their real behavior towards their learners. This personal belief influences teacher's choice of materials used, selection of activities implemented and decision making of classroom related matters. Richards & Lockhart (1994) assert that "it is not surprising that individual teachers bring to teaching very different beliefs and assumptions about what constitutes effective teaching" (p. 36). They continue to explain that "teachers' beliefs are derived from a number of different sources... a) their own experience as language learners; b) experience of what works best; c) established practice; d) personality factors; e) educationally based or research-based principles; and, f) principles derived from an approach or method" (Richards & Lockhart, 1994, pp. 30-31).

Teachers' beliefs has determined that beliefs indeed influence the teachers' teaching practice. "Teachers are not empty vessels waiting to be filled with theoretical and pedagogical skills; they are individuals who enter teacher education programs with prior experiences, personal values, and beliefs that inform their knowledge about teaching and shape what they do in their classroom" (Cheng & Hong, 2004).

## LITERATURE REVIEW

### DEFINITION OF BELIEF

Beliefs are defined as a group of ideas which are shaped in persons by their experiences and the overlapping of notions during the learning processes (Khader, 2012). They are reflections that involve all subjects that we do not have enough knowledge about them but we have enough confidence to work on them (Barcelos, 2003).

Beliefs are any premise that starts with the term "I believe that." Beliefs that are related to other beliefs are regarded as "core" or "central beliefs." If a belief is associated with other beliefs, it will have more outcomes to them (Abbas and Narjes Banou 2017).

Beliefs are personal truths derived from experience or fantasy, with a strong affectionate and evaluative component. They manifest in verbal and written declarations or in actions, and therefore, they condition the decision processes (Pajares, 1992). They are part of subjective knowledge; they belong to the cognitive domain and are formed by affective, evaluative and social elements. From the psychological point of view, beliefs have been indistinctly approached as attitudes, values, judgments, axioms, opinions, ideologies, perceptions, conceptions, prejudgments, dispositions, implicit and explicit theories, personal theories, inner mental processes, action strategies, practice rules or practical principles, depending on the author (Carmen 2015, 249).

### INFLUENCING FACTORS

Pajares (1992) enriched our understanding of teachers' beliefs and how a teachers' personal teaching experiences create beliefs that, in turn, affect their instructional practices:

- 1) "Beliefs are formed early and tend to self-perpetuate, persevering even against contradictions caused by reason, time, schooling, or experience.
- 2) The belief system has an adaptive function in helping individuals define and understand the world and themselves.
- 3) Knowledge and beliefs are inextricably intertwined, but the potent affective, evaluative, and episodic nature of beliefs make them filters through which new phenomena are interpreted.
- 4) Beliefs strongly influence perception, but they can also be an unreliable guide to the nature of reality" (p. 325)

### SOURCES OF TEACHERS' BELIEFS

Teachers' beliefs are developed throughout their lifetimes and are influenced by a variety of factors, including events, experiences, and other people in their lives (Nasser 2009). Knowles (1992) stated that teachers' beliefs are formed throughout



teachers' lives and are influenced by a lot of different factors such as happenings, experiences, and other people in their lives. However, Abbas and Narjes (2017) claim that teachers' beliefs originate from four sources. They are content knowledge, educational materials, formal teacher education, and experience. Mansour (2008) went a step further, and claimed that teachers' teaching beliefs concerning their roles, learners' roles, the goals of science and their teaching methods were formed by personal religious beliefs obtained from the principles existing in religion. Moreover, Richards and Lockhart (1994), in their review of experience and its effect, claim that past experience in learning or teaching is not the sole source of beliefs. Some other sources are involved in forming beliefs. They are established practice, teachers' personality factors, educational principles, research-based evidence, and principles originated from a method.

Teachers bring beliefs acquired from many years of learning experiences to a teacher education that impacts what and how they learn to teach. It can be concluded that teachers' beliefs will have a great effect on forming active teaching methods and will bring about a considerable amount of advances in learners' language capabilities.

#### ENGLISH LANGUAGE TEACHING IN UNIVERSITY CONTEXT

University teachers are the experts on their subject in university. They do research and become famous in their field. Nevertheless, they may lack teaching strategies to teach (Montenegro and Fuentealba 2010). Concerning higher education teachers, the belief of what they should do in the classroom is formed from the experience they had with their own teachers in school and the university, when they were students (Solis, 2015). With this in mind, they begin to repeat the same teaching methods used by their old teachers, especially at the beginning of their teaching careers (Tovar and García 2012). Research (Solis 2015) shows that the belief the university teachers have about teaching, learning, and their students affect their planning, instructing and evaluation processes in the classroom, and also that they have a repercussion on the student's learning and performance in the classroom. It can be said that

teachers' practical approaches to teaching and their teaching intentions were directly influenced by their conceptions of teaching (Norton, Richardson, Hartley, Newstead, and Mayes 2005). Beliefs regarding the teachers' professional identity, the teaching and the students' characteristics were found (Cortez, Fuentes, Villablanca and Guzmán 2013). By understanding the relevance of the teachers' beliefs in the teaching-learning process, the necessity for them to make fundamental changes about the way they conceive teaching in order for them to improve the way they teach is understood (Solis 2015).

#### PURPOSE OF STUDY

These teachers, who hold different views about effective teaching methodologies, often conduct highly teacher-centered classes where students presumably play a passive role in learning. Due to the need for identifying the potential sources of teachers' beliefs, or so called personal pedagogical knowledge, the purpose of carrying this study is to examine the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, the potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, as well as the main requirements for improving English Language Teaching and Learning Methodologies in higher education.

#### RESEARCH QUESTION

The research questions for this study were:

1. What are the university teachers' beliefs concerning English Language Teaching and Learning Methodologies in higher education?
2. What are the potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education?
3. What are the main requirements for improving English Language Teaching and Learning Methodologies in higher education?

#### INTRODUCTION RESEARCH METHOD

As the questions for this study are concerned with finding out the university teachers' beliefs concerning effective English Language Teaching

and Learning Methodologies in higher education, the potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, as well as the main requirements for improving English Language Teaching and Learning Methodologies in higher education, its framework falls within a mixed mode approach to research. The methodology and the approach to data collection warranted or called for questionnaires and interviews that provided a strong support for the study. To answer the first question, quantitative method through questionnaire was employed. To answer the other two questions, qualitative method through questionnaire was employed. The qualitative research admits the researchers to discover the participants' inner experience, and to figure out how meanings are shaped through and in culture (Corbin and Strauss 2008), and to embark on the data collection without any pre-established instruments (Clark and Creswell 2010) that enable richer multiple sources of data being collected to match the purposes.

#### THE PARTICIPANTS

Key participants in purposeful sampling consist of fifty (50) university teachers (4 assistant professors, 16 lecturers, and 30 language teachers) from the English Language Institute, University of Jeddah. All the participants had a teaching experience of 3-6 and above. They were first identified and after making appointments, they were briefed about the purpose of the study and they expressed their consent for the interview to be performed.

#### INSTRUMENTS OF DATA COLLECTION

An eight question semi-structured interview (see appendix 2) and a seventeen, three-point opinion survey (3=yes, 2=Partly, 1=No) statement survey (see appendix 1) were administered to the participants. Both instruments covered the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, the potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education, as well as the main requirements for improving

English Language Teaching and Learning Methodologies in higher education.

#### PROCEDURE

The interview was held orally and individually, and was read by the participants since knowing the questions in advance helped them to answer what was asked more accurately. The survey was applied to university teachers after the interview. It was a written instrument that the university teachers had to complete on their own.

#### DATA ANALYSIS

Both quantitative and qualitative data were collected. A questionnaire (see Appendix 1) was developed specifically for this study with the purpose of assessing and finding out the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education. Interviews were held in order to give answers to the questions number 2 and 3. The interview consisted of eight open-ended questions (see Appendix 2). The qualitative data was useful because it enriched the study as a whole and, additionally, functioned as a way to crosscheck and validate the data collected through the questionnaire.

#### INTRODUCTION ETHICAL CONSIDERATIONS

Before dispatching the questionnaire and conducting interviews, consent was obtained from university teachers through face to face discussion about the relevance of the study.

#### FINDINGS

There were two kinds of findings, one derived from the questionnaire and the other one from the interviews. Research Question 1: What are the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education? The percentages and frequencies of data obtained from the three-point opinion survey on teacher opinions aiming to analyze university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education were evaluated for some questions as follows:

Table 1: The percentage (%) and frequency (f) values of university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education

Statement	The percentage (%)	frequency (f)
1-Effective teaching can be regarded as a teaching method in which students actively learn, construct knowledge, make connections between various knowledge parts and choose a learning goal	Yes 100	50
	Partly	
	No	
2-Effective teaching refers to teaching students how they should learn and which methods they can use in learning, not just to present them information.	Yes 100	50
	Partly	
	No	
3-Effective teaching is the use of technology in the classroom and to make choices for proper methods and techniques.	Yes 88	44
	Partly 12	6
	No	
4-Effective teaching occurs when information given widens the students' vision and can be adapted to real life conditions.	Yes 84	42
	Partly 16	8
	No	
5- Effective teaching is a process in which students express their views in the classrooms, make connections between current learning and their previous experiences, use what they have learned in their daily life and evaluate what they have learned using their own cognitive structures.	Yes 92	46
	Partly 8	4
	No	
6- Effective teaching is the creation of a teaching and learning environment in which students take responsibility of their own learning and there is a social interaction in learning in classrooms.	Yes 70	35
	Partly 20	10
	No 10	5
7-Effective teaching is the activity of interaction with students in a well-designed and positive learning environment. It creates effective student learning.	Yes 100	50
	Partly	
	No	
8-Effective teaching is a teaching which is enjoyable for students and puts marks on the students' mind.	Yes 100	50
	Partly	
	No	
9-Effective teacher is a person who has the master level of his field knowledge, eager to teach and employs plans in his teaching.	Yes 100	50
	Partly	
	No	
10-For me, effective teaching is the one that lasts for a long time but not forgotten immediately.	Yes 100	50
	Partly	
	No	
11-Effective teaching is to leave traces in the learners.	Yes 100	50
	Partly	
	No	
12-An effective teacher is a person who transmits his knowledge and experiences.	Yes 100	50
	Partly	
	No	
13-Effective teacher is a person who designs a proper teaching environment in regard to the goals of the course, directs the students and attempts to make the learning permanent and improved.	Yes 100	50
	Partly	
	No	
14-Effective teacher is a person who has high levels of field knowledge, delivers courses with active student participation and uses body language as an actor.	Yes 70	35
	Partly 20	10
	No 10	5
15-Effective teacher is a person who guides the learners, increases the students' desire to learn and is model for his students.	Yes 100	50
	Partly	
	No	
16-Effective teacher is a person who is an instructional leader for the students.	Yes 100	50
	Partly	
	No	
	Yes 80	40
	Partly 10	5

17- Effective teacher is a person who is aware of his responsibility, regards the students as the center of the teaching process and creates a parallelism between theory and practice	No 10	5
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As indicated by the respondents, effective teaching was highly evaluated (100%) as a teaching method in which students actively learn, construct knowledge, make connections between various knowledge parts and choose a learning goal.

Also, effective teaching helps students know how they should learn and which methods they can use in learning, not just to present them information (100%). 88% of the respondents evaluated the use of technology in the classroom and to make choices for proper methods and techniques, while 84% stated that effective teaching occurs when information given widens the students' vision and can be adapted to real life conditions. Students' expression of their views in the classrooms, making connections between current learning and their previous experiences, using what they have learned in their daily life and evaluating what they have learned using their own cognitive structures was agreed upon by the majority of the respondents (92%), while the creation of a teaching and learning environment in which students take responsibility of their own learning was evaluated positively by only (70%).

Interaction with students in a well-designed and positive learning environment, putting marks on the students' mind, effective teaching is the one that lasts for a long time but not forgotten immediately and leave traces in the learners were highly evaluated (100%). The teachers who transmit their knowledge and experiences, who have high levels of field knowledge, deliver courses with active student participation and use body language as actors and who guide the learners, increase the students' desire to learn, are model for their students and who are an instructional leaders for the students were highly evaluated (100%), while the statement that effective teacher is a person who is aware of his responsibility, regards the students as the centre of the teaching process and creates a parallelism between theory and practice got the agreement of 80% of the respondents.

#### FINDINGS FROM THE INTERVIEWS

As interview transcripts implied, there were four

potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education:

1. The university teachers own experience as language learners. It was clear that the previous backgrounds of the university teachers, when they were young in pre-college stages, were influenced by English language environment. The respondents express their prior experience as follow.

*When I first learnt English, my teacher was treating us as individuals not as empty vessels to be filled with information. (Pause) Really it was interesting to feel as if we were flying in the sky with our imaginations.*

*When we were at secondary school, our teacher tried to confirm the communicative approach. She always said that it was not good to concentrate on grammar in order to learn a language.*

*I remember that our teacher was always mentioning this statement: A student who knows a lot of grammar but cannot use the language is in the position of a pianist who knows a lot about harmony but cannot play the piano.*

2. Experience of what works best in their classes which refers to any practice that they perceived as being successful in their work. The respondents express what works best in their classes as follows.

*I have a notebook in my office that I usually refer to after each class. Then, I write down every successful strategy that was highly regarded by students that day.*

*More recently, I have used an approach borrowed from a colleague: students find a comment I've made on a previous essay. They write it on the top of their current essay and then use two sentences to explain how the new essay implements that suggestion.*

3. Teaching methods. The respondents express their teaching methods as follows.

*In my opinion, it is better to help students 'Hear' and Use Your Comments. When it comes to*

*commenting on student writing, good advice abounds.*

*I asked my students to do brainstorming about their essay writing. Students do not see any need for brainstorming or outlines and that maybe they should consider if they really need to do these while writing.*

*Noted that although my students should be allowed to question my approaches, they should also follow them: "You are allowed to question it but there has to be brainstorming or it [process approach] just won't work.*

4. Established practice. This was basically any statement that referred to an established way of doing something or when describing a constant in their teaching. The respondents express established practice as follows.

*I had a minor issue yesterday with a girl student crying and then hyperventilating over my feedback." "I was not happy with the student's reaction because all my students know from my established past practices what kind of feedback they will get if they do not meet my standards.*

*I think it is our responsibility to set very clear standards. You can't just be nice. This girl, in particular, she knows that this assignment she did is way out of her mark.*

*So, I said to her, 'It is very clearly laid out on the evaluation form,' which she has had since day one.*

Concerning the third question: What are the main requirements for improving effective English Language Teaching and Learning Methodologies in higher education? as interview transcripts implied, university teachers should possess certain feelings and attitudes in order to help effective teaching that creates long-term learning on the part of the students to succeed.

Requirements related to university teachers' opinions and attitudes towards an effective teaching are discussed.

#### 1. ADOPTING NEW METHODS OF TEACHING ENGLISH IN THE MODERN CLASSROOM

*As the participants indicated, "traditional curriculum design and class planning revolved around the topics considered useful for students.*

*This meant students were to learn the grammar and vocabulary that educators thought students needed to know. Student input was minimal to say the least. There are some new methods of teaching English*

1. *The task-based approach:* The task-based approach to language learning places emphasis on learning to communicate through purposeful interaction in the target language. Learner independence and their positive attitude towards language learning are also essential to make language learning successful.

As indicated by participants *"The task-based approach aims at providing opportunities for learners to experiment with and explore both spoken and written language through tasks which are designed to engage learners in the authentic, practical and functional use of language for meaningful purposes."* The use of tasks will also give a clear and purposeful context for the teaching and learning of grammar and other language features as well as skills. Such language focus components in turn enable learners to construct their knowledge of language structures and functions (Willis, 2001).

