

## Neurodiversity awareness: Is Malaysia there yet?

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### Article Info

#### Article history:

Received Aug 27, 2019

Revised Oct 30, 2019

Accepted Nov 14, 2019

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#### Keywords:

Dyslexia

Equal education

Literacy support programme

Mainstream primary school

Neurodiversity

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### ABSTRACT

Scientific research on dyslexia has taken place for the past 50 years during which time arguments on brain deficiency have created tensions between education and cognitive neuroscience researchers. However, clinical research on dyslexia through functional magnetic resonance imaging (fMRI) has finally revealed that a dyslexic's brain works differently. The findings have finally brought in a new synergy between research in education and cognitive neuroscience and empirically supported the neurodiversity movement. Recently, neurodiversity has been used as a framework for specific learning difficulties (SpLD) justice and to support dyslexia in inclusive education. This qualitative study was conducted to understand the Malaysian mainstream primary school teachers' beliefs about SpLD and the current framework for Malaysian literacy support programme. The data collection is through social media focus group discussion and individual instant messaging interviews with forty-one teachers. The findings reveal that the current programme is built on theories of remediation and that the teachers have exhibited good levels of understanding of remediation, but not yet understand neurodiversity. It makes recommendations with regard to teacher professional development.

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## 1. INTRODUCTION

Advances in clinical techniques and the advancement in neuroscience understanding bring new opportunities for ensuring a more inclusive education for learners with dyslexia. The problem arises that teachers do not necessarily appreciate the implications of those developments and so the education provided is less inclusive and perhaps inappropriate.

There is a general concern in developing countries that education for people with disabilities is at the lower level of awareness [1, 2]. This, together with the society's beliefs and values towards people with disabilities, effects the provisions and decisions that can be made regarding people with disabilities. For instance, failure to distinguish between specific learning difficulties (SpLD) and learning difficulties (LD) is one of the biggest threats to a successful implementation of inclusive education. In Malaysia, even though the Ministry of Education preferred the term Specific Learning Difficulties to be employed in managing problem with Dyslexia, the term Learning Disabilities and Dyslexia are commonly and widely used [3] by teachers. Pei [4] argued how inclusive education system could be successfully implemented in Malaysia when the education system is still firmly holding to deficit model of disability.

Arguments on the deficit model of disability highlights a difference between social justice researchers and medical researchers. Dyslexia, following the deficit framework is often defined in terms of reading disability. Frith's causal model that links biological, cognitive and behavioural levels has finally

crossed-out the dysfunctionality and impairment ideology of dyslexia. According to Frith [5], the impact of dyslexia is compounded by other factors such as lack of teaching, problems with reading mastery skills or behavioural difficulties caused by frustration. From the deficit paradigm, researchers moved into the remediation paradigm and this led educational researchers to look into learning disability remedies. Frith's model has encouraged researchers to study for dyslexia remediation including work with functional magnetic resonance imaging (fMRI) to study the effects of phonologically based reading intervention on brain organisation and reading fluency. The findings of the study indicated that the 'use of an evidence-based phonologic reading intervention facilitates the development of those fast-paced neural systems that underlie skilled reading' [6]. This phonological hypothesis has been a driver of dyslexia support and remediation. Yet, Bakker [7], who reviewed 32 studies on dyslexia treatment, argued that there are deeper layers of subservience mechanisms involved in reading. Bakker's argument leaves the most important consideration of 'what the best learning environment is for a particular child hampered in learning to read'. Some research and remedy of reading difficulties have focused on deficit in printed word decoding as a primary cause of failures in comprehending the text (using reading skill to acquire knowledge) including sentence comprehension among dyslexic children [8] – a process that utilises reading skill to acquire knowledge. They found that dyslexic children showed uncommon 'patterns of activation on this higher-level linguistic processing task (sentence comprehension) and that this does not appear to be solely accounted for by word recognition'. Their unanticipated findings provide initial foundations for understanding the neurobiological correlation of higher level language processing those impacts on reading comprehension.

