



WHITE PAPER

Introducing Graham Institute of Technology, RSA: ALT and ALTx

*A Radical Shift in Digital Transformation Of Higher Education Needs For People Living
With Disabilities*

FOUNDER: RUGSHANA MADATT

GQEBERHA,

SOUTH AFRICA

6020

EMAIL: redpomelotek@protonmail.com

PHONE: +27833002418

TELEGRAM: [@redpomelotek](https://t.me/redpomelotek)

Contents

1. Introduction	4
1.1 Epilepsy and My Learning Journey	4
1.1.2 A New Tertiary Institute: Assessment for Disabilities	4
2. Executive Summary	4
2.1 Disability Awareness	4
2.2 The Need for a Tertiary Institute	4
2.3 The Covid-19 Pandemic	5
2.4 Poverty Eradication	5
2.5 ALT and ALTx	5
3. Discussion	5
3.1 Disability Awareness	5
3.2 The Need for a Tertiary Institute	5
3.3 The Covid-19 Pandemic	6
3.4 Poverty Eradication	7
3.5 ALT and ALTx, an Argument for Facilitative Assessment Techniques in Learning Challenges	7
3.5 What is ALT?	8
3.5.1 The Big Picture of ALT	8
3.5.2 The Foundations of ALT	9
3.5.3 What is ALTx?	9
4. Summary	10
6. Conclusion	11
Bibliography	12

Acknowledgements

All praise be to my Creator, who has opened the doors for those who need to pass through like the Israelites passed through the Red Sea.

I want to thank my family and friends for their support while I was hospitalised and even afterwards. I want to thank all community leaders who paved the way for us disabled to find our purpose and to serve our communities.

I must acknowledge all lecturers who served us students at NMU during the years dating 2011 until 2014. They were instrumental in teaching us how to write scientific reports, how to think deeper about topics and how to implement critical reasoning.

I thank Nomthandazo Mpande, Neliswa Mtsewu who have played a huge part in encouraging me not to give up.

1. Introduction

1.1 Epilepsy and My Learning Journey

My name is Rugshana Madatt and I am an epileptic female born in 1975. I have been unable to complete my two bachelor's degrees within the specified maximum period due to the effects of my seizures & Major Depressive Disorder. I find it difficult to assimilate into the frenetic pace and pressures of normal university assignment & examination systems used in South Africa.

1.1.2 A New Tertiary Institute: Assessment for Disabilities

During 2001, the South African Department of Education introduced White Paper 6 as a guide for educational institutions to follow. This state document has been substantially implemented via NSFAS funding regarding the hardware requirements of disabled students. However, the same assessment systems used on normal students were used on those of us with learning challenges. It has not worked out for me and those who take longer.

I want to start and run an institute for technology in Gqeberha, South Africa. This will be for disabilities that have unsolved cases and normal students will have a normal curriculum.

2. Executive Summary

2.1 Disability Awareness

The South African government has recognised the needs of disabled students to be included in mainstream systems of schooling. They do not consult us mature students to find out what the problems have been so far. Thus we will address issues via state channels and get the right doors opened for others living with disabilities also via our White Papers.

2.2 The Need for a Tertiary Institute

The need for a tertiary institute for special needs is based on radical shift from traditional ways of learning and on the discrepancies between White Paper 6 and disabled students' results.

2.3 The Covid-19 Pandemic

The effects of the pandemic on higher education institutions are used as rationale for online tuition for the disabled. Personal experiences of absenteeism due to sensory overload are mentioned.

2.4 Poverty Eradication

Suggestions for poverty eradication are provided based on the modern online world and its rapidly changing job titles and tasks.

2.5 ALT and ALTx

ALT and ALT x are my own systems guiding tertiary curricula. I have based my ideas on lifelong struggles and the economic impact of the current South African political environment. Radical educational transformation is required to digitalise higher education. The system does not show empathy for learning disabilities.