2. *The project-based approach:* There is evidence, both from students and teachers, that the project-based approach is a more popular method of instruction than traditional methods. As indicated by participants *"Students and teachers both believe that Project Based Learning is beneficial and effective as an instructional method"*. On the part of the teachers, PBL enhances professionalism and collaboration while on the part of students this kind of learning environment increases attendance, self-reliance and improves attitudes (Thomas, 2000).
3. *Using Smartphones in the Classroom:* Mobile technologies offer many options that can be useful in teaching. Laurillard (2007) suggests creating learning activities that take advantage of the uniqueness of the technology. These technologies offer discovery and study of physical environments, maintaining syn-

chronous and a-synchronous dialogue with colleagues.

As indicated by participants *"Mobile technologies offer many options of information capture, access and manipulation. Mobile platform allows for the tracking of processes."*

## 2. CARING OF STUDENTS AND MOTIVATING THEM

Students must feel they are important agents in the learning process. As the participants indicated, *some students engage actively in class, others are not motivated to participate and, prefer to sit silently in class.*

*Social relationships between teachers-students can be regarded as one of the important factors effecting student engagement.*

*Trust functioned in a number of ways to support student engagement, affecting students' sense of belonging, sense of caring, and teacher expectations.*

## 3. INTEREST IN DOING RESEARCH STUDIES

This help them having knowledge of the target language knowledge concerning fluency, accuracy, lexicon and pronunciation to being knowledgeable on target culture (Werbinska, 2009). As indicated, *if the university teacher is to be skilled and masters her field, she devotes more time to study and do research, and regularly updates her information. This, no doubt, has great effect on her students and their progress.*

## 4-INTERACTION WITH STUDENTS

As the participants indicated, *if we as teachers are not truly interested in how students feel and what they say, this comes across in our actions."*

*"It is important for university teachers to use individually appropriate strategies that take into consideration the differentiation and variability in students' interests, styles, and abilities.*

## DISCUSSION

The first research question was to identify the university teachers' beliefs concerning effective English Language Teaching and Learning

Methodologies in higher education. This question was answered by fifty participants. The participants' expressions generally focus on one dimension they regard as important for themselves. The first focus was on "Understanding and comprehension of students".

Example: *"For me, effective teaching is the one that lasts for a long time but not forgotten immediately"*. There are viewpoints that generally focus on students' learning. This suggests that educators point out a relationship between effective teaching and learner outputs. The statements of the university teachers indicate a perspective with a dimension of focusing on gaining of knowledge. This suggests that university teachers value students' cognitive developments in their effective teaching definitions. On the other hand, university teachers mostly focus on ensuring permanent learning for students. This goes in the same line with Hiebert, Morris, Berk, and Jansen's (2007) who claimed that the goal of teaching is to support student learning and it is hard to imagine teachers becoming more effective over time without being able to analyze teaching in terms of its effects on student learning.

The survey focused on "Teaching methods". Example: *"Effective teaching can be regarded as a teaching method in which students actively learn, construct knowledge, make connections between various knowledge parts and choose a learning goal."* Effective teaching can be defined mostly in terms of procedure, method and process. Teaching methods used by the university teachers also constitute one of the important dimensions of effective teaching.

The survey also focused on "Adapting classroom content to daily life". Example: *"Effective teaching occurs when information given widens the students' vision and can be adapted to real life conditions."*

The survey also focused on "Learning environment".

Example: *"Effective teaching is the creation of a teaching and learning environment in which students take responsibility of their own learning and there is a social interaction in learning in classrooms"*. learning environment is one of the most important components of effective teaching. Phillips (2005) claimed that learning environment should be arranged in different forms such as

student centered, knowledge centered, and assessment entered so that learners can construct new conditions.

Concerning the statements about characteristics of an effective teacher, they stated different viewpoints in defining effective teacher. Subject knowledge, pedagogical knowledge, teaching roles such as guidance are some of the remarkable points. It can be said that teaching behaviors have a great deal of influence on the learning of students.

As interview transcripts implied, there were four potential sources of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education.

One potential source of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education is the university teachers own experience as language learners. If a teacher has learned a second language successfully and comfortably by memorizing vocabulary lists, then there is a good change that the same teacher will have his or her students memorize vocabulary lists too.

Another potential source of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education is experience of what works best in their classes. The problem is that many practicing teachers may not want to break an established, and perceived successful, routine. Sometimes, even changing the seating arrangements may work best.

Another potential source of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education is teaching methods which for which university teacher should experience any resistance to any particular approach or teaching method they try when teaching any of the skills of reading, writing, speaking, or listening.

The last potential source of the university teachers' beliefs concerning effective English Language Teaching and Learning Methodologies in higher education is established practice. Established practice within a university that is difficult to change because the university has always used this method.

Requirements related to university teachers'

opinions and attitudes towards an effective teaching were as follow:

1. Adopting New Methods of Teaching English in the Modern Classroom;
2. Caring of students and motivating them;
3. Interest in doing research studies;
4. interaction with students.

## CONCLUSION

The findings of this study indicated that effective teaching can be regarded as a teaching method in which students actively learn, construct knowledge, make connections between various knowledge parts and choose a learning goal. It also can be the use of technology in the classroom. It can occur when information given widens the students' vision and can be adapted to real life conditions. It creates effective student learning. It lasts for a long time but not forgotten immediately. Effective teacher is a person who designs a proper teaching environment in regard to the goals of the course, directs the students and attempts to make the learning permanent and improved. He /she regards the students as the center of the teaching process and creates a parallelism between theory and practice.

The findings suggest that there are four identified themes, namely the university teachers own experience as language learners, Experience of what works best in their classes, Teaching methods, and Established practice.

Concerning requirements related to university teachers' opinions and attitudes towards an effective teaching, it was found that new methods of teaching English at the university level is crucial. Additionally, motivating students, trusting their abilities, and caring of them are required. Moreover, university teachers should take their professional development into consideration. This will be through conducting research in this field of specialty. Lastly, there should be rapport between and among university teachers and their students.

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## APPENDIX: THE QUESTIONNAIRE

Read the following statements and tick: yes, partly, or no

Statement	Yes	Partly	No
1-Effective teaching can be regarded as a teaching method in which students actively learn, construct knowledge, make connections between various knowledge parts and choose a learning goal.			
2-Effective teaching refers to teaching students how they should learn and which methods they can use in learning, not just to present them information.			



3-Effective teaching is the use of technology in the classroom and to make choices for proper methods and techniques.			
4-Effective teaching occurs when information given widens the students' vision and can be adapted to real life conditions.			
5- Effective teaching is a process in which students express their views in the classrooms, make connections between current learning and their previous experiences, use what they have learned in their daily life and evaluate what they have learned using their own cognitive structures.			
6- Effective teaching is the creation of a teaching and learning environment in which students take responsibility of their own learning and there is a social interaction in learning in classrooms.			
7-Effective teaching is the activity of interaction with students in a well-designed and positive learning environment. It creates effective student learning.			
8-Effective teaching is a teaching which is enjoyable for students and puts marks on the students' mind.			
9-Effective teacher is a person who has the master level of his field knowledge, eager to teach and employs plans in his teaching.			
10-For me, effective teaching is the one that lasts for a long time but not forgotten immediately			
11-Effective teaching is to leave traces in the learners.			
12-An effective teacher is a person who transmits his knowledge and experiences.			
13-Effective teacher is a person who designs a proper teaching environment in regard to the goals of the course, directs the students and attempts to make the learning permanent and improved.			
14-Effective teacher is a person who has high levels of field knowledge, delivers courses with active student participation and uses body language as an actor			
15-Effective teacher is a person who guides the learners, increases the students' desire to learn and is model for his students.			
16-Effective teacher is a person who is an instructional leader for the students.			

17-Effective teacher is a person who is aware of his responsibility, regards the students as the center of the teaching process and creates a parallelism between theory and practice.			
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#### APPENDIX: INTERVIEW QUESTIONS

##### Experience as language learners:

1. What do you remember about yourself as an English as a foreign language learner?
2. What were the best methods used by your teacher that influenced your English standard level?

##### Experience of what works best:

1. How do you determine if a method “works” in your class?
2. What if you are using a practice that has always worked best in your classes before but involves hard work from your students and they react negatively to this practice. Would you change your practice or would you insist on using it because it has worked well in the past?

##### Teaching methods:

1. Have you ever experienced any resistance to any particular approach or teaching method you tried when teaching any of the skills of reading, writing, speaking, or listening?
2. Have you ever modified your approaches and methods to suit your students and if so, do you consider this the same as modifying your beliefs or do you still keep the same beliefs about a particular approach?

##### Established practice:

1. What are your established practices that you think influence your beliefs about teaching and learning?
2. Do you think teachers should stick to their established ways of teaching even if these established ways conflict with their students preferred learning styles?

# THE TEACHERS' NEEDS FOR MEDICAL ENGLISH IN THE FACULTY OF MEDICINE AT ABDELHAMID IBN-BADIS UNIVERSITY

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**Abstract:** The urgent need for English instruction at the faculty of medicine, Mostaganem University, motivated us to investigate the teachers' needs for medical English. In this prospect, an in-depth needs analysis was conducted to know the *teachers' of medicine* needs for English in order to make an appropriate course design for them. Accordingly, a set of procedures were taken in which a questionnaire was elaborated to investigate the learners' profiles, their target needs, and their learning styles. Furthermore, an interview with the responsible for medical English was held to determine the way the learning process should be conducted. Moreover, a placement test consolidated by a classroom observation was used to reveal the learners' strengths and weaknesses regarding the language. The results of the needs analysis were exploited and interpreted to elaborate a suitable course design for the teachers of medicine at Abdelhamid Ibn Badis University to equip them with the linguistic tool to be able to use English as a medium in their researches and to attend international conferences. Finally, an official implementation of the suggested course design for medical professionals in the academic setting was proposed as a first attempt to introduce English to the faculty of medicine.

**Keywords:** medical English, needs analysis, course design

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## INTRODUCTION

English for specific purposes (ESP) as a field of research emphasizes its concern on studying the combination between the subject matter and English language teaching which is considered as challenging matter. Accordingly, this field of research attempts to overcome this challenge throughout promoting the development of the teacher's competence, the learner's acquisition, and optimizing methodology.

This research work aims at investigating the ESP situation at the faculty of medicine at Abdelhamid Ibn-Badis University in order to identify the teachers' of medicine needs regarding English and to select the most important elements in designing an appropriate ESP course that meets their needs. Therefore, the objectives of this paper are: (1) to offer practical guidelines of the needs analysis process in order to identify the different needs of the teachers of medicine, (2) to choose the elements to be integrated into the suggested course to make it effective and suitable to meet the teachers of medicine needs.

The objectives above help us to think about the way the ESP practitioner should proceed to conduct a relevant process of needs analysis in order to design a consistent ESP course for medical professionals in an academic environment. In this vein, our paper tends particularly to explore two questions which are: (1) what do medical professionals at Mostaganem University need English for? (2) What are the components that should be accounted for an appropriate ESP course which is dedicated to teachers of medicine?

## LITERATURE REVIEW

The ESP course design is based on the identification of the learners' needs and the interpretation of their analysis as McDonough (1984, 29) writes: "The idea of analyzing the language needs of the learner as a basis for course development has become almost synonymous with ESP." Accordingly, it has been taken into consideration four types of analyses that belong to the process of needs analysis. They are the Target Situation Analysis (TSA), the Learning Situation Analysis (LSA), the Present Situation Analysis (PSA), and the Means Analysis (MA). According to Hutchinson and Waters (1987), target situation needs are the needs in relation to the

situation in which the learner will work in (the professional domain). These needs are divided into three types: necessities, lacks, and wants. On the other hand, the present situation analysis is described as the learners' current strengths and weaknesses; more clearly, they stand for what the learners already know (Dudley-Evans and John, 1998). Before that, Holliday (1982, 5) puts forward the analysis of the environment where the course will be held that is means analysis. All the factors in the environment are not considered as obstacles, but rather as relevant features. As far as the learning situation analysis, it is related to the analysis of the learning needs. Robinson (1991, 7) defines learning needs as "...what the learner needs to do to actually to acquire the language." Hence, learning needs are related, mainly, to the learning styles and strategies. In relation to language learning styles, Willing (1994, cited in David, 2011) identified four major styles: communicative, analytical, authority-oriented and concrete. These styles were derived from learner strategy preferences.

The four analyses, previously mentioned, pave the way to what is called course design. Needs analysis is the essential step in ESP course design since the latter relies on it to sequence the lessons to be taught in order to meet the learners' needs, goals, and expectations.

## METHOD

In this paper, the needs analysis process is taken as an approach to ESP research where the interpretation of its results will help in suggesting a course design. To investigate the teachers' of medicine needs for English, the needs analysis has been divided into four analyses: the Means Analysis, the Present Situation Analysis, the Target Situation Analysis and the Learning Situation Analysis. Accordingly, a triangulation method is used: (1) the questionnaire: it is divided into 3 parts: part I is dedicated for the Means Analysis (MA), part II is dedicated for the Target Situation Analysis (TSA) and part III stands for the strategy needs analysis, (2) the observation, and (3) the interview: both the qualitative and the quantitative analysis of the results were taken into consideration.

## CONTEXT AND PARTICIPANTS

This research takes place at Abdelhamid Ibn Badis' faculty of medicine. It has been created four years

ago (12<sup>th</sup> September 2012). Its infrastructure is still recent and it has a serious need for medical English courses to promote its teaching and learning. The trainees represent the sample of the study in which their needs will be analysed and the course will be dedicated. They are medical professionals who teach medicine at Abdelhamid Ibn Badis University.

#### DATA COLLECTION INSTRUMENTS AND ANALYSIS

The data collection tools of the present study are designed to discover the different needs that push the medical professionals at Abdelhamid Ibn-Badis University to learn English. The subsequent part will deal with the analysis of the learners' questionnaire alongside with the interview for the

responsible. As far as the observation is concerned, the learners will be observed in order to have direct data about them. Finally, the interpretation of the results will be used to suggest a course for the teachers of medicine.

#### THE MEANS ANALYSIS

At the beginning of the academic year (15<sup>th</sup> October, 2016), the trainees were given the first part of the questionnaire to be answered. The questions were about their names, age, speciality, and function. Table 1 illustrates the detailed information about the profile of the trainees' group under investigation (the participants).

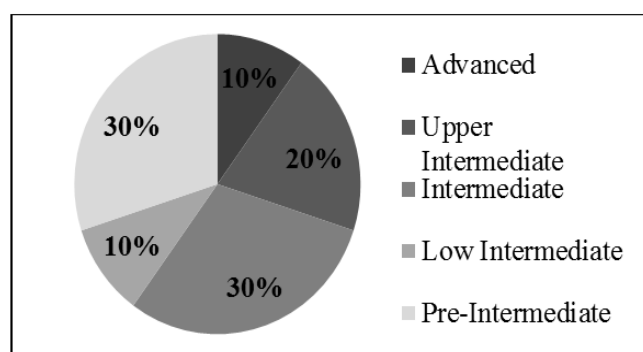
Table 1. The trainees' profile

Respondents' Number	Age Group	Qualification	Modules in Charge of
3	37-43	Doctor specialised in surgery	General Surgery
2	39-45	Doctor specialised in Anatomy	General Anatomy
2	30-32	Pharmacist	Pharmacology.
2	35-43	Engineer in Biology	Biostatistics
1	37	Doctor specialised in physiology	Neurophysiology, Semiology

The group under investigation (sample) consists of 10 trainees. Their age group is between 30 to 45 years, and their specialities are distributed in the following way: surgery, anatomy, pharmacology, biology, and physiology. All of the trainees are teachers at the faculty of medicine and they are in charge of several modules.