More recently, clinical researchers, social justice researchers and cognitive neuroscience researchers have created a consensus – as this world is created in diversity, so is the brain. With that common understanding, efforts on bringing equal education to all children has moved on from deficit framework (that aims on providing rehabilitation) to a remediation framework (that aims on identifying causes of difficulties and providing cures) to neurodiversity framework (that aims at accommodating diverse ways of learning). This recent development in dyslexia research is encouraging but, according to Snowling [9], "unfortunately, the field of dyslexia is plagued with supposed 'cures' that have no proper evidence base".

In this paper, we seek to understand the Malaysian mainstream primary school teachers' current belief on dyslexia; their understanding of dyslexia identification; and their understanding of dyslexia intervention. This is motivated by the idea that supporting learners with dyslexia depends on the teachers' understanding of what, why and how they support learners with dyslexia [10].

## 2. ISSUES AND CHALLENGES

Malaysia is currently in the transition from an exclusive education system to an inclusive education system. In its exclusive education system, Malaysian education system relies heavily on textual reading, decoding, and writing that works for learners with common learning traits. This is exclusive because it only works with learners with those learning traits. This exclusive system has indirectly denied the capability of learners who learn using different traits. Schools tend to reflect that the failure of students to process textual information, decode the information and write the information as a case of students' incapability; not a case of mismatched in teaching and learning intervention as well as the testing and evaluation. Therefore, students who are less-academically inclined were recommended to enrol in vocational education which has less theoretical emphasis and not tested via traditional pencil-and paper test [11]. In Malaysia where lessons are mostly delivered via reading textual information while the students' academic performance are measured via written examination, dyslexics can remain as marginalised students in the education system

### 2.1. Learning difficulties (LD) vs specific learning difficulties (SpLD)

There are differences between the term learning difficulties and specific learning difficulties. SpLD is an umbrella term used to cover a range of frequently co-occurring difficulties, including dyslexia dyspraxia and dyscalculia. Attention deficit disorders can also co-occur with difficulties on the autistic spectrum such as Asperger Syndrome. The most common SpLD is dyslexia and it is the most difficult SpLD to diagnose [12]. LD is generally applied to people with global (as opposed to specific) difficulties, indicating an overall cognitive and physical impairment. Physical difficulties including hearing, visual, vocal or movement can have no impact on brain function and does not necessarily affect the way information is learned or processed. With proper facilities and amenities, learners with physical difficulties can learn independently.

Specific learning difficulties affects the way information is learned and processed and is associated with learning differences. Armstrong asserts that those differences are due to a different 'brain-wiring system' [13]. Hence, in many parts of the world, the term neurodiversity has been embraced to help shift attention from the 'deficit' view that culturally entrenched negativity. The 'neurological difference' view appreciates SpLD as natural and normal variations of human being or being human. Because of their nature,

specific learning difficulties are often hidden and difficult to diagnose, especially when the person exhibits more than one co-occurring difference. In contrast, the special needs learners (SEN) in Malaysia are categorised into three main types of disabilities: the hearing impaired, the visual impaired and the learning difficulties. Learners with learning disabilities are broadly defined by the Malaysian Ministry of Education to include learners with Down syndrome, mild autism spectrum disorders, attention deficit hyperactive disorder, mild mental retardation and specific learning disabilities such as dyslexia [14]. The comparisons between the types of difficulties categorised in Malaysia, as defined by the Ministry of Education, Malaysia [11] and the types of difficulties categorised under neurodiversity perspective, as defined by British Dyslexia Association [12] is illustrated in Figure 1.

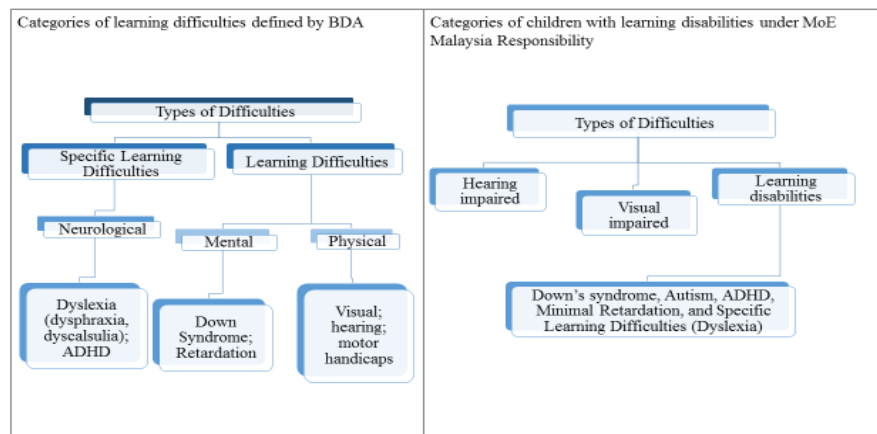


Figure 1. Comparisons of types of difficulties categorised in Malaysia and that of neurodiversity perspective

