MEAECE Engineering College, Perinthalmanna, Kerala, India.

MEAECE E-Learning Strategy

NASEEL IBNU AZEEZ
MEA Engineering College,
Perinthalmanna, Kerala, India.
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Preface

MEA Engineering College, the second self-financing engineering college in Malappuram district of Kerala state established on 2002, is committed to provide excellent and value-based education with a flair for ethics and professionalism. The College is located amidst panoramic natural beauty overlooking the hills and valleys at Nellikunnu, near Perinthalmanna, Kerala, India.

The institution is affiliated to APJ Abdul Kalam Technological University, Thiruvananthapuram and University of Calicut. With approval from AICTE (All India Council for Technical Education) The College Management has chosen this backward area for establishing the College with the aim of sharing the responsibility of uplifting the people of the area by making technical education affordable and within reach. The Management has no motive of making profit from the College but aims at creating a Center of Excellence in Engineering and Technology.

Since MEAEC is an affiliated institution, the syllabus, curriculum and academic regulations are controlled by the University itself through mentoring from ministry of education. MEAEC is one among 144 institutions which is affiliated to APJ Abdul Kalam Technological University.

MEAEC providing both UG and PG programs in engineering with more than 1800 students and 160 faculty members.

<table>
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<td>1. B-Tech in Computer Science and Engineering</td>
<td>1. M-Tech in Power Electronics and Drives</td>
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<td>2. B-Tech in Information Technology</td>
<td>2. M-Tech in Computer Science and Engineering</td>
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<td>4. B-Tech in Electrical and Electronics Engineering</td>
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<td>5. B-Tech in Mechanical Engineering</td>
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<td>6. B-Tech in Civil Engineering</td>
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Background

This E-learning Strategy has been developed by the E-learning Strategy Committee in collaboration with staff and students at MEAEC. The central aim of the strategy is to build on our existing strengths to enhance the overall teaching and learning experience at MEAEC. The objectives seek to broaden the ways e-learning may be used, ensure that students have an effective and consistent online learning experience and to enable an informed, digitally literate staff with appropriate development opportunities and smart tools.

An e-learning strategy is needed to help focus resources including infrastructure, staff development and support. There are many instances of good practice around the University, but there is insufficient support available. The University needs to build capacity and skills to be ready and able to respond quickly to, and benefit from, the fast moving changes of an increasingly networked world.

MEAEC needs to position itself well. There are many different visions and models for e-learning and its implementation, but each institution must devise its strategy to suit its own mission and unique set of circumstances. However, appropriately harnessing the potential of learning technologies requires a complex strategic process.

Need and Value of E-learning in MEAEC

These findings are developed through SWOT analysis conducted at MEAEC while WP-1 and the document is included as appendix.

Technology is an external driver for change which permeates our lives, including the way we work, study and research. E-learning, defined for the purposes of this document as ‘learning facilitated and supported through the use of information and communication technologies’ is becoming increasingly important in all educational sectors, as governments and institutions strive to take advantage of the benefits of technology.

Key drivers for change include increasing student expectation and engagement with technology, responding to a larger and more diverse student body, providing more flexible modes of study to allow for part-time working or even work-based learning and improving opportunities for enhanced learning and teaching, efficiency and increased competition, both local and global.

There are many reasons to increase our capacity to be able to take advantage of current and emerging technologies.

• Increasing student expectations of technology.
• Enhancing the student learning experience
• Developing and enhancing the curricula
• Providing a media rich learning and teaching environment with an increased range and quality of teaching resources
• Accessing the resources of an increasingly networked world
• Developing more flexible and accessible ways of working
• Providing provision over multiple campuses
• Allowing different modes of delivery and extending access
• Providing high quality provision for students with disability
• Increasing support for student learning including choice of learning approach, help with revision and retention.
• Facilitating communication
• Engaging with the wider world
• Encouraging creativity

For our students
➢ E-learning complements and sometimes facilitates but does not replace personal contact between students and teachers
➢ E-learning provides opportunities to develop the skills they require to realise their potential in the digital age
➢ E-learning can enable our students to fit their learning into their lives more effectively than traditional approaches
➢ It can provide fair and equal access to learning to all students.