#### THE PRESENT SITUATION ANALYSIS

In order to identify the strengths and the weaknesses of the trainees regarding the language, a placement test is prepared to identify the current level of the learners. Moreover, the placement test is consolidated with a classroom observation to validate its results.



#### THE PLACEMENT TEST

A placement test was prepared at the very beginning of the course (23<sup>rd</sup> October, 2016) in order to identify the learners' strengths and weaknesses as regards to their level of general English. According to the London School of English (2017), it is necessary for a learner who is intended to take a course in medical English to attain the level 5 to 8 in general English that corresponds to the categorisation from intermediate to upper intermediate (see appendix A.1). Hence, the group of the learners under investigation were given a placement test which consists of 100 questions to determine their level in general English (see appendix A.2). Figure 1. illustrates the results.

Figure 1. The Learners' level in general English.

The results reveal that (50%) of the learners are intermediate to upper intermediate. However, a considerable proportion (40%) goes to the mixture of low-intermediate to pre-intermediate and only (10%) of the learners were advanced. The placement test helps the ESP practitioner to predict the learners' level that is needed to launch the medical English courses.

#### THE CLASSROOM OBSERVATION

The classroom observation is a useful tool to collect interesting data about the present situation of the learners. Such type of information helped in gaining direct and truthful insights about the learners' strengths and weaknesses. The learners were observed for a period of four sessions (from 23<sup>th</sup> of October to the 23<sup>th</sup> of November). At the beginning of the observation process, the observer noticed that the learners' proficiency level is compatible to some extent to the placement test's results. The learners who scored well in the placement test were comfortable in using English while the learners who did not score well were facing various difficulties. Some notes about some behaviors that occurred during the observation step have been recorded. The learners consulted each other in an attempt to understand what was being said by the teacher and tried to translate it to French. The low-intermediate learners could not answer the teacher's questions as they were unable to construct a correct sentence, or to correctly pronounce difficult medical lexicon. Despite this fact, the learners frequently asked the teacher about the right pronunciation of the words. In the pre-medical courses, we could record some instances of the learners' linguistic difficulties.

The results retained from the placement test and the classroom observation, are organised into two different needs: strengths and weaknesses that represent the present situation analysis.

##### A) Strengths

The strengths of the learners are summed up into the following points:

- Medical professionals have a positive attitude vis-à-vis English and are well aware of its importance, for this reason they were quite motivated.
- They have a considerable amount of specific English terms (jargon) which have a kind of affinity with French words.

- They can make simple sentences and can understand the main points of a conversation.
- They are open to the lecture and to the teacher so they attempt to formulate correct sentences.
- The ICTs which are provided by the administration might be of a great help to improve the learners' linguistic macro skills.
- Part of the group has a good level at general English which will help in learning medical English.

##### B) Weaknesses

The following points represent the weaknesses of the learners regarding learning English:

- The learners are too busy to continue attending the ESP course regularly.
- They have problems with complex vocabulary, new technical words, their pronunciation, and they struggle with negative transfer.
- They have problems with complex grammar and they fail to make themselves understood.
- They face difficulties in constructing correct sentences using the correct tenses.
- They do not have a significant prior knowledge of the basis of the English language concerning the four macro skills.
- Part of the group still have a low level of English, hence the heterogeneity of the group is highly challenging.

#### THE TARGET SITUATION ANALYSIS

This kind of questionnaire was carefully prepared in English and it has been translated into French to avoid any sort of misunderstanding. The questionnaire consists of (22) questions of different types: closed, mixed, and open. The 10 trainees had to answer the prepared questionnaire which was submitted to them after 2 sessions they took in general English (October, 2016). The data obtained from the medical professionals' questionnaire were highly important and enabled us to get a clear picture of the target situation and helped us to determine the learners' wants, lacks, and necessities. The learners' needs regarding the (TSA) are as follows:

##### A. Lacks

The results reveal the following lacks:

- i. The lack of prior knowledge of the language functions deficiencies.

- ii. The lack of exposure to authentic English in a non-academic context (mainly general English)
- iii. There are lacks in listening and speaking skills mainly in the medical domain.
- iv. The lack of reading in the medical domain due to their busy schedule.

#### B. Wants

The Learners' wants are determined as follows:

- i. Prioritising the reading skills
- ii. Increasing the course duration (4hours/week)
- iii. Reading scientific articles
- iv. Writing medical texts
- v. Deciphering native speakers' speech
- vi. Improving the four linguistic skills simultaneously

#### C. Necessities

As far as the learners' necessities, they are represented in the following points:

- i. Fostering and developing their linguistic, communicative and intercultural competencies.
- ii. Listening and speaking skills are to be developed so as to be able to ask and answer.
- iii. Focusing more on the academic English (teachers of medicine) and less on English for practitioners (doctors).
- iv. Minding the specificity of the language to some extent (more or less).

#### THE LEARNING SITUATION ANALYSIS

It is naïve to base the course design and the whole ESP program merely on target needs. Subsequently, learning needs are linked with the route to the destination set by the target situation. The

administrative and the psychological needs must occupy the same space in needs analysis as the target needs do. For that reason, a questionnaire was submitted to the learners in order to identify their learning strategies to elicit their learning styles. Moreover, an interview was addressed to the responsible of medical English at the faculty of medicine to identify the administrative needs.

#### STRATEGY NEEDS ANALYSIS

The group under investigation was given the questionnaire part III which involves 22 items where the learners have to answer with the following terms: No, Little, Good, Best. Each item stands for a strategy which indicates a learning style. The items are organized as follows:

Item 1 to 5: the different strategies that are linked to the authority-oriented learning style.

Item 6 to 10: indicates the analytical learning style.

Item 11 to 15: they stand for the communicative way of learning.

Item 16 to 20: these learning strategies represent the concrete style of learning.

The figure 2 displays the results retained from the learners' answers:

Generally speaking, the learners adopt a mixture of learning styles; they opted for a variety of learning strategies. However, the learners' strategies show that they are communicative learners at the first place in addition to having an authority-oriented learning style. In the same time, learners tended to be analytical and concrete with the same rate.

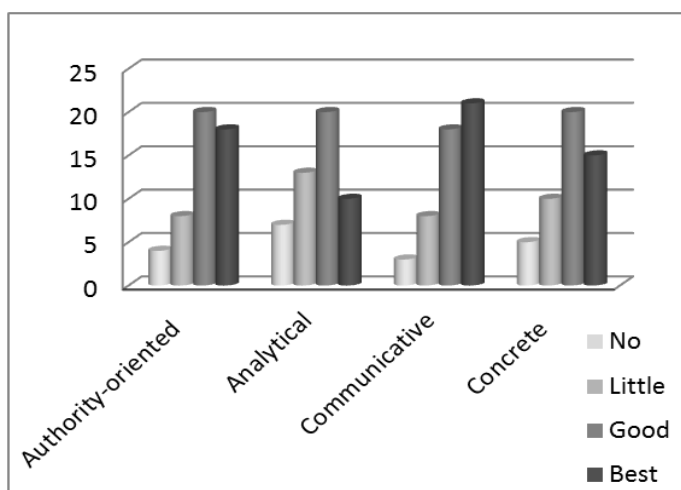


Figure 2. The distribution of the learners' learning styles.

#### THE ADMINISTRATIVE NEEDS ANALYSIS

In order to determine the administrative needs, an interview was addressed to the responsible of the training in English for medical professionals to investigate the way she wants it to be. The interview comprises seven (7) questions; each will be dealt with separately.

Question 1: it inquiries about the time allocated for the training.

Question 2: it deals with the reasons behind creating the EMP courses.

Question 3: it is concerned with the targeted objectives of the training.

Question 4: it intends to discover the expectations of the responsible regarding the courses.

Question 5: it looks for the suggestions to enrich the up-coming courses in English.

Question 6: it inquiries about the materials that can be offered to the ESP practitioner.

The responsible's interview yielded an interesting result that will determine the destination of the learning process. According to her, English is needed basically to enrich the teachers of medicine's professional career and regarded as a solid link with up-to-date medical research. Subsequently, medical courses should aim at enhancing the learners' academic English that is based on the understanding of the medical articles and making the learners active communicators in the international conferences.

#### SUMMARY OF MAIN RESULTS AND DISCUSSION: FROM THE NEEDS TO GOAL

The first part of the questionnaire, which tackled the means analysis, enabled us to get the information about the context in which learning will take place. It has been found that all of the learners are teachers of medicine at the University of Mostaganem and they are in different ages, specialties, and in charge of different modules, for that reason the course design has to respect the learners' specialties and linguistic needs. Regarding the present situation analysis' results, some learners are illegible to study medical English since the results of the placement test and the classroom observation confirm their respective level which is from 5 to 8 as recommended by the London School of English. However, the other part of the group still has not the required level. In this respect, the courses have to be general at the beginning, yet they must be contextualized in order to take into consideration all the levels of the learners. In addition, to have an in-depth data about the learners' strengths and weaknesses, we consolidated the placement test results with a classroom observation which revealed the learners' weaknesses in grammar, vocabulary,

and pronunciation, yet their openness to the lectures and the teacher as well. Through the second part of the learners' questionnaire, we investigated the medical professionals' target needs. Results revealed that a considerable proportion of medical professionals are intermediate, yet they still face great barriers in acquiring the language because of the long period during which they stopped learning it. However, learners assert that in this era, English has become the language of science, and assume that its command is synonymous with career advancement and scientific progress. They; therefore, show a positive attitude towards the language. They see that the first skill which has the priority to focus on is reading followed by the writing skill, then speaking and the last is listening. Additionally, the informants encounter great difficulties in speaking and listening which is due to the lack of reading, the insufficient period of instruction and the lack of practice. For this reason, most of them want to have 4 hours of English instruction per week and agree on the importance of teaching the receptive skills especially reading alongside with the productive skills.

The present situation analysis data which were obtained from the medical professionals' questionnaire (part III) were highly important and enabled us to get a clear picture of the learners' learning styles and strategies. The results show that the learners express their will for a communicative style. However, they prefer also the authority-oriented style of learning that is mixed with the analytical and the concrete one. Subsequently, the results of the responsible's interview are focused on teaching the medical English that serves the academic

research, therefore, all the four skills are highly stressed in a way that makes the teachers of medicine communicatively competent.

As far as the learner's acquisition development is concerned, a good way to make learning faster is to take advantage of the learners' prior knowledge of the subject matter and exploit it to teach the general English as well as the specific one (Mohammad R. K. et al., 2016, 39).

#### A SYLLABUS CONTENT FOR MEDICAL PROFESSIONALS

Stevens (1977, 90) describes ESP courses as: 'those in which the aims and the context are determined principally or wholly not by criteria of



general education but by functional and practical English language requirements of the learner.” White (1983) indicates that the syllabus is a plan for a journey which must specify the destination and the starting point and negotiate the route. In fact, the theories to syllabus design are multiple. In this paper, we attempt to design the general picture of the course. Accordingly, an eclectic method is taken to delineate the course of medical English for teachers of medicine at Abdelhamid Ibn Badis University. For that reason, one in this part tries to give guidelines or an overall picture of the syllabus taking into consideration the needs analysis’ results. Subsequently, the decision as to which syllabus type to opt for will result from the combination of the learners’ needs and the objectives of the course.

Mohammad (2014, 38) mentions in his work that the specific needs of the learners are the elements that determine the methodology used in ESP teaching which is based on a new learner-centered approach to English language teaching. In the same vein, Esmail (2017, 40) added that the learners’ needs have to be considered in a target-oriented prospect (the professional domain) in order to be interpreted to a course. As a matter of fact, the learners in this study are professional doctors and in the same time academic teachers of medicine. Hence, based on Robinson’s (1991, 3) classification of ESP branches, the type of ESP course that will be delivered in this paper is a kind of mixture between English for Occupational Purposes (EOP) post-experience and English for Academic Purposes (EAP) post-study which is an independent course.

Since the training of English will last for two years, the medical syllabus, in one’s opinion should be divided into three parts; the first part is to bring their background knowledge about the language by focusing on general English in context. It aims at refreshing their memories and revising what they forget due to the long period since they stopped learning English. It is also about general communication skills such as making introductions, greeting, and congratulating. It should be said that at this stage, the ESP teacher should focus on the receptive skills then the productive ones since the learners as general practitioners do read medical texts, but are invited to international conferences as well.

The second part is about basic medical terminology acquisition, grammar structures learnt within the listening skill, then the reading

one, and oral translation. It is about general health topics in their domains divided up according to their specialties: physiology, anatomy, surgery, pharmacology, and biology. Later on, further themes are to be introduced in the syllabus. By the end of the second part of the syllabus, learners will be acquainted to some extent with medical terminology and simple grammar rules.

As for the third part of the syllabus, the learners are supposed to have gained a certain degree of language proficiency, to be able to read and listen to a text and understand it and to know the basic medical terminology. Now the syllabus objectives are to make them fluent communicators by focusing on developing the productive skills coped with translation activities of specialized terminology. It is about training them to structure their research papers and presentation skills required for international conferences including complex and very difficult medical terms, acronyms, and abbreviations. For instance, learners specialized in surgery will learn only the terminology related to surgery, this will ease the task for both the teacher and the learners to efficiently prepare them to engage in successful spoken and written exchanges in their studies and professional careers.

## CONCLUSION

Being able to understand English enables the medical professionals to be up-to-date with the recent scientific researches. For that reason, we emphasize

the need for Algerian medical professionals, more specifically, teachers of medicine at Abdelhamid Ibn Badis University and the medical students as well, to learn English. In fact, our medical doctors’ struggle in conferences to understand the talks or to speak

with foreign colleagues, therefore implementing a course for medical purposes becomes compulsory.

This paper aims at designing and implementing an ESP course which is dedicated to the teachers of medicine at the Faculty of medicine. It represents an attempt to analyze the needs of medical professionals regarding English in the academic context. Accordingly, this paper gives practical steps to help ESP teachers in conducting the needs analysis process and structuring their courses. It is based on the needs analysis to check the medical professionals’ strengths and weaknesses, their target

needs, and their learning strategies and styles. Based on the previous analysis, we attempt to suggest a course for the teachers of medicine at Abdelhamid Ibn Badis University. The needs analysis results reveal that medical professionals show a high degree of motivation and enthusiasm to learn English. The needs analysis' results were, in fact, interpreted to a suggested course for medical purposes to improve the present situation of the learners, help the teachers of medicine overcome the difficulties they face in English, and make learners grasp the necessary knowledge and exploit the limited amount of time to achieve their objectives.

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#### APPENDICES

##### Appendix A1. Professional English recommended levels by the London school of English

Course	Level
Medical English	Level 5 – 8
English for Human Resource Professionals	Level 5 – 8
Effective Lecturing Skills	Level 6 – 8

##### Appendix A2. Language level scale by \*cef - the common European framework of reference for languages.

Level	LSE Class Level	CEF level*
9	Very Advanced	C2
8	Advanced	C2
7	Pre-advanced	C1
6	UpperIntermediate	B2
5	Intermediate	B1
4	LowIntermediate	B1
3	Pre-Intermediate	A2
2	Elementary	A1/2
1	Beginner	They do not speak any English.