Unlike people with mild or general learning difficulties, people with SpLD are physically and intellectually normal. Their cognitive problem is neurological rather than psychological (<https://www.bdadyslexia.org.uk/educator/what-are-specific-learning-difficulties>). Untrained observers may conclude that a learner with a SpLD is 'lazy', or 'just not trying hard enough'. This is because the observer only sees the input and output, not the processing of the information. The previous dyslexia framework is prior to neurodiversity framework, combined psychological, cognitive and social theories and behaviours. Hence, most identification instruments include behavioural theory and frequently related to attention deficit. It is also important to note that Malaysian's current screening instruments are also based on a remediation model, not the neurodiversity model.

Deficiencies in the processing of information can make learning and expressing ideas difficult or impossible tasks. Because of the high level of co-occurrence of different specific learning difficulties, it is important to understand that each profile is unique to the individual and so can manifest itself in various ways. They are manifested differently for different learners and range from mild to severe. For these reasons, it may be difficult to diagnose, to determine impact, to accommodate and to support.

## 2.2. The evolution of dyslexia theories and inclusive education

The traditional exclusive education system depends heavily on the decoding process. The use of codes or symbols, like letters and numbers to represent meaning, requires the learner to decode the symbols into sounds or understanding. The decoding process involves lexical processes that bridge the gap between linguistic visual input and speech representations. Learning to read is not trivial and demands a profound reorganisation of the brain. When one reads, one will put together symbols and transfer the symbols to speech representations (reading skills) unlike listening that is natural and inherent [15]. Reading comprises of two main processes - decoding and comprehension. For dyslexics, their decoding process is affected by phonologic deficit which is domain-specific. It involves lower order cognitive function such as letters and phoneme recognition. Following that recognition, the higher order cognitive is deployed. This pattern, a deficit in phonologic analysis contrasted with intact, effective higher-order cognitive abilities, offers an explanation for the gifted phenomenology of dyslexia [15]. This understanding of dyslexia determines the nature of successful interventions.

Neuroimaging research has shown that learners with dyslexia accommodate their deficiency by recruiting linguistic regions associated with semantic and syntactic networks, especially when processing non-meaningful sentences [8]. Research in education policy and education system revealed that traditional education systems only cater for the needs of learners with common traits. Thus, they create unequal educational opportunities for learners. This leads to an academic performance gap and social injustice towards marginalised learners, especially those with different learning traits. If these differences are acknowledged and catered for, learners with dyslexia are more likely to be successful in mainstream classrooms.

The inclusive education policy is influenced by the UNESCO (1994) Salamanca Statement that urges schools to provide ‘curricular opportunities to suit children with different abilities and interests’ [16] and ‘the success of the inclusive school depends considerably on early identification, assessment and stimulation of the very young child with special educational needs’ (p.33). The most challenging identification process, in addition, is to identify the hidden but most common specific learning difficulties – dyslexia. Figure 2 illustrates the evolution of theories of dyslexia and their contribution to the making of inclusive education policy.

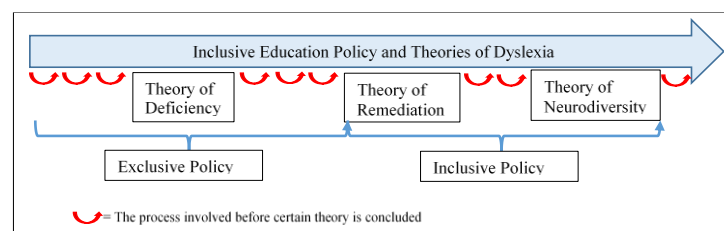


Figure 2: Evolution of theories of dyslexia and their relation to inclusive education