3. Discussion

3.1 Disability Awareness

Since 1994 the South African government has tried to redress the wrongs of Verwoerd's Bantu Education system. In 2001 inclusive practices were published in White Paper 6 whereby learners with disabilities had the right to attend the same classrooms as normal learners and teachers had to accommodate them according to the vague guidelines written.

3.2 The Need for a Tertiary Institute

In White Paper 6 the ministry calls for inclusion of disabled learners from basic education until higher education. The rationale for a special needs tertiary institute ironically comes from their Executive Summary paragraphs 11 and 12, quoted below:

“11. The Ministry appreciates that a broad range of learning needs exists among the learner population at any point in time, and that where these are not met, learners may fail to learn effectively or be excluded from the learning system. In this regard, different learning needs arise from a range of factors including physical, mental, sensory, neurological and developmental impairments, psycho-social disturbances, differences in intellectual ability, particular life experiences or socio-economic deprivation.

12. Different learning needs may also arise because of:

- Negative attitudes to and stereotyping of difference.
- An inflexible curriculum.
- Inappropriate languages or language of learning and teaching.
- Inappropriate communication.
- Inaccessible and unsafe built environments.
- Inappropriate and inadequate support services.
- Inadequate policies and legislation.
- The non-recognition and non-involvement of parents.
- Inadequately and inappropriately trained education managers and educators.”

Due to the above points of “an inflexible curriculum and inadequate policies & legislation,” I have decided to create a system that adapts to student needs. It is a daunting task to do alone. I have consulted many academic journals since 2018. I will try to follow the Association for Computing Machinery (ACM) standards.

The name of the tertiary school will be Graham Institute of Technology, RSA. GIT is a pun intended. I will be asking permission to start inside an FET government building and if the timetables do not allow us to use their rooms, we will use community libraries which have study rooms available.

3.3 The Covid-19 Pandemic

The Covid-19 Pandemic had forced universities to adapt to online tuition and assessments. For some of us with sensory problems the daily commute to and from the university causes extreme anxiety. Pretending to be normal while bullied by other students has also been stressful. This shift towards online tuition has opened up the way for days when disabled students need time off from the “noise and sights” of sensory bombardment at a normal university.

Once registered at a university that has restrictive rules on attendance and due dates, a disabled student may miss out on work and not go to the hospital. Verified medical certificates at my local clinic do not exist. They give a plain paper with no government stamp on.

3.4 Poverty Eradication

Copious amounts of academic journals have been written on poverty eradication across Africa. While university degrees do not offer all the answers to poverty eradication, an incomplete record may look bad for a job applicant's CV when a registered business opens in their neighbourhood.

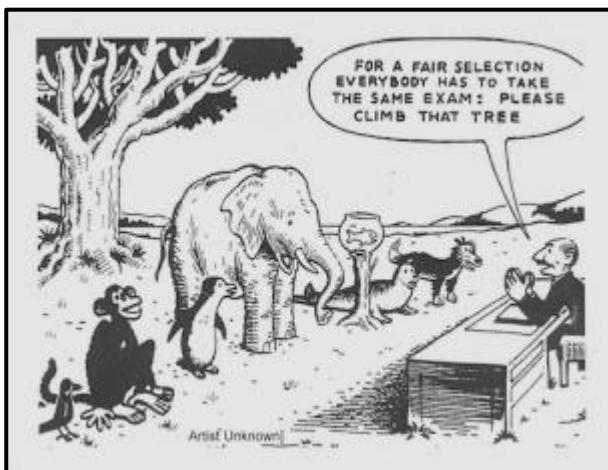
I am advocating for completing degrees and other certificates to enhance and sustain:

- credibility at workplaces
- credibility as authors of non-fiction books and creative fiction
- credibility as long-term entrepreneurs reaching mature ages
- knowledge acquisition for the new world of remote working via laptops
- knowledge acquisition for knowledge- lovers (people who want to learn for the love of it)
- trending knowledge and its content
- the dignity of disabled people

The university degree *is no guarantee* to get a job and thus students will be partaking in a mandatory entrepreneurship course. Students will be guided on how to run businesses from home with a business growth mindset.