# EFFECT OF A BRAIN-BASED LEARNING PROGRAM ON WORKING MEMORY AND ACADEMIC MOTIVATION AMONG TENTH GRADE OMANIS STUDENTS

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**Abstract:** This study aims to investigate the effect of a brain-based learning program on working memory and academic motivation among tenth grade Omanis students. The sample was selected from students in the tenth grade in basic education in the Sultanate of Oman. The participants in this study were 75 preparatory school students. Experimental group (EG) consisted of 37 students while the control group (CG) consisted of 38 students. An experimental Pretest and Posttest Control-Group design was used in this study. The brain-based learning program was conducted to the whole class by their actual teacher during the actual lesson period for 8 weeks with 50 minute sessions conducted three times a week. The program was designed based on the three basic fundamentals of brain-based learning, namely ‘orchestrated immersion’, ‘relaxed alertness’, and ‘active processing’. The results of this study indicated great gains for students in the experimental group in both working memory and academic motivation. This study goes some way to understanding working memory and academic motivation in Omanis tenth grade primary students. The study shows that students in the experimental group, compared to those in the control group, develop robust working memory and academic motivation due to training in brain-based learning. The study shows that those young students have great chance of developing their g memory and academic motivation.

**Keywords:** brain-based learning, working memory, academic motivation, tenth grade Omanis students.

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## INTRODUCTION

Teaching as a system is supposed to be an interpersonal interaction between teacher, learner and learning environment. In today's educational context the teaching and learning process is not simple as learners are exposed to wide experiences and opportunities. There is a rapid shift from teacher-centered teaching to student centered approach. Brain based learning is regarded as a student-centered approach. It confirms that the learning of the individual is more effective and lasting. As a learning approach, brain-based learning is based on the structure and function of the human brain. In this type of learning, a teacher facilitates approach that utilizes learner's cognitive endowments as it is based on brain-based learning principles (Thomas and Swamy, 2014). Each learner is seen to have a huge potential and should be given the opportunity to learn in an optimum environment (Salmiza, 2012). Caine and Caine (2002) define brain-based learning as "recognition of the brain's codes for a meaningful learning and adjusting the teaching process in relation to those codes." Brain-based learning ameliorates students' learning through challenge and inherited by threats, it provides challenging, but not impossible tasks to encourage them to strive. Non-threatening learning environment stimulates learning experiences depending on working in pairs or groups, reflecting on ideas, thinking creatively through using a variety of resources (Ashraf Atta, 2017). As Jensen (2000) put it "we are placed in transformation phase", a transformation which changes many things such as start time of schools, disciplinary policies, assessment methods, teaching strategies, budget priorities, classroom environments, technology application and even the way we think about art and education (Afsar, Soghra and Hamideh, 2015).

## STATEMENT OF THE PROBLEM

Educators face the problem of creating a brain-friendly classroom where all students are engaged and active. Though overwhelming amount of considerations have emerged from current brain research, not all educators all over the world in general, and in our Arab world in particular, are aware of the findings of these studies. In such a case, an unbalanced prospect for teachers to

provide maximal learning opportunities for all students prevails and is created. Accordingly, there will be an urgent need to create positive emotional connections to learning so that long-term learning can be transferred easily and successfully to the real-world. If students feel unsafe, stressed, or are experiencing a low-cycle of brain activity, learning becomes impossible and they may hate the learning process as a whole and drop out. Conventional methods might be problematic and no longer is beneficial to students. Students, as Sousa (2006) claims, on average, retain only five percent of information delivered through lecture twenty-four hours later. Teachers try to do the teaching without considering whether the learners are motivated or not. Hence, employing methods that are more brain-friendly may be a way to increase the effectiveness of teaching and learning.

Further research is necessary to build on the vast amount of research into brain-based learning specially with Omanis students. This will allow researchers to determine how brain-based learning can be best used as an intervention with those students as there is a dearth of research with this population. Thus, the present study addresses the following questions.

1. Are there differences in post-test scores mean between control and experimental groups on Working Memory Test?
2. Are there differences in post-test scores mean between control and experimental groups on Academic Motivation Test?
3. Are there differences in pre- post-test scores mean of the experimental group on Working Memory Test?
4. Are there differences in pre- post-test scores mean of the experimental group on Academic Motivation Test?

## PURPOSE OF THE STUDY

This study aims to investigate the effect of a brain-based learning program on working memory and academic motivation among tenth grade Omanis students. By gaining a better understanding of this process, teachers can apply the findings to create safe, stress-free classrooms that will engage the minds of students, improving their working memory, and that will help to ameliorate their academic motivation.

## LITERATURE REVIEW

## BRAIN-BASED LEARNING

Brain based learning theory becomes more evident specially in the publication of research-based strategies that educators use in these days. This kind of learning This kind of learning allows teachers to identify a particular theory that they can use to underlie their teachings in the classroom. Caine & Caine (1994) developed their 12 principles for brain-based learning in 1989 and recommend the following 12 principles for brain-based learning. These principles allow educators to reach a more diverse set of learners, affirming the notion that not all students learn the same way and allowing educators to teach in a multitude of ways (Connell, 2009):

1. The brain is a parallel processor: The brain performs many tasks simultaneously, including thinking and feeling.
2. Learning engages the entire physiology: The brain and the body are engaged in learning.
3. The search for meaning is innate: “[T]he brain’s/mind’s search for meaning is very personal. The greater the extent to which what we learn is tied to personal, meaningful experiences, the greater and deeper our learning will be” (Caine and Caine 1994, 96).
4. The search for meaning occurs through patterning: “The brain is designed to perceive and generate patterns, and it resists having meaningless patterns imposed on it” (Caine and Caine 1994, 88).
5. Emotions are critical to patterning: Our emotions are brain based; they play an important role in making decisions.
6. The brain processes parts and wholes simultaneously: The left and the right hemisphere have different functions, but they are designed to work together.
7. Learning involves both focused attention and peripheral perception: People hold general perceptions of the environment and pay selective attention to various parts of it.
8. Learning always involves conscious and unconscious processes: There is interplay between our conscious and our unconscious. “One primary task of educators is to help students take charge of their conscious and unconscious processing” (Caine and Caine 1994, 157).

9. We have at least two different types of memory: spatial (autobiographical) and rote learning (taxon memory). The taxon or rote memory systems consist of “facts and skills that are stored by practice and rehearsal” (Caine and Caine 1994, 169). Spatial, or autobiographical, memory “builds relationships among facts, events, and experiences” (Caine and Caine 1994, 170).

10. Learning is developmental: Children, and their brains, benefit from enriched home and school environments.

11. Learning is enhanced by challenge and inhibited by threat: Students optimally benefit when their assignments are challenging and the classroom environment feels safe and supportive. The brain learns optimally -- makes maximum connections --when appropriately challenged. But the brain "downshifts"--becomes less flexible and reverts to primitive attitudes and procedures -- under perceived threat.

12. Every brain is unique: This looks at learning styles and unique ways of patterning. We have many things in common, but we also are very, very different. We need to understand how we learn and how we perceive the world and to know that men and women see the world differently.

Caine & Caine (1994) claimed that great teaching involves three fundamental elements:

Relaxed alertness: Creating the optimal emotional climate for learning;

Orchestrated immersion in complex experience: Creating optimal opportunities for learning; and  
Active processing of experience: Creating optimal ways to consolidate learning (p. 4-6).

## WORKING MEMORY AND BRAIN-BASED LEARNING

Every day, the brain faces an overwhelming amount of input. The function of the brain at this time is to scan quickly for the useful information and tries move it from the sensory register to the short-term memory (SMT), or what is called working memory (WM) by focusing more specific attention on it (Gaddes & Edgell, 1994). Working memory, by its role, as Levine (2000) claims works as a storage area to compare and combine a new memory with old memories. Its primary purpose is: (1) to purge or release the new information from memory; (2) to maintain the information in working memory via simple rehearsal; or (3) to move (encode) the information from working

memory into long-term memory for later recall (Banikowski and Mehring, 1999). The learners are exposed to new input, and then their brains try to find some associations that are already established. In case of having some previous knowledge or experience about this new learned input, it is much more likely for the learners to remember it. When the working memory is active, it performs different tasks that are very important for success in school. Research on brain-based learning has provided evidence that working memory training improves test results (St. Clair-Thompson, Stevens, Hunt, and Bolder, 2010), and other broad varieties of academic skills (Melby-Lervåg and Hulme, 2013), for instance problem solving skills (Cheshire, Ball and Lewis, 2005; Jaeggi, Buschkuhl, Jonides and Perrig, 2008).

#### ACADEMIC MOTIVATION AND BRAIN-BASED LEARNING

Motivation is a very important variable in success of learning outcomes. This explains why highly motivated students tend to show more academic efforts and perseverance and achievement than low motivated students in classroom activities and tasks (Wolters and Rosenthal, 2000). There are many factors that affect students' motivations in science education included the interests of students towards subjects, their notes which were taken in classroom, students' perceptions of task, success and failures of obtaining scientific knowledge, the general aim and orientations of students in science and understanding of scientific achievements (Tuan, 2005). Brain-based learning is a natural, motivating, and positive way to maximize learning due to following the ways our brains work (Caine and Caine 2006). It is favorable to change the teaching and learning environment from that of teacher dominance (teacher-centered approach) into that of student autonomy (learner-centered learning approach). These environments should be secure, safe and non-threatening learning

experiences in order to maximize learners' enthusiasm and motivation to learn (Moghadam & Araghi, 2013). The educational environments that give students the opportunity to experience activities and are compatible with the brains' natural learning systems will, for sure motivate students to learn and succeed, as well as being creative thinkers (Ashraf Atta, 2017). Brain-Based Learning strategies effectively caused students to succeed, and this in turn created a positive student perception and motivation to learn.

#### METHOD

Quasi-experimental research method are used, quasi-experimental research is research that resembles experimental research but is not true experimental research. Although the independent variable is manipulated, participants are not randomly assigned to conditions or orders of conditions because the independent variable is manipulated before the dependent variable is measured, quasi-experimental research eliminates the directionality problem.

#### PARTICIPANTS

The sample was selected from students in the tenth grade in basic education in the Sultanate of Oman. The participants in this study were 75 preparatory school students. Experimental group (EG) consisted of 37 students while the control group (CG) consisted of 38 students. In both groups, students' social, economic statuses, intelligence and previous scholastic achievement were nearly the same. The students' ages in both groups ranged from 15 to 16 years. The participants were selected by convenience random sampling. The sample was randomly divided into two groups; experimental (n= 37 boys only) and control (n= 38 boys only). The two groups were matched on age, IQ, achievement, working memory and motivation.

Variable	Group	N	M	SD	T	Sig.
Age	Experimental	37	148.57	2.84	0.472	0.547
	Control	38	148.31	2.91		
IQ	Experimental	37	108.18	6.13	0.796	0.383
	Control	38	108.59	6.53		
Achievement	Experimental	37	41.13	1.87	0.613	0.393
	Control	38	41.39	1.57		

Working memory	Experimental	37	45.32	3.17	0.823	0.315
	Control	38	45.66	3.21		
Motivation	Experimental	35	58.25	2.29	0.351	0.651
	Control	36	58.39	2.61		

Table 1. Pretest mean scores, standard deviations, T- value, and significance level for experimental and control groups on age (by month), IQ, achievement, working memory, and motivation.

#### DATA COLLECTION TOOL

1. *The Raven's Coloured Progressive Matrices Test.* The Raven's CPM is internationally recognized as a culture -fair or culture reduced test of non- verbal intelligence. This easily administered, multiple - choice pencil and paper test have no time limit, and comprises three sets of twelve matrix designs arranged to "assess mental development up to a stage when a person is sufficiently able to reason by analogy to adopt this way of thinking as a consistent method of inference" (Raven et al., 1993). The testee is shown a series of patterns with parts missing. The parts removed are of simple shape and have been placed below the matrix. The testee can either point to the pattern piece s/he has selected or write its corresponding number on the record form (Lezak, 1995). The total score is the total number of matrices completed correctly, and the test is thus scored out of 36. The retest reliability of the Raven's CPM was revealed to be .90. The degree of correlation between the Raven's CPM and the WISC revealed correlations of .91.

2. *Academic Achievement Test:* The end-of-year examination results of the participants in math standardized and marked by the teachers, and provided the summative evaluation scores for the analysis. Hence, scores in the math served as the measures of students' achievement.

3. *Working Memory scale: (A) Tests of Auditory Working Memory Digit Span (DS).* On the DS subtest from the Wechsler Memory Scale-Third Edition (Wechsler, 1997), participants hear increasingly longer sequences of single digit numbers. For the first portion of this test, participants repeat the sequence out loud in order of presentation (forward span). For the second portion, they recite the sequence in reverse order (backward span). Correct sequences across the two portions of the test are totaled to determine the Digit Span raw score. (B) *Tests of Visuospatial*

*Working Memory Spatial Span (SS).* Also, from the Wechsler Memory Scale-Third Edition (Wechsler, 1997) and a visual analog of the DS test, during the SS subtest participants watch the examiner tap increasingly longer sequences of raised, blue blocks positioned arbitrarily on a white board. Participants tap the blocks in the same order they witnessed (forward span) or in the reverse order (backward span). Correct responses across forward span and backwards span trials are totaled to determine the Spatial Span raw score.

4. *Motivation Scale:* The Academic Motivation Scale for Learning was utilized in the study to determine students' motivation towards learning. consists of 19 items and four sub dimensions. The intrinsic motivation sub dimension of the scale, which refers to the willingness to learn, has six items; the amotivation sub dimension, which refers to an unwillingness to learn, has five items; the extrinsic motivation-career sub dimension, which refers to learning for future occupation goals, has four items; and the extrinsic motivation-social sub dimension, which refers to learning in order to show success to around has four items (Aydın & Çekim, 2017). The scale has a six-point Likert-type pattern, ranging from strongly agree to strongly disagree. Coding of the scale was done by allocating scores as follows: strongly disagree=one point, mostly disagree=two points, partially disagree=three points, partially agree=four points, mostly agree=five points, strongly agree=six points. Only the items in the amotivation sub dimension among the scale items were negative. But, when point scoring, these items were also scored in the same way as the other items on the scale. The lowest average score that could be obtained with the sub dimensions of the scale was one, while the highest was six. For this study, Cronbach's alpha values were calculated as 0.906 for the intrinsic motivation sub dimension, 0.853 for the amotivation sub dimension, 0.836 for the extrinsic motivation-career sub dimension, and

0.786 for the extrinsic motivation-social sub dimension.

#### EXPERIMENTAL DESIGN

An experimental Pretest-Posttest Control-Group design was used in this study. In this design, two groups are formed by assigning (37) of the students to the experimental group and (38) to the control group. Students in the experimental and control groups were pretested and post-tested in the same manner and at the same time in the study. The bivalent independent variable was the brain-based learning program and it assumed two values: presence of the brain-based learning program (for the experimental group) versus absence of the brain-based learning program (for the control group). The dependent variables were the gains in scores on working memory and academic motivation scales from the pretest and posttest.

#### PROCEDURES

*Pre-intervention testing* : All the seventy-five students in grade ten completed The Raven's Coloured Progressive Matrices Test, which assesses students' intelligence; Motivation Scale, which assesses students' academic motivation , Working Memory scale, which assesses Auditory Working Memory Digit Span and Visuospatial Working Memory Spatial Span. Additionally , the end-of- year examination results of the participants in social studies standardized and marked by the teachers , and provided the summative evaluation scores for the analysis. Hence, scores in the social studies served as the measures of students' achievement. Thus, data was reported for the students who completed the study.