The movement, neurodiversity, has roots in and give ‘insights to offer to both, the disabled people and survivor movements’ [17]. A clinical research on dyslexia via fMRI has finally revealed that the dyslexic’s broca area that was found to develop as a result of remediation treatment in earlier studies, does not fully develop like that of non-dyslexic after treatments (the part of the brain remains deficit); and children with dyslexia do not comprehend sentences in the same manner as children without dyslexia [9]. It was found that different parts of the dyslexic’ brains were activated during the reading comprehension task. This finding has affirmed other research findings that indicate dyslexia is a form of disorder due to phonological domain-specific deficit that hinder decoding process of reading. The research provides a new insight that dyslexia is not a form of mental disability as dyslexic brains work well during the comprehending process. Hence, dyslexia cannot be prevented or cured but that it can be managed. The findings bring in new synergy, as reported by Gabrieli, between education and cognitive neuroscience [18]. The findings revealed the ‘deficit in normal reading part of the brain’ as the weakness but the ‘activation in other reading part of the brain’ as the strength of dyslexia. Thus, neurodiversity can recognise dyslexia as ‘difference’ but also promote the strengths of dyslexia [13]. With the rise of the movement, several neurodiversity projects have started to call the new emerging social model of dyslexia the neurodiversity model [19, 20]. Both the fieldwork-based British Dyslexia Association (BDA) and research-based International Dyslexia Association (IDA) have started to refine their programmes in line with the neurodiversity framework. Unfortunately, the field of dyslexia is plagued with supposed ‘cures’ that have no proper evidence base. It is therefore important for professionals to critically review the content of available programmes to ensure their suitability.

The evolution of research findings and theories of dyslexia has driven us to explore literacy and numeracy screening (LINUS) programme in Malaysia. We discovered that the LINUS programme is developed based on the mastery of literacy and numeracy skills. Via the LINUS programme, level 1 learners (aged 5 to 7 years) undergo screening test and those who have not acquired basic literacy and skills will be enrolled for the remedial classes. Review of literature reveals that LINUS is a successful literacy and numeracy skills mastery project [21] but does not facilitate specific reading difficulty. Abdul Rahman and Nazariyah [22] found that the head teachers in the study were confused with the complexity of learning difficulty and were not familiar with the development of children who were still following LINUS programme despite being given pre-school education. As reported by Zalizan, the challenge in implementing inclusive education in Malaysia lies both in training the teachers with skills to manage children with special needs and to prepare teachers with a change in the thinking patterns so that the teachers’ conceptual understandings can be enhanced [23].

### 3. RESEARCH METHOD

Overall, this study is placed within interpretivist paradigm that emphasises the process of constructing meaningful representations as described by Murphy [24] built upon Creswell's statements "participants' views of the situation being studied" [25]. These views contain multiple realities as people construct the meaning and understanding of information surrounding them differently. To ensure data integrity, steps were taken to reduce bias in interpretation through clear protocols for determining themes and codes were established and followed.

The data collection was via instant messaging interviews which allow the researchers to engage in more personal, interactive and long-term process of data collection. According to Redlich-Amirav and Higginbottom [26] the growing numbers of online communities has led to a different way of communicating and collecting data. Thus, it is important that a qualitative researcher to be updated with the developments. The affordance of the instant messaging interviews was Facebook and WhatsApp. Two teachers were assigned as moderators who assist the researchers in recruiting mainstream primary school teachers as participants. The data collection involved 2 Facebook moderators (RAa and RAb), 26 participants (coded as T1-T26) in Facebook focus group discussion, 164 reply threads, and 15 participants (coded as R1-R15) for WhatsApp instant messaging in-depth interviews. The digital recording and archiving of the original online utterances secured the integrity of the data for later analysis.

### 4. RESULTS AND DISCUSSION

The success of implementing 'equal education to all children' [10, 16] relies heavily on the school's success in establishing learner profiles. Only by understanding each learner's needs, teachers and schools would be able to provide the right support and ensure that no child is left behind. The learner profiles rely on the teachers' ability and belief towards the needs for dyslexia identification and intervention. If teachers do not know-what; know-how; and know-why they need to identify learner's needs, the ultimate purpose of inclusive education to provide equal education opportunities will fail. In this section, we divide the findings into three: The teachers' belief towards dyslexics; the teachers' ability to identify dyslexia; and the teachers' understanding of dyslexia provisions.