For our staff
➢ E-learning extends the physical classroom to enable teachers to augment the face-to-face components of their programmes
➢ E-learning can provide opportunities for staff to enhance their teaching practice by focussing on the design, communication and facilitation of educational experiences
➢ E-learning is not a ‘one-size-fits-all’ approach – we accept that students learn in different ways and that staff have different approaches to teaching students. A diversity of online teaching approaches is encouraged
➢ We recognise that to design and implement those approaches requires skilled and informed staff

For MEAEC
➢ E-learning can provide rich data on activity which can be used to guide students on a personalised journey and keep staff and faculty well-informed.
➢ A strategically aligned E-learning provision can enable delivery of aspects of the central institutional strategy.
➢ Effective E-learning helps to ensure MEAEC delivers World class teaching and learning and meets high student expectations.
➢ Increase the visibility of institution within community and hence this may help MEAEC in branding and recognition.
The E-Learning Vision

At the heart of our vision is an academic community that is empowered to creatively consider and take advantage of the opportunities to foster investigative learning afforded by technology at the early stages of course and programme design and is both confident and well-supported in its use.

“To be the excellent provider of exclusive online content for APJ Abdul Kalam Technological University and its assessment”

The learning experiences of our student community will be enriched by

- An increasingly personalised, technology-supported, student learning experience to offset the depersonalising effects of large classes
- Increased access to and interaction with rich educational content via smart devices within and beyond the physical bounds of our campuses
- Access to a limited range of wholly online, interactive and feedback-rich courses, to increase both the flexibility and the breadth of the learning experience.

Our staff and students will be supported throughout by

- A robust IT infrastructure that allows pervasive high-speed connectivity, has sufficient bandwidth, storage capacity and technical capability to create and deliver rich multi-media course content to our students on demand.
- A robust but flexible Virtual Learning Environment (VLE) that incorporates a range of well-supported interactive tools for teaching and assessment both on campus and at distance
- Technology enabled physical teaching, study and assessment spaces designed to be flexible and aligned to the teaching and learning strategies of our staff and students.
- Enabling the Institutions Transnational Education Strategy via seamless support for flexible delivery in-country or online across national boundaries
- Contributing to and drawing from world-class Open Educational Resources to both enhance our reputation as a leading education provider and to enhance our student learning experience
The e-learning Mission

“To be the excellent provider of exclusive online content for APJ Abdul Kalam Technological University and its assessment”

- Improving e-learning infrastructure in institute
- Empower and support staff to develop and deliver effective approaches to teaching enabled by the creative use of technology and, if appropriate, provide pathways for embryonic activity to be mainstreamed
- Enhance the on-campus learning experience through more effective, integrated use of interactive technologies
- Support staff in developing and sustaining a core capability in online, distance education targeted primarily at high-quality programmes aligned to our research strengths, the needs of high-level professionals and in support of transnational education
- Extend the reach and flexibility of our e-learning toolset and student support systems to provide easy access and interaction through smart devices and to create the opportunity for students to increasingly personalise their own learning space
Smart Objectives for e-learning integration

A set of goals has been fixed by institution strategy committee and the current scenario, challenges, method of overcoming challenges are documented. A detailed action plan with time frame and schedule is also provided in this report.

