

BEST PRACTICE – DEVELOPMENT & IMPLEMENTATION OF E-TOOLS FACILITATING TEACHING & LEARNING IN GNIDSR

TITLE

DEVELOPMENT & IMPLEMENTATION OF E-TOOLS FACILITATING TEACHING AND LEARNING IN GNIDSR

OBJECTIVE

- To ensure better outcome of teaching learning and facilitate better academic compliance
- Improving the understanding of courses amongst students by using innovative and modern digital tools and processes.

CONTEXT & CHALLENGES

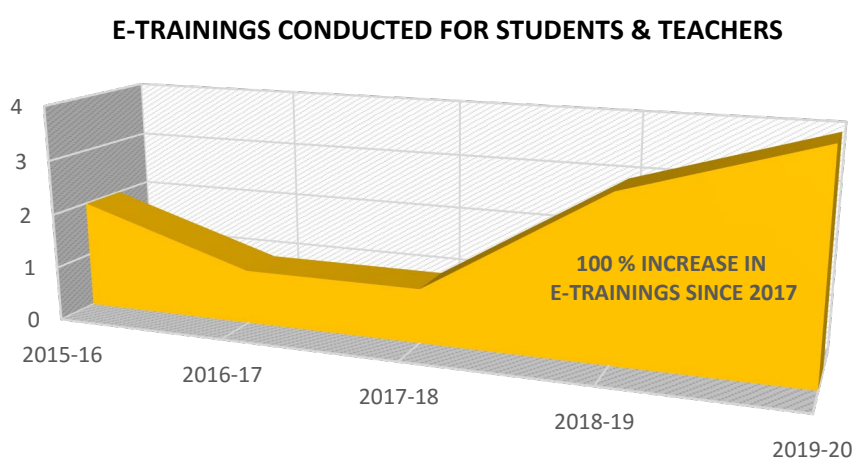
It is a known occurrence that students show better compliance and greater attention to teaching when it is interactive in nature and aided with dual channel multimedia based learning using the principals of blended modes of learning. The goal of this practice was to challenge the traditional methods of teaching and innovate and develop the teachers of GNIDSR to adopt modern teaching strategies with advanced digital tools.

THE PRACTICE

The institute has pioneered in developing teachers to provide teaching via innovative strategies and creating an ecosystem for adopting the advanced e-tools by adopting the following strategies –

- 1) **Developing a Robust Dental Education Unit (DEU)** – Formed in January 2018 , the unit has been instrumental in strategizing the e-learning goals and technical knowhow for implementing them. All the digital tools incorporated in GNIDSR since its inception have been conceptualized and incubated by the DEU.

- 2) **Systematic Training to Teachers & Students for Optimum Usage of E-Tools** - The institute has witnessed a 100 % increase in conduct of e-training / e-learning courses since 2018. The institute provides annual structured value added courses for e-learning and e-trainings for faculties in specific digital tool usage every year. The DEU along with the IT partner Hash Technologies conducted focused training on JIS Academic Resources , Flip Learning Technology , Digital Content Creation , Canvas™ Coursera™ and other MOOCs , Cyber Security , Cloud Based Data Management and E-Library Resources.



- 3) **Infrastructure Upgradation for Implementation of Advanced Digital Tools** – The institute has a dedicated academic block with Smart Classrooms and Flip Learning Classrooms having Third Generation Smartboards from Cybernetyx™ , Germany and Interactive Panel from NeoTouch™ , Sweden. The campus enjoys a dedicated high speed broadband connection and all dental departments, library and academic block are Wi-Fi Enabled.
- 4) **Incorporation of Institutional Learning Management System , ERP and Software’s to support the E-Learning Ecosystem** – The institution has an indigenous developed Digital Student Academic Resource Portal (DSARP) as LMS , a dedicated ERP for managing the administrative - library and financial services of the institution and uses software’s like Canvas™ LMS , 3D4Medical™ Anatomy Simulation Software , Nemoceph™ Cephalometry Software , ImageJ™ Morphometric Software , as e-tools for implementing various digital initiatives for students.

5) **Facilitating MoU with Software Company for Effective IT Integration and Training –**

The MoU with Hash Technologies had been implemented in GNIDSR since 2008 for providing technical and logistic support in usage / upgradation and training for the said IT services.