#### 4.1. The teachers' belief towards dyslexics

Most teachers in this study associated dyslexia with writing reversed letters. According to R<sup>13</sup> who is a remedial teacher,

*In Malaysia, we don't have severe dyslexia cases. Our dyslexics only have problems with reversed letters writing.*

Since dyslexia is associated with writing reversed letters, R<sup>6</sup> disregards dyslexia as a learning problem but rather a habit.

R<sup>6</sup> wrote: *The students who write reversed letters are just a habit. Dyslexia is not a form of disability*

The teachers also realised that there are other causes for reversed letters writing such as eyes problem and lack of penmanship.

R<sup>2</sup> wrote: *But I don't think the other one is dyslexic. He is overall ok but he does write reversed letters. Maybe problem with his eyes only like my nephew. It's true. Writing reversed letters can be linked to eyes too. Especially if the kid had a fall with his head first.*

R<sup>4</sup> wrote: *The reason is lack of penmanship. We should teach them penmanship.*

Nonetheless, the teachers believe that writing reversed letters is the symptom of dyslexia. The teachers regard dyslexia as a form of learning disability.

R<sup>7</sup> wrote: *I don't realise that some students who write reversed letters was a type of a learning disability until a senior teacher told me. After that I start to pay attention to these students.*

R<sup>2</sup> wrote: *Unfortunately, there are parents who can't accept that their children are special.*

Since dyslexic children have learning disability, they need to be sent to vocational schools which offer less academic subjects.

R<sup>1</sup> wrote: *To me vocational school maybe good for dyslexics but not the art school because the art school focus on academic too as much as the art subjects. But vocational school I think is needed. Because sometimes they can't excel in academics but they do well with hands-on skills.*

R<sup>2</sup> wrote: *We really need vocational school for students like this. They will feel more appreciated.*

R<sup>5</sup> wrote: *Then there is a special need college for students who hold the disabled card.*

However, if the dyslexic children were to do academic subjects, the children need to be trained by special need teachers.

R<sup>4</sup> wrote: *That's why once we've recognised the children as dyslexics, we should send them to special need school. Mainstream teachers cannot do it. Maybe because it's not our area...yup...not all teachers can handle students like this.*

T<sup>12</sup> wrote: *What if the students have multiple learning disabilities? We definitely can't teach them.*

T<sup>10</sup> wrote: *The special need teachers should be accountable to teach these special need students.*

R<sup>6</sup> wrote: *Dyslexia doesn't sound like an important issue right? But the worse one must be sent to special need school. They might sound okay when they read but actually if you check, there are many mistakes. They like to add up words.*

R<sup>14</sup> wrote: *I know that there is a school for dyslexic. The students are better off there because the teachers are well trained with special needs. They got a disability allowance too.*

Besides having doubts in their skills, the teachers were a bit sceptical of the possibilities of teaching students with learning difficulties together with 'normal students' in the same class for the reasons of huge class size and the amount of syllabus to complete.

R<sup>1</sup> wrote: *Dyslexics in the same class with ordinary students... to focus on each group is quite difficult especially when there are 40 students in a class*

R<sup>5</sup> wrote: *But if they go to special needs... the teachers will teach based on the students' development. No syllabus to catch. One class is max five students.*

Most importantly, teachers claimed that they are burdened with heavy workloads; hence they could not spend times for the students and monitoring the students.

R<sup>8</sup> wrote: *We also have other responsibilities like secretary for curriculum, subject panels, fill in SKPMG, online marks, marking 150 exam papers and whatever clerical works that take times & focus. We don't even have time to do teaching aids. Every school programme (and IT'S A LOT) etc. Where do we find times for the kids? I'm not complaining. Just stating the facts.*

R<sup>5</sup> wrote: *Too ambitious to achieved especially when teachers' workload is discouraging.*

Despite the teachers' belief on whether or not dyslexia is a learning problem, all teachers in this study believe that dyslexia can be cured.