*General Instructional Procedures:* The brain-based learning program was conducted to the whole class by their actual teacher during the actual lesson period for 8 weeks with 50-minute sessions conducted three times a week. The program was designed based on the three basic fundamentals of brain-based learning, namely 'orchestrated immersion', 'relaxed alertness', and 'active processing'. In the 'orchestrated immersion' phase, The students, with the help of their teacher , used various pictures, power- point presentations, cartoons and comic strips. These helped them the concepts presented and the subject

matter as a whole as well. As for 'relaxed alertness,' phase, cooperative learning was present. Students collaborated with one another. Students were asked to write down, share and discuss with their classmates. The aim was to eliminate fear in the learners while maintaining highly challenging environments. During the 'active processing' phase, the learner was allowed to consolidate and internalize information by actively processing it. simulations, group discussions, role plays and dramatization techniques were used in order to ensure the retaining of the obtained knowledge and to ease the structuring of this knowledge as well as applying it into new situations.

*Fidelity of Treatment:* To ensure that the brain-based learning program was delivered as intended by the researcher, the following four safeguards were implemented. The first safeguard was that the teacher received training to criterion in how to apply the brain-based learning program instructional procedures. The second safeguard was that teacher met with the researcher day after day and communicated daily with the researcher (as needed) to discuss any noteworthy occurrences that took place when implementing the brain-based learning program instructional procedures. Reported difficulties occurred rarely and usually involved the need to individualize further for a particular student to deal with a behavioral issue. Responses to issues such as these were discussed and implemented.

#### DATA ANALYSIS

A two-groups pre-post design was used to compare working memory and academic motivation before and after the intervention. T-test was conducted. At each time point (pre/post), the mean and standard deviation were used to summarize group responses .Probability levels of 0.05 or smaller indicated significant differences between the experimental and control groups means. The data collected through the pre-test and post-test were entered into Statistical Package for Social Sciences (SPSS) version 22.

#### RESULTS

It was hypothesized that there were differences in post-test scores mean between control and experimental groups on Working Memory Test.



Table 2. shows T. Test results for the differences in post- test mean scores between experimental and control groups in working memory. According to table 2., there has been found a significant

difference the differences in post- test mean scores between experimental and control groups in working memory ( $t=6.91$ ,  $p= 0.00$ ;  $p<0.01$ ) in favor of the experimental group.

Table 2. T. test results for the differences in post- test mean scores between experimental and control groups in working memory.

Test
Experimental Control T Sig.
working memory 57.51 46.53 6.91* 0 .01
Note: **P <0.01
The second hypothesis was that there were differences in post-test scores mean between control and experimental groups on Academic Motivation Test. Table 3. shows T. Test results for the differences in post- test mean scores between experimental and control groups in academic motivation. According to table 3., there has been found a significant difference the differences in post- test mean scores between experimental and control groups in academic motivation ( $t=10.36$ , $p= 0.00$ ; $p<0.01$ ) in favor of the experimental group.
Table 3. T. test results for the differences in post- test mean scores between experimental and control groups in academic motivation.
Test
Experimental Control T Sig.
Motivation 83.19 56.91 10.36** 0 .01
Note: **P <0.01
The third hypothesis was that there were there differences in pre- post-test scores mean of the experimental group on Working Memory Test. Table 4. shows T. Test results for the differences in pre- post-test scores mean of the experimental group on Working Memory Test. According to table 4., there has been found a significant difference the differences in pre- post-test scores mean of the experimental group on Working Memory ( $t=7.59$ , $p= 0.00$ ; $p<0.01$ ) in favor of post-test scores mean.
Table 4. T. test results for the differences in pre- post-test scores mean of the experimental group on Working Memory Test
Post-test Pre-test T Sig.
Working memory 57.51 45.32 7.59** 0 .000
Note: **P <0.01
The fourth hypothesis was that there were there differences in pre- post-test scores mean of the experimental group on Academic Motivation Test. Table 5. shows T. Test results for the differences in pre- post-test scores mean of the experimental group on Academic Motivation Test. According to table 5., there has been found a significant difference the differences in pre- post-test scores mean of the experimental group on Academic Motivation ( $t=9.88$ , $p= 0.00$ ; $p<0.01$ ) in favor of post-test scores mean.
Table 5. T. test results for the differences in pre- post-test scores mean of the experimental group on Academic Motivation Test
Post-test Pre-test T Sig.
Motivation 83.19 58.25 9.88** 0 .000
Note: **P <0.01

## DISCUSSION

The Purpose of this study is to investigate the effect of a brain-based learning program on working

memory and academic motivation among tenth grade Omanis students. The results of this study indicated great gains for students in the experimental group in both working memory and

academic motivation. This goes in the same line with the results of many studies. For example, Ozden 's (2008) analysis of post-test and retention level tests revealed a significant difference between the groups favoring brain-based learning. Duman (2010) found that brain-based learning "...more significantly increased the students' academic achievement when compared to traditional teaching methods" (p. 2095). The experimental group showed a 47.25% increase from the pre-test to post-test, whereas the control group showed an increase of 21.75%.

The performance of the experimental group in post-test in working memory and academic motivation can be explained by the gain achieved by the experimental group due to the application of the brain-based learning program which was built in the light of the integrated approach. This goes in the same line with Safa El Aseer and others'(2005) claim that "Learning cannot be achieved by accident, but must be sought to by using techniques that stimulate the mind in certain ways in various fields, including art, crafts, music, body building tools, scientific stories, novels, trips, etc., It is not too late to plant a tree for self - enrichment and mental development"(p. 204).

The mean scores of the control group scores on the working memory and academic motivation were low, while those of the experimental group were high, although there are no differences between the mean scores of the two groups in pre-test. This indicates that the program built for brain-based learning has taken into account the needs of multiple learners and their desire to learn, unlike the control group that has been learning in the traditional way in most of our schools.

## CONCLUSION

This study goes some way to understanding working memory and academic motivation in Omanis tenth grade primary students. The study shows that students in the experimental group, compared to those in the control group , develop robust working memory and academic motivation due to training in brain-based learning. The study shows that those young students have great chance of developing their g memory and academic motivation.

## FUTURE RESEARCH AND RECOMMENDATIONS

As a result, teaching with program based on brain-based learning theory is effective in improving students' working memory and academic motivation, the study of the students and it improves and academic achievement. In this context, it is proposed that in the classroom teaching teachers should give place to the brain-based learning theory. As for research that can be done in the future, the impact of the Brain-based learning theory teaching on students for effect of another variables. The results of this study have supported the claim of effectiveness of the neurocognitive-based instructional model in enhancing working memory, and motivation. As a result of the robust evidence provided in this study, it is hoped that the neurocognitive-based instructional model will be applied in improving learner outcomes in the future. The pedagogical knowledge needs to be evidence-based. The research and practice communities need to continue to work together to support learning for all students to be ready for their futures

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# DEFINING AND DETERMINING INTELLECTUAL DISABILITY (INTELLECTUAL DEVELOPMENTAL DISORDER): INSIGHTS FROM DSM-5

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**Abstract:** Over years, the terms used to identify intellectual disability, which was previously known as “mental retardation,” have changed. This has been due to the heavy stigma associated with bearing its label (Tassé & Mehling, in press). This article examines defining and determining intellectual disability (intellectual developmental disorder). The focus is on the Diagnostic Criteria in DSM-5 diagnostic features, associated features supporting diagnosis, and prevalence are discussed.

**Keywords:** intellectual disability (intellectual developmental disorder), DSM-5 diagnostic criteria, associated features supporting diagnosis, prevalence.

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## INTRODUCTION

The American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) is a classification of mental disorders with associated criteria designed to facilitate more reliable diagnoses of these disorders (Mourad Ali, 2018). Intellectual disability (intellectual developmental disorder) is seen as a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains (American Psychiatric Association, 2013).

There has been considerable controversy regarding the name of the disorder "Intellectual Disability." In DSM-IV, this disorder was called "Mental Retardation" to reflect the below-average intellectual ability of individuals with this condition. However, the developers of DSM-5 agreed to abandon this term because of its negative connotation.

## DIAGNOSTIC CRITERIA IN DSM-5

To be diagnosed with ID, a person needs to fulfil the following criteria (American Psychiatric Association 2013):

A. Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience, confirmed by both clinical assessment and individualized, standardized intelligence testing.

B. Deficits in adaptive functioning that result in failure to meet developmental and sociocultural standards for personal independence and social responsibility. Without ongoing support, the adaptive deficits limit functioning in one or more activities of daily life, such as communication, social participation, and independent living, across multiple environments, such as home, school, work, and community.

C. Onset of intellectual and adaptive deficits during the developmental period.

Symptom onset.

## DIAGNOSTIC FEATURES

In comparison to an individual's age-, gender-, and socio-culturally matched peers, individuals with

intellectual disability show deficits in general mental abilities (Criterion A), and impairment in everyday adaptive functioning (Criterion B). Onset occurs during the developmental period (Criterion C).

Intellectual functions (Criterion A) involve reasoning, problem solving, planning, abstract thinking, judgment, learning from instruction and experience, and practical understanding. Intellectual functioning is typically measured with individually administered and psychometrically valid, comprehensive, culturally appropriate, psychometrically sound tests of intelligence. IQ scores are normally distributed with a mean of 100 and a standard deviation of 15. IQ scores approximately two standard deviations below the mean (i.e.,  $IQ < 70$ ) can indicate significant deficits in intellectual functioning. The measurement error of most IQ tests is approximately 5 points; consequently, IQ scores between 65 and 75 are recommended as cut-offs in determining intellectual deficits (American Psychiatric Association, 2013).

IQ test scores are approximations of conceptual functioning but may be insufficient to assess reasoning in real-life situations and mastery of practical tasks. For example, a person with an IQ score above 70 may have such severe adaptive behaviour problems in social judgment, social understanding, and other areas of adaptive functioning that the person's actual functioning is comparable to that of individuals with a lower IQ score. Thus, clinical judgment is needed in interpreting the results of IQ tests (American Psychiatric Association, 2013).

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) identifies three domains of adaptive functioning (Criterion B): conceptual, social, and practical. To be diagnosed with ID, individuals must show impairment in at least one domain. Usually, children with ID experience problems in multiple areas:

*The conceptual (academic) domain* involves competence in memory, language, reading, writing, math reasoning, acquisition of practical knowledge, problem solving, and judgment in novel situations, among others.

*The social domain* involves awareness of others' thoughts, feelings, and experiences; empathy;

interpersonal communication skills; friendship abilities; and social judgment, among others.

*The practical domain* involves learning and self-management across life settings, including personal care, job responsibilities, money management, recreation, self-management of behaviour, and school and work task organization, among others.

In DSM-5 (American Psychiatric Association, 2013; p.33), individuals with intellectual disability are characterized by the presence in significant deficits in “both” intellectual functioning and adaptive behaviour.

To meet diagnostic criteria for intellectual disability, the deficits in adaptive functioning must be directly related to the intellectual impairments described in Criterion A. Intellectual and adaptive deficits are present during childhood or adolescence. That is why Criterion C, states that onset is during the developmental period (Tasse, 2016).

#### PREVALENCE

Intellectual disability has an overall general population prevalence of approximately 1%, and prevalence rates vary by age. Prevalence for severe intellectual disability is approximately 6 per 1,000 (American Psychiatric Association 2013).

#### RISK AND PROGNOSTIC FACTORS

*Genetic and physiological.* Prenatal aetiologies include genetic syndromes (e.g., sequence variations or copy number variants involving one or more genes; chromosomal disorders), inborn errors of metabolism, brain malformations, maternal disease (including placental disease), and environmental influences (e.g., alcohol, other drugs, toxins, teratogens). Perinatal causes include a variety of labour and delivery-related events leading to neonatal encephalopathy. Postnatal causes include hypoxic ischemic injury, traumatic brain injury, infections, demyelinating disorders, seizure disorders (e.g., infantile spasms), severe and chronic social deprivation, and toxic metabolic syndromes and intoxications (e.g., lead, mercury)(American Psychiatric Association, 2013).

#### APA’S SEVERITY CODES

The degrees of intellectual disability include mild, moderate, and severe and profound intellectual disability. The APA’s severity codes include:

*Mild intellectual disability* includes about 85 percent of people with intellectual disabilities. Individuals at this level often become self-supportive, as they have the ability to adapt to social norms. Many individuals within this group can achieve some level of academic success.

*Moderate intellectual disability* includes around 10 percent of the individuals with intellectual disabilities. Individuals at this level can achieve independent employment that involves limited conceptual or social skills. They may require guidance during stressful life situations. Most self-care activities can be performed independently with occasional support.

*Severe intellectual disability* describes 3 to 4 percent of this population. These individuals have minimal communication skills, although they typically can learn a few self-help skills. They can take minimal care of themselves and require complete supervision.

*Profound intellectual disability* describes a very small portion of the persons with intellectual disabilities. Individuals at this level experience little cognitive or motor ability and often require 24-hour care and support.

#### COMORBIDITY

There are some mental, neurodevelopmental, medical, and physical conditions which are frequent in intellectual disability. These are mental disorders, cerebral palsy, and epilepsy. The most common co-occurring mental and neurodevelopmental disorders are attention-deficit/hyperactivity disorder; depressive and bipolar disorders; anxiety disorders; autism spectrum disorder; stereotypic movement disorder (with or without self-injurious behaviour); impulse-control disorders; and major neurocognitive disorder. Individuals with intellectual disability, particularly those with more severe intellectual disability, may also exhibit aggression and disruptive behaviours, including harm of others or property destruction) (American Psychiatric Association, 2013).

## CONCLUSION

Intellectual disability, formerly known as “mental retardation,” (Al Said Abdul Khalik, 2014; Mourad Ali Eissa, 2013; Mourad Ali Eissa & Hesham Habib Al Huseini, 2013) is a disorder with onset during the developmental period. Mental retardation was replaced in federal law with the term “intellectual disability” as a result of President Obama’s signing of Rosa’s Law (2010). A diagnosis of ID requires deficits in both intellectual functioning and abilities, and adaptive function and behaviour, which covers many everyday social and practical skills. Limitations in intellectual functioning, such as academic learning, reasoning, problem solving, judgment and abstract thinking. Limitations in adaptive functioning, such as failing to meet developmentally appropriate levels of independence and responsibility. For example, the individual requires support in areas such as personal care, communication, or independent living at home, school and in the community. The onset of these symptoms was during the developmental period, or before the age of 18 years.

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# BURDEN OF CHRONIC CONDITIONS AND SUBJECTIVE COMPLAINTS AS FACTORS MODIFYING THE WAY POLISH STUDENTS ARE FUNCTIONING AT SCHOOL

**Abstract:** Introduction: Recurrent subjective complaints may be a result or a cause of worse functioning at school. Interrelations of this type are rarely analysed from the perspective of simultaneously occurring chronic conditions.

Method: 5225 students in three age groups (average age 13,59 ±1,66) from the 2017/2018 school year were qualified for the Polish HBSC sample (*Health Behaviour in School-aged Children*). The occurrence of chronic conditions (CC) and multiple recurrent symptoms (SCL) were analysed jointly. Following groups revealed: CC (-) & SCL (-): 51.5%; CC (-) & SCL (+): 33.5%; CC (+) & SCL (-): 7.1%; CC (+) & SCL (+): 7.9%. Eight aspects of functioning at school were analysed in three subject blocks: general adjustment, social support and bullying. Logistic regression adjusted by gender and grade was applied.

Results: The percentage of students qualified to the most positive group CC (-) & SCL (-) is significantly higher among boys than girls and decreases significantly with age. Perception of the school environment becomes significantly worse in the group reporting multiple complaints, regardless of occurrence of chronic conditions. In the group without complaints students with chronic conditions are significantly more likely to experience a higher level of school stress than their healthy peers ( $p=0.006$ ) and have a slightly worse perception of teacher support ( $p=0.067$ ). In the multivariate analysis the greatest difference between the CC (-) & SCL (-) and CC (+) & SCL (+) group was determined for being a victim of bullying ( $OR=4.38$ ) and school stress ( $OR=3.40$ ). Suffering from a chronic condition clearly modifies the interrelation between perception of school and subjective complaints in the following areas: victimization, school stress and academic achievement.

