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The usage of RPGS as an interdisciplinary method of teaching dyslexic students

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Abstract. The aim of this paper is to present a different viewpoint on the educational process through the usage of- adjusted to educational needs - RPGs (Role Playing Games), emphasizing on an interdisciplinary teaching in both cognitive and social-emotional level, which will offer intervention and simultaneously the improvement of the academic weaknesses for dyslexic students. RPGs -in any form- may be a powerful and unique teaching tool so that learning can be fun and meaningfully constructive to the dyslexic learners.

Keywords. dyslexia, intervention, educational RPGs, interdisciplinary

Introduction

The last few decades there are growing appeals in the field of Special Education and specifically for the students who appear to have learning difficulties and low academic performance. This phenomenon has been widely observed by the scientific community due to the increasing number of these students.

About 13–14% of the school population nationwide has a handicapping condition that qualifies them for special education. Current studies indicate that one half of all the students who qualify for special education are classified as having a learning disability (LD) (6–7%). About 85% of those students have a primary learning disability in reading and language processing. Nevertheless, many more people— perhaps as many as 15–20% of the population as a whole—have some of the symptoms of dyslexia, including slow or inaccurate reading, poor spelling, poor writing, or mixing up similar words. Not all of these will qualify for special education, but they are likely to struggle with many aspects of academic learning and are likely to benefit from systematic, explicit, instruction in reading, writing, and language (IDA,2021).

Most of the research in this field is aimed at providing a plethora of methods and strategies for teaching and intervention such as the multisensory, the Irlen method, Pavlidis method, iconographic method, activities for phonological awareness, ICT use, etc. However, it might be a matter of interest the usage of an integrated, cross subject, interdisciplinary and holistic teaching tool.

A new approach is therefore needed for a differentiated, personalized method of intervention and holistic teaching, respecting concurrently the uniqueness of each student's personality and way of learning. The diversity of learning disabilities and their increasing frequency makes a psych pedagogical intervention essential (Kafkoulas, 2010).

Role-Playing Games known as RPGs- in any form – can provide a psych pedagogical intervention, can be functional and can facilitate the educational procedure in the hands of an experienced Storyteller/ teacher. The long term of this process of learning becomes intriguing and gives the opportunity to the learners to build their “in game” personality, conquer certain abilities and knowledge.

Few studies have focused on the purposeful use of RPGs as a teaching tool to students with learning disabilities and specifically to dyslexic students.

After defining and elucidating the main key terms, this paper examines the benefits of the educational RPGs and their role not only as a powerful teaching strategy but also as an intervention method.

1. Elucidation of the terms “Learning difficulties/disabilities/disorders.”

Learning difficulties concerns a field where easily someone can get confused when it comes to definitions and categorization. Naturally, there is a variation of definitions and terms according to the scientific perspectives. It is of utmost significance an effort to be made for the elucidation of some common terms which are used to describe the low or poor academic performance.

Firstly, the term “Learning Difficulties” has been characterized as an “umbrella” term for various deviations concerning the academic performance. When someone has learning difficulties, automatically means that they cannot learn accordingly to the typical educational methods but they can learn via personalised methods, specially adjusted to their needs.

Except the term “Learning Difficulties” there are other terms, that are equally used to describe the inadequacy in academic performance, such as “learning disabilities” and “learning disorders”. It is crucial to highlight that they have substantial differences. Tzivinikou (2015) specifically mentions that *learning disorder* refers to serious learning problems in academic level. However, those problems do not justify an official diagnosis. On the other hand, *learning disability* is an official clinical diagnosis in which the student needs to meet specific criteria used by experts in diagnostical teams. The difference lies in the degree, the frequency and the intensity of the symptoms. Finally, Tzivinikou comes to the conclusion that it is imperative to distinct these two terms.

In order to identify and to find a common ground, IDEA, No Child Left behind Act and Office of Special Education Programs (OSEP) after series of events drew a conclusion concerning the new concept of Special Learning Disabilities.

- The concept of Specific Learning Disabilities (SLD) is valid, supported by strong converging evidence.
- Specific learning disabilities are neurologically-based and intrinsic to the individual.
- Individuals with specific learning disabilities show intra-individual differences in skills and abilities.
- Specific learning disabilities persist across the life span, though manifestations and intensity may vary as a function of developmental stage and environmental demands.
- Specific learning disabilities may occur in combination with other disabling conditions, but they are not due to other conditions, such as mental retardation, behavioural disturbance, lack of opportunities to learn, primary sensory deficits, or multilingualism.

- Specific learning disabilities are evident across ethnic, cultural, language, and economic groups.