3.5 ALT and ALTx, an Argument for Facilitative Assessment Techniques in Learning Challenges

This White Paper introduces ALT and ALTx a radical shift in dealing with learning challenges. Disabilities differ from person to person. Whatever symptoms a physical disability shows may not affect someone with neurological impairments or learning challenges. A person with autism may not have the same challenges as a person without limbs. The following image represents the



plight of diverse disabilities which coined are under one group.

I am advocating for an end to “climbing the tree” learning systems whereby people with learning challenges are unable to adapt fast enough or effectively enough to graduate

within a normal student's maximum time given by university policies to graduate.

I have found that this old traditional system not only ignores Gardners' Theory of Multiple Intelligences, it also doesn't cater for high intelligence but low coping mechanisms in learning challenges. There has never been a lecture or exam with special visual material or disability accommodations on the different university websites during the period 2011 to 2014. This wastes so much funding by private and state entities. I have been sponsored by both these sectors intermittently since 1994. Due to staying out of lectures to recover from seizures, failing some core modules and mostly poverty, I was unable to complete any of the degrees I had started. Now the time has come to apply an assistive and/or alternative learning technique to bridge the gap between pass and fail for those with learning challenges.

3.5 What is ALT?

3.5.1 The Big Picture of ALT

ALT stands for Assistive and/or Alternative Learning Techniques. This is fundamentally a shift in the way to approach tertiary educational needs of students who cannot attain their degrees within the prescribed time periods. It is a **radical** approach which **disrupts** traditional roads leading from lectures to student receiving knowledge to passing exams. The roads become an ocean for the student who feels like the fish stuck in the bowl but expected to climb the tree of tertiary knowledge. The road is now water which accommodates free movement of the mind and the body for those who require kinaesthetics. Swimming freely in an ocean can get one gobbled up by sharks thus I am open to any research articles and advices for this endeavour.

Received sensory stimulation can be quite exhausting for us with learning challenges. Indeed, studying at university is not for the fainthearted until lately with policies of inclusion. From autism, dyslexia, etc. to those of us with nerve damage, the range of learning disabilities require that the curriculum does not harm the student psychologically or impede their learning. In some cases, autistic students cannot receive sensory signals normally like being in a loud crowd at the university cafeteria or tuck shop, violent student protests, change in lecture environment & timetable at the last notice and many others.

I wanted to learn what it is like for an autistic student thus I have completed a [certificate](#) for an online introductory course in autism via the Autism Certification Centre in Ohio, USA. This

certificate is a door to a larger library of autism courses but it explained some of my own sensory difficulties to me. I had no idea why I was not coping during my studies. The course opened my understanding of what others go through. South African educational departments should connect with them and solve our problems here. A single workshop may help students understand themselves better.

3.5.2 The Foundations of ALT

The ALT techniques will attempt to provide the “ocean” in which the “fish can swim.” This means that students will be accommodated who need the following criteria met to succeed:

- alternative educational accommodations
- freedoms from all restrictive time frames including the “three strikes or you’re out” examination limit- (examinations are not a baseball game where only the sponsor matters, our lives matter too)
- a safe emotional virtual space from the disturbing social interactions like student protests
- any and/or all educational technology systems which follow global trends (within reason) and
- the student’s idiosyncratic synthesis added to ALT or ALTx systems (state policies and international human rights to education applies here)

3.5.3 What is ALTx?

ALTx stands for Assistive and/or Alternative Learning Technologies. Utilising Assistive Technologies for the disabled is already in effect at South African universities who have NSFAS funding. There are a few modifications which students can access via GitHub if they know how to code. However, visually impaired students are left out of areas like Data Science (Danyluk and Leidig ,2021)

ALTx is disruptive examination system using technology. I am working on learning Linux to start building an online school for 2024. Elon Musk helped himself build SpaceX through self-study and I will try to find help to build a self-study virtual environment (Simmons, 2018). Think of ALTx as an alternative environment which will use VR or whatever technology is available to us in Eastern Cape, South Africa.

