

INSTITUTE OF TECHNOLOGY  
UNIVERSITY OF MORATUWA

# ITUM NEWS



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The Newsletter of the Institute of Technology University of Moratuwa, "ITUM News" is a bi-annual electronic publication which carries news of academic, cultural and communal life of the Institute of Technology University of Moratuwa.

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## Feature Article

# Circular Economy and Sustainability: The Role of Educators, Researchers, and Policymakers

### Understanding the Circular Economy

‘Circular Economy’ is a buzzword in many sectors, especially in Science, research, innovation, manufacturing, and even in the political arena. However, there is less concern and awareness about the circular economy among the public and the authorities. Understanding the features of the current economic model would help in getting a clear view of the Circular Economy (CE).



Figure 1

The traditional model – the linear economy has the life cycle of a product or resource in a way of take-make-dispose system. This means, extracting raw materials (natural resources) for production, using the product, and then disposing of it as a waste material after fulfilling its intended use.

This inefficient model creates many unforeseen issues such as climate change and the depletion of natural resources. There are several reasons for continuing the linear economy model in many sectors mainly due to difficulties in collecting used products, recycling, limited technology or scientific knowledge available for recycling, or the lack of concern about recycling by the society.

In contrast, CE is a closed-loop system of production and consumption which involves economic principles such as reducing, reusing, repairing, or recycling manufactured products for as long as possible (Figure 1). Accordingly, the CE model mainly aims at overcoming or mitigating global challenges such as waste, climate change, biodiversity loss, and environmental pollution.

### Global waste composition

In the take-make-dispose model, a large quantity of material collects as waste, and a higher percentage is sent to landfills. This is an unhealthy and unsustainable situation for the economy, and social and ecosystems. For instance, plastic has many valuable uses, but most people prefer using single-use plastic products.

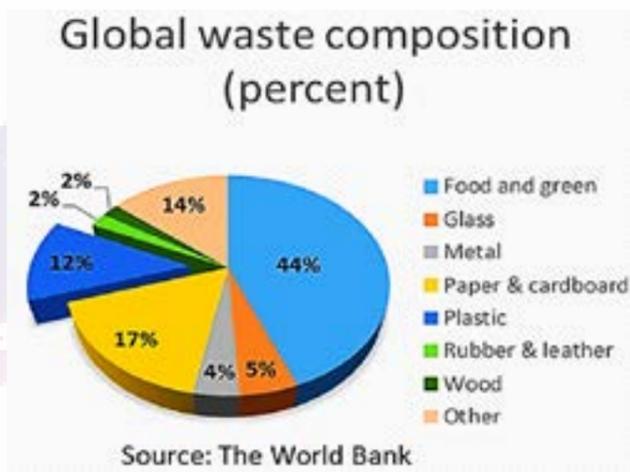


Figure 2



**Dr. Premila Semananda**  
Senior Lecturer  
Division Of Civil Engineering  
Technology  
Institute of Technology  
University of Moratuwa

The UNEP<sup>1</sup> reports that, over one-million plastic bottles are purchased every minute and about five-trillion plastic bags are being used globally per year – producing about 400 million tons of plastic waste every year. Most of the waste plastic ends up in landfills or litter the streets, rivers, and oceans. However, plastics can be recycled and used to produce many useful products. Hence, when plastic items are discarded a useful material that has future value is lost. Figure 2 shows the global waste composition including plastic and other materials based on World Banks<sup>2</sup> records.

### Three principles of CE

A CE is a regenerative system or a mindset and not a specific technology. On the other hand, the CE concept is a systematic approach that can be utilized for economic development or for the benefit of businesses, the society and the environment. Accordingly, it can be used in many contexts. It can replace the end-of-life concept with the intention of eliminating waste through specifically designed materials, products and business models. As such, ‘Design for recycling’ is an important element in the circular economy, to ensure that the material is not lost thus reducing environmental pollution. Therefore, the circular economy is built on three main principles:

- Design products to avoid waste and pollution
- Circulate products and materials
- Regenerate natural systems