(Roundtable Learning Disabilities ,2002)

Although, there have been numerous attempts to define the nature and the term of Special Learning Disabilities. Current definitions of *Specific Learning Disabilities (SLD)* identify a heterogeneous population that includes individuals with weaknesses in reading, math, or writing, and these academic difficulties often co-occur in many of the same individuals. The Colorado Learning Disabilities Research Centre (CLDRC) is an interdisciplinary, multisite research program that uses converging levels of analysis to understand the genetic and environmental aetiology, neuropsychology, and developmental outcomes of SLDs in reading (RD), math (MD), and writing (WD), along with the comorbidity between these SLDs and other developmental disorders. (Willcutt Erik G., McGrath Lauren M., Pennington Bruce F., Keenan, Janice M. DeFries John C., Olson Richard K., Wadsworth Sally J., 2019)

As it is aforementioned, “Learning Disabilities” is an “umbrella” term describing a number of other, more specific learning disabilities such as dyslexia, dysgraphia, dyscalculia, non-verbal learning disabilities, oral/written Language Disorder and Specific Reading Comprehension Deficit. (LDA, 2021)

For the purposes of this paper, we will focus on the definition, the nature and the characteristics of dyslexia.

2. Dyslexia

2.1 The definition

In order to tackle, intervene and improve any learning disability, it is profound that the deep understanding of the term itself, the nature and its characteristics, is undeniably a necessity.

While a variety of definitions of the term dyslexia have been suggested, this paper will mention two of the most prominent ones.

According to the International Dyslexia Association (IDA, 2003) “Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.” (Lyon, Shaywitz, and Shaywitz, 2003)

In 2009 Sir Jim Rose’s Report on “identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties” provided the following description of dyslexia, which was adopted by the BDA Management Board, but with the addition of the further paragraph shown below, which should always appear with it: “Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling.

- Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed.
- Dyslexia occurs across the range of intellectual abilities.
- It is best thought of as a continuum, not a distinct category, and there are no clear cut-off points.

- Co-occurring difficulties may be seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organization, but these are not, by themselves, markers of dyslexia.

A good indication of the severity and persistence of dyslexic difficulties can be gained by examining how the individual responds or has responded to well-founded intervention.” However, according to the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM–5) in 2013 dyslexia is an alternative term used to refer to a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding, and poor spelling abilities. If dyslexia is used to specify this particular pattern of difficulties, it is also important to specify any additional difficulties that are present, such as difficulties with reading comprehension and math reasoning.

2.2 The nature of dyslexia

Dr. Maryanne Wolf notes: “Dyslexia is not a sickness, but a different arrangement of the brain's circuits. In pre-literate times, people with dyslexia were the heroes, the builders. In contemporary times, the child who cannot read feels like they are totally different than the rest of the world.”

A significant amount of research has been made regarding the nature of dyslexia. Unfortunately, no satisfactory understanding of its nature has been reached until today. All methods and treatments that have been used and developed so far can only assist in allowing learners to adapt, yet, no definitive treatment exists.

2.3 The Common Characteristics of Dyslexia

The main characteristics of dyslexia can be found in the following general difficulties that learners tackle in the educational process:

- Difficulty acquiring and using oral and written language
- Difficulty in phonological awareness, including segmenting, blending and manipulating sounds in words
- Difficulty mastering the alphabetic principle and basic decoding skills (mapping sounds to letters)
- Slow, inaccurate, or labored oral reading (lack of reading fluency)
- Difficulty acquiring age-appropriate sight word recognition skills
- Difficulty learning to spell accurately
- Oral language skills often stronger than written language skills
- Difficulty learning and retaining multi-syllabic vocabulary required for mastery of academic content
- Limited reading comprehension due to weak decoding, word recognition and fluency skills
(Colorado Department of Education, Oct/2008)

3. Intervention through educational games

In the last few years there has been a growing interest for the use of games [24-29] and metacognition [30-31]. Not merely as a fun way to clear student’s minds between classes but also as a strong educational tool for a different conduction of the learning process. Everyone has a unique way of thinking and processes learning differently. Educational games designed for dyslexia, offer an opportunity to students to improve their difficulties and weaknesses through a fun and productive way.

There are several types of games that could be used in an educational environment. Game types such as board games, pen and paper, cards, and video games specifically designed for educational purposes could be a significant asset for the educator. The experience of an alternative way of learning could be exceptional for both the educator and the students.

There are a handful of board games and numerous applications and online games to help the dyslexic students to learn.

Quite recently, considerable attention has been paid to the international tendency of exploiting the use of computers and technology in order to monitor and provide more information to the learner. The proper use of the internet and its use in the hands of a highly knowledgeable educator is a combination that can get off the ground the learning experience. However, this approach may not be optimal in all situations and specifically in instances where technology is not available to people.