R<sup>6</sup> wrote: *Yes, dyslexia can be cured. Don't get it wrong. Teachers just need to be patient. When you see them start writing reversing letters, alert them. Soon, they will get use to the correct way of writing. But we have to help them early. If they were not help, they will continue this habit until they enter secondary school.*

R<sup>9</sup> wrote: *We have to drill them. Normally, when they follow the remediation programme, they will be okay. Then they can join their other friends at the mainstream classes.*

T<sup>14</sup> wrote: *A drilling I guess. Drilling, work hard and smart.*

#### 4.2. Teachers' ability to identify dyslexia

LINUS students will be screened every three months and when they have mastered the expected literacy and numeracy skills, they will be sent back to mainstream classes. If the students still fail to master the expected skills after three years undergoing the remediation programme, majority teachers said that they suspected that the students have learning difficulties. However, the teachers do not know how to identify students with learning difficulties. Their suspicions are based on their gut feelings.

R<sup>2</sup> wrote: *The students must have learning disabilities. We can know that.*

R<sup>6</sup> wrote: *The remedial teachers know how to identify. We don't know but we can guess.*

R<sup>5</sup> wrote: *The remedial teachers use that indicator to identify. But if the mainstream teachers are used to (have students with LD), they can identify dyslexia or autism.*

The teachers can also identify students with learning difficulties by observing the students writing and behaviour.

R<sup>10</sup> wrote: *I have a dyslexic student in my class. Bad handwriting, write the letter g from the tail to the head. Highly sensitive. Refuse to join any activity.*

However, according to R<sup>14</sup>, 'teachers could only identify but it's the doctor who can verify the problem... Dyslexics are difficult to identify compared to autism, down syndrome, slow learner'. Despite being trained to identify dyslexia, remedial teachers admitted that they lack of knowledge about dyslexia.

R<sup>13</sup> wrote: *Actually I don't really remember what I've learned because x really practice it. The easiest one is that the student get easily confused with symbols or concept. If the students x master the 1<sup>st</sup> construct (ability to read and write vocal and consonants) and 2<sup>nd</sup> construct (ability to read open syllable), the students, with medical doctor's reference, will be suggested to enrol in special need class or dyslexic school.*

R<sup>14</sup> wrote: *We don't have the expertise like that in Malaysia. Most teachers convert from remedial to special need. Even if we teach special needs, it is general special needs... not specialised except for the deaf and mute.*

### 4.3. Teachers' understanding on learning intervention to support students with learning difficulties.

The teachers believe that the literacy and numeracy screening facilitate them in identifying their students' literacy and numeracy skills which later enable the teachers to provide remediation for students whose skills are below the national standard. Not only that the programme facilitates identification process, but also the intervention programmes specifically the teaching and learning. The teachers asserted that during LINUS training, the teachers collaborated on lesson materials development project.

T<sup>27</sup> wrote: *We focus on 21<sup>st</sup> century teaching and learning approach...collaborative... all sorts. The collaboration is more on preparing materials.*

The teachers found that the modules are helpful for them to use for drilling students to master the skills according to the constructs.

R<sup>9</sup> wrote: *I like it because there are a lot of materials available so I can use to drill the students.*

T<sup>2</sup> wrote: *We can use the modules to drill students by constructs. LINUS programme has the best modules... If your students have problems with literacy, send them for LINUS remedial class.*

T<sup>4</sup> wrote: *LINUS programme has prepared the best modules... if parents can give additional assistance at home, it is even better.*

Although, the teachers managed to compile teaching materials and bring the materials back to respective schools, the teachers feel that they need more training on teaching methodology.

T<sup>27</sup> wrote: *For me...they should focus on methodology. And knowledge sharing on how to deliver, how to manage, how to be teachers. Build confidence in pupils. For me, the people in the sky\* should provide the materials... the guidelines to carry out that methods in teaching. [\* refers to the superiors such as the education officers from district education office, state education office and ministry].*

The teachers also affirmed that they were encouraged to incorporate ICT into their teaching. In fact, the ministry has invested a lot in incorporating ICT in teaching and learning. The teachers perceived the ICT provisions as wasteful to certain extent as proven in the conversation between R<sup>4</sup> and R<sup>5</sup> below.