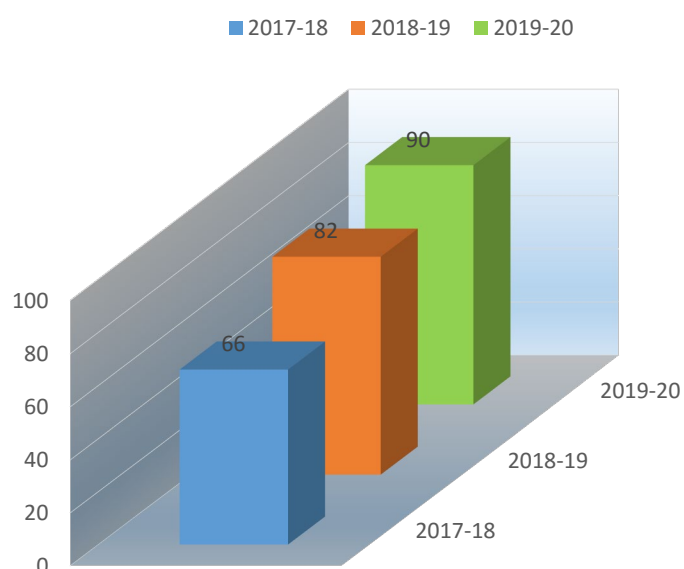
E-TOOL USED	TECHNOLOGY / INFRASTRUCTURE USED	COMPETENCY / TEACHING LEARNING ACTIVITY FACILITATED THROUGH IT & SPECTRUM OF USAGE
Digital Student Academic Resource Portal (DSARP)	<p>Learning Management System with Password Protected Content of all Lecture Modules of All Dental Subjects. The portal has feature to upload video lectures and assignments for students. The students can view the content and give feedback of the video content of lectures. The content is mapped to the learning outcomes with each module having its learning objectives and outcomes clearly stated therein. All Undergraduate Students (1st to 4th Year of Study) are provided access to the 30 Gigabytes worth of e-content of the site with 384 modules.</p>	<ul style="list-style-type: none"> • Blended Learning by Ala Carte Model • Self Directed Learning
Flip Learning Technology	<p>Flipped Smart Classroom with NeoTouch™ Sweden Based Interactive UHD Touch Screen Panel and Sony™ Exmore 4k CMOS Sensor Camera with annular seating pattern for 60 students. Classes are Integrated with Course Modules in Canvas™ Learning Management System with Pre-Class , In-Class and Post-Class Activities.</p>	<ul style="list-style-type: none"> • Blended Learning by Flipped Model • Self Directed Learning • Participatory Learning
Smart Learning Centre , Academic Block	<p>Two Smart Classrooms with Cybernetyx™ Germany Based Interactive Eyeris-IX Intellispace™ Hardware and 3000AL Short Throw Projector with traditional seating pattern for 100 students each. Classes are enriched with rich multimedia audio-visual content and blended with post class assignments in Google™ Classroom</p>	<ul style="list-style-type: none"> • Blended Learning by Enriched Virtual Mode • Dual Channel Multimedia Based Learning

<p>Use of MOOC Platforms and Cloud Based Video Conferencing Softwares</p>	<p>The teachers primarily use Google™ Classroom and Canvas™ LMS as MOOC Platforms in addition to the Institutional LMS i.e. DSARP. The major Cloud Based Video Conferencing Software's used are Zoom , GMeet and Cisco™ Webex to conduct classes. 385 lecture modules have been shared through various LMS to students and the last academic year saw 600+ classes conducted online.</p>	<ul style="list-style-type: none"> • Self Paced Online Learning • Virtual Instructor Led Training
<p>Simulation Software</p>	<p>The teachers use simulation softwares like Nemoceph™ Studio NX (Cephalometry Planning Simulation Software) , EZDent-i™ (Implant Planning Software) , 3D4Medical™ by Elsevier (Anatomy Dissection Simulation Software) , ImageJ™ by Softonics (Morphometric Software for Biological Image Processing) as e-tools to facilitate learning among graduates & postgraduates.</p>	<ul style="list-style-type: none"> • Experiential Learning • Simulation Based Learning
<p>Online Attendance Android App</p>	<p>The Institute uses an Android Based JIS Group App which under its Student Affairs Section handles Theory Class Attendance of Dental Subjects. The advantage of the app based attendance system is that it is quick in processing information like daily / weekly / monthly attendance reports , at the click of a button. The system promotes transparency and is eco-friendly.</p>	<p>The system makes tracking the defaulters and slow learners early through monthly reports , thereby making remedial intervention to be taken faster.</p>
<p>Whatsapp Broadcasting</p>	<p>The institute has been using Whatsapp™ Broadcasting through its official groups for its Students , Faculty , HoDs , Students Council and DEU to facilitate fast dissemination of information and faster coordination amongst stakeholders. The tool is used to practice blended learning by sharing assignment codes , video conference class links and teaching materials. During the Pandemic it served as a boon for managing faster administrative query redressal , online meetings and academic coordination. During the Amphan Cyclone Tragedy in Bengal , this tool was the only support</p>	<ul style="list-style-type: none"> • Transparent , Participatory and Faster Coordination Tool • Official Groups Increase Sense of Belonging with Institute. • Tool to Assist Blended Learning

	available to sustain teaching learning for almost 8 days , when networks and broadband was in shambles.	
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EVIDENCE OF SUCCESS :

1. As per Stakeholder Feedback Reports 2017 to 2020 , the student feedback received from students regarding use of audio-visual aids , multimedia and e-learning resources by teachers , increased steadily from a meagre 66 % in 2017-18 session to a satisfactory 90 % in 2019-20 session. This clearly indicates the success of the e-trainings and usage of e-tools by teachers and students.