As teaching dyslexic students has a deviant character compared to the typical way of teaching, educational games specifically designed for this deviation may attain a vital place as an effective approach.

During the last few years there has also been a gradual growth in the creation and use of electronic educational games for dyslexic students. They are probably a different and more fun way of approaching teaching. In 2013 Sandro Franceschini, Simone Gori, Milena Ruffino, Simona Viola, Massimo Molteni and Andrea Facchetti conducted a study regarding the improvement of the reading skills of dyslexic through action games. The results were rather impressive.

While playing games, students will develop a variety of connections with the content and can form positive memories of the learning experience. Games are highly motivating and a dyslexic student would be more intrigued to learn through games as most of these games are based on experiential learning. One of the key theorists of experiential learning David Kolb recognized that people learn through experience easier.

We must ensure that the value of educational games is promoted accordingly to its importance, since learners through the expansion of their creativity and their critical thinking can be developed in every aspect of learning. However, these tools are for the lingua franca, the English Language.

As far as the Greek reality is concerned, the field of educational games for dyslexic students is an unexploited field. Nevertheless, there have been few attempts of educational games.

Despite the rise of the use of educational games, no interdisciplinary game-specific method exists -to my knowledge- that can assist dyslexic students. It is my belief that this omission can be compensated through the proper design of an RPG- pen and paper, LARP or electronic type of it.

4. Educational RPGs

A specifically designed educational RPG is capable to assist students to obtain knowledge, develop multiple skills and abilities in cognitive, affective, social, physical and emotional levels. Moreover, games are an interactive play that may offer to learners' multifarious virtues by providing enjoyment, motivation, creativity and critical thinking during the learning takes place.

Role-playing Games used as Educational and Therapeutic tools for youth and adult's politics, demographics, craftsmanship, geography, sciences, literature, and many other aspects

that they feel will enhance their experience in future game sessions. (W.A. Hawkes-Robinson,2011)

A lot of RPGs and games have educational possibilities, that is to say, we can exploit a “didactic development” as long as we prepare an adaptation to an actual situation (Mario Grande de Prado,2019). It is essential for the educator to set clear educational objectives in order to use the educational games properly. The classification of the objectives is a time-consuming procedure but it is the cornerstone of a successful teaching.

Educational Role-Playing Game concept is based on the basic rules and the mechanisms of the Role-Playing Games, yet, enriched with substantial differences. Albeit it shall be a game that has rules and specific mechanisms; it is about defining specific cognitive aims (depending among others on the taught subject), developing student's emotional intelligence and intervene in order to improve and develop certain skills and abilities of dyslexic students. Its use will assist in shaping strong personalities and minds through the use of student’s creativity and imagination. Consequently, I strongly believe that it could be an applicable interdisciplinary, cross-subject educational tool for students with learning difficulties and specifically with dyslexia.

4.1 The nature

RPG is heavily focused on interaction and acting, it can simulate the experience of any aspect of life and it can provoke a variety of reactions. Someone who is involved with the game is experiencing conditions similar to the improvised theatre; there are protagonists, antagonists, sub-plots, conflicts, climaxes, anti-climaxes and everything that is related to everyday situations.

Furthermore, as in improvisational theatrical plays the actor can improvise depending on the other actors’ action; students improvise and decide the flow of the game depending on the interaction of other students and those of the storyteller. What is performed is created at that moment spontaneously. In its unadulterated form, the dialogue, the action, the story and the characters are created through collaboration among the players and the educator as the improvisation unfolds.

5. RPGs as a teaching tool for dyslexic students - Goals of each session (session plan)

It is vital to take into account the symptoms that students exhibit in order to comprehend the intervention and the benefits that can be provided.

There are four different common aspects of the symptoms that are manifested by dyslexic students:

1. Syllabism
2. Writing
3. Reading
4. Social Behavior

All the above are aspects of language and an RPG allows the equal use of both oral and written speech in any environment and in any occasion.

It is significant to mention that it is vital for the educator to set clear educational objectives in each session of the game. Categorization of the objectives is a time-consuming process but it is the cornerstone for a successful teaching. Despite the storytelling and the side gaming goals it is imperative to set the educational aims. They are distinguished in three levels for our purposes.

1. Level of knowledge
2. Level of skills
3. Level of attitudes

The use of RPGs can be applied in any existing subject and besides the teaching of the specific cognitive subject it can provide to the learner a numerous different experiences and knowledge of any desirable field.