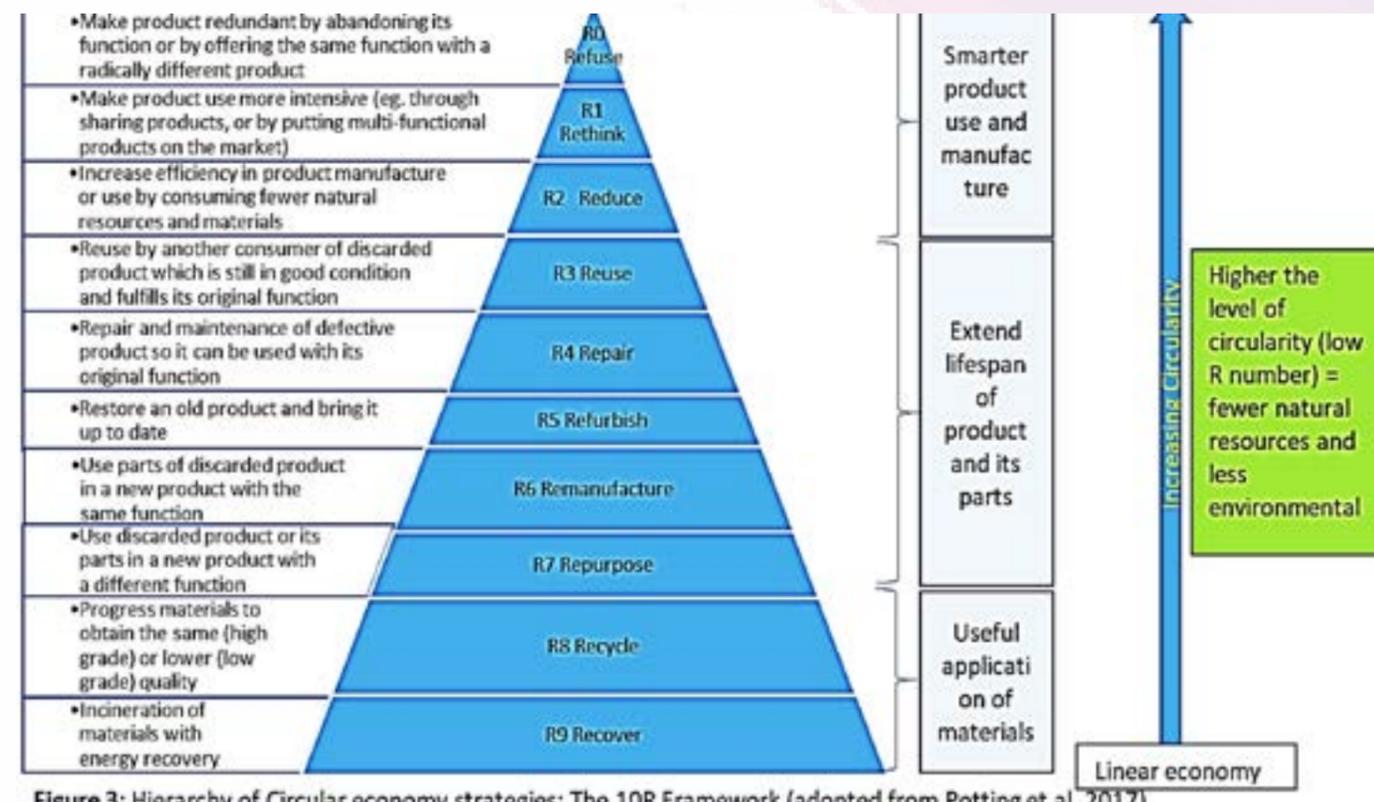


Figure 3: Hierarchy of Circular economy strategies: The 10R Framework (adopted from Potting et al. 2017)

## Circular Economy and its contribution to SDGs

The CE mostly favours activities that help to preserve value in the form of labour, materials, and energy. For instance, designing and manufacturing products, materials, or components so as to reuse or recycle and to keep circulating. This in turn helps to preserve scarce natural resources, reduce waste generation and ensure environmental sustainability. Accordingly, the CE is the promising approach for achieving multiple SDG targets, for instance, SDG 7 on energy, 8 on economic growth, 9 on innovation, 11 on sustainable cities, 12 on sustainable consumption & production, 13 on climate change, and 15 on life on land.

### Circular Economy into practice

The CE model can be adopted into many sectors of which, the built environment, energy, electronics & ICT, packaging & plastics, textile, organic & bio waste, and water are considered the key circular economy sectors because they are the sectors that have a large resource demand and environmental impact. There are basically ten (10) CE strategies (Figure 3) and implementing them in the above-listed manufacturing or construction industries is worthwhile. The application of lower-level strategies such as *recycling* still produces waste in poor recycling processes. Conversely, *rethink* which is one of the important higher-level strategies is focused on innovative designs for reducing consumption and pollution. Further, *reduce*, *reuse*, *repair*, and *repurpose* are the more common CE strategies that can be adopted at their residential level by anyone with a 'zero waste mindset'.

### Benefits of the CE model

Thinking differently and moving towards a CE would help in making a vital contribution towards

#### *Environmental benefits of CE*

- Reduce greenhouse gas emissions- transition to renewable energy
- Reduce use of natural resources- use of recycled aggregate
- Optimize agricultural productivity - return important nutrients to the soil through anaerobic or composting processes
- Reduce negative impacts caused by the linear model – reduce the extraction of natural raw materials, air pollution, etc.

#### *Economic benefits of CE*

- Potential for economic growth – use of low-cost technology and materials
- Saving resources - reduce the extraction of materials
- More employment opportunities – creating entry-level and semi-skilled jobs

## Challenges to the implementation of a CE model

The CE is an important and most discussed approach in terms of social, economic, and environmental development. Nevertheless, the application of the CE model into practice is in a slow phase due to some economic and institutional barriers.

#### *Economic barriers to implementing the CE model*

- Good quality recycled materials are not available or not competitive compared to raw materials
- CE business models are difficult to develop
- Less demand for circular products or materials
- Fewer professionals with technical knowledge
- Unavailability of manufacturing machines

#### *Institutional barriers to implementing the CE model*

- Unavailability of laws, policies, standards, and regulations for implementing new business models based on the CE concept
- Less information is available and the difficulty of changing mindsets from a short-term linear model to a long-term CE model
- The difficulty of incorporating into curriculums or developing new courses in the state universities
- Less research on the CE
- Less support or guidance provided by the government or other related institutions for innovations

### Concluding Remarks

The CE is a broad concept that can be incorporated into many sectors such as the built environment, energy, and textiles to reduce the extraction of natural resources and enhance environmental and economic sustainability. However, there is a gap in technical know-how and the availability of professionals to support the development of efficient business models. Therefore, educators, policymakers, researchers, and politicians have a great responsibility towards developing essential laws, policies, and regulations, and sharing the knowledge with students and the wider community to achieve a sustainable environment for future inhabitants.

### References

1. United Nations Environment Programme (UNEP), retrieved on 10.07.2022, URL: <https://www.unep.org/interactives/beat-plastic-pollution/>
2. The world Bank, retrieved on 10.07.2022, URL: [https://datatopics.worldbank.org/what-a-waste/trends\\_in\\_solid\\_waste\\_management.html](https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html)
3. Potting J, Hekkert MP, Worrell E. Circular economy: measuring innovation in the product chain. The Hague: PBL Publishers; 2017.

## Academic Events & Services

### Annual Survey Camp for the 2018 /19 Batch of Civil Engineering Technology Students

The Division of Civil Engineering Technology successfully held its annual survey camp for the 1st group of 100 students of the 2018-19 batch of students at the International Training Institute of Irrigation and Water Management, Kothmale (KITI) from 29<sup>th</sup> March 2022 to 1<sup>st</sup> April 2022.

The survey camp is an essential component of the Civil Engineering Technology course since it forms a strong base for the students to develop essential soft and hard skills such as teamwork, communication, presentation, leadership, planning, technical, and instrument handling.



The camp duration had to be curtailed this year due to the challenging situation that prevailed in the country, but regardless of all the barriers, the students were able to obtain hands-on experience in the use of surveying instruments and in the essentials of practical applications under real-life field conditions which enhanced their theoretical and practical knowledge in engineering surveying.

The camp ended with an enjoyable and memorable campfire organized by the students on the last day of the camp. The Division commends the excellent leadership of Mrs. M. M. P. D. Samarasekara as the officer-in-charge and the supportive roles played by the academic and non-academic staff members who participated in the camp.



### Inculcating “Corporate Readiness” in Textile & Clothing Technology Students

The Division of Textile & Clothing Technology takes pride in its commitment towards molding students to suit the demands of the textile industry. Going beyond the traditional approach of producing a student with a strong technical background, the Division envisages a “corporate-ready” candidate for the future textile industry. This takes further efforts from the Division to fortify students with key soft skills in the form of communication, personality, teamwork, and personal grooming.