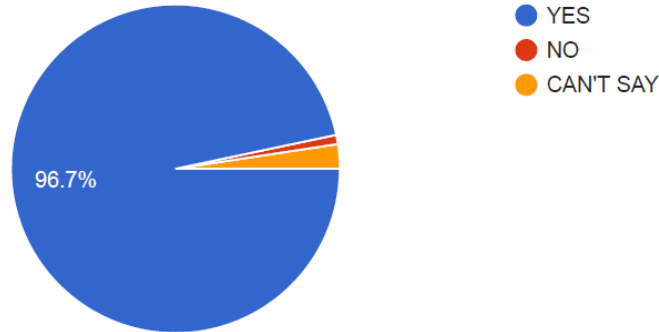


USE OF AUDIOVISUAL AIDS , MULTIMEDIA & E-LEARNING BY TEACHERS OF GNIDSR AS PER STAKEHOLDER FEEDBACK REPORTS FROM 2017 TO 2020

2. In a Feedback taken on Sep 2020 amongst all faculties and students , 96.7 % respondents claimed Whatsapp™ was an effective communication tool and approximately 78.0 % students were benefitted for procuring study material and getting links / codes for online classes over Whatsapp.

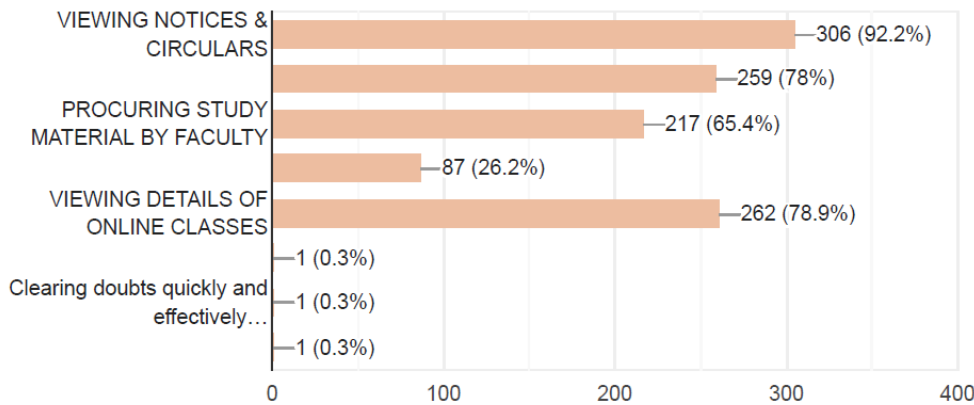
Q.3. DO YOU FEEL WHATSAPP IS AN EFFECTIVE COMMUNICATION TOOL FOR DISSEMINATION AND CIRCULATION OF OFFICIAL INFORMATION ??

332 responses



Q.5. KINDLY SPECIFY , IN WHICH OF THE FOLLOWING MATTERS HAS WHATSAPP HELPED YOU MOST (MORE THAN ONE CAN BE MARKED)

332 responses



- Inspite of the Covid19 Pandemic , the E-Tools used by teachers enabled them to complete the syllabus on time and achieve satisfactorily the revision and remedial classes scheduled as per the academic calendar. Approximately 600+ classes were conducted online in the academic session 2019-20. The students were provisionally promoted on completion of syllabus and the new academic session could be started on 1st November 2020 , even though the university examinations were postponed.
- 1806 logins were clocked in the institutional LMS (DSARP portal) in the last six months (Dec 2020 to May 2021) , which reflects the popularity of the portal for

viewing the teaching content. 385 modules have been uploaded in the portal till date by faculties of GNIDSR .

PROBLEMS ENCOUNTERED & RESOURCES REQUIRED :

The main hindrance to implementation of E-Tools was training of students and teachers for usage of advanced digital tools. This problem was overcome by the Dental Education Unit by conducting more than 10 dedicated programs covering specific skill aspects and technologies. The assessment of development of competence and attainment of learning outcome was done by using Live Demonstration of Skill and MCQ based Pre - Post Tests during the training. Moreover the HoDs directed faculties which needed additional training in their e-skill set to the DEU for special demonstrations sessions for them. An ICT Team exists in GNIDSR , formed under the DEU , which has “ batch coordinators ” for helping students with difficulty in adopting newer digital tools to improve and excel. The ICT Team are the first responders who interact with students directly and attend to their software based problems. The major resources required for implementing such advanced digital tools in GNIDSR were augmentation of the infrastructure and making budgetary provisions for the same. The IQAC was instrumental in making incorporation of advanced digital tools a “ strategic goal “ in 2018 , following which major developments in infrastructure could be achieved.