Moreover, the application of RPGs, can include a multisensory approach that is based in the use and the contribution of all the senses of a learner in order to achieve an optimal result. Dr. Samuel Terry Orton and his research team were the first that applied multisensory technics in the mid-twenties. They suggested that while a class is in session, constant connections should be made of the language we “see” (visual stimuli), the language we “hear” (acoustic stimuli) and the language symbols that we can touch (motion-senses technics) in order for the students to learn how to read and spell. The simultaneous use of all senses will help all the students -not only the dyslexic ones - to absorb, embed and preserve knowledge in the most efficient way.

5.1 The benefits

It is my belief that dyslexic students are the ones deserving the utmost attention of educators. RPGs with specific guidelines - whether it is pen and paper, LARP or in electronic form- can be adjusted depending on the objectives of each lesson. The educators may use different prompts and story lines regarding students' requirements and needs.

It could provide the students with a multitude of skills and abilities in both cognitive and emotional level. It could be the cornerstone for the development of the metacognition (A.S. Drigas, E. Mitsea ,2020), the consciousness and the emotional intelligence. (A. S. Drigas, & C. Papoutsis ,2018, 2021). Learners can cultivate their skills, their emotions and by extent their personality as well as the improvement of the different aspects of their linguistic codex (pragmatics, semantics, syntax and morphology). They can increase their:

1. Observation, comparison, classification and hypothesis skills
2. Problem generalization, solution finding and their contrivance of solutions
3. Behavioral evaluation, investigation and prediction skills

Likewise, they can also evolve in finding spatiotemporal connections; they can learn how to compare facts and to formulate inductive and productive syllogisms. Furthermore, they:

4. learn how to interact and grow their interpersonal relationships and initiatives (social skills)
5. learn how to conduct a productive and constructive discussion
6. determine their co-operational abilities and learn how to manage disagreements and juxtapositions,
7. increase their capacity to conduct a research and settle problematic situations
8. learn how to configure evaluation criteria, grow their critical thinking and be decision-makers.
9. learn how to categorize concepts
10. learn how to use language in distinct and different occasions
11. improve their reading skills
12. enhance their memory

The aforementioned benefits are indicative for the dyslexic students and the experience of creating a story, either in written or oral form, provides them the opportunity to think through imaginative pictures and to use their resourcefulness in a way that will assist them to learn in

depth. As Ronald Davis (1994) brilliantly indicates in his book “The gift of dyslexia”, the way that a dyslexic student thinks is primarily nonverbal and it is accomplished by the aid of pictures and images.

Lastly, one of the undoubtable benefits is that they are games that may be adjusted in any language, any circumstances, any world – fictional or in real life –. While RPGs offer multiple benefits, it may also be the keystone for the development of the metacognition (A.S. Drigas, E. Mitsea ,2020), the consciousness and the emotional intelligence. (A. S. Drigas, & C. Papoutsis ,2018, 2021).

Summarizing, an educational RPG can be used as a teaching tool to develop, improve, and monitor the issues that each and any dyslexic student may tackle. The educator may encourage the cultivation and the development of other skills as well. Additionally, the educator through an in-depth organization of both short-term and long-term goals and objectives that concern the intervention of the dyslexia can motivate the students to attain significant skills and abilities that they may acquire and develop.

Conclusion

Concluding, I suggest a different perspective in teaching dyslexic students through a multisensory, interdisciplinary and experiential approach.

Education should be a process that allows and guides students to develop their cravings, critical thinking and alignment towards knowledge for sensible action and especially in dyslexic students that have the need to improve their disabilities through a creative and fun process.

The application of an interdisciplinary educational RPG in the teaching process would be a unique holistic learning experience for the dyslexic student. The ability to partake in a learning procedure where the reception of knowledge and the improvement of different intelligences can be achieved through several stimuli -without even notice it -, it can be appropriate for students that face learning difficulties.

The students and the educator create a story together. The classroom is transformed into a parallel world in which students play their character’s lives facing simulations of real-life situations and tackling any problems that may appear during the story. This provides the opportunity to be prepared for a plethora of occasions that they might find themselves into in real life.

Furthermore, whilst experiencing an ongoing scenario for an extended period of time the students will have the opportunity to bond with their character and hence to develop their personality in every level. Allowing a cultivation and understanding of themselves in terms of being a part of an integrated field of relationships is the key to the evolution of a mature individual. Experience seems to be indissolubly connected with emotions.

As relationships flourish, they provide students with the strength to gain deeper knowledge of the surrounding environment, making them take more educated decisions and manipulate their lives by adjusting and enriching their learning experience.

Finally, dyslexic students through an educational RPG are given an incentive to learn and enhance their ability to improve their weaknesses. “Play, while it cannot change the external realities of children’s lives, can be a vehicle for children to explore and enjoy their differences and similarities and to create, even for a brief time, a more just world where everyone is an equal and valued participant.” (Patricia G. Ramsey)

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