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Remediating stuttering behaviour as a panacea to lifelong learning for children with defective speech

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Abstract
Stuttering behavior is associated with speech difficulties which is a disorder that manifest in a child's learning processes. This paper exhaustively discussed the causes, therapeutic approach, life-skills, and relationship between remediation of stuttering and life-long learning. The paper identified obstacles that can impede successful application of the above intervention strategies and recommends that Government should establish speech therapy units and centres in all teaching hospitals as well as create public enlightenment Campaigns to sensitize the public on the continuous need for access to lifelong education for those stuttering from such disorders.

Keywords: remediating, stuttering behavior, lifelong learning, children with defective speech

Introduction
Speech is the expression of or ability to express thoughts and feelings by articulate sounds. The first 3 years of life, when the brain is developing and maturing, is the most intensive period for acquiring speech and language skills. These skills develop best in a world that is rich in sounds, and consistent exposure to the speech and language of other. There appear to be critical periods for speech and language development in infants and young children when the brain is best able to absorb language. If these critical period are allowed to pass without exposure to language, it will be more difficult to learn.

According to Blumgart, Tram and Craig (2010) [5], the first signs of communication occur when an infant learn that a cry will bring food, comfort, and companionship. Newborns also begin to recognize important sounds in their environment, such as the voice of their mother or primary caretaker. As they grow, babies to sort out the speech sounds that compose the words of their language. By 6 months of age, most babies recognize the basic sounds of their native language. Children vary in their development of speech and language skills. However, they follow a natural progression or timetable for mastering the skills of language.

Speech Disorders
When a person is unable to produce speech sound correctly or fluently, or has problems with his or her voice, then he or she has a speech disorder. Difficulties pronouncing sounds, or articulation disorders, and stuttering are examples of speech disorders. When a person has trouble understanding others (receptive language), or sharing thoughts ideas and feelings completely (expressive language) then he or she has a language disorder. A stroke can result in aphasia, or a language disorder. Both children and adults can have speech and language disorders. They can occur as a result of a medical problem or have no known cause (Ingham, B 2008) [10].

According to Catts (1997) [6], a speech disorder refers to problem with the actual production of sound or putting words together to communicate ideas.

Speech disorder may include
Articulation disorder: difficulties producing sounds in syllables or saying words incorrectly to the point that listeners can't understand what's being said.

Fluency disorder: problems such as stuttering in which the flow of speech is interrupted by abnormal stoppages, parial word repetitions ("b-b-boy"), or prolonging sound and syllables (sssssnake).

Resonance or voice disorders problems with the pitch, volume, or quality of the voice that distract listeners from what's being said. These types of disorder may also cause pain or discomfort for a child when speaking.

Stuttering As a Speech Disorder
Stuttering which is said to affect approximately 1% of the adult population, is a complex and multidimensional speech disorder whose impact crosses into an individual's social. Cognitive, emotional, and physiological life (Justice, 2006) [11]. Research suggests that the etiology of stuttering has being linked to both genetic and environmental factors involving speech, motor, language, and psychosocial aspects. Stuttering manifest itself in an individual's speech as interruptions in the forward flowing of speech. These interruption can take the form of sound syllable, and one-word repetitions, sound prolongations, or stoppages of airflow or voicing in speech. Individuals who stutter can also exhibit secondary behaviors (Gable, 2008). These behaviors can include visible tension in speech mechanism or the face, respiratory anomalies, and abnormal movements. In addition to these physical manifestations there can be negative feeling and attitude that develop as a result (Bloodstein, 2008) [4].

According to Conture (2001) [8], Stuttering is a complex disorder and can be defined as speech that contains sound, syllables, or word repetitions, as well as blocking and silent and/or audible prolongations. It can occur on content or function words and may or may not be accompanied by secondary struggle behavior.