Conclusion: Functioning at school depends on the health of the students and declines in line with increasing health problems, especially in the context of school stress and peer violence. The obtained results ought to be taken into account in the work with the entire class as well as individual work with a student suffering from a chronic disease.

**Keywords:** Chronic conditions, subjective complaints, students, school functioning, bullying, school stress.

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## INTRODUCTION

In the young population the prevalence of chronic conditions is estimated to be approximately 20%, which means that an average of one in five school children may be suffering from a long-lasting health disorder (Sawyer et al. 2012; GUS 2016). It is also estimated that 40% of teenagers experience various types of subjective complaints of somatic or mental nature, which are not explained by a medical diagnosis (Mazur 2018, 64). The occurrence of subjective complaints is analysed among others as a defensive mechanism called somatisation (Gabbard 2009, 45), reaction to stress (Siwek 2016, 182), reaction to difficulties at school (Kołakowski 2016, 388), improper life style (Kleszczewska 2017). In many cases frequent affliction by somatic complaints may be a forewarning of illness. Even with no medical diagnosis frequently recurrent somatic complaints should never be treated lightly.

Somatic complaints experienced by teenagers suffering from chronic conditions may result from the disease but on the other hand may also not be related to it in any way. The complaints experienced by this group of students may be associated with a specific condition (eg. abdominal pain with celiac disease, headache with allergy) or may be connected with perception of the condition or its phase (eg. depression due to inability to be cured). Suris et al. (2011) point to the need to examine the impact of chronic conditions and somatic complaints on the functioning of teenagers jointly as well as on separate basis.

The study makes use of the school environment model provided by the methodology of the HBSC studies (Health Behaviour in School-aged Children)<sup>1</sup>. The ecological model of the school environment allows for an analysis of various areas related to attitude to school, self-assessment of academic achievement and the burden of school stress, social relations with peers and teachers, as well as social support and peer violence (Inchley 2018). Numerous studies demonstrated the connection between perception of the school environment and teenage health

(Sonmark & Modin 2017; Tabak & Mazur 2016, Berntsson & Gustafsson 2000; Le & Roux & Morgenstern 2013; Torsheim & Wold 2001).

Analyses concerning the joint impact of chronic conditions and somatic complaints in the context of functioning at school are very rarely undertaken. Until now all studies were based on separate analyses. It has been demonstrated that students with chronic conditions function worse at school (Thies & McAllister 2001; Forrest et al. 2011; Santos et al. 2013; Lum et al. 2017), experience more stress related to school work (Mazur and Małkowska-Szcutnik 2010), are more frequently exposed to peer violence (Sentenac 2012) and have a worse perception of teacher support (Vance & Eiser 2002).

## OBJECTIVE OF THE STUDY

The purpose of the study is to evaluate functioning at school depending on the occurrence of chronic conditions and recurrent mental or somatic complaints. When defining the research questions, it was verified whether there is a difference in school functioning depending on:

- a) affliction by chronic condition,
- b) experiencing various mental and somatic complaints,
- c) affliction by chronic condition and at the same time experiencing recurrent complaints.

## MATERIAL AND METHOD

The study embraced 5225 students in Poland surveyed between October 2017 and May 2018 within the framework of the most recent round of international HBSC studies. 5th and 7th grade primary school and 3rd grade high school students participated in the anonymous survey conducted in the schools. The studied group consisted of 49.2% boys and 50.8% girls. The three age groups were similar in number (33.1%; 33.4% and 33.6%). The average age was 13.59 years (SD=1.66). The data come from 378 randomly chosen classes, 194 schools of various types from all 16 provinces. The response rate was 84.9% in relation to the number

member of the HBSC network since 1989 and conducted 8 studies. The national coordinators are: Professor B. Woynarowska (until 2004); Professor J. Mazur (2004-2018); Professor J. Mazur and A. Małkowska-Szcutnik PhD (from 2018 to date).

<sup>1</sup> International HBSC studies apply to school children aged 11-15 years and are performed periodically every 4 years by teams of scientists belonging to the research network. At present the research network has 49 member or regions in Europe and North America (www.hbsc.org). Poland is a

of students in the selected classes. More detailed information about the organization of this round of HBSC studies is available in the national report (Mazur i Małkowska-Szkutnik 2018).

## VARIABLES AND INDICATORS

### 1. Affliction by chronic conditions

Prevalence of a chronic condition was identified on the basis of an answer to one question: *Do you have a long-term illness, disability, or medical condition (like diabetes, arthritis, allergy or cerebral palsy) that has been diagnosed by a doctor?* 14.9% of respondents gave an affirmative answer to this question. The question comes from the Chronic Condition Short Questionnaire (CCSQ) used as an additional package in the HBSC protocol. CCSQ is an example of a tool which uses non-categorical approach in analysing the occurrence of chronic conditions, as distinct from the categorical approach, where the individual condition is important (Mazur et al. 2013). According to the non-categorical approach the fact of being ill is in itself important, as are the resulting consequences, among others from the point of view of developmental tasks such as studying, functioning in the peer group, gaining autonomy etc.

### 2. Affliction with subjective complaints

The basis for the analysis is a division of the studied group into four groups, by recurrence of subjective complaints and presence of chronic conditions or other long-lasting health disorders.

A complaints scale used for many years in HBSC studies has been employed, frequently called the subjective complaints checklist (SCL). The list includes eight symptoms: somatic complaints: *headache, abdominal pain, backache, dizziness*; and complaints of mental nature: *despondency, irritation or bad mood, nervousness, sleeping problems*. The frequency of these symptoms is analysed over the past 6 months, using five categories of answers: *almost every day, more than once a week, nearly every week, nearly every month, rarely or never*. Experiencing the complaints *nearly every day* or *more than once a week* is considered frequent. When analysing the results, the percentage of young people afflicted by two or more complaints more often than once a week or every day has been taken into account. This indicator is frequently defined as the *multiple*

*recurrent symptoms*. 41.4% of respondents fulfilled the recurrent symptoms criterion.

In general four groups were distinguished and described using the acronyms SCL and CC:

- SCL(-) & CC(-): no chronic condition or recurrent complaints, which applied to 51.5% of those polled;
- SCL(+) & CC(-): no chronic condition but presence of recurrent complaints (33.5%);
- SCL(-) & CC(+): presence of chronic condition but no recurrent complaints (7.1%);
- SCL(+) & CC(+): combined occurrence of chronic condition and recurrent complaints (7.9%).

It is worth noting that healthy students and those with chronic conditions and identified multiple recurrent complaints differ in terms of the type of reported symptoms ( $p=0.042$ ). Among 97.2% at least one complaint of mental nature appears among the multiple symptoms. In the healthy group only mental conditions appear more frequently among multiple symptoms than among the ill group (40.5% vs. 34.8%). On the other hand, in the ill group mental conditions co-occur with somatic complaints more frequently than in the healthy group (63.2% vs. 56.5%). In general students with chronic diseases report more recurrent complaints than their healthy peers. The average number of reported symptoms was respectively  $2.08 \pm 1.99$  among the ill and  $1.47 \pm 1.73$  among the healthy.

### 3. Functioning at school

General school adjustment was taken into account, as was social support associated with school and experience with bullying. Eight questions or measurements scales were analysed, categorised into 3 or 4 ranges. Conventional division criteria were used, identical as in the national report.

a) In the area of *general school adjustment* the following were analysed:

- question concerning general attitude to school: *How do you feel about school at present?* with answer categories: *I like it a lot, I like it a bit, I don't like it very much, I don't like it at all*. The study analysed

answers according to three categories: like a lot, like a bit, don't like.

- question concerning the pressure of schoolwork (school stress): *How pressured do you feel by the schoolwork you have to do?*; with answer categories: *not at all, a little, some, a lot*. The study analysed answers according to three categories: not at all, a little, some or a lot.
- visual academic achievement scale used in Poland outside the HBSC report, based on McArthur's concept adopted by Goodman (2001) to the needs of studies of young people. Students were shown the picture of a ladder with number 10 at the top, signifying the students achieving the best results in class. At the bottom was the number 0, denoting the students having the worst grades. Students were asked to think about their class and on which step of the ladder they would stand. The results were divided into four groups, where the number of points 0-4 meant poor; 5-6 average; 7-8 good and 9-10 very good academic achievements.

b) In the area of *support associated with school* three scales were analysed consisting of three statements with four categories of answers, ranging from definitely disagree to definitely agree. These scales fall within the range of 0-12 points and refer to classmate, teacher and parent support in matters related to school. Questions concerning peer (*The students in my class(es) enjoy being together. Most of the students in my class(es) are kind and helpful, Other students accept me as I am*), teacher (*I feel that my teachers accept me as I am, I feel that my teachers care about me as a person, I feel a lot of trust in my teachers*) and parent (*If I have a problem at school, my parents are ready to help, My parents are willing to come to school to talk to teachers, My parents encourage me to do well at school*) support scale.

c) In the area related to *bullying* two questions concerning being a bully or victim within the past two months were considered. Students were asked

questions: *How often have you taken part in bullying another person(s) at school in the past couple of months?*; *How often have you been bullied in the past couple of months?* with answer categories from *I have not bullied another person(s)/been bullied at school in the past couple of months* to *Several times a week*. Students who did not have such experiences, had them sporadically (once or twice) and more frequently were distinguished.

The characteristics of the sample from the point of view of functioning in school are found in the result tables.

#### STATISTICAL METHODS

The relationship between belonging to the CC & SCL affliction group and functioning in school was observed using the chi-squared test in the whole sample and as pairwise comparisons. Regardless of this the four groups and pairs of groups were compared, with separate examination of the CC and SCL effect. Logistic binomial regression adjusted by gender and school grade was used in the multivariate analysis. The dependant variable consisted in dichotomous indicators of functioning in school. The lowest level for each variable assumed the value "1". The results were presented as an odds ratio (OR) with a 95% confidence interval (CI). The main independent variable was membership in a group identified according to CC and SCL. Healthy students who did not experience recurrent subjective complaints were the reference category.

#### RESULTS

Table 1. presents membership in four groups by gender and school grade. It was demonstrated that the percentage of those qualified to the most positive group (absence of chronic conditions and recurrent complaints) is significantly higher among boys than girls and significantly declines with age.

Table 1. Groups differentiated in terms of occurrence of chronic conditions and subjective complaints, by gender and grade (%).

	CC (-) & SCL (-)	CC (-) & SCL (+)	CC (+) & SCL (-)	CC (+) & SCL (+)	P
Total sample	52,5	33,5	7,1	7,9	
Boys	58,6	27,5	7,6	6,3	<0,001
Girls	44,8	39,2	6,6	9,4	
V grade primary school	60,2	27,9	7,1	4,7	<0,001
VII grade primary school	51,2	33,4	7,6	7,8	
III grade high school	43,5	39,0	6,5	11,1	

Table 2. presents the indicators of general functioning at school in four of the above groups. The results observed among students reporting multiple subjective complaints are definitely worse. In the comparison of healthy students and those with chronic conditions without such complaints only a significantly higher level of

school stress was noted among the latter. Strong school stress was experienced by 33.6% of students with chronic conditions and 26.6% of their healthy peers. The appearance of complaints results in an increase of these percentages to 55.4% and 59.1% respectively.

Table 2. School adjustment (%) according to recurrent subjective complaints and chronic conditions

	N	Chronic conditions (CC) & subjective complaints (SCL)				Pairwise comparisons			
		CC- SCL - (1)	CC- SCL+ (2)	CC + SCL- (3)	CC + SCL+ (4)	1&3	2&4	1&2	3&4
Liking school									
Like a lot	1564	35.7	22.3	34.1	21.6	p= 0.356	p= 0.867	p< 0.001	p< 0.001
Like a bit	2156	42.8	38.7	46.6	37.9				
Don't like	1490	21.5	39.0	19.3	40.5				
		Chi-sq=220.07; d.f.=6; p<0.001							
Pressured by school work									
Not at all	681	16.3	9.0	11.8	9.0	p= 0.006	p= 0.348	p< 0.001	p< 0.001
A little	2494	57.1	35.6	54.6	31.9				
Some or a lot	2039	26.6	55.4	33.6	59.1				
		Chi-sq=435.02; d.f.=6; p<0.001							
Academic achievements									
Very good	931	19.8	14.9	22.0	15.3	p= 0.719	p= 0.538	p< 0.001	p< 0.001
Good	1687	35.2	30.4	34.1	26.9				
Average	1720	31.7	35.1	32.1	35.9				
Poor	827	13.3	19.6	11.8	21.9				
		Chi-sq=72.73; d.f.=9; p<0.001							

Similarly, table 3 presents results concerning the level of social support from friends, teachers and parents. The conclusions proved identical, the main differentiating factor being experiencing

subjective complaints. In the group without recurrent subjective complaints the greatest difference between healthy students and those with chronic conditions applied to teacher support.

Table 3. Social support related to school (%) according to recurrent subjective complaints and chronic conditions

Source and level of support	N	Chronic conditions (CC) & subjective complaints (SCL)				Pairwise comparisons			
		CC-SCL - (1)	CC-SCL+ (2)	CC + SCL- (3)	CC + SCL+ (4)	1&3	2&4	1&2	3&4
Classmates									
High	1125	26.6	15.2	26.3	12.6	p= 0.549	p= 0.360	p< 0.001	p< 0.001
Average	3071	60.9	56.6	59.2	57.0				
Low	991	12.5	28.2	14.5	30.4				
Chi-sq=245.10; d.f.=6; p<0.001									
Teachers									
High	1106	26.2	14.3	29.6	11.6	p= 0.067	p= 0.384	p< 0.001	p< 0.001
Average	2944	59.2	54.1	52.8	55.7				
Low	1135	14.6	31.6	17.6	32.7				
Chi-sq=260.34; d.f.=6; p<0.001									
Parents									
High	2768	60.3	44.3	57.4	42.2	p= 0.474	p= 0.653	p< 0.001	p< 0.001
Average	2141	36.7	47.1	38.7	49.7				
Low	277	3.0	8.6	3.9	8.1				
Chi-sq=159.32; d.f.=6; p<0.001									

Students frequently experiencing multiple complaints also reported more frequent episodes of being a victim or perpetrator of peer violence defined as bullying (Table 4). A comparison between the group most afflicted by health conditions (CC+ and SCL+) and the healthiest

group of students (CC- and SCL-) a twofold increase is noted in the percentage of those frequently acting as perpetrators of violence (5.0% vs. 10.0%) and a threefold increase in the percentage of being a victim of peer violence (4.3% vs. 13.0%).