R<sup>5</sup>: *To me... the mobile phone gift is like a waste. The budget used to buy teachers phone can be used for other things... it's just few gigs... not enough to use as teaching aids.*

R<sup>4</sup>: *True...the mobile data ends quickly...hahahhaa...everything to be filled up in that free handphone...attendance...update saps...update everything-e using that free handphone.*

R<sup>4</sup>: *I agree with R<sup>5</sup>...better give the budget to class teacher...or add to the subject panels' budget*

R<sup>5</sup>: *VLE frog is another...☹ small on top of it. Only the teachers could benefit it. Better give us big screen... provide facilities that the students can benefit. Not that I am not contended but yeah... the mobile phone price is rm399. Even the teachers' phone are more sophisticated. Can be used to teach the students.*

Yet, all teachers agreed that ICT makes learning more interesting rather than perceived them as great facilities for multi-sensory learning that enable students with different learning abilities to learn in an inclusive classroom.

*Interviewer: Why should teachers use ICT in their teaching?*

R<sup>14</sup>: *Because it makes the lessons more interesting.*

*Interviewer: Other reasons?*

R<sup>14</sup>: *Students like it because yup... more interesting. Different materials. They can see pictures, videos.*

The findings revealed that the teachers are aware of the existence of dyslexia – basically associated dyslexia with writing reversed letters symptom. The teachers in this study believed dyslexia as either a problem with bad writing habit; or a problem with learning disability. Teachers, who comprehend dyslexia as a habit, foresee that dyslexics can be cured by proper training, hence not a serious problem. Teachers who perceive dyslexia as a learning problem are of the opinion that dyslexics are people with disabilities, hence can only be helped by trained teachers. Both views on dyslexia can cause dyslexic students remain to be marginalised students in mainstream schools.

Although the teachers believe that dyslexics can do well in their studies, the teachers are not confident that dyslexics are capable academically. People with disabilities are known as OKU orang kurang upaya in the Malay language. The acronym 'K' is for kurang which means disable. However, in 2009 the Minister of Youth and Sports then, in his opening speech for Paralympic games has encouraged Malaysian to acknowledge the disabled people's ability. The minister promoted that the OKU should be known as orang kelainan upaya. The acronym 'K' is later known as kelainan which means different. Fact shows that the change of the label from 'people with disabilities' to 'people with different abilities' has ever since transformed Malaysian's perception towards OKU. Nevertheless, the underpinning idea was the same – OKU are not like normal people but they have other abilities and are able to contribute in different ways. Likewise, some regard dyslexics as an OKU who are not able to contribute in academic due to their reading disability but are able to contribute in other disciplines that do not require them to read, such as vocational pathways. Previous findings on teachers' belief [4] is congruent with the those of policy maker's belief, 'we don't leave

anybody behind, what we call education for all' by systematically sifting students in a way that 'high achievers pursue higher education, the middle should do their best to survive, the weak and those with special needs should be identified and directed to the vocational track'. The main reason for such misconceptions, according to Dzalani and Shamsuddin [3] are the broad generic definitions of learning disabilities in Malaysia and the limited number of specialised professionals who are trained for SpLD identification. Failure to define LD and SpLD and to explain the differences between LD and SpLD, mislead the teachers with the real problems of dyslexia. According to Pei, a series of official policy endorsements [4] had significantly garnered acknowledgment of equal educational entitlements relating to children with disability in Malaysia for over a decade; yet concrete actions remained poorly elaborated. Students with disabilities are being discriminated, and under the Education Act 1996 and the 1997 Special Education Regulations the discrimination has been further reinforced when the children's learning abilities are categorised as the 'educable' and the 'uneducable'; of which the latter are stigmatized as unable to manage themselves without help. Hence, as reported by the The Department of Social Welfare described by Adnan & Hafiz, special education should focus on 'prevocational, vocational and labour training so that students can attain perfection according to their limited abilities' [27] In fact, the vocationalisation of special education in secondary schools aims for 'total rehabilitation' [28]. The ministry's concerns regarding Malaysian's view on inequities has led to them to conclude that 'underachievers and less-academically inclined students have voiced out their interest in learning vocational subjects' which is less theoretical and assessed based on competency unlike mainstream school's traditional paper-and-pencil tests' [11]. Although the Special Education Regulations in 2013 has reworded the judgment of student placement based on suitability [29], the contentious puzzle of educability remains [4].