Causes of Stuttering

Stuttering affect the vocal cords, muscles, nerves and other structures within the throat. Causes may include: vocal cord damage, brain damage, muscle weakness, respiratory weakness. Strokes, polyps or nodules on the vocal cords, vocal cord paralysis. People who have certain medical or developmental conditions may also have speech disorders (Blomgren, 2007) [3]. Common conditions that can lead to speech disorders are: autism, attention deficit, hyperactivity disorder (ADHD). Strokes oral cancer, laryngeal cancer, Huntington's disease, dementia, amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease). Speech disorder may be hereditary, and they can develop over time.

Remediating Stuttering

On the surface, stuttering is a disorder of speech production. It is not a language disorder or a communication disorder secondary to other emotional or mental conditions. Specifically, surface elements of stuttering include the speech motor behaviors of repeated articulatory movements (e.g., t-t-t-talk) and/ or fixed articulatory postures) e.g, mmmine). These two broad categories account for the majority of stuttering moments. These stuttering moments may also be accompanied by muscle tension and sign of struggle to speak. Other nonverbal gestures include behaviors such as facial grimaces, eye blinking, and los of eye contact. These nonverbal gestures are reactive responses at the moment of stuttering and are not considered "core" stuttering behavior. Verbal interjections (eg "uh,' "like,' "um,' etc) and circumlocutions are also common secondary behaviors (Blomgren, 2003).

Evidence-based, behaviorally-bases therapeutic approach to this disorder include stuttering management, which strives for speech that may be diffluent, but is free of obvious effort, struggle, or tension, and fluency-shaping, which strives for the elimination or reduction of stuttered speech. One example of an evidence-based intervention based on fluency shaping is gradual Increase in Length and Complexity of utterance (GILCU) (Millard and Edwards, 2009) [12]. GILCU is a step-based intervention that progresses from 1-word responses up through 5 minutes of reading. Monologue, and conversational task in the absence of overt stutters; it consists of three phase (i.e. establishment, transfer, maintenance) and employs verbal contingencies for stuttered and nonstuttered speech, which are "stop, speak fluently," and 'good," respectively (Yairi and Ambross, 1996) [19].

An additional therapeutic Approach involves the use of Altered Auditory feedback (AAF) as a means of modifying the speakers' and reducing stuttering frequency. This altered speech signal can take the form of Masked Auditory Feedback (MAF), Frequency-Altered Feedback (FAF) or Delayed Auditory (DAF) (Bennett, 2006) [1], which can range from 50 to 250 milliseconds, based on the needs of the individual.

The surface features of stuttering are those readily visible to an observer. However, stuttering is more than its surface manifestations. Stuttering is also a multidimensional disorder. According to Millard and Nicholas (2008) [13], aspect of stuttering. It should be obvious that people who stutter do not enjoy stuttering. Therefore, stuttering speakers include avoiding problematic words, voiding stressful speaking situations, or avoiding talking with people where a history of excessive stuttering exists. Examples of particularly stressful speaking situations include talking on the telephone, introducing themselves or others, or talking with authority figures. For many who stutter, avoidance behaviors can be the most handicapping aspect of the disorder. Avoidance behavior may lead to reduced social occupational participation. Over time, avoidance behaviors may also lead to negative affective functioning such as feeling of loss of control, decreased mood, and increased anxiety (Packman and Attanasio, 2004) [14].

Multifactorial treatment for stuttering

Multifactorial treatments for stuttering are based on the notion that multiple factors may trigger and maintain stuttering in preschool children. The classic example of a multifactorial approach to treating stuttering preschool children is the demands and Capacities model. This model posits that stuttering occurs when the speaking demands placed on a child outweigh the child's current capacity for fluent speech (Yairi and Seery, 2011) [20]. Specifically, stuttering will occur when demands for fluency exceed the child's cognitive, linguistic, motor, or emotional abilities for fluent speech. The speaking demands may be internal, such as those arising from rapidly developing language (typically between the age 0f 2 and 5), or through constitutional characteristics of the child, such a perfectionism, high sensitivity, or other speech and language difficulties. External demands may include stress, in the family, unrealistically high demands placed on the child by parents, fast talking parents, etc.