To give students first-hand experience of the corporate culture, the Textile Division arranged two factory



Visit to Bodyline Factory, Horana

visits for the students of the 2019 batch. From their visits to Tee Jay Lanka PLC Awissawella, and Bodyline (Pvt) Ltd, Horana factories, the students were able to gain a broad understanding of both technical and business functions of the factories. Later, the students were asked to do presentations on the experience they had gained during the industry visits. Students’ presentations were evaluated by a lecturer in English and lecturers from the Textile Division.

Further, to give students an understanding of the transferable skills they require to survive in the corporate world, a full-day workshop was conducted by Brandix College of Clothing, Ratmalana. The students gained valuable understanding of a broad range of concepts that are crucial for surviving in a corporate business culture. These include trust building, teamwork, communication, and personal grooming and the session was truly dynamic in its delivery.



Workshop by Brandix College of Clothing Technology

Multiple other workshops were also conducted by both the Divisional staff and a few invited guests. These were broadly under areas such as innovation, motivation, communication, technical



Workshop by Textile Lecturers on “Innovative Thinking”

textiles, and product design. The sessions were targeted at delivering specific content that would help students to think laterally about their own career progression, and opportunities available in the industry.

## Implementing 5S Methodology at the Machine Shop

The machine working areas at the Division of Mechanical Engineering Technology were marked according to the 5S concept in order to improve productivity and good housekeeping practices. This step was taken to provide a safe working environment for the students when they do practical work at the machine shop.



## Industrial Training, Career Guidance, and Post Diploma Education Centre : Be Ready for a Career Fair

The Industrial Training, Career Guidance, and Post Diploma Education (ITCGPDE) Centre recently reviewed its procedures to develop an efficient system for placements, monitoring, and evaluation of students' Industrial training. The Training Engineer along with the Training Coordinators from each Division played a tremendous role in streamlining and implementing training procedures for each discipline. In the action plan prepared for training and career guidance activities, a 'Career Fair' was newly introduced to be implemented with the current semester IV students.



A career fair is an event that allows staff, students, and employers to meet and build relationships, and discuss opportunities for employment and internships. Many employers from a variety of related industries are invited with the possibility of forming Industry-Institute interactive cells, Division-wise.

The Career Fair is planned to be held on all five weekdays in the 12<sup>th</sup> week of semester IV. During this week the Divisions are expected to organize separate events to create discussion forums with industry experts. These discussions will be useful to identify industry-related problems which can be developed as student projects to be assigned to students. Industry and ITUM collaboration in student projects would bridge the gap between these two entities and support the development of the country.

**ITUM CAREER FAIR 2022**  
EXPLORE POTENTIAL CAREER PATHS

Furthermore, Interviews for selecting students for industrial training will also be conducted during this week. The ITCGPDE Centre believes that the Career Fair would bring about a WIN-WIN-WIN situation for the students, the staff, and the Industry.

## Gavel Club of ITUM

The Gavel Club of ITUM is an association committed to enhancing English speaking skills, communication skills, and leadership skills among students of ITUM. The club is more than just a club; it is a refuge for enthusiastic learners who are eager to improve their interpersonal skills. Being an affiliate of Toastmasters International, The Gavel Club of ITUM provides a friendly and supportive platform to develop the personal growth of its members.

Good communication skills are beneficial for almost every area of our life. Especially in the corporate world, the ability to speak in public is a significant skill that leads to career advancement. By nature, we are all reluctant to stand in front of a crowd and speak. Just like any other skill, public speaking is also a learnable skill that we can improve through practice.

The club members get numerous opportunities to grow positively within the club, and they get a chance to perform different roles in the weekly educational meetings which improve various aspects of their leadership skills. The Gavel Club of ITUM provides a healthy learning environment for the students where they are encouraged and empowered to be great leaders.

So, if you are a student of ITUM and have not become a member of the Gavel Club yet, we warmly invite you to join the club and witness the awakening of the proficient speaker in you!



## ITUM Toastmasters Club

With the mission of providing a supportive and positive learning experience for its members in order to empower them with enhanced communication and leadership skills, the ITUM Toastmasters club has been flourishing since it was chartered in 2018. This year, the Club was awarded the President Distinguished Club award for achieving 9/10 points consecutively.



During the first half of 2022, our members excelled in delivering Pathway Speeches and completing Levels. TM Chandani Somarathna achieved Level 2 in Dynamic Leadership, TM Sandaruwan Jayalath completed Level 5 of Innovative Planning and TM Lakmali Chathurika, a former Technical Officer completed Level 4 of Presentation Mastery while TM Kasun Wijewardana and TM Malith Bogahawatta completed Level 1 in Presentation Mastery.



Out of about 3750 toastmasters clubs in Sri Lanka, TM Lalith Manage was awarded the 'Toastmaster of the Year 2020-21' Pinnacle Award this year, at the Toastmasters International District 82 Conference, bringing fame and prestige to the ITUM Toastmasters Club. This award is given every year to one individual whose extraordinary commitment and service in supporting individuals to advance in leadership and public speaking. TM Lalith Manage

also became a President Distinguished Area Director from Area B1.

TM Wathsaridu Karunarathna, the immediate past president of the ITUM Toastmasters Club and a former Instructor attached to the Division of Civil Engineering Technology was appointed as the Area Director of J3 of District 82.

Communicating your ideas clearly and presenting them openly is an essential component of success across several domains of life. Therefore, we invite you at ITUM to join the ITUM Toastmasters Club and harness your leadership and communication skills for your personal and professional growth.



## Appointments, Promotions, Personal Achievements, Awards & Recognition

### Appointments

#### New Appointment as the Head of the Division



Dr. (Mrs.) W. P. S. K. Perera was appointed as the Head of the Division of Textile and Clothing Technology with effect from 01<sup>st</sup> April 2022.

#### New Appointment as the Coordinator of the English Language Teaching Unit (ELTU)



Dr. (Mrs.) P.B.T.K. Premarathne was appointed as the Coordinator of the English Language Teaching Unit, Division of Interdisciplinary Studies with effect from 1<sup>st</sup> January 2022.

### New Recruitments

ITUM is pleased to welcome the following new Probationary Lecturers who joined the academic staff in 2022.

#### Division of Textile & Clothing Technology



**Dr. (Ms.) Nadeeka Tissera**

B. Sc. Engineering (Hons.) University of Moratuwa, PhD University of Colombo

**Specialisation:** Raw materials and Fiber Science, Weaving, Fabric Structure, Advanced Textiles and Nanotechnology.

**Dr. Ruchira Wijesena**

B.Sc. Engineering (Hons.) University of Moratuwa, PhD University of Colombo

**Specialisation:** Colouration and Finishing Technology, Weaving, Advanced Textiles and Nanotechnology.

**Mrs. D. W. D. R. Chathurangi**

B.Sc. Engineering (Hons.) University of Moratuwa

**Specialisation:** Textile & Clothing Technology.

**Promotions**

**Promotion to the Post of Senior Lecturer Grade 1**

Dr. (Mrs.) S. C. Mathugama was promoted to the Post of Senior Lecturer Grade 1 in the Division of Interdisciplinary Studies, with effect from 08<sup>th</sup> May 2020.

**Promotion to the Post of Senior Lecturer Grade 1**

Dr. (Mrs.) Kalpana Galappaththi was promoted to the Post of Senior Lecturer Grade 1 in the Division of Information Technology with effect from 25<sup>th</sup> October 2021.

**Personal Achievements**

**Mrs. L. P. Kumarasiri** in the Division of Interdisciplinary Studies successfully completed her MPhil with Merit, from the Post Graduate Institute of Archeology, University of Kelaniya. Her MPhil research was on the topic “Vedda’s dance as a form of ritual that reflects the Vedda’s community”.

**Ms. J. A. S. D. Bandara** holds a 2<sup>nd</sup> Dan Black Belt in Taekwondo, Kukkiwon, awarded by the World Taekwondo Headquarters. She successfully completed the Sri Lanka Taekwondo Federation, National Taekwondo Coaches Level 1 Course organized by the Sri Lanka Taekwondo Federation and conducted in November, December 2021, and January 2022. With this achievement, she will be able to better contribute towards the development of the Taekwondo sport in Sri Lanka.

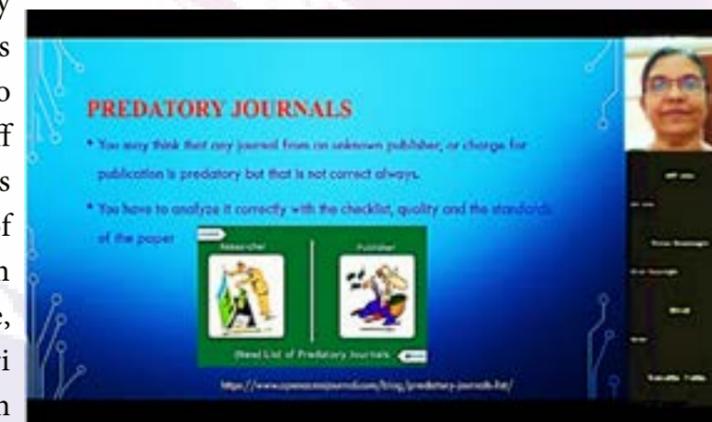
**Awards & Recognition**

**Mrs. J. H. Umarlebbe** as a postgraduate student won third place in the prestigious ‘Anugerah Gemilang Mahasiswa’ International Student Leader Awards from the Universiti of Teknologi, Malaysia in January 2022 for organizing two research workshops at international level with more than 2600 real-time participants.

**Research, Conferences & Publications**

**Research Workshops**

A workshop on ‘Tips for Publishing in Scholarly Journals and Avoiding Predatory Journals’ was organized by the Research Unit of ITUM to encourage the members of the academic staff to maintain a high web matrix ranking. This workshop was held as a webinar on the 22<sup>nd</sup> of July, 2022 via Zoom. The invited resource person for the webinar was Mrs. Shirani Ranasinghe, the Deputy Librarian of the University of Sri Jayewardenepura. The difference between scholarly journals and predatory journals and the available tools that can be used for identifying predatory journals were clearly explained by the resource person.



## Conference Presentations & Publications

### 18<sup>th</sup> Annual SLAIHEE Conference

Mrs. V.G.P. Pabasara and Dr. (Mrs.) Srimala Perera in the Division of Textile and Clothing Technology presented a paper at the 18<sup>th</sup> Annual SLAIHEE Conference titled, *The use of self-evaluation as a tool to enhance students' reflective practice and their confidence in laboratory classrooms*. <http://www.slaihee.org/>

Dr. (Mrs.) M. C. W. Somarathne in the Division of Chemical and Polymer Engineering Technology published a paper at the 18<sup>th</sup> Annual SLAIHEE Conference titled, *Enhancing learning skills through virtual experience-sharing sessions with industry experts: learner perceptions and performances*. <http://www.slaihee.org/>

### 2<sup>nd</sup> International Conference on Advanced Research in Computing (ICARC)

Dr. R. Wijesena, attached to the Division of Textile and Clothing Technology presented a paper at the 2<sup>nd</sup> International Conference on Advanced Research in Computing (ICARC) titled, *IoT-based Soil Nutrient Analyser using Gaussian Process Regression*. DOI: 10.1109/ICARC54489.2022.9754105.

### 3<sup>rd</sup> International Conference on Aspects of Material Science and Engineering (ICAMSE2022)

Mr. H.T.S. Jayalath, attached to the Division of Polymer & Chemical Engineering Technology presented an article at the 3<sup>rd</sup> International Conference on Aspects of Material Science and Engineering (ICAMSE2022) titled, *Cyanate esters as a high performing shape memory polymer: A review*, <https://www.sciencedirect.com/science/article/pii/S2214785322006903>

### International Conference on Smart Sensors and Application (ICSSA)

Mr. M.M. Mafroos, in the Division of Electrical, Electronics and Telecommunication Engineering Technology presented a paper at the International Conference of Smart Sensors and Application (ICSSA) titled, *Performance Analysis of Passively Q-switched Fibre Laser by SWCNT-PVA Saturable Absorber*.

### Malaysia-Japan Workshop on Radio Technology (MJWRT2022)

Mr. M.M. Mafroos, in the Division of Electrical, Electronics and Telecommunication Engineering Technology presented a second paper at the Malaysia-Japan Workshop on Radio Technology (MJWRT2022) titled, *Characterizing Passively Q-switched Fiber Laser in LiDAR Application*.

### 19<sup>th</sup> Academic Session 2022, University of Ruhuna

Mr. L.G. Chamath, attached to the Division of Mechanical Engineering Technology presented an abstract at the 19<sup>th</sup> Academic Session 2022, University of Ruhuna titled, *Design and fabrication of a system to measure thermal conductivity of compressible materials*. <http://ir.lib.ruh.ac.lk/handle/iruor/5788>.

### AlfaBuild Journal

Ms. G.K.P. John in the Division of Civil Engineering Technology published a paper in the AlfaBuild Journal titled, *Selection of plants for extensive green roofs in climate zone A: A review*. <https://alfabuild.spbstu.ru/en/article/2022.23.1/>

### International Journal of Scientific and Research Publications

Mrs. S. Nagodavithana and Mrs. P.B.T.K. Premarathne, attached to the Division of Interdisciplinary Studies published a paper in Volume 12, Issue 7 of the International Journal of Scientific and Research Publications (ISSN 2250-3153) titled, *Learner Perspectives of Asynchronous and Synchronous Online Education: A Comparative Study*. DOI: <http://dx.doi.org/10.29322/IJSRP.12.07.2022.p12717>

### Chemical Engineering Technology Journal

Dr. H. G. Madhushika attached to the Division of Polymer and Chemical Engineering Technology published a paper in the Chemical Engineering Technology Journal titled, *Decolorization of Textile Dyes in a Fixed-Bed Biofilm Reactor*. <https://onlinelibrary.wiley.com/doi/abs/10.1002/ceat.202200078>

### Environmental Degradation: Challenges and Strategies for Mitigation

Dr. H. G. Madhushika in the Division of Polymer and Chemical Engineering Technology published a book chapter in Environmental Degradation: Challenges and Strategies for Mitigation titled, *Textile Dye Removal from Industrial Wastewater by Biological Methods and Impact on Environment*. [https://link.springer.com/chapter/10.1007/978-3-030-95542-7\\_9](https://link.springer.com/chapter/10.1007/978-3-030-95542-7_9).

### International Seminar on Islamic Education and Peace

Mrs. J.H. Umarlebbe, attached to the Division of Interdisciplinary Studies published a paper in the Proceedings of the International Seminar on Islamic Education and Peace (ISSN 2829-047X) titled, *Conceptualizing a merger of Islamic values and sociolinguistic rules*.

### 2021 International Symposium, Rajarata University

Ms. S. R. I. Pathmasiri, attached to the Division of Interdisciplinary Studies, published an abstract in the 2021 International Symposium, Rajarata University titled, *Understanding Constructive Discrimination between Language Learning Strategies by the Students at Tertiary Level in Sri Lanka*. ISymRU\_2021\_Proceeding.pdf

## Staff Development Programs

### Awareness Session on 5S Practices

The Quality Assurance Unit (QAU) organized a two-hour awareness session on '5S Practices' on 5<sup>th</sup> January 2022 for the academic, the administrative and the non-academic staff of ITUM. This initiative was primarily taken with a view of upgrading workspace efficiency, organization, and cleanliness at the Institute.



The resource person of the session, Dr. (Mrs.) M.C.W. Somaratne, Senior Lecturer attached to the Division of Chemical and Polymer Engineering Technology and the Head of the Industrial Training, Career Guidance and Post Diploma Education Centre of ITUM briefed the staff on the importance of the 5S system and how to implement the 5S system at ITUM. Alongside this awareness session, a Cleaning Day was organized on 6<sup>th</sup> January 2022 and all staff members cleaned and organized their workspaces in order to improve the quality of the workplace environment.

### Induction Program for Newly Recruited Academic Staff

The Quality Assurance Unit (QAU) of ITUM conducted a one-day program titled 'Induction Program for Newly Recruited Staff Members' on the 10<sup>th</sup> of March 2022 under the guidance of the Director of ITUM, Major General (Retired) S.K. Thirunavukarasu.



The program which was specially designed to educate the newly recruited staff members covered a wide range of topics including Protocols and Authorized Bodies, Career Development and Important UGC Circulars, Financial Procedures and Guidelines, Conduct of Examinations, Management of Information System and Learning Management System (MIS and LMS), Quality Assurance System of ITUM, Library-Related Activities, and the Importance of Research.

The session was conducted by the senior academics and the administrative staff members of ITUM including the Director, the Deputy Registrar and Dr. (Mrs.) Bhadrani Thoradeniya, (Senior Lecturer Grade I). The event was funded by the Staff Student Development Unit (SSDU) of ITUM.

## Stress Releasing Program

Fulfilling a request for a stress-releasing program by a majority of the Staff Welfare Society (SWS) members, a workshop titled "Hina Wenna, Katha Karanna, Relax Wenna" was conducted on 18<sup>th</sup> January 2022 at ITUM premises. Well-known Sri Lankan actor Mr. Thumindu Dodantenne who is also a lecturer at the Department of Performing Arts, Sri Palee Campus led the workshop with the assistance of the ITUM Professional Counselor, Mrs. Kalani Dodantenne. It was a highly engaging and lively program that the participants enjoyed thoroughly. As a token of appreciation to the resource person, a wooden pen drive engraved with ITUM letters was presented to Mr. Dodantenne. Talented SWS members of the wood workshop made the wooden pen drive attractively at very short notice.



### Awareness Program on Microsoft PowerPoint, Microsoft Word, Internet & Email

The Division of Mechanical Engineering Technology conducted an awareness program for the non-academic staff of the Division to give them a basic understanding of Microsoft PowerPoint, Microsoft Word, and Internet & Email with a view of improving their productivity at work. The program was conducted at the Divisional computer lab on three consecutive days from 5<sup>th</sup> April 2022. The Instructors and Technical officers attached to the Division generously shared their knowledge with the participants.



## A Plaque of Appreciation for Resource Persons from the Student Staff Development Unit (SSDU)



The SSDU designed and arranged for a plaque to be presented as a token of appreciation for the resource persons who conduct workshops and programs for the students and staff of ITUM.

## A successful First Aid Training Session Conducted at ITUM

The Student Staff Development Unit (SSDU) and the Safety Committee of ITUM jointly organized a Basic First Aid training program for the Academic, Administrative, and Non-Academic staff of ITUM. This program was conducted as a part of the ITUM Emergency Response Plan, a concept of the Director of ITUM, Major General (Retired) S. K. Thirunavukarasu, to act in any case of emergency that occurs within the Institute. The training program took place on 29<sup>th</sup> March 2022 from 9.00 a.m. to 12.30 p.m. at the 500 seat Auditorium, ITUM.

Mr. Shakya Nanayakkara, the Chairman of St. John Ambulance Sri Lanka, and his team participated as resource persons.



## Cultural Events

### Religious Program for the New Year

The Staff Welfare Society (SWS) of ITUM organized a religious program to welcome the New Year at ITUM premises on 03<sup>rd</sup> January 2022, under the patronage of the Director, Major General (Retired) S. K. Thirunavukarasu. The event was held adhering to the Covid-19 health guidelines with the participation of all employees. As a part of the program, four senior academic staff members were honoured and felicitated for their respected long service at the University of Moratuwa and ITUM.



### Pirith Dharmadeshanava - 2022

With the hope of invoking blessings on the people, the country and all those who were suffering due to the Covid-19 pandemic, ITUM students organized an all-night Pirith Chanting ceremony on the 2<sup>nd</sup> and 3<sup>rd</sup> of April 2022. The Ven. Theros from the Hathlahagoda Sri Shaila Parwathaaramaya temple conducted the ceremony. The Institute premises and the village area were decorated with lanterns and light bulbs. The Pirith chanting ceremony was followed by a 'Heel Dhana' almsgiving on the following day morning. The Director and the academic and the non-academic staff members of the Institute joined in the event. A documentary video of the event was uploaded to the NDT Voice You Tube page and the NDT Facebook page.



### Wasathsiri Abhises - 2022

The NDT Students' Union organized the event "Wasathsiri Abhises - 2022" to celebrate the dawn of the Sinhala and Tamil New Year, with the participation of NDT students on 30<sup>th</sup> April 2022. The students displayed their talents in singing, dancing, announcing, and acting. It was a colorful event with several cultural items and traditional games.



## Poson Day Celebrations

### 'Maha Kos Dansala' (මහ කොස් දන්සල)

To commemorate the arrival of Ven. Mahinda Maha Thero in Sri Lanka with the gift of Buddhism, the annual dedication ceremony on Poson Poya day was organized by the NDT Students' Union in a grand manner. The Institute premises was decorated with Vesak lanterns and light bulbs. The Students treated the villagers who had observed "Atthanga Uposatha Seela" with Belimal drink at the Sri Shaila Parwatharamaya temple.



The "Maha Kos Dansala", which is organized annually by the NDT Students' Union to commemorate Poson poya day was successfully held this year by the students in front of the ITUM shopping complex on 14<sup>th</sup> June 2022, the Poson Full Moon Poya day from 10.00 a.m. onwards.

### Sarasavi Damsara - Poson Bathi Gee Sandawa 2022

The "Sarasavi Damsara - Poson Bathi Gee Sandawa 2022", the annual devotional song concert organized by the NDT students was held at ITUM Diyagama premises on Poson Poya day in a grand manner. This year, for the first time the "Sarasavi Damsara" concert was organized as an outdoor event with the participation of the villagers.



## Sports News

### ITUM students appointed as Captains / Vice Captains of sports teams of the University of Moratuwa

ITUM congratulates all students who were appointed as Captains and Vice Captains of sports teams of the University of Moratuwa, and acknowledges the efforts of those who represented University of Moratuwa at various sporting events, and those who won medals, bringing honor to their respective teams, the University and ITUM. We appreciate their commitment and passion for sports.

Ms. U. H. H. D. Shamanthi de Silva from the Division of Polymer & Chemical Engineering Technology, ITUM was appointed as the Captain of the Moratuwa University karate team and Mr. S. G. A. D. P. S. Subhawickrama from the Division of Civil Engineering Technology, ITUM was appointed as the Vice Captain of the Moratuwa University road race team, respectively.



**U. H. H. D. Shamanthi De Silva**  
Captain – Karate Team



**S.G.A.D.P.S. Subhawickrama**  
Vice Captain – Road Race Team

### First Inter-University Karate Kata Championship, 2021

The first inter-university Karate Kata Championship 2021 organized by the University Of Peradeniya in collaboration with the Sri Lanka University Sports Association was held as a virtual tournament from 17<sup>th</sup> - 19<sup>th</sup> of November 2021. Representing the University of Moratuwa U. H. H. D. Shamanthi De Silva (19/IT/CH/005) from the Division of Chemical Engineering Technology, won the gold medal in the female kata level 1 category, and H. Y. T. Sandamali (19/IT/TT/781) from the Division of Textile & Clothing Technology won the bronze medal in the female kata level 3 category.

Kavinda Gimhana from the Division of Mechanical Engineering Technology and Rajitha Sampath from the Division of Civil Engineering Technology also represented University of Moratuwa in the Men's Karate Kata championships, 2021.



### Baseball Coaching Camp Conducted for ITUM Students



With the patronage of the Director of ITUM Major General (Retired) S.K. Thirunavukarasu an introductory baseball coaching camp was organized for ITUM students in collaboration with the SL Army baseball team. The coaching camp was organized by Ms. J. A. S. D. Bandara, the Lecturer in charge of Sports Studies and Instructors of Physical Education attached to the Division of Interdisciplinary Studies, ITUM.

A basic introduction to baseball was given by the National Baseball Coach Mr. Iresh Kosala, with the fullest corporation of the Army baseball captain Sergeant Dissanayake and his team who conducted the practical sessions. Director, ITUM Major General (Retired) S.K. Thirunavukarasu and the Deputy Registrar of ITUM Mr. N.D. Kuruppu Arachchi participated to witness the occasion. The coaching camp was successfully held on 31<sup>st</sup> March 2022 at the National Baseball Stadium, Diyagama, Homagama.

As a result of this endeavor, the hidden talents of ITUM students were discovered and a new friendship

### Staff Badminton Tournament

“IT’S Bad To” (ITUM Staff Badminton Tournament) 2022 organized by the SWS was successfully held on 16<sup>th</sup> February 2022 at the indoor stadium of ITUM. Mr. Sachin Dias and Ms. Thilini Hendahewa, the badminton mixed doubles champions of Sri Lanka, who made our country proud and victorious by winning the gold medal in badminton mixed doubles at the ODISHA Open 2022 held in India took part to witness the badminton skills of the ITUM staff as the celebrated chief guests of the event. More than 30 staff members participated as contestants in the tournament, and everyone enjoyed the event to the maximum.



## Communal & Other Events

### A Musical Evening with NAADA

The Staff Welfare Society (SWS) was fortunate to organize a very successful musical evening with Sri Lanka’s number one musical group, NAADA on 25<sup>th</sup> March 2022, on the verge of announcing the economic crisis in the country.

This event was organized as a fundraiser, mainly to facilitate the initiation of a medical insurance scheme for the SWS members of ITUM.

The musical evening was a sellout, thanks to all the staff members of ITUM, very supportive industry sponsors, and well-wishers from the NDT Alumni. A part of the funds generated was set aside to fund the staff medical insurance scheme.



### Outreach Programs

#### Certificate Course in Spoken English (CCSE)

The English Language Teaching Unit inaugurated its first weekend short course in Spoken English on 5<sup>th</sup> March 2022. This four-month certificate course included twenty enjoyable face-to-face interactive sessions designed to improve participants’ English speaking skills. The first batch comprised 35 students who had just completed their A’ level examination. In July 2022, another batch of 40 students enrolled in the course, and the classes for the second intake commenced on 30<sup>th</sup> July 2022.

With a view of boosting students’ confidence in speaking in English in real-life situations, a New Year festival was organized for the students of the Spoken English course on 9<sup>th</sup> April 2022. The event included several traditional as well as modern games and took the form of a competition between two teams – the ‘New Year Crackers’ and the ‘New Year Thunders. Each team was given the responsibility of organizing three games. The organizing team was in charge of introducing the game, providing instructions and guidelines to the contestants, giving a live commentary of the games, and announcing the winner/s. In addition, the best presenter (male and female), the best commentator, the best cheerleader, and the best communicator were also selected by the guests.



A drama workshop was organized for the students of the spoken English course on 18<sup>th</sup> June 2022. The workshop was conducted with the aim of preparing students for the drama competition which was going to be conducted as a partial requirement of the course.

The workshop which covered vocal warm-ups, theatre games and acting techniques was conducted by



Mr. Namal Bandara, the drama instructor attached to the Division of Interdisciplinary Studies. In sharing their thoughts in the wrapping-up session, the students acknowledged that the workshop not only prepared them to overcome stage fright but also guided them in discovering their acting skills.



## Feature Article

### The Importance of Improving Self-Regulated Learning Skills among Online Learners



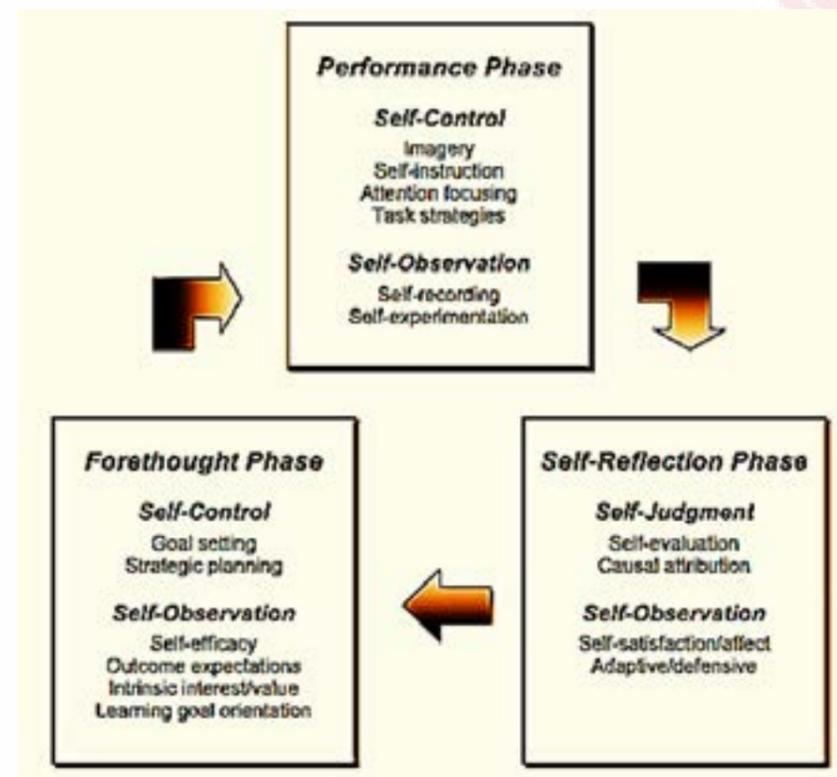
**Ms. A. U. P. Athukorala**  
Division of Information Technology, ITUM

John Dewey, an American Philosopher of Education once said, “If we teach today as we taught yesterday, we rob our children of tomorrow.” It is clear that as teachers, we need to investigate and use innovative teaching methods for our students. During the last two years, the nature of the education system changed considerably. Physical classrooms were converted to virtual classrooms. Teachers’ engagement with the learning process became less. The students had to develop their own way of learning and most importantly, continue the learning process till the end by themselves. The control of learning shifted from the educational institutions to the individual learner. Setting goals and evaluating progress has now become the learner’s responsibility.

When the complete responsibility of learning falls on the learner, the learner needs extra energy to bear the burden. This extra energy can be named ‘Self-Regulated Learning Skills.’ In simple terms, Self-Regulated Learning (SRL) can be defined as ‘the ability to understand and control one’s learning environment.’ There are various models developed that describe self-regulation. Here, self-regulation is described based on an autonomous learning environment.

### Phases in Zimmerman’s Model

Zimmerman defines self-regulation as a cyclic process. In the *forethought phase*, learners are involved in task analysis processes (goal setting, strategic planning), and self-motivation beliefs (Self-efficacy, outcome expectations, goal orientation, etc.).



In the *performance phase*, learners are involved in self-control processes (self-instructions, attention focusing, and task strategies), and self-observation (self-recording, self-experimentation).

The third phase is *self-reflection*. In this phase, self-judgment (self-evaluation and causal attributes), and self-reaction (self-satisfaction / affect, and Adaptive/defensive) occur (Wong et al., 2019).

Due to the Covid-19 pandemic situation, the mode of education moved to online and distance education. Students started using

Digital Learning Platforms to continue their learning. Digital Learning Environments (DLEs) include any combination of educational software, digital learning tools, online study programs, and e-learning resources (Johnson & Davies, n.d.). Learning Management Systems (LMS) such as MOODLE, Canvas, and Open Online Courses such as MOOC, edX, and Coursera are some examples of digital learning platforms. In digital technologies, instructions are delivered with accurate, meaningful, and accessible information. Collaboration with the teachers and peers is facilitated by tools such as web conferencing, blogs, and discussion forums. Computer-based assessments (quizzes in LMS) provide immediate feedback to the students. “In DLEs, technology, curriculum material, and instructional procedures enhance SRL by providing opportunities and mechanisms for students to clarify their understanding of the task, develop effective plans, monitor the learning process and evaluation.” (Johnson & Davies, n.d.). Thus, it is clear that most digital learning platforms are providing a space for self-regulation to be practiced.

### Why SRL is important for Online Academic Success?

Prior studies show that learners struggle with online learning environments because they do not use critical self-regulated learning strategies (Wong et al., 2019). In online learning environments, teachers and students may communicate via web conferencing, Learning Management Systems (LMS), etc. Interaction between the teacher and the student is less compared to a physical classroom. Students have to complete assignments/exercises without any help from the teacher or their peers. Most of the time the students have to work on their own. Students who follow courses on MOOC and in distance mode have to work without any help from the teacher. They have to set goals, make plans, execute the plans and evaluate the progress on their own.

There are research projects which identified the SRL process as enabling learners to successfully learn in online environments. This is supported by a study done by Broadbent & Poon (2015) on online academic success. They reviewed studies examining nine SRL strategies: metacognition, time management, effort regulation, critical thinking, elaboration, rehearsal, organization, help-seeking, peer learning, and online academic success. The results from the 12 studies reviewed, revealed that metacognition, time management, effort regulation, and critical thinking were related to online academic success (Broadbent & Poon, 2015).

Out of many online environments available, MOOCs (Massive Open Online Courses) receive a great deal of attention. Though the enrollment rate is very high in MOOCs, a majority of learners do not complete the courses (Wong et al., 2019). A study done by Hew and Cheung (2014) found that learners drop out because of various reasons such as having no one to ask for help, lack of time to follow the course, insufficient prior knowledge, and the inability to understand the course content (Wong et al., 2019). Reasons for dropping out indicate that learners should be supported in SRL.

### Empowering students with SRL Skills: What can we do as Teachers?

In traditional classrooms, learners who can effectively self-regulate their learning are considered the most successful learners by researchers and educators. These students are responsible for their own learning by being metacognitive, and motivationally and behaviorally involved in their learning process. They are capable of self-regulating their learning in environments that offer high levels of learner autonomy and low levels of teacher presence (Wong et al., 2019). These types of students will also be successful in online learning environments but, a majority of students do not reach their full potential in learning since they do not know how to learn. They are not aware of the strategies that can be used for learning and simply attend classes, read notes and sit for examinations.

If these students are taught, “HOW TO LEARN” the results will be different in a significant way. One method that can be practiced by teachers for long-term success is, ‘Explicit Direct Instructions’ on SRL skills (Toro Stephanie, 2021). In the classroom, students should be made aware that they are learning SRL strategies and be guided on how to learn them. They need to learn about the strategies that can be best applied by them and the different strategies that can be used in different contexts.

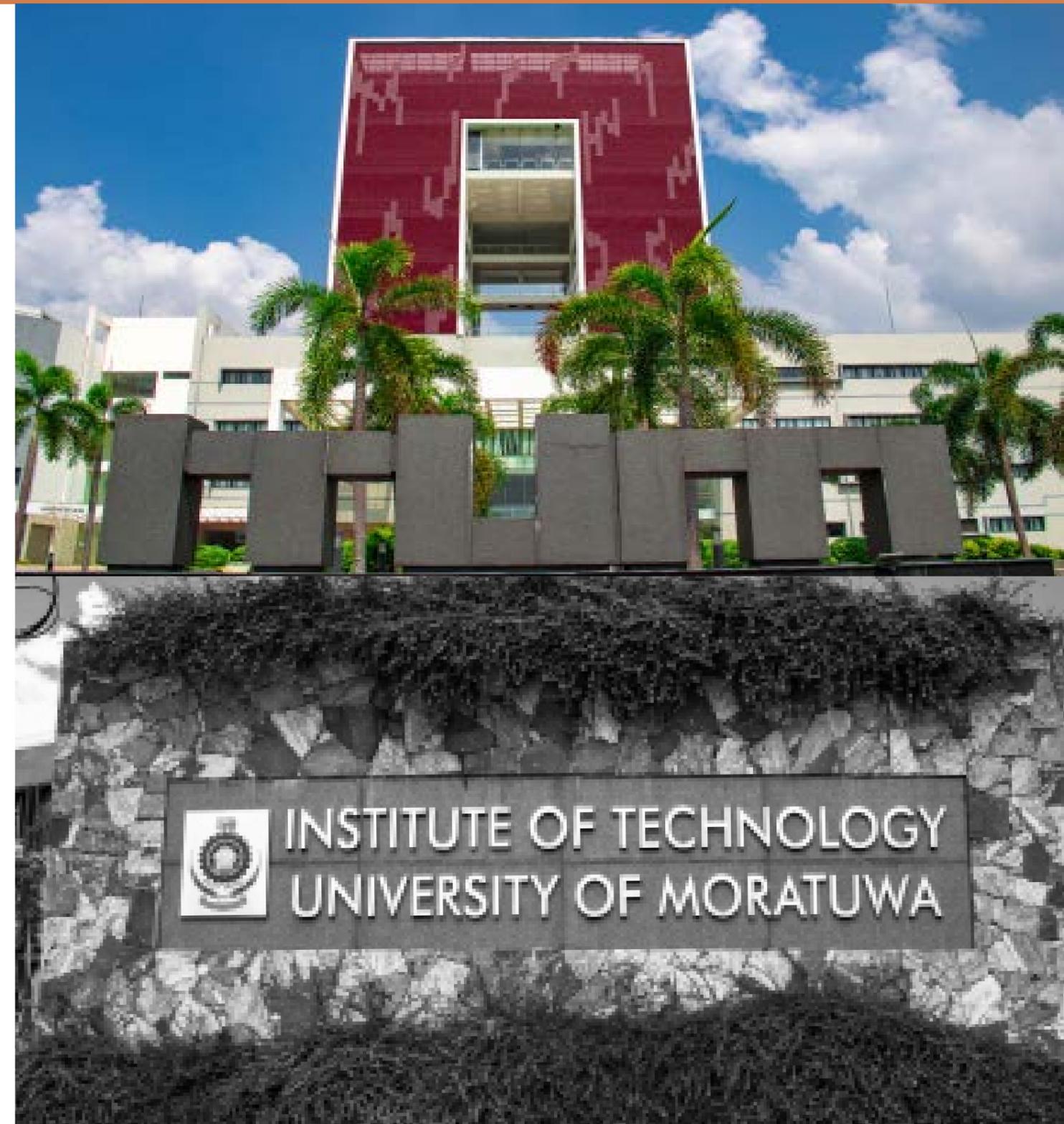
There are basically two things that can be practiced by teachers when giving ‘Explicit Direct Instructions’ on SRL skills:

1. Explain the usefulness and importance of self-regulated learning skills to students.
2. Support students to identify when and where they can use self-regulated learning skills (Toro Stephanie, 2021)

A majority of the students do not learn these types of strategies on their own. Therefore, teachers can design/plan their lessons with specific learning activities that will engage students in learning SRL skills. Students will always select inefficient methods for studying such as re-reading, strategies that require higher-learner engagement, learning everything by heart, etc. even if these methods waste their valuable time and effort and result in poor performance. Therefore, a well-prepared teacher can support the students by teaching self-regulated learning strategies in the classroom. Hence, the teacher’s first responsibility should be to teach students “How to Learn”, before teaching anything else.

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