Table 4. Experiences with bullying at school (%) according to recurrent subjective complaints and chronic conditions

Participation in bullying in the past 2 months	N	Chronic conditions (CC) & subjective complaints (SCL)				Pairwise comparisons			
		CC-SCL - (1)	CC-SCL+ (2)	CC + SCL- (3)	CC + SCL+ (4)	1&3	2&4	1&2	3&4
Perpetrator									
Never	3775	76.2	67.5	74.6	69.2	p= 0.592	p= 0.728	p< 0.001	p< 0.013

Once or twice	1053	18.8	22.6	20.9	20.8				
More often	369	5.0	9.9	4.5	10.0				
		Chi-sq=63.80; d.f.=6; p<0.001							
Victim									
Never	3977	81.5	69.8	82.1	66.7	p=	p=	p<	p< 0.001
Once or twice	830	14.2	18.7	12.0	20.3	0.248	0.463	0.001	
More often	391	4.3	11.5	5.9	13.0				
		Chi-sq=134.32; d.f.=6; p<0.001							

Summarising the above results, we tried to answer the question which aspects of functioning at school differentiate the four distinct groups to a greatest extent (Table 5). The logistic regression analysis additionally took into account the gender and age of respondents. Three groups having smaller or greater health problems were compared with the privileged group of healthy students who did not report recurrent complaints. Students with chronic conditions who additionally reported multiple complaints risked being 4 times more likely

victims of bullying and 3 times more likely to experience a high level of school stress. Following a more advanced statistical analysis it may also be concluded that affliction by a chronic condition moderates the connection between various aspects of functioning in school and subjective complaints. In a comparison between groups CC-& SCL+ and CC+ & SCL+ the OR indicators are clearly higher in the latter group for school stress, academic achievement and experiencing violence.

Table 5. Results of binomial logistic regression adjusted for gender and grade – students without chronic conditions and without recurrent subjective complaints as reference category.

Dependent Variable	Chronic conditions (CC) & subjective complaints (SCL)					
	CC- & SCL+		CC + & SCL-		CC + & SCL+	
	P	OR 95% CI(OR)	P	OR 95% CI(OR)	P	OR 95% CI(OR)
Liking school	0.000	2.23 1.94-2.56	0.248	0.85 0.64-1.12	0.000	2.25 1.80-2.81
Pressured by school work	0.000	3.06 2.68-3.50	0.016	1.34 1.06-1.71	0.000	3.40 2.72-4.25
School Achievements	0.000	1.59 1.35-1.89	0.394	0.86 0.61-1.21	0.000	1.80 1.38-2.35
Support from Classmates	0.000	2.57 2.19-3.02	0.328	1.17 0.85-1.61	0.000	2.79 2.18-3.57
Support from Teachers	0.000	2.48 2.13-2.89	0.222	1.20 0.89-1.62	0.000	2.41 1.89-3.07
Support from Parents	0.000	2.66 2.00-3.55	0.439	1.26 0.70-2.25	0.000	2.32 1.51-3.57
Perpetrator of bullying	0.000	2.31 1.81-2.95	0.717	0.91 0.53-1.54	0.000	2.34 1.60-3.41
Victim of bullying	0.000	3.55 2.77-4.55	0.126	1.46 0.90-2.36	0.000	4.38 3.07-6.27

\*OR – odds ratio; CI-confidence interval

## DISCUSSION

The study presents the results of the last round of HBSC studies carried out in Poland during the school year 2017/2018 among over 5 thousand teenage students. The interrelation between health-related afflictions (existence of chronic conditions and recurrent subjective complaints) and functioning in school have been analysed. Various areas of the school environment have been examined: adjustment to school, social relations and peer violence. It was found that affliction with recurrent subjective complaints is associated with worse functioning in school and is not related to a chronic condition. It was also found that with more severe health afflictions, chronic condition and concurrent frequent subjective complaints, functioning in school declines. This applies specifically to an increased level of school stress and experiencing peer violence.

In the study related to acceptance of peers with chronic conditions by their healthy peers King et al. (2010) demonstrated that students who report subjective complaints, such as frequent abdominal pain, not supported by a medical diagnosis, meet with the lowest level of acceptance. This is the group of students who are exposed to the highest risk of rejection in comparison with those who also report somatic complaints but caused by a medically diagnosed somatic disorder.

The results of our study have shown that the occurrence of subjective complaints increases the level school stress both among healthy students as well as those with chronic conditions. It may be presumed that school stress aggravates complaints. The results obtained support the theoretical cognitive-behavioural model which takes into account: a) the situation (in our case a stressful situation at school), b) thoughts about it and c) reaction (in our case one of them may be aggravation of subjective complaints) (Beck 2012, 33). Explaining to students how vicious circles of stress and reaction to it originate may mitigate their discomfort in difficult situations. It is also important to take up preventive actions, for instance in the form of training in relaxation techniques and mindfulness (Goodman 2015, 278). Dutch experiences, where mindfulness training is included in the basic primary school curriculum and has been clearly shown to be an effective method of dealing with school stress, are worth looking at (Snel 2010).

In the group of students suffering from chronic conditions it is to be remembered that the subjective complaints (frequently related to the disease) may be associated with the increased level of stress. The studies conducted among students with chronic conditions and among teachers indicate that the occurrence of complaints is one of the most important concerns in the context of everyday functioning at school. The results of studies among over 1600 Polish primary school teachers have shown that somatic and mental complaints associated with illness, including fatigue (apart from missing classes, problems with concentration) are considered by them to be one of the most important areas affecting the functioning of a student suffering from a chronic condition in school (Małkowska-Szkutnik 2018). For this group of students, it is necessary to determine whether the complaints are directly connected with the condition.

It has been demonstrated that students with chronic conditions who are additionally afflicted with recurrent complaints are several times more likely to be victims of peer violence. The results obtained correspond with the studies of other authors (Sentenac et al. 2012; Pinquart 2017; Greco et al. 2007; Due et al. 2005). It is to be noted that students with visible chronic conditions are more frequently rejected by peers. Another risk factor, namely the experience of being bullied, may additionally undermine the ability to function in the classroom.

An added value of the study is demonstrating the connection between health conditions, that is chronic diseases and recurrent subjective complaints, in the context of functioning in the school environment. Understanding of the correlations between health and perception of the school environment may support the work of teachers, which will indirectly affect the students themselves.

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# THE EFFECTS OF MULTIPLE INTELLIGENCES TRAINING PROGRAM ON IMPROVING READING COMPREHENSION SKILLS OF READING OF THE DISABLED PRIMARY SIX STUDENTS

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**Abstract:** This study was conducted to investigate the effectiveness of multiple intelligences training program on reading comprehension skills of reading disabled primary six students. Pre- test / Post- test / follow –up –test were formed to collect data from the students. 60 students participated in the present study. Each student participant met the following established criteria to be included in the study: (a) a diagnosis of LD by teacher's referral. Neurological scanning results indicated that those individuals were neurologically deficient (b) an IQ score on the Mental Abilities Test (Mosa, 1989) between 90 and 118 (c) reading performance scores at least 2 years below grade level (d) absence of any other disabling condition. Results of this study indicates that Multiple Intelligence Theory based activities proved to be more helpful in achievement and retention of reading comprehension skills. Discussion of results, suggestions for further study, and implications were included.

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**Keywords:** multiple intelligences training program, reading comprehension skills, reading disabled primary six students

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## INTRODUCTION

Reading comprehension is the process of constructing meaning from a text and involves the complex coordination of several processes, including “decoding, word reading, and fluency along with the integration of background knowledge and previous experiences” (Mourad Ali, 2015). Reading comprehension can be influenced by students' vocabulary knowledge, word recognition skills, understanding of text structure proficiency, and cultural background differences (Mohammed M. Fatah Allah 2014). Vocabulary knowledge has been shown to be highly related to students' reading comprehension ability (Esam Gomaa 2015). Students who struggle with reading tend to place more focus on the “surface aspects of reading, use fewer comprehension strategies, tap less into background knowledge, and have more limited vocabularies” (Orosco, de Schonewise, de Onis, Klinger and Hoover 2008, 16).

Struggling readers often “fail to link new information with prior knowledge or monitor their comprehension of what they are reading” (Esam Gomaa 2015). An instructional strategy is “a purposeful activity to engage learners in acquiring new behaviors or knowledge” (Al Farahati Al Sayed 2012, 54). Many students with learning disabilities are not efficient in learning because they are not aware of their own cognitive processes and do not know how to determine the specific demands of learning tasks. Their lack of knowledge of how and when to use comprehension strategies appropriately, keeps these students from taking full advantage of their own abilities (Esam Gomaa, 2015)

## MULTIPLE INTELLIGENCE

Intelligence is among the various aspects of individual differences which affect education and language learning. The interest in the effect of intelligence can be attributed to the advent of a new intelligence theory proposed by Howard Gardner (1983), namely Multiple Intelligences Theory (MIT). Gardner defined intelligence as “the ability to find and solve problems, the ability to respond successfully to new situations and the capacity to learn from one’s past experiences” (Gardner, 1983, 21; Amir Reza, 2016, 200).

Gardner (1983) views intelligence multifaceted. His model is based on findings from both cognitive science (the study of the mind) and neuroscience (the study of the brain). His approach is called “Theory of Multiple Intelligences”. This theory suggests that intelligence is the ability to solve problems and difficulties in a particular domain. This is an inborn attribute of the individual and the general faculty of intelligence does not change much with age or with training or experience (Gardner, 1983).

The way of teaching reading is very important. Students should be offered opportunities to understand the learning process and taught the MI theory so that they can effectively choose techniques by which to learn. Teachers can design activities and projects around the intelligences and allow their students to choose their learning activities based on their strengths. Students read better, when they expect to do so, and it is up to the teacher to access their individual expectations through their multiple intelligences (Amir Reza, 2016). using MI in the classroom makes lessons more interesting, which causes students to pay more attention to what is taught and then learned. As a result, students are more engaged, they remember more, and achievement increases (Mourad Ali Eissa and Amaal Ahmed, 2013).

Shearer (2006) examined the differences in multiple intelligences (MI) profiles of high school students with varying levels of reading skill. Significant differences were found in four main MI scales (linguistics, logical-mathematical, interpersonal, and intrapersonal) and a range of specific skills among high, moderate and low reading skill groups. The high reading group was found to be more individual achievement-oriented and the moderate group has strengths in the more socially focused realms and the low readers more pragmatic, practical, and action-oriented.

Mourad Ali Eissa (2009) described a research designed to improve reading skills of fifth grade learning disabled students using multiple intelligences (MI) A total of 60 students identified with LD were invited to participate. The sample was randomly divided into two groups; experimental (n= 30 , 23 boys, 7 girls) and control (n= 30, 21 boys and 9 girls). ANCOVA and Repeated Measures Analyses were employed for data analysis. Findings from this study indicated

the effectiveness of the program employed in improving reading skills; namely word recognition and reading comprehension skills in the target students.

Further research is necessary to build on the vast amount of research into multiple intelligences (MI) with reading disabled students. This will allow researchers to determine how multiple intelligences (MI) can be best used as an intervention with reading disabled students as there is a dearth of research with this population. In order to address this issue with the lack of research on multiple intelligences (MI) with reading disabled students. Thus, the present study seeks to give answers to the following questions.

- 1- Are there differences in post-test scores mean between control and experimental groups on Reading Comprehension Test?
- 2- If the programme is effective in improving reading comprehension of experimental group, is this effect still evident a month later?

## METHODOLOGY

### PARTICIPANTS

60 students participated in the present study. Each student participant met the following established criteria to be included in the study: (a) a diagnosis of LD by teacher's referral. Neurological scanning results indicated that those individuals were neurologically deficient (b) an IQ score on the Mental Abilities Test (Mosa, 1989) between 90 and 118 (c) reading performance scores at least 2 years below grade level (d) absence of any other disabling condition. Students were randomly classified into two groups: experimental (n= 30 boys) and control (n= 30 boys), Salah al-Din Primary School, Damansour.

The two groups were matched on age, IQ, and reading comprehension. Table 1. shows means, standard deviations, t- value, and significance level for experimental and control groups on age (by month), IQ and reading comprehension (pre-test).

Table 1. means, standard deviations, t-value, and significance level for experimental and control groups on age (by month), IQ, and reading comprehension (pre-test).

Variable	Group	N	M	S	t	Si
Age	Experim	30	143.15	1.03	-	N
	Control	30	143.22	1.66	.21	si
IQ	Experim	30	113.54	4.45	-	N
	Control	30	113.39	4.24	.21	si
Reading comprehension	Experim	30	6.82	2.65	-	N
	Control	30	6.54	2.39	.39	si

Table 1 shows that all t- values did not reach significance level. This indicated that the two groups did not differ in age, IQ, and reading comprehension (pre-test).

### INSTRUMENT

*Reading Comprehension Test.* The test was developed to assess reading disabled children 's skills in reading comprehension. It was based on the features of comprehension skills recognized by Mourad Ali (2015). The test consists of (22) items assessing word recognition, with score ranging from 0-1 on each item and a total score of 22. The test has demonstrated high internal consistency with Cronbach's  $\alpha$  ranging from 0.87 to 0.91.

### PROCEDURE

*Screening:* Primary five students who participated met the following established criteria to be included in the study: (a) a diagnosis of LD by teacher's referral. Neurological scanning results indicated that those individuals were neurologically deficient (b) an IQ score on the Mental Abilities Test (Mosa, 1989) between 90 and 118 (c) reading performance scores at least 2 years below grade level (d) absence of any other disabling condition.

*Pre-intervention testing:* All the sixty students in grade six completed the reading comprehension test which was developed to assess reading disabled children 's skills in reading comprehension.

*General Instructional Procedures:* Instruction was delivered during the Arabic teaching classes. Permissions were obtained from students' parents,

as well as the school principal. Students received 3 training sessions a week, lasting between 40 and 45 min.

#### DESIGN AND ANALYSIS

The effects of implementing multiple intelligences (MI) intervention on students' reading comprehension skills were assessed using a repeated-measures design, pre- post- and follow-up testing.

#### RESULTS

Table 2. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in reading comprehension test. The table shows that the (F) value was (128.009) and it was significant value at the level (0.01).

*Table 2.* ANCOVA analysis for the differences in post-test mean scores between experimental and control groups in comprehension test

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Pre	1.725	1	1.725		
Group	217.276	1	217.276	128.009	0.01
Error	317.340	57	5.567		
Total	1067.933	59			

Table 3. shows t-test results for the differences in post- test mean scores between experimental and control groups in reading comprehension test. The table shows that (t) vale was (11.67). This value is significant at the level (0.01) in the favor of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in comprehension test in the favor of experimental group.

*Table 3.* T- test results for the differences in post-test mean scores between experimental and control groups in comprehension test.

Group	N	Mean	Std. deviation	T	Sig.
Experimental	30	13.50	1.10	11.67	0.01
Control	30	6.93	3.12		

Table 4. shows data on repeated measures analysis for reading comprehension test. The table shows

that there are statistical differences between measures (pre- post- follow –up) at the level (0.01).

*Table 4.* Repeated measures analysis for comprehension test.

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Between groups	661.250	1	661.250		0.01
Error 1	105.611	58	1.821	363.148	
Between Measures	794.978	2	794.978	193.121	0.01
Error 2	596.933	2	298.467	145.011	0.01
Measures x Groups	238.756	116	2.058		

Table 5. shows data on Scheffe test for multi-comparisons in reading comprehension test. The table shows that there are statistical differences between pre and post measures in favor of post test, and between pre and follow up measures in favor of follow -up test, but no statistical differences between post and follow -up test.

*Table 5.* Scheffe test for multi- comparisons in comprehension test

Measure	Pre M= 6.82	Post M= 13.20	Follow up M= 12.86
Pre	--	--	--
Post	8.43*	--	--
Follow up	8.10*	.33	--

#### DISCUSSION

The purpose of this study was to investigate the effectiveness of multiple intelligences training program on reading comprehension skills of reading disabled primary six students. As a result of this study, Multiple Intelligence Theory based activities proved to be more helpful in achievement and retention of reading comprehension skills. Students liked the activities, and it was found that the Multiple Intelligence Theory based activities easy to apply in students' lessons.

The findings of the study are consistent with previous studies (e.g. Mourad Ali, 2009) which indicated the effectiveness of the program employed in improving reading skills; namely word recognition and reading comprehension skills in the target students.