Operant conditioning and the Lidcombe program for remediating stuttering,

The Lidcombe program was designed for children aged five and younger. It is a parent implemented behavioral treatment developed by clinician and researchers at the University of Sydney, Australia. The program is named after the Sydney suburb of Lidcombe where the program involves teaching parent to use verbal contingencies for unambiguous stuttering during conversations. A secondary component is the measurement of stuttering by both parents and the SLPs.

The Lidcombe program is based on studies in the 1970s that showed stuttering in preschool children could be reduce by verbal contingencies.18,31.in this respect, principle of operant conditioning form the bases for the Lidcombe program. 32 the Lidcombe program is one of the most document treatment for stuttering. Numerous outcome and efficacy trials indicate that the program result in decreased stuttering. A randomize controlled trial reported a significant difference between a Lidcombe program treatment group (25 children) and non-treatment control group (25 children) at 9 months after randomization. The average frequency of stuttering was 1.5% for the treatment group and 3.9% for the non-treatment group (Tesson, 2003). The study supported the importance of early intervention for stuttering using the Lidcombe program.

The Lidcombe program is divided into two phase. Stage one is main component of treatment and involves daily measurement of stuttering and parent training to apply verbal contingencies to stutter-free and stuttered speech. Stage two is a longer term follow-up stage. In recognition that stuttering is a relapse prone disorder, stage two is designed to prevent relapse. In stage two, the time between clinic visits increase and parents are more reliant on their own skills and knowledge to detect possible relapse.

Combined approaches to remediating stuttering

The two treatment for preschool children outlined above differ in their focus on reducing demands on the child (the Lidcombe Program). The multifactorial model focuses on modifying interpersonal stressors and simplifying the communication style between child and caregiver. In contrast, the Lidcombe program focuses nearly exclusively on the principles of operant conditioning. There is much debate about the superiority of each approach. 37. However, one similarity, or acknowledgement, is that parent play a vital role in helping their children overcome their stuttering. Both approaches rely on families that are willing and able to participate.

Lifelong Learning

Lifelong learning is the "ongoing, voluntary, and self-motivated pursuit of knowledge for either personal or professional reason. Therefore, it not only enhances social inclusion, active citizenship, and person development, but also self-sustainability, as well as competitiveness and employability (Smith, 1997) [17].

The term 'lifelong learning' reminds us that learning is not something solely associated with childhood or with school. Beyond that, though, it has come to mean many different things to different people. For some, lifelong learning refers, above all, to issue of national and international competitiveness, and the creation of the fable 'world-class workforce' often stressing economic and political concerns. For some, this economic perspective is ties to a concern with continual professional and vocational development throughout a parent's working life. It tends to focus on the development of work-based competence or on the kinds of work-related learning provision that is specifically available to the 14-19 or 14-25 age groups (Longworth, 2006).

In addition to these approaches, these is a long and valuable tradition of formal adult education for 'matter learners' after the end of compulsory school. Here providers often deliberately offer opportunities to learn that are not ties to issue of employment, employability or economic performance, stressing the value of 'learning for its own sake' or for continued adult well-being. And still others insist on the importance of the many different kinds of learning that extend beyond the words of teaching, education and employment: what has been called 'informal learning'. For them, lifelong learning concerns the kinds of learning and exploring that individuals, families, friends and clubs organize and undertake for themselves, without any formal structure of tuition, curriculum or qualification at all (Salmelin, Schnitzler, Schmitz and Freund, (2000) [16].

Learning should be part of living, a natural consequence of being alive and in touch with the world, and not a process separate from the rest of life. What learners need, therefore, is not only instruction but access to the world (in order to connect the knowledge in their head with the knowledge in the world and a chance to play a meaningful party in it. School learning and workplace learning need to be integrated (Rustin, 1996) [15].