Dyslexics can read – they just have difficulty with text decoding. When people read text, their left-hemisphere brain will decode the text and translate it into sounds. It is the deficiency in dyslexic's left hemisphere brain that slow down or impede the decoding process that cause the reading problem. However, if the text is read to dyslexics, the dyslexic would not have any difficulty to comprehend the text. Dyslexic's text-decoding impairment does not mean that all dyslexics prefer vocational or hands-on training. Dyslexic's great ability in producing three-dimensional view is indeed proven to be an advanced skill needed to be a successful microbiologist, architect and genetic engineer [13]. If dyslexics' academic potential is denied, how can they contribute in academic disciplines? Moreover, vocational training should be offered as an option to all who love vocational subjects; not as an option for those who do not excel in decoding text (as their prime reading method).

The teachers in the study revealed that the current literacy identification programme (LINUS) aim at supporting the incompetent students via specific remedial programme in which the students' learning ability will be enhanced and 'cured'. Interventions that are based on remediation framework focus on 'fixing' the students via effective learning methods as well as effective learning tools [21], whilst the effectiveness of learning methods and learning tools put emphasis on consequential accountability which is measured by the students' achievement and teachers' performance [30] which explains why LINUS which is supposedly a screening tool has been emphasised like a national exam. Unfortunately, dyslexia is not a problem that can be fixed. Dyslexics may have difficulties in decoding text (reading text), but their unique 'brain wiring' system does not impede their ability to learn [8, 31]. In fact, their three-dimensional learning perspectives enable them to engage in higher level learning skills [13]. In contrast, neurodiversity theory focuses on 'fixing' the education system to fit into diverse learner's needs rather than 'fixing' the learner to fit into the education system needs. Via neurodiversity awareness campaign, educators should realise that text decoding is not the only reading medium. People 'read' in many ways – pictures, narration, animation, real objects. Hence, the objective of using ICT as learning assistance should be based on the understanding that low- achieving students (who probably are the undiagnosed/misdiagnosed dyslexics) need ICT to assist them in reading; not merely as attractive tools that help them boost their motivation and interest to learn (although ICT is proven to be an attractive tool). The finding contradicts to [11] MoE (2004) report which highlighted that the use of ICT under the pedagogical philosophy of the Malaysian Smart School Project (SSP) is designed to accommodate different needs and abilities that allow children to take greater responsibility in managing their own learning. For example, as mentioned earlier dyslexic experience faces difficulty in decoding text (translating words into sounds). So, by providing them with text-to-speech software (ICT assistive tool), the dyslexic decoding process can be supported like how a hearing-aid functions for the deaf and a spectacle for those with eyesight problems. Since dyslexic's neurological deficiency cannot be cured (at the moment), there are also implications to testing and evaluation intervention. Traditional exam method that relies heavily on text should also be revised-not only the formative and the summative exam weightage need revision but also the examination provisions for dyslexics such as the use of ICT or the appointment of a reader.

Akademi Bakat ABS strongly believes, despite all the challenges, the setting-up of this type of alternative school could overcome and reduce the unemployment issue that is faced by Malaysian graduates



for years. Some of the major factors are due to lacking of human capital skills such as communication skills, image branding, and so forth. Thus, leveraging the entrepreneurship talents based on Prophet Muhammad's business acumen—in particular in the early age of the children—is a good option to accelerate employability among the graduates in any organizations. More than that, the graduates could even form their own businesses and eventually generate their own income or wealth to sustain their life. By virtue of this, Akademi Bakat ABS views the future education and employment, especially in Malaysia; greatly require the incorporation of a holistic approach in developing human capital skill in line with the technological and innovation advancements in these challenges' era.

## 5. CONCLUSION

The challenge of providing equal rights to education is huge. It caters from the issue of enrolment to students' needs identification to intervention. But, it is clear that, as a result of reflecting on these findings, there are steps that can be taken to ensure more inclusive educational practice in Malaysia. The government needs to ensure that every child enrolls in early childhood education so that students' profiles (behavioural and academic) can be created. This profile should be passed to the primary school for scrutiny and reflection so further observation can be made to better establish the student's developing profile. When the student enters secondary and tertiary education, their needs should already be identified—so that the right learning support and intervention can be provided. That will help enhance their learning experiences and boost their knowledge hunting abilities thus making teaching more effective and efficient. But first and foremost, educators, especially teachers, need to be aware the difference between the problem of learning disability, learning difficulty and learning diversity so that they can establish and contribute to the professional dialogue about inclusion and meeting the needs of pupils with specific educational needs.

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