Experimental group gained better scores in reading comprehension than did control groups in post-tests though there were no statistical differences between the two groups in pre- test. This was due to the program which met the experimental group's needs and interests. On the contrary, the control group was left to be taught in a traditional way.

## CONCLUSION

This study was conducted to investigate the effectiveness of multiple intelligences training program on reading comprehension skills of reading disabled primary six students. Pre- test / Post- test / follow –up –test were formed to collect data from the students. At first, Pre-test was applied to students to see their current reading comprehension skills. This Pre-test was analyzed. After the teaching period, Post- test was applied and then analyzed. After two weeks, Post-test (follow –up) was applied again to see the long-term retention. As a result, teaching reading comprehension skills through activities based on Multiple Intelligence Theory was proved to be valuable in students' learning and retention of on reading comprehension skills of reading disabled primary six students.

## SUGGESTION FOR FURTHER STUDY

Using Multiple Intelligence Theory-based activities can be helpful in teaching reading comprehension skills to reading disabled primary six students. It can also be helpful in Arabic, as well as English lessons so it can be used to teach all subjects not only in English lessons but also in any other lessons because activities can attract the attention of the students and it can appeal to their needs. In further studies, Multiple Intelligence Theory based activities can be used in different age groups. This research is applied in primary six students. It can be studied in other public schools with even younger students. It can be studied to learn its effect for other skills such as writing, speaking, listening, and vocabulary.

## IMPLICATIONS

The results of this study have several important implications. This study adds to the literature on the effectiveness of Multiple Intelligence Theory based activities with reading disabled students. Results

appear to indicate that Multiple Intelligence Theory based activities are an effective instructional strategy for improving reading comprehension test scores of students with reading disabilities. Multiple Intelligence Theory based activities provide students with various modalities and this may facilitate the learning of content knowledge.

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# THE EFFECTS OF BRAIN BASED LEARNING APPROACH ON STUDY HABITS AND TEST ANXIETY AMONG FIRST YEAR PREPARATORY SCHOOL STUDENTS WITH LEARNING DISABILITIES

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**Abstract:** The purpose of this study was to investigate the effects of brain-based learning approach on study habits and test anxiety among first year preparatory school students with learning disabilities. 60 students participated in the present study. Each student participant is of low achievement scores on one or more standardized tests or subtests within an academic domain (i.e., at least 1.5 standard deviations [SD] below the population mean for age. For collecting and analysing data, Study Habits Test, and Test Anxiety scale were employed. The program was designed based on the three basic fundamentals of brain-based learning, namely ‘orchestrated immersion’, ‘relaxed alertness’, and ‘active processing’. The brain-based learning program was conducted to the whole class by their actual teacher during the actual lesson period for 8 weeks with 45-minute sessions conducted three times a week. The results of this study showed that the brain-based learning approach was effective in improving study habits and relieving test anxiety of students in experimental group, compared to the control group whose individuals did not receive such a training. Results, recommendations and conclusion were included and discussed.

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**Keywords:** brain-based learning approach, study habits, test anxiety, students with learning disabilities.

## INTRODUCTION

Brain based learning theory is about recognizing how the brain learns and organizes information to make learning meaningful. Some researchers (e.g. Jensen, 2008, 4) regard brain-based learning as a learning in accordance with the way the brain is naturally designed to learn. Student can learn better in a well-formed environment, that is, an environment where he/she is allowed to understand the why's of what he or she is doing (Jensen 2005). Caine (1994) suggest twelve principles of brain-based learning that serve as the theoretical foundation of the approach. These are the following:

1. The brain is a parallel processor.
2. Learning engages the entire physiology.
3. The search for meaning is innate.
4. The search for meaning occurs through patterning.
5. Emotions are critical to patterning.
6. The brain processes parts and wholes simultaneously.
7. Learning involves both focused attention and peripheral perception.
8. Learning always involves conscious and unconscious processes.
9. We have at least two different types of memory: A spatial memory system and a set of systems for rote learning.
10. We understand and remember best when facts and skills are embedded in natural, spatial memory.
11. Learning is enhanced by challenge and inhibited by threat.
12. Each brain is unique (pp. 87-96).

These twelve principles suggest that effective learning could occur only through practicing real life experiences.

Sousa (2001) stated that this theory was based on neuroscience, which gave important information about the brain, how it learns, including how it works, its interpretation and storage of information. The theory of brain-based learning requires that we shift our focus to the learning process and the possibility of using this information to conduct learning.

## TEST ANXIETY

Test anxiety is a multidimensional construct (Damer and Melendres 2011). It occurs when a student feels extreme distress and anxiety in test situations (Omaira, 2018). It can be defined as a “set of phenomenological, psychological, and behavioural responses that accompany concern about possible negative consequences or failure of an exam or similar evaluation situations” (Zeidner 2007). A student, who is anxious during exams, has a specific reaction to the examination situation, such as an emotional, cognitive, behavioural, or physiological reaction (Dan and Raz, 2012). These reactions to the examination situation not only are present while student takes a test, but while he prepares for the test as well (Cohen, Ben-Zur and Rosenfeld 2008). There are negative associations between test anxiety and overall test performance, academic achievement, and intellectual aptitude tests (Chapell et al. 2005). Students who have test anxiety do not perform to their full potential, resulting in test scores that do not accurately represent their knowledge and understanding of the test material (Shobe 2005). Test anxiety has its own presence through worry and self-denigrating thoughts (Damer and Melendres 2011).

## STUDY HABITS

It can be said that student 's study habits are what determine his/her level of academic achievements. Lack of effective or positive (good) study habits can undermine student's success. Many students, especially those with learning disabilities lag behind, and fail their examinations not because they lack of knowledge or ability to succeed, but because they do not have adequate study habits and study skills. Tuncay ERGENE (2011) investigated the relationships among study habits, test anxiety, achievement, motivation, and academic success in a Turkish tenth grade high school sample. and 243 (47.6%) were males. The data were collected by the Turkish version of Test Anxiety Inventory (TAI), Study Habits Inventory (SHI) and Self Evaluation Inventory (SEI). s. Small but significant correlations were found between the worry subscale of TAI scores and academic success ( $r = - 0.18, p 0.01$ ), and between the Study Habits Scale scores and academic success level ( $r = 0.15, p < 0.01$ ). A positive relationship between



study habits scores and achievement motivation level ( $r=.39$ ,  $p 0.01$ ) was found.

#### PROBLEM STATEMENT

Taking into account learner characteristics, engaging students in the learning process, and promoting collaboration among all students in general and students with learning disabilities in particular have become necessary for the quality of instruction, and for eliminating the limitations of the traditional way of teaching. Students with learning disabilities suffers a lot in our educational system because of instructional methods adopted. Those students need a different environment where their needs are met. They need teaching strategies which enable them to feel secure in the learning environment. If this occurs, then their redundant fears and anxiety will be eliminated. Nevertheless, there is a scarce research investigating the influence of brain-based learning on study habits and test anxiety among students with learning disabilities, which has been the motive for the researcher to conduct this research.

Thus, the present study addresses the following two questions.

1. Are there differences in post-test scores mean between control and experimental groups on Study Habits Test?
2. Are there differences in post-test scores mean between control and experimental groups on Test Anxiety scale?

#### PURPOSE OF THE STUDY

The purpose of this study was to investigate the effects of brain-based learning approach on study habits and test anxiety among first year preparatory school students with learning disabilities. by gaining a better understanding of this process, teachers can apply the findings to create safe, stress-free classrooms that will engage the minds of students, improving their study habits and relieving their test anxiety.

#### HYPOTHESES

In this study, two alternative hypotheses were raised and tested at 0.01 level of significance thus:

Ho1: There are differences in post-test scores mean between control and experimental groups on Study Habits Test.

Ho2: There are differences in post-test scores mean between control and experimental groups on Test Anxiety scale.

#### SIGNIFICANCE OF THE STUDY

The result of this study would enable students to develop good habits, and relieve their test anxiety which could lead to good academic performance. The result of this study would be of great benefits for school teachers who would start to use brain-based learning approach in their instruction. The result of this study would enable policy makers to initiate programs that would facilitate effective study habits and relieve test anxiety among students with learning disabilities.

#### METHODS

##### PARTICIPANTS

60 students participated in the present study. Each student participant is of low achievement scores on one or more standardized tests or subtests within an academic domain (i.e., at least 1.5 standard deviations [SD] below the population mean for age, (Mourad Ali, 2018). The sample was randomly divided into two groups; experimental ( $n= 30$ , 22 boys, 8 girls) and control ( $n= 30$ , 20 boys and 10 girls).

The two groups were matched on age, IQ, study habits, and test anxiety. Table 1. shows means, standard deviations, t- value, and significance level for experimental and control groups on age (by month), IQ, study habits, and test anxiety (pre-test).

Table 1. Means, standard deviations, t- value, and significance level for experimental and control groups on age (by month), IQ, study habits, and test anxiety (pre-test).

Variabl e	Group	N	M	SD	T	Sig
Age	Experiment	3	142.0	1.2	-	No
		0	4	6	.13	t
	Control	3	142.0	1.2	1	Sig
		0	8	3		

IQ	Experimental	30	114.2	1.1	-	No
	Control	30	114.3	1.0	.21	t
study habits	Experimental	30	45.83	1.0	-	No
	Control	30	44.80	1.5	.50	t
test anxiety	Experimental	30	83.36	1.1	-	No
	Control	30	84.13	1.2	.41	t
						Sig
						.

Table 1. Shows that all t-values did not reach significance level. This indicated that the two groups did not differ in age (by month), IQ, study habits, and test anxiety (pre-test).

## INSTRUMENTS

*Study Habits Inventory* (prepared by the researchers particularly for this study). The aim of this inventory was to assess learning disabled students' study habits. The 37-item inventory follows 3-point Likert scale (Not at all typical of me, Only somewhat typical of me, and Very typical of me.). The test-re-test reliability of the questionnaire was found out to be 0.82, The validity of the questionnaire found out by finding the inter-item consistency which proved to be significant at the 0.01 level for all items.

*Cognitive Test Anxiety scale* (Adopted by Omaima, 2018). A 27-item scale which is generally completed by undergraduate students in 8 to 15 min. The Scale follows 4-point Likert scale (Not at all typical of me, Only somewhat typical of me, Quite typical of me, and Very typical of me). The test-re-test reliability of the questionnaire was found out to be 0.87, The validity of the questionnaire found out by finding the inter-item consistency which proved to be significant at the 0.01 level for all items.

## PROCEDURES

*Screening:* 60 students participated in the present study. Each student participant is of low

achievement scores on one or more standardized tests or subtests within an academic domain (i.e., at least 1.5 standard deviations [SD] below the population mean for age.

*Pre-intervention testing:* All the sixty students completed Study Habits Inventory, which assesses students' study habits and Cognitive Test Anxiety scale which assesses students' test anxiety. Thus, data was reported for the students who completed the study.

*General Instructional Procedures:* The brain-based learning program was conducted to the whole class by their actual teacher during the actual lesson period for 8 weeks with 45-minute sessions conducted three times a week. The program was designed based on the three basic fundamentals of brain-based learning, namely 'orchestrated immersion', 'relaxed alertness', and 'active processing'. In the 'orchestrated immersion' phase, the students, with the help of their teacher, used various pictures, power-point presentations, cartoons and comic strips. These helped them the concepts presented and the subject matter as a whole as well. As for 'relaxed alertness,' phase, cooperative learning was present. Students collaborated with one another. Students were asked to write down, share and discuss with their classmates. The aim was to eliminate fear in the learners while maintaining highly challenging environments. During the 'active processing' phase, the learner was allowed to consolidate and internalize information by actively processing it. simulations, group discussions, role plays and dramatization techniques were used in order to ensure the retaining of the obtained knowledge and to ease the structuring of this knowledge as well as applying it into new situations.

## DESIGN AND ANALYSIS

The effects of brain-based learning approach on study habits and test anxiety among first year preparatory school students with learning disabilities were assessed using pre- post- and two groups design.

## RESULTS

The first purpose of this study was to investigate the effects of brain-based learning approach on study habits. Table 2. shows data on ANCOVA

analysis for the differences in post- test mean scores between experimental and control groups in study habits. The table shows that the (F) value was (131.099) and it was significant value at the level (0.01).

Table 2. ANCOVA analysis for the differences in post-test mean scores between experimental and control groups in study habits

Source	Type 111 Sum of squares	df	Mean square	F	Sig.
Pre	17.004	1	17.004		
Group	30055,895	1	30055,895		
Error	13067.862		229.261	131.099	0.01
Total	43369.933	57			
		59			

Table 3. shows T. test results for the differences in post- test mean scores between experimental and control groups in study habits. The table shows that (t) vale was (11.586). This value is significant at the level (0.01) in the favour of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in study habits in the favour of experimental group.

Table 3. T. test results for the differences in post- test mean scores between experimental and control groups in study habits.

Group	N	Mean	Std. deviation	T	Sig.
Experimental			1.40	11.586	0.01
Control	30	83.83	2.94		
	30	47.63			

The second purpose of this study was to investigate the effects of brain-based learning approach on test anxiety. Table 4. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in test anxiety. The table shows that the (F) value was (349.427) and it was significant value at the level (0.01).

Table 4. ANCOVA analysis for the differences in post-test mean scores between experimental and control groups in test anxiety

Source	Type 111 Sum of squares	df	Mean square	F	Sig.
Pre	262.512	1	262.512		
Group	25160,538	1	25160,538		
Error	4104.288		72.005	349.427	0.01
Total	29336.400	57			
		59			

Table 5. shows T. test results for the differences in post- test mean scores between experimental and control groups in test anxiety. The table shows that (t) vale was (18.211). This value is significant at the level (0.01) in the favour of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in test anxiety in the favour of experimental group.

Table 5. T. test results for the differences in post- test mean scores between experimental and control groups in test anxiety.

Group	N	Mean	Std. deviation	T	Sig.
Experimental			1.15	18.211	0.01
Control	30	42.00	4.68		
	30	82.80			

## DISCUSSION

The purpose of this study was to investigate the effects of brain-based learning approach on study habits and test anxiety among first year preparatory school students with learning disabilities. The results of this study showed that the brain-based learning approach was effective in improving study habits and relieving test anxiety of students in experimental group, compared to the control group whose individuals did not receive such a training.

This goes in the same line with Hoge (2002), who claims that brain-based learning facilitates students developing positive literacy experience and motivate students to being literate. Sel (2006) found that brain-based learning improves success in his research on foreign language teaching. Palavan (2012) found that brain-based learning was an effective method. Adel ElAdl and Mourad Ali (2019 in this volume) showed that students in

the experimental group, compared to those in the control group, developed robust working memory and academic motivation due to training in brain-based learning.

It can be claimed that any instructional method that teachers can employ to enhance achievement and retention of their students such as integrating other brain-based activities is regarded as a valuable and effective teaching tool (Maryam Haghghi, 2013).

#### RECOMMENDATIONS

Further research in which participants are from different age groups is also required to compare the impact of brain-based learning on study habits and test anxiety. Particularly students with learning disabilities who took part in this study may achieve great success improving study habits and relieving test anxiety which indicate the positive influence of brain-based learning. So, they may demonstrate a tendency to continue employing brain-based learning principles in the following years of their education life.

#### CONCLUSION

The purpose of this study was to investigate the effects of brain-based learning approach on study habits and test anxiety among first year preparatory school students with learning disabilities. The findings revealed that orchestrating teaching in accordance with brain-based learning principles helped the participants during the intervention. This study could motivate researchers and practitioners to conduct similar studies with different populations with different age. This study, in the light of the findings, revealed that making amendments in teaching practices according to brain-based learning principles might enable improving study habits and relieving test anxiety.

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