The Relationship between Remediation of Stuttering and Lifelong Learning

Stuttering impacts many facets of daily life. Most people project their identities, their knowledge, and their thoughts and beliefs through verbal communication. When verbal communication is a challenge, the ability to present oneself as a "whole" person also becomes difficult. Many people who stutter feel frustration, anger, embarrassments, self-doubt, and sometimes even shame related tom their stuttering. School age children in particular may feel anger and embarrassment when called upon in class to read aloud or provide answers to questions. Adults who rely on clear and effective communication in their job often find their stuttering becomes an impediment to attaining their vocational potential.

There is much disagreement regarding the essential components of stuttering treatment for adults. While many different treatment approaches exist to treat stuttering adults, most of the approaches can be separate into two groups. The groups include those approaches dedicated primarily to (1) cognitive/anxiolytic issues, or (2) dedicated primarily to increasing speech fluency. These group are referred to as "stuttering management" and "speech restructuring," respectively. However, the two approaches according to Catts (1997) [6] are geared towards making and adult develop interest in learning which is considered a lifelong process.

According to Blumgart, Tran and Craig (2010) [5], communication skills are at the heart of life's experience, particularly for children who are developing language critical cognitive development and learning. Redding writing, gesturing, listening, and speaking are all forms of language- a code we learn to use on order to communicate ideas which can be distorted by stuttering. Its remediation therefor leads to the enhancement of an individual to learn even for a life time.

In addition to the observable communication challenges, for some, stuttering may also lead to social anxiety or social phobia (Ingham, 2008) [10]. Social phobia involves an extreme and debilitating fear of humiliation, embarrassment, and negative evaluation by others. Stuttering, combined with the effects of social phobia, may lead to problems in maximizing one's potential in social, interpersonal, and professional relations which makes lifelong learning difficult every point in time.

Justice (2006) [11] pointed out that learning takes place through the process of communication. The ability to participate in active and interactive communication with peers and adults in the educational setting is essential for a student to succeed in school as well as lifelong learning process and so the remediation of such communication problem as stuttering makes one stand a better chance of lifelong learning through communication.

Accordingly to Conture (2001) [8], there are currently two basic approaches to treatment for both children and adults who stutter which can contribute significantly to lifelong learning. The methods for children and adults are understandably different, but for both age groups there exists a historical dichotomy in approaches. For children, the dichotomy involves indirect versus direct treatment; that is whether the emphasis of treatment is manipulating environmental factors (indirect) or whether the emphasis is working exclusively on the speech of the child (direct). For adults, the differences exist primarily in the relative emphasis placed on changing either core speech behavior or treating knowledge, acceptance, stress and anxiolytic issues secondary to the core stuttering disorder (Gabel, 2008) [9].

Recommendation

The following recommendations are therefor made:

1. Government should establish speech therapy units and centres in all teaching hospital and general hospital to enable people have access to remediating their stuttering and other speech disorder.
2. Adult education centres should be built in all local communities especially in rural areas in order to guarantee aces to lifelong learning.
3. People should sensitize through public enlightenment campaign on the need for continuous learning and education.

Conclusion

While lifelong learning has provide to be effective in enhancing literacy and communication skills, for upgrading educational or preparing for the world of works, its success in transforming the ethical values and the behavior of the learners is much more limited. Speech disorder such a stuttering has been found to be a greater challenges to the achievement of lifelong learning as speech and language has been found to be instrumental to learning at all stage of life.

For adults, stuttering therapy has traditionally focused on either (1) teaching new ways to manage and deal with the stuttering or (2) teaching new ways of speaking that facilitate fluent speech. These two approaches 9stuttering management and speech restructuring respectively) are increasingly used in concert to help people who stutter to deal with the core stuttering behavior a well as the affective, anxiolytic, emotional, and cognitive aspect of the disorder. In all cases, the stuttering speaker is challenged to cease previously unhelpful behaviors and substitute new productive ones. Ultimately, therapy must be tailored to the individual needs of the clients. There is currently no cure for stuttering in adults, so all therapy techniques are, in essence, compensatory and could predispose the adult to lifelong learning skills. Hence, there should be a more effective focus on remediating stuttering in those individuals with such conditions in other increase their chances of lifelong learning.

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