ALTx is based on the following principles:

- stepping away from standardised testing as much as possible

- andragogical approaches to syllabus content (Cornerstone University, 2017)
- a radical shift from fast-paced learning to choosing own pace
- fast pace alternating with slow pace for above average students with high anxiety & low emotional coping mechanisms
- peer support via using any and all online platforms to communicate, tutor, answer questions
- the student exercises a choice in changing the content format on their own
- the student exercises a choice in exam format (from available alternatives)
- students may create and invent new exam techniques approved by our institute
- remote learning and/ or contact (face-to-face)
- where students choose remote learning only, they are expected to start or join a voluntary community project where they interact with human or animal at least once in person if possible; terminally ill students and rare cases are excluded from this co-requisite
- students have the right to learn and be assessed via playing with the content as in gaming or creating new projects instead of reading and writing
- students have the right to refuse standardised testing by proving their competencies in a practical manner with an accompanying report or essay or mini-dissertation of a minimum of 2000 words
- students may leave out examinations if they do a research project based on community needs or proactive service to the community (they must make a difference by choosing a topic in their community and follow academically accepted scientific report format)

By 2030 we aim for technology we cannot yet afford:

- ALTx is aiming for a virtual university that reflects a gaming room or an ocean with islands or a forest with trees and birds.
- a radical shift from being controlled by traditional systems to being in control of the student's learning journey.
- while learning about the differences between the internet and the Metaverse, we will stick to boring old website building.
- ALTx will start off on a website with its radical new way of looking at knowledge and have student feedback. However, it could transition into the Metaverse once the relevant knowledge and teams are involved.

4. Summary

Five main ideas were addressed through this White Paper, viz.,

1. Becoming aware of learning challenges in people living with disabilities;
2. Why a new approach is needed to break away from traditional systems and to create a new institute;
3. The pandemic forced the first stages in a radical shift towards online tuition;
4. Suggestions to escape poverty via knowledge and certificates used as online credibility in the remote work arena and
5. ALT and ALTx are my intellectual property that takes us towards the new era of the Fourth Industrial Revolution which is already upon us.

6. Conclusion

We want our dignity maintained and intend to use the above-mentioned techniques in this White Paper towards helping others living with disabilities. The 4IR movement is upon us and we must digitalise higher education for all. Thus I am taking the steps digitalisation via Open Source Software, Artificial Intelligence, the Metaverse and other technologies which will change the way we learn and work forever. Technology causes us to live in a flat borderless world where the future matters. There is no turning back.

Bibliography

[1] Andrea Danyluk, Paul Leidig, January 2021, Computing Competencies for Undergraduate Data Science Curricula, ACM Data Science Task Force, (Accessed 26 November 2021, 09:42).

[2] Cornerstone University, 2017 A SIMPLE, EASY TO UNDERSTAND GUIDE TO ANDRAGOGY, LIFELONG LEARNING MATTERS, <https://www.cornerstone.edu/blog-post/a-simple-easy-to-understand-guide-to-andragogy/> (Accessed 26 November 2021, 11:25 am).

[3] Instructional Design, Andragogy (Malcom Knowles), 30 November 2018, <https://www.instructionaldesign.org/theories/andragogy/> (Accessed 26 November 2021, 11:51am)

[4] Michael Simmons, 2018, How Elon Musk learns faster and better than everyone else, (Accessed 26 November 2021, 11:26am)

[5]South African Government, EDUCATION WHITE PAPER 6 Special Needs Education Building an inclusive education and training system, July 2001 (Accessed 16 April 2021, 07:17am)