1. Setup infrastructure for e-learning content production

Current situations:
- MEAEC has good networking and internet connectivity across the campus and most of the faculty and students has access to these facilities in and out of the campus.
- Institution already established local chapter for NPTEL hence the community already experienced the e-learning platforms.
- Institution has enough space to allocate for e-learning related activities

Challenges:
- Insufficient funding for purchasing equipment’s for e-learning studio
- Technical recourses to establish and use e-learning content production unit is not available

How to overcome challenges:
- A committee had been formulated to strategize e-learning activities and it is decided to utilise MIELES funding to purchase equipment’s for establishing e-learning studio.
- A dedicated team will be trained for handing advanced tools and software’s for e-learning content preparation and if necessary MEAEC will hire people to handle e-learning studio.

Tangible outputs:
- An established mini studio for e-learning content production

2. Training the faculty in the field of e-learning production and management

Current situations:
- Most of the faculty members are not advanced in the field of e-learning even though they using some popular ICT tools in teaching
- Students community is aware about e-learning courses and currently they enrolled to different online courses offered by different universities, but it is very difficult to get a very relevant course with respect to the syllabus that the currently studying

Challenges:
Competing demands on academic staff time mean online learning development or enhancement can be deprioritised.

There is no visible incentive to develop one’s skills in online or blended teaching.

Many staff are unaware of development opportunities in e-learning.

There is a lack of alignment of e-assessment processes and tools.

Learning technologies move, change and advance quickly making training and development more challenging.

Unavailability of e-learning studio to train faculty in real-time so they can experience e-learning content production and become familiar with advanced tools.

How to overcome challenges:

- Provide staff who teach or support learning with development opportunities to ensure they can make active decisions about how they implement blended learning.
- Provide assessment tools which align with business practice & processes and plug gaps in our assessment toolkit, e.g. mobile, lab group work etc.
- Partner with academic staff to pilot emerging technologies, technology-enriched teaching spaces and teaching approaches to evaluate their effectiveness.
- Ensure that all our major e-learning tools and practices are supported by a set of readily accessible policies which provide clear guidance on usage.
- Establish resource to assist staff in designing and developing e-learning modules or materials.
- Provide e-learning accreditation to reward development, training, design and pedagogy.
- By using available resources and funding through MIELES, set an e-learning studio in institution.

Tangible outputs:

- Training to faculty members in e-learning content production
- Establishment of a faculty community who can propagate e-learning technology among students
- A real-time training system for e-learning platform development

3. E-learning content production through MEAEC e-learning studio

Current situation:

- There is no such official content production within MEAEC since the institute not providing such platforms
- Some of the faculty members have their own personal channels and websites where they upload contents

Challenges:

- Faculty members are not familiar with e-learning content production
- More technical knowledge is required
- Evaluation of contents created by subject experts
How to overcome challenges:

- Training will be provided to faculty members with real experiences through e-learning studio
- A technical team will be hired to train system administrators
- A dedicated expert team will be formulated under the HODs to evaluate the course content

Tangible outputs:

- Exclusive e-content as per the university syllabus
- A work flow in e-learning content production will be established
- An evaluation team established in every departments

4. **Distribution of e-learning contents**

Current situations:

- There is no official content distribution system in MEAEC, however faculty members published several contents online through their personal web pages
- Since there is no exclusive e-learning content for APJ Abdul Kalam Technological University syllabus, there is a market potential for the exclusive e-learning contents

Challenges:

- Establishing of a website and networking system to deliver e-contents
- Technical support to market e-learning courses

How to overcome challenges:

- Assign a dedicated team to develop website for e-learning content distribution
- Use SEO tools and integrate e-learning platform with institution web portal
- Use advantages of digital marketing and hire a team to market the content online
- Make entire content free and open, this may lead to good reach for the platform
- Invite subject experts from neighbouring institutions for e-learning content productio

Tangible outputs:

- An established online platform for e-learning contents
- Popularity for MEAEC online courses
- Become a nodal point for e-learning content production in local area
## Action Plan

<table>
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<tr>
<th>Objective</th>
<th>Output/ Deliverable</th>
<th>Indicators</th>
<th>Activity</th>
<th>Timeframe</th>
<th>Responsibility</th>
<th>Budget</th>
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<tbody>
<tr>
<td>Set up infrastructure for e-learning production unit</td>
<td>Formulate a committee for e-learning activity</td>
<td>A committee with 10 members</td>
<td>Committee formation under Academic Council Study and preparation of project proposal Quotation Hiring expert for setup studio Finding proper location Establish infrastructure</td>
<td>06 Oct 2017 to 06 Nov 2018 2 Weeks 2 Month 3 Weeks 1 Week 8 Months</td>
<td>Sub committee/Core committee Academic Council e-learning committee e-learning committee</td>
<td>20,000 Euro</td>
</tr>
<tr>
<td>Training for faculty regarding e-learning and e-learning content production.</td>
<td>Provide training Sample content production Training to 40 faculty members A faculty from each department</td>
<td>Finding trainer/ contact IITM and IISC Delivery of training Content production</td>
<td>7 Nov 2018 to March 10 2019 2 Weeks 1 week 2 Month</td>
<td>e-learning committee e-learning committee e-learning committee</td>
<td>750 EURO</td>
<td></td>
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## MEAEC E-LEARNING STRATEGIES

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<thead>
<tr>
<th>Content production exclusively for APJ KTU Students</th>
<th>Record and edit e-learning contents</th>
<th>8 Course / Semester</th>
<th>Selection of course and faculty</th>
<th>Recording and editing Content</th>
<th>Verification</th>
<th>11 March 2019 to 20 Oct. 2019</th>
<th>750 EURO</th>
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<tr>
<td>Distribution of e-learning contents through websites</td>
<td>Creating and integrating e-learning module with college website</td>
<td>Upload 8 Courses</td>
<td>Developement of web module</td>
<td>Uploading content</td>
<td></td>
<td>21 Oct 2019 to 20 Feb 2020</td>
<td>800 EURO</td>
</tr>
<tr>
<td>Marketing e-learning contents among APJ KTU aspirants</td>
<td>SEO of e-learning module Offline campaigning for marketing Online marketing of e-learning module</td>
<td>Page ranking</td>
<td>Send posters to all engineering colleges under KTU Run 5 online camping</td>
<td>SEO optimization by web developer</td>
<td>Printing and distribution of poster Running online campaign in social media</td>
<td>21 Feb 2020 to 20 August 2020</td>
<td>1000 EURO</td>
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Commitment of Management Committee and Advisory board in implementing e-learning strategies

Achievement of our strategic priorities will only be possible if the foundation on which we build activity is strong. There are a series of key enablers that must be enacted at the core to our learning and teaching environment for this to happen. These are:

Staff:
We will establish effective financial and staff-development mechanisms to support a significantly increased proportion of our staff in engaging with and developing expertise in E-Learning. It is important to recognise that the success of this strategy will depend critically on the talent, creativity and expertise of our staff. Technology alone is useless without staff who provide the intellectual capital and driving force behind the intelligent use of technology to enhance student learning. For this reason, staff in the University must be empowered to move our strategy forward. The barriers to adoption must be low and training and technical support must be readily available. If this is done well, we will grow a community of practice that will create additional momentum in taking us forward. We will empower staff by providing targeted incentives to develop new provision and our recognition, reward and promotions procedures will also recognise developmental contributions aligned to our E-Learning Strategy. We will further support staff through the local deployment of specialists to assist and advise them in the development stages of new courses. We will also develop a range of online resources to support centrally delivered university-wide training on key aspects of the effective integration of technology in course and programme design.

Policy:
We will proactively assess the elements of our current academic policy framework in terms of their future suitability to support staff and student aspirations of the increased use of technology supported learning. Our learning and teaching environment is regulated and shaped by our academic policy framework. As technologies become more pervasive, they can give rise to issues that are either not fully addressed by or fall outside of the framework. For example, while the actual recording of a lecture may be relatively straightforward to achieve technically, the policy issues around this may be much more complex. Assessment is also an area where technology is likely to see increasing use. At present, end of course written examinations tend to use the traditional method of pen and paper. For essay-based subjects, this approach can be completely at odds with the skills the student has developed in computer-based writing and may arguably prevent the student from showing their true mastery of the subject. This has been recognised by a number of universities who are experimenting with computer-based final exams. While in this case the technological solution is not straightforward, neither is the development of a workable academic policy. If we are to achieve our vision, we must recognise the pressures technological change will
place on our policy framework and, where appropriate, proactively develop the framework to address these pressures.

**Evidence-Based Progress**
The monitoring and evaluation of progress via evidence is an essential part of this strategy. The institution has benefitted greatly from the biennial survey of the attitudes and behaviours of first year students in relation to the use of technology. We have also, through monitoring of Moodle usage, been able to satisfy demand for VLE use and understand the training needs of staff. We know also, that patterns of IT usage in the early months of a degree programme can provide early warning of a student at risk of dropping out. In going forward, we must refine our evidence-based approach to understand not only the uptake of new approaches and technologies but also the effectiveness of these in enhancing the learning experience. By consideration of the need for evidence-based development at the design stage, we can use feedback systems as an integral part of the course or programme to both gauge the effectiveness of the pedagogy and inform future development. In doing so, we will develop expertise in the use of learning analytics that will allow us to develop systems that adapt to and support different student learning styles.

**IT infrastructure**
The forward planning of our IT infrastructure must be aligned to our strategic vision to ensure that we can achieve our ambitions. The vision outlined in this document is of a very different teaching infrastructure to the one we have at present. Pervasive, high-bandwidth connectivity must be factored in to future expansion of the campus network and server and network capacity should be sufficient to support significantly increased use of multi-media content within the VLE. This should be true in and between all locations on which the University of Glasgow has a presence. Operability must also be high so that educational innovation is not stifled by unreliable technology. The use of personal devices for a wider range of academic activity will become more pervasive on campus and this will have implications for the configuration of fixed computing installations. Interactive engagement with large student groups in a flexible classroom environment via personal devices will also feature in the future teaching environment. A key consideration will be the use of technology in assessment. In the short term, this may require enhancement of IT within physical spaces to accommodate e-assessment in fixed locations with fixed IT installations and, in the longer term, the introduction of technologies to support assessment in any Wi-Fi enabled space. In planning for the future, account must also be taken of emerging factors such as 4G and cloud computing that have the potential to impact on our IT infrastructure.

**Physical Infrastructure**
The importance of our physical infrastructure to this strategy has already been highlighted in our vision. It is essential that the physical spaces in which we teach and in which our students study evolve as our teaching and content delivery methods change. In reality, we have already been anticipating change by progressively developing more flexible teaching spaces and we will continue to do this. The integration of technology within these spaces is, however, a key factor that will have increased prominence at the design stage in the future.

**Generic Capability**
There are always new technology-supported approaches to teaching emerging in higher education. For example, the use of gaming techniques for learning is currently attracting considerable interest in the broader community. If we deliver against our priorities we will, by default, have the capacity to seamlessly evaluate, test and implement new technology-supported pedagogic approaches where they have real potential to impact positively on our learning environment. This is why, although the strategy recognises some of the emergent trends in technology supported pedagogy it deliberately avoids identifying specific approaches in the vision or in the setting of strategic priorities.

**Collaboration**

In recent years there has been significant growth in student-student, student group, staff-student or staff-staff collaboration through both formal and social-media channels both in individuals’ personal lives and in support of teaching and learning. As collaboration tools and environments evolve in the coming years and students increase their use of external content it is logical to assume that students will increasingly seek to collaborate with fellow students, alumni and subject matter experts from outside of the University. The University is already encouraging students to widen their horizons and take advantage of these new opportunities to enhance the learning experience that they have at Glasgow. This strategy will further enable